



**AGENDA**  
**N.C. WILDLIFE RESOURCES COMMISSION**  
**August 18, 2022, 9:00 a.m.**  
**1751 Varsity Drive**  
**NCWRC Conference Room, 5<sup>th</sup> Floor**  
**Raleigh, North Carolina**

**CALL TO ORDER** – *Chairman Monty Crump*

This electronic meeting is being streamed live for the public to attend and recorded as a public record. The recording of the meeting will be available at [www.ncwildlife.org](http://www.ncwildlife.org).

**PLEDGE OF ALLEGIANCE** – *Commissioner Ray Clifton*

**INVOCATION** – *Commissioner John Alexander*

**ROLL CALL OF COMMISSIONERS PRESENT** – *Margo Minkler, Commission Liaison*

**MANDATORY ETHICS INQUIRY** – North Carolina General Statute §138A-15 mandates that the Commission Chair shall remind all Commissioners of their duty to avoid conflicts of interest and appearances of conflict under this Chapter, and that the chair also inquires as to whether there is any known conflict of interest or appearance of conflict with respect to any matters coming before the Commission at this time. It is the duty of each Commissioner who is aware of such personal conflict of interest or of an appearance of a conflict to notify the Chair of the same. – *Chairman Crump*

**APPROVAL OF JULY 14, 2022 MEETING MINUTES** – Take action on the July 14, 2022 Wildlife Resources Commission meeting minutes as written in the exhibit. **(EXHIBIT A)**

**FINANCIAL STATUS REPORT** – Receive Financial Status Report on the Wildlife Resources Commission General Fund, Capital Improvement Fund, and the Endowment Fund. – *Dr. DP Singla, Chief Financial Officer (EXHIBIT B)*

**COMMITTEE MEETING REPORTS**

**Boating Safety Committee Report- August 17, 2022**– *Ray Clifton, Vice-Chair*

**Rules Committee Report – August 17, 2022** –*David Hoyle, Vice Chair*

**Land Acquisitions and Property Committee Report – August 17, 2022** – *Tom Berry, Chair*

**Habitat, Nongame, Endangered Species Committee Report – Aug. 17, 2022** – *Mark Craig, Chair*

## **SPECIAL PRESENTATIONS**

**ORDER OF THE LONG LEAF PINE** – Present the Order of the Long Leaf Pine to Gary Dail, Coastal Region Construction Supervisor – *Cameron Ingram, Executive Director*

**CHECK PRESENTATION FROM DAVIDSON’S Inc.** – Receive a donation from Davidson’s for improvements to R. Wayne Bailey-Caswell Shooting Range – *Bill Bennett, Davidson’s Senior Marketing Manager*

**AGENCY SPOTLIGHT – PROVIDING ACCESS TO SHOOTING SPORTS** – *Steve Bailey, Facilities Construction Engineer and Josh Jernigan, Shooting Range Manager*

## **BREAK FOR PHOTOGRAPHS**

**CONSIDERATION OF NONGAME WILDLIFE ADVISORY COMMITTEE APPOINTMENTS** – Pursuant to North Carolina General Statute §113-335, consider appointment of members to the Nongame Wildlife Advisory Committee – *Cameron Ingram (EXHIBIT C)*

## **LAND ACQUISITION AND PROPERTY MATTERS**

**Phase II Land Acquisition** – Consider final approval to proceed with acquisition of the following properties – *Ben Solomon, Assistant Chief and Land Acquisition Manager (EXHIBITS D-1, D-2)*

- Gaskins Swamp – Bertie County **(D-1)**
- Dix Creek Tract – Haywood County **(D-2)**

## **RULEMAKING**

**Emergency and Temporary Rulemaking for CWD** – Consider request to adopt an emergency rule and concurrently notice a temporary rule for use and collection of substances containing cervid excretion from CWD Surveillance Areas – *Ashley Pekarul, Regulatory Analyst (EXHIBIT E)*

**Permanent Rulemaking Notice of Text – 15A NCAC 10B .0201 Prohibited Taking and Manner of Take** – Consider request to publish Notice of Text with an open comment period and a public hearing for proposed changes to 15A NCAC 10B .0201 Prohibited Taking and Manner of Take – *Ashley Pekarul (EXHIBIT F)*

**Permanent Rulemaking Notice of Text – 10I .0103 - .0105 Endangered, Threatened, and Special Concern Species** – Consider request to publish Notice of Text with an open comment period and a public hearing for proposed changes to 10I .0103-.0105 Endangered, Threatened, and Special Concern Species, to modify species lists. Review and consider approval of fiscal notes for proposed rule. – *Ashley Pekarul (EXHIBITS G-1, G-2)*

**Permanent Rulemaking Adoption - 10B Wildlife Management** – Readopt various 10B Wildlife Management rules as part of the periodic review. –*Ashley Pekarul (EXHIBITS H-1, H-2)*

**Permanent Rulemaking Adoption - 10C Inland Fishing** – Readopt various 10C Inland Fisheries rules as part of the periodic review. –*Ashley Pekarul (EXHIBITS I-1, I-2)*

**Permanent Rulemaking Adoption – 10H .1510 Wildlife Control Technician Certification and Eligibility Requirements** – Adopt Wildlife Control Technician Certification and Eligibility rule clarifying certification requirements and prohibited activities. – *Ashley Pekarul* (EXHIBITS J-1, J-2)

**Permanent Rulemaking Adoption – 10B .0101 Importation of Wild Animals and Birds** – Adopt amendments to 10B .0101 Importation of Wild Animals and Birds rule to provide clarity on the importation of domestically raised game birds, chukars, and Hungarian partridges. – *Ashley Pekarul* (EXHIBIT K)

**Permanent Rulemaking Adoption – 10A .1502 Replacement Costs of Wildlife** – Adopt 10A .1501 Replacement Costs rule establishing and updating costs for various mammals, birds, reptiles, and fish. – *Ashley Pekarul* (EXHIBITS L-1, L-2)

**Permanent Rulemaking Adoption – 10C .0208 Spawning Areas** – Readopt 10C .0208 Spawning Areas, with amendments to remove specific prohibitions on the Linville River and Cape Fear River and prohibit fishing in the French Broad River sloughs from March through May. – *Ashley Pekarul* (EXHIBITS M-1, M-2)

## **WATER SAFETY RULEMAKING**

**Temporary Rulemaking Adoption – 15A NCAC 10F .0305 Brunswick County** – Review public comments and consider request to adopt temporary rules to 15A NCAC 10F .0305 Brunswick County in Sunset Beach – *Betsy Haywood, Water Safety Rules Coordinator* (EXHIBITS N-1, N-2)

**Permanent Rulemaking Adoption – 15A NCAC 10F .0310 Dare County** – Review public comments and consider request to adopt proposed amendments to 15A NCAC 10F .0310 Dare County in Avon – *Betsy Haywood* (EXHIBITS O-1, O-2)

**Permanent Rulemaking Notice of Text – 15A NCAC 10F .0314 New Hanover County** – Consider request to publish Notice of Text in the NC Register, hold one public hearing, and open the public comment period for proposed amendment to 15A NCAC 10F .0314 to extend the no-wake zone in the navigation channel in a portion of Bradley Creek in Wilmington. Review and consider approval of Fiscal Note – *Betsy Haywood* (EXHIBITS P-1, P-2)

**Permanent Rulemaking Notice of Text – 15A NCAC 10F .0361 Wilkes County** – Consider request to publish Notice of Text in the NC Register, hold one public hearing, and open the public comment period for proposed amendments to 15A NCAC 10F .0361 to extend no-wake zones at Dam Site Park and to incorporate the entire cove where Smithey’s Creek Boat Ramp and ADA Fishing Area and Fort Hamby BAA are located, to incorporate into the NCAC the Safety Zone adjacent to the dam, and to replace vague text language and itemize descriptions and locations of existing no-wake zones and marked swim areas – *Betsy Haywood* (EXHIBIT Q)

**Permanent Rulemaking Notice of Text – 15A NCAC 10F .0336 Northampton and Warren counties** – Consider request to publish Notice of Text in the NC Register, hold one public hearing, and open the public comment period for proposed amendments to 15A NCAC 10F .0336, to incorporate the Odom Boating Access Area on the Roanoke River and the Stonehouse Timber Lodge Marina on Lake Gaston in Littleton – *Betsy Haywood* (EXHIBIT R)

**Permanent Rulemaking Notice of Text – 15A NCAC 10F .0326 Pamlico County** – Consider request to publish Notice of Text in the NC Register, hold one public hearing, and open the public comment period for proposed technical changes to correct addresses and describe and provide addresses for boating access areas in Pamlico County – *Betsy Haywood* (EXHIBIT S)

**Permanent Rulemaking Notice of Text – 15A NCAC 10F .0327 Montgomery County** – Consider request to publish Notice of Text in the NC Register, hold one public hearing, and open the public comment period for a proposed technical correction to add the address for the Old North State Marina on Badin Lake in New London – *Betsy Haywood (EXHIBIT T)*

**Permanent Rulemaking Notice of Text – 15A NCAC 10F .0301 General Provisions** – Consider request to Publish Notice of Text in the NC Register, hold one public hearing, and open the public comment period for a technical correction to 15A NCAC 10F .0301(g), to remove language that limits the size of a Safety Zone to within 50 yards of a protected hydroelectric facility – *Betsy Haywood (EXHIBIT U)*

**CONSERVATION PLANS** – Consider staff recommendations for final adoption of two Species Conservation Plans –*Dr. Sara Schweitzer, Assistant Chief, Wildlife Management Division (EXHIBITS V-1, V-2)*

- Henslow’s Sparrow (V-1)
- Atlantic Pigtoe (V-2)

**COMMENTS BY THE CHAIRMAN** – *Chairman Crump*

**COMMENTS BY THE EXECUTIVE DIRECTOR** – *Executive Director Ingram*

**ADJOURN**



**EXHIBIT A**  
**August 18, 2022**



**MINUTES**  
**July 14, 2022**  
**N.C. Wildlife Resources Commission Meeting**  
**Raleigh, North Carolina**

Chairman Monty Crump called the July 14, 2022, N.C. Wildlife Resources Commission meeting to order at 9:00 a.m. in the Commission Room at the agency's headquarters in Raleigh. Crump reminded everyone that the meeting is being audio streamed live and will be available at [www.ncwildlife.org](http://www.ncwildlife.org).

Commissioner Kelly Davis led the Pledge of Allegiance.

Commissioner Wes Seegars gave the invocation.

**ROLL CALL**

Margo Minkler, *Commission Liaison*, called the roll. Landon Zimmer and Mike Alford were absent.

**COMMISSIONER ATTENDANCE**

Monty Crump	John Coley	Jim Ruffin	John Stone	J.C. Cole
Thomas Fonville	Mark Craig	Ray Clifton	Hayden Rogers	
David Hoyle	Tom Berry	Kelly Davis	John Alexander	
Wes Seegars	Brad Stanback	Steve Windham	Tom Haislip	

**VISITORS**

Spencer Hodges – Neuse Sport Shop  
Elsa Vue and Family  
Hal Atkinson

## **MANDATORY ETHICS INQUIRY**

Chairman Crump advised the Commission of the mandatory ethics inquiry as mandated in NCGS §138A-15.

## **MINUTES OF APRIL 14, 2022 MEETING**

On a motion by John Coley and second by Wes Seegars, the Minutes of the April 14, 2022 meeting were approved as presented in **EXHIBIT A**.

**Exhibit A** is incorporated into the official record of this meeting.

## **MINUTES OF JUNE 9, 2022 MEETING**

On a motion by John Coley and second by Wes Seegars, the Minutes of the June 9, 2022 meeting were approved as presented in **EXHIBIT B**.

**Exhibit B** is incorporated into the official record of this meeting.

## **MINUTES OF JUNE 28, 2022 MEETING**

On a motion by John Coley and second by Wes Seegars, the Minutes of the June 28, 2022 meeting were approved as presented in **EXHIBIT C**.

**Exhibit C** is incorporated into the official record of this meeting.

## **SPECIAL PRESENTATIONS**

### **RECOGNITION OF 2022 NATIONAL FISHING AND BOATING WEEK LICENSE WINNERS – *Chairman Crump***

Elsa Vue was presented with a Lifetime Unified Sportsman License donated by Neuse Sport Shop, represented by Spencer Hodges. The Commission also announced Carson Gates as the winner of a Lifetime Comprehensive Inland Fishing License donated by the NC Council of Trout Unlimited. Both winners were drawn from youth participants at fishing events held during the 2022 National Fishing and Boating Week.

## **COMMITTEE MEETING REPORTS**

**Executive Committee Report – July 13, 2022 – *Monty Crump, Chair***, reported the Executive Committee met on July 13 at 8 am. After opening the meeting, the committee adjourned into a closed session, pursuant to NCGS 143-318.11(a)(6), to review the Executive Director's 2021/2022 performance evaluation. After returning to open session, the meeting was adjourned.

**Land Acquisition and Property Committee Report – July 13, 2022 – *Tom Berry, Chair***, reported the Land Acquisition and Property Committee met on July 13, 2022. The Committee reviewed and endorsed five Phase I, as well as three Phase II land acquisition projects.

Cumulatively, the Committee reviewed over 10,000 acres of NCWRC, and partner, land acquisition projects that will hopefully result in conservation ownership. One easement request was discussed and denied by the Committee. The 2023-2024 Land and Water Access Rule Proposals were introduced to the Land Acquisition and Property Committee. Chairman Berry noted the recent work in pursuing land in underserved regions of the state. Staff plan to send outreach letters to the 16 landowners that were identified in the “New Game Land Study.”

**Education and Communication Committee Report – July 13, 2022** – *Kelly Davis, Chair*, reported the Education and Communication Committee met on Wednesday, July 13<sup>th</sup>. Wildlife Education Division Chief Travis Casper gave an update on his team’s progress. This presentation included survey results on why hunter education graduates are not purchasing licenses. Three barriers were identified: lack of time, lack of access, and lack of mentors, and the team has already begun addressing these barriers through several initiatives. An update on the Pathway to Wildlife Relevancy Project was delivered with an overview of the new division structure for operational efficiencies. The Office of Communication, Marketing, and Digital Engagement’s Director Fairley Mahlum, presented an update on efforts to reduce expenditures and increase revenues for Wildlife in North Carolina magazine, including a significant reduction in the deficit. Digital Marketing Manager Jamie Hall provided an update on the agency’s website, including a recent content management system update that will result in an annual cost savings of \$58,000. He also provided information about a corporate partnership that will be leveraged in several marketing campaigns to generate license sales and magazine subscriptions.

**Fisheries Committee Report – July 13, 2022** – *John Stone, Chair*, reported the Fisheries Committee met on Wednesday, July 13<sup>th</sup>. Christian Waters, Inland Fisheries Division Chief, presented 10 fisheries proposals for initial consideration for the 2023-2024 annual cycle. Kelsey Roberts, Piedmont Fisheries Research Coordinator, provided an overview of White Bass populations in North Carolina and an update on a research project focusing on the behaviors and triggers for spawning migrations of White Bass in tributaries of Falls of the Neuse Reservoir. Ben Ricks, Coastal Fisheries Supervisor, presented an update on annual monitoring efforts conducted by fisheries staff for river herring in reference tributaries of the Chowan, Tar, Neuse, and Cape Fear rivers. Jamie Hall, WRC Digital Marketing Director, provided an overview of the Better Fishing with 2 Bald Biologists podcast hosted by Corey Oakley and Ben Ricks.

**Big Game Committee Report – July 13, 2022** – *David Hoyle, Chair*, reported the Big Game Committee met on Wednesday, July 13. The Committee received a presentation from Mikiah Carver, a Ph.D. student at NC State University, who is working on the current deer study that is well underway. James Tomberlin, Mountain Region Supervisor, updated the Committee on the progress of the implementation of the CWD Response Plan. Colleen Olfenbuttel, Bear and Furbearer Biologist, updated the Commission on the submission rates of the mandatory bear tooth submission. Submission rates have improved significantly from previous years. Staff will continue to educate bear hunters on the new requirement, and the agency can anticipate hunters will continue to improve their compliance rates. Wildlife Management Division Chief Brad Howard shared two rule proposals up for discussion the 2023-2024 annual cycle. One will increase either-sex seasons in several counties in the Northwest and Western deer seasons.

**Small Game and Wild Turkey Committee Report – July 13, 2022** – *Jim Ruffin, Chair*, reported that the Small Game and Wild Turkey Committee met on July 13<sup>th</sup>. Hannah Plumptre, Upland Game Bird Biologist, started the meeting with an update on the 2022 wild turkey harvest. While

the total harvest fell over the past two years, our harvest remains above the long-term average and ahead of the pre-Covid numbers. Brad Howard gave an update to the Committee on trapping rule proposals that are under consideration for the upcoming rule cycle. Colleen Olfenbuttel, Bear and Furbearer Biologist, gave a presentation on the furbearer management program and furbearer species. Hannah Plumptre discussed predation management and specifically focused on nest predator trapping and the benefits to quail.

The Committee received and approved the staff's recommendations for the recipients of this year's Lawrence G. Deidrick Small Game Award. Kathryn Booher, nominee for the 2022 Lawrence G. Deidrick Small Game Award, was nominated by a constituent and is an excellent candidate for the award. The Wake County Wildlife Club, nominee for the group award, commits significant resources to educate the public and youth about wildlife and to further the cause of wildlife conservation.

**Motion from Small Game and Wild Turkey Committee** – On a motion by Chair Jim Ruffin and a second by John Alexander, the Commission approved a motion to approve Kathryn Booher as the Individual recipient and the Wake County Wildlife Club as our group recipient for the Lawrence G. Deidrick Small Game Award for 2022.

**Committee of the Whole Report – July 13, 2022** – *Monty Crump, Chair*, reported that the Committee of the Whole met on July 13 at 3:45 pm. The meeting began with a presentation from Ducks Unlimited on their Ecology, Conservation, and Management Certification Program. After the presentation, the committee voted to provide a letter expressing support for the program to the Department of Public Instruction. Brad Howard presented 3 potential rule proposals for Wildlife Conservation Areas and Alligator Control Agents. Cindy Simpson presented Addendum 2 to the Wildlife Action Plan, which adds plant species of greatest conservation need. This major revision received an overwhelmingly positive response and the committee voted unanimously to write a letter to the US Fish and Wildlife Service stating our strong endorsement of the revision. Travis Wilson presented extensive efforts of staff in conjunction with the NC Department of Transportation and other partners to create wildlife crossings on state roadways. Staff is working to formalize our partnership with DOT in an agreement. Due to time constraints, Chair Crump postponed the scheduled legal update until August and recognized all the work Commissioner Davis, Deputy Director Hocutt, and staff has accomplished towards meeting the charge given them to improve our communications and educational efforts. The meeting was adjourned at 4:45 pm.

### **AGENCY SPOTLIGHT**

**75 YEARS OF LAW ENFORCEMENT OFF THE PAVEMENT**– *Captain Jeremy Harrill* gave a presentation entitled 75 years of Law Enforcement Off the Pavement. The presentation focused on the law enforcement role in the agency's mission of conservation and public safety since the very first "bird and game wardens" were hired in NC. This 75th anniversary spotlight focused on the role of the NC's wildlife law enforcement officers, the "tools of the trade," officer hiring, selection and training, and how these things have changed over time. The presentation also honored the 11 wildlife officers who have died in the line of duty throughout our history.

## **LAND ACQUISITION AND PROPERTY MATTERS**

**Phase II Land Acquisition** – On a motion by John Alexander and second by Tom Berry, the Commission approved the acquisition of the following properties presented by *Ben Solomon, Assistant Chief and Land Acquisition Manager* (**EXHIBITS E-1, E-2, E3**)

- Burkemont Tracts – Burke County (**EXHIBIT E-1**)
- Beach Tract – Swain County (**EXHIBIT E-2**)
- Green River Game Land Addition – Polk and Henderson County (**EXHIBIT E-3**)

**Exhibits E-1, E-2, E-3** are incorporated into the official record of this meeting.

**Other Property Matters** – On a motion by Tom Berry and second by Jim Ruffin, the Commission denied the easement request of the following presented by *Ben Solomon* (**EXHIBIT F**)

- Smith Fish Farm Easement Request – Pender County (**EXHIBIT F**)

**Exhibit F** is incorporated into the official record of this meeting.

**OCTOBER 2022 WILDLIFE RESOURCES COMMISSION LOCATION CHANGE** – On a motion by Hayden Rogers and second by Ray Clifton, the Commission approved a change of location for the October 2022 WRC meetings from in Raleigh to in Cherokee presented by *Cameron Ingram, Director* (**EXHIBIT G**)

**Exhibit G** is incorporated into the official record of this meeting.

## **COMMENTS FROM THE CHAIRMAN**

Chairman Crump expressed his appreciation for the productive committee meetings held yesterday and thanked the board and staff for all their hard work.

## **COMMENTS FROM THE EXECUTIVE DIRECTOR**

Executive Director Ingram opened his comments by thanking everyone for their commitment as he reflected on the agency's past accomplishments and priorities for the upcoming year. He also shared that framed and hanging in Commission Room opposite of the original 1983 print is the 40<sup>th</sup> and final edition duck print drawn by artist Ron Louque. In closing, Director Ingram announced Commissioner Seegars was selected for The Wildlife Federation Governor's Conservation Achievement Award, 2022 Sportsman of the Year Award.

## **ADJOURNMENT**

There being no further business, the WRC business meeting was adjourned at 10:14 a.m.

**NCWRC Meeting**  
**July 14, 2022**  
**Minutes**

All exhibits are incorporated into the official record of this meeting by reference and are filed with the minutes.

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Monty Crump, Chairman

Date

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Cameron Ingram, Executive Director

Date

DRAFT

**NORTH CAROLINA WILDLIFE RESOURCES COMMISSION**  
**CAFR 52G - STATEMENT OF REVENUES, EXPENDITURES and CHANGES in FUND BALANCES**

**GOVERNMENTAL FUNDS**  
**AS OF JUNE 30, 2022**

	FY 2022 General Fund	FY 2022 Capital Improvement Fund
<b>REVENUES</b>		
Federal funds	\$ 31,588,401.71	\$ 5,457,241.42
Local funds	\$ 5,127.39	\$ -
Investment earnings	\$ 35,408.35	\$ -
Sales and services	\$ 9,920,338.12	\$ -
Rental and lease of property	\$ 61,794.45	\$ -
Fees, licenses and fines	\$ 38,309,149.69	\$ -
Contributions, gifts and grants	\$ 2,508,147.55	\$ 4,893,827.06
Miscellaneous	\$ 820,139.88	\$ 234.38
Unclassified/invalid accounts	\$ -	\$ -
Other Financing Sources - Sale of capital assets	\$ 473,916.60	\$ -
Other Financing Sources - Insurance recoveries	\$ 366,642.43	\$ -
Other Financing Sources - Transfers in	\$ 7,193,835.96	\$ 5,948,411.50
Other Financing Sources - Appropriations	\$ 12,801,070.00	\$ -
<b>TOTAL REVENUES</b>	<b>\$ 104,083,972.13</b>	<b>\$ 16,299,714.36</b>
<b>EXPENDITURES</b>		
Personal services	\$ 37,403,184.44	\$ -
Employee benefits	\$ 18,445,262.54	\$ -
Contracted personal services	\$ 12,878,186.24	\$ 510,384.62
Supplies and materials	\$ 9,568,007.13	\$ -
Travel	\$ 476,921.30	\$ -
Communication	\$ 606,153.12	\$ -
Utilities	\$ 709,612.79	\$ -
Data processing services	\$ 991,909.28	\$ -
Other services	\$ 4,635,806.79	\$ -
Claims and benefits	\$ 1,474,585.14	\$ -
Other fixed charges	\$ 264,069.25	\$ 400.00
Capital outlay	\$ 7,375,827.43	\$ 14,766,093.59
Grants, state aid and subsidies	\$ 1,774,432.39	\$ -
Insurance and bonding	\$ 265,666.00	\$ -
Other expenditures	\$ 2,475,291.09	\$ -
Reimbursements	\$ (948,735.17)	\$ -
Unclassified/invalid accounts	\$ -	\$ -
Other Financing (Uses) - Transfers out	\$ 7,134,475.50	\$ 47,519.72
<b>TOTAL EXPENDITURES</b>	<b>\$ 105,530,655.26</b>	<b>\$ 15,324,397.93</b>
<b>EXCESS OF REVENUES OVER (UNDER) EXPENDITURES</b>	<b>\$ (1,446,683.13)</b>	<b>\$ 975,316.43</b>
<b>FUND BALANCE - JULY 1, 2021</b>	<b>\$ 20,789,069.62</b>	<b>\$ 2,306,519.38</b>
<b>FUND BALANCE - JUNE 30, 2022</b>	<b>\$ 19,342,386.49</b>	<b>\$ 3,281,835.81</b>

# NORTH CAROLINA WILDLIFE RESOURCES COMMISSION

## ENDOWMENT PORTFOLIO

**Fund Balance\*: Jun 2022      \$146,332,449.18**

\* Based On Financial Institutions' Data And Does Not Include Time-Lag Entries.

§ 143-250.1. Wildlife Endowment Fund

- (d) (3). No expenditure or disbursement shall be made from the principal of the Wildlife Endowment Fund except as otherwise provided by law.
- (d) (4). The income received and accruing from the investments of the Wildlife Endowment Fund must be spent only in furthering the conservation of wildlife resources and the efficient operation of the North Carolina Wildlife Resources Commission in accomplishing the purposes of the agency as set forth in G.S. 143-239.
- (g) The Wildlife Endowment Fund and the investment income therefrom shall not take the place of State appropriations or Agency receipts placed in the Wildlife Resources Fund, or any part thereof, but any portion of the income of the Wildlife Endowment Fund available for the purpose set out in subdivision (4) of subsection (d) shall be used to supplement other income of and appropriations to the Wildlife Resources Commission to the end that the Commission may improve and increase its services and become more useful to a greater number of people.

### ASSET ALLOCATION



\*\* Fixed Income Includes Short-Term And Long-Term Fixed Income Instruments

Fund	Principal	Non-Expendable	Expendable	Total***
Adult Lifetime Licenses	\$ 72,350,798.40		\$ 40,481,895.89	\$ 112,832,694.29
Magazine Subs Lifetime	\$ 1,573,477.50		\$ 877,613.73	\$ 2,451,091.23
Contributions	\$ 745,348.24		\$ 2,105,402.96	\$ 2,850,751.20
Diversity	\$ 55,339.29		\$ 2,617.89	\$ 57,957.18
Infant Lifetime Licenses	\$ 19,834,374.00	\$ 5,428,684.86		\$ 25,263,058.86
Youth Lifetime Licenses	\$ 2,722,437.00	\$ 226,234.92		\$ 2,948,671.92
<b>Total</b>	<b>\$ 97,281,774.43</b>	<b>\$ 5,654,919.78</b>	<b>\$ 43,467,530.47</b>	<b>\$ 146,404,224.68</b>

\*\*\* Include Deposit/s In Transit



# EXHIBIT C

August 18, 2022



## NONGAME WILDLIFE ADVISORY COMMITTEE APPOINTMENTS FOR 2022

No Affiliated Seat Specified in Nomination (May qualify for Expert or At-large affiliate)

### 1. John Scott Benyon, Retired

**Nominee:** Chuck Edwards and Self-Nomination

**Current Position:** Retired

**Expertise:** The former Director of the Southeast District of the Florida Department of Environmental Protection (FDEP). He was responsible for the regulation, both permitting and enforcement, of projects impacting the air, land, and water throughout southeast Florida. This included the controversial Florida sugar cane growers and their impacts on Lake Okeechobee and the Everglades National Park.

### 2. Michael S. Cone, Gaston County Dept. of Health and Human Services

**Nominee:** Bryan Hewitt and Self-Nomination

**Current Position:** Assistant Director – Social Services

**Expertise:** He has a passion for reptiles and amphibians that involves conservation, field studies, captive breeding, and ongoing efforts to raise awareness over the past 20+ years. Work with local schools, community college, universities, NC museum, and Boy Scout troops to increase awareness and education related to reptiles and amphibians.

### 3. Travis K. Morton, Jones Onslow Electric Corp.

**Nominee:** Debra W. Morton

**Current Position:** Lineman

**Expertise:** Avid deer hunter and coastal angler from Onslow.

### 4. Daniel Morton, Onslow County Water and Sewer Authority

**Nominee:** Debra W. Morton

**Current Position:** not provided

**Expertise:** Avid deer hunter and coastal angler from Onslow.

## Governmental Affiliate

### 5. Jeff Beane, North Carolina State Museum of Natural Sciences (*Recommended for Re-appointment*)

**Length of NWAC membership:** since 2016

**Current Position:** Curator I/ Collections Manager for Herpetology

**Expertise:** Biology, especially herpetology, natural history, zoogeography, ecology, and conservation

**6. Dr. Michael Martin, North Carolina Department of Agriculture (*Recommended for Appointment*)**

**Nominee:** North Carolina Department of Agriculture

**Current Position:** Director of Veterinary Division, NC State Veterinarian

**Expertise:** Animal diseases, animal infectious diseases and natural disasters that affect commercial and independently owned animals.

Expert Affiliate

**7. Michael Abney, Duke Energy (*Recommended for Re-appointment*)**

**Length of NWAC membership:** since 2019

**Current Position:** Senior Environmental Resources Manager, Duke Energy, Water Strategy & Hydro Licensing

**Expertise:** Biology, Zoology, Marine Biology, Hydro Relicensing, Robust Redhorse Conservation Committee, Sicklefins Redhorse Conservation Committee, Hydroacoustics

**8. Dr. Laura Boggs, DVM, Relief Veterinarian**

**Nominee:** Lewis Cauble

**Current Position:** Relief Veterinarian

**Expertise:** Dr. Boggs has worked as a relief veterinarian across NC including Murphy, Marble, Hendersonville, Granite Falls, Stoneville, and Eden. She has made her veterinary services available to the beekeepers and provide treatment for diseased hives. She, knowledgeable, thorough, and eager to help wherever her expertise is needed. she spends a considerable amount of time in the NC game lands, is an avid fisherwoman, photographer, and birder.

**9. Gordon-Byron Stuart Marsh, RK & K**

**Nominee:** Self-Nomination

**Current Position:** Resilient Coastal Communities Program

**Expertise:** Over the past five years Gordon has led numerous wetland and stream delineations, site assessments and UAS missions projects which include: writing technical and scientific reports, completing jurisdictional determination packages, and creating field data collection features and maps using ESRI ArcGIS. Gordon leads the natural resources wetland, stream, and habitat modeling efforts with his experience in deep learning, classification, and regression modeling.

**10. Dr. Joe Poston, Catawba College (*Recommended for Re-appointment*)**

**Length of NWAC membership:** since 2016

**Current Position:** Professor, Catawba College

**Expertise:** Courses taught Anatomy and Physiology, Animal Behavior, Behavioral Ecology, Biodiversity II, Biological Research Methods, Biology Capstone, Birds and Beans, Comparative Vertebrate Anatomy, Conservation Biology, Conversation between Science and Culture in Britain 1600-2000, Ecology, Ecology and Evolution, Environmental Concepts and Issues, Evolution, Freshman Seminar, Human Origins, Marine Science, Molecules and Cells (lab), Ornithology, Ornithology Research Methods, Principles of Biology I and II, Tropical Conservation and Management, Tropical Ecology, Vertebrate Field Zoology.

At-large Affiliate

**11. Elaine Jordan, The Coastal Companies (*Recommended for Re-appointment*)**

**Length of NWAC membership:** since 2019

**Current Position:** General Counsel, The Coastal Companies

**Expertise:** AV Preeminent peer review rating by Martindale, Leadership Brunswick County (chamber of commerce), Former Chairman, Virginia State Bar Construction & Real Estate Section, Former Chairman, Virginia Bar Association Construction & Real Estate Section, Founding director, two Virginia community banks, Former President, J. Sargent Reynolds Community College Foundation, Former Director, Base Alliance for a Sound Economy (BASE), Wilmington, NC.

**STAFF RECOMMENDATIONS**

<b>Nominee</b>	<b>Seat</b>
<b>Michael Abney</b>	<b>Expert</b>
<b>Jeff Beane</b>	<b>Government</b>
<b>Elaine Jordan</b>	<b>At-Large</b>
<b>Dr. Michael Martin</b>	<b>Government</b>
<b>Dr. Joe Poston</b>	<b>Expert</b>

# Exhibit D-1

August 18, 2022

## North Carolina Wildlife Resources Commission Land Acquisition Investigation Form

### Phase II: FINAL ACQUISITION DETAILS

---

**Tract Name:** Dix Creek II/Johnson Tract, Haywood County, 166 acres

**WRC Action/Approval to Pursue (Date):** September 20, 2017

**Acquisition Plan (specify total project costs AND sources of funding):**

Wildlife Restoration Funds	\$41,250
State Funds	\$13,750
	\$55,000

If Yes, Explain Details:

**Acquisition Plan Includes Bargain Sale?** ☒ Yes ☐ No ☐ N/A

Price reduction of \$775,000.

**Total Cost Based on Appraisal?** ☐ Yes ☐ No ☒ N/A

If Yes, Describe in Table:

Requested by:	Appraiser	Effective Date	Appraised Value
SAHC	WNC Appraisal Ser.	May 5, 2022	\$820,000

**Appraisal Handled by State Property Office?** ☐ Yes ☒ No ☐ N/A

**Source(s) of Stewardship Funds (indicate federal:state match rates):**

Wildlife Restoration 75% / State Funds 25%

**Five-Year Stewardship Costs & Revenue Projections (worksheet attached):**

Total Stewardship Expenditures	\$ 10,800
Total Projected Revenue	\$ N/A

# Exhibit D-1

August 18, 2022

North Carolina Wildlife Resources Commission  
Land Acquisition Investigation Form

## Phase II: COSTS AND REVENUE WORKSHEET

### Estimated Five Year Stewardship Costs and Revenue Projections: Dix Creek II/Johnson Tract

Estimated Stewardship Costs				
Activity	Quantity	Unit	Unit Cost	Total Cost
Boundary Establishment	3	Mile	\$400	\$1,200
Establish Parking Area	1		\$8,000	\$8,000
Install gates to control vehicular access	2		\$800	\$1600
<b>TOTAL</b>				<b>\$10,800</b>

Estimated Revenue Projections				
Source	Quantity	Unit	Unit Revenue	Total Revenue
<b>TOTAL</b>				

**December 1, 2017**  
**North Carolina Wildlife Resources Commission**  
**Land Acquisition Investigation Form**  
**– PHASE I: INITIAL INVESTIGATION –**

**WRC Staff Contact:**  
**Date First Presented to Commission:**  
**Tract Name:**  
**County:**  
**Acreage:**  
**Tax Value:**  
**Property Owner/Representative:**  
**Phone:**  
**Email Address:**  
**Address:**

David Stewart  
December 1, 2017  
Dix Creek / Johnson Tract - Cold Mountain Game Land  
Haywood  
166  
512100 PIN: 8643-53-2983 and 8643-44-3172  
Linda Johnson

**Primary Purpose:**

☒ Resource Protection  
☒ Resource Management  
☒ User Access  
☐ WRC Facility

**Program Potential:**

☒ Game Land  
☐ Wildlife Conservation Area  
☐ Access Area  
☐ None

**Type of Acquisition:**

☒ Purchase  
☐ Lease  
☐ Easement

**Type of Parcel:**

☒ Tract  
☐ Riparian Corridor

**Grant Potential:**

☐ CWMTF  
☒ Federal Aid (PR, WB, etc.)  
☐ Endowment  
☐ Donation

**Owner Interest:**

☒ High  
☐ Moderate  
☐ Low  
☐ No

**Tax Value:**

Year Assessed  
 PUV?

**Stewardship Considerations:**

Source:  
 Match:

**Funding Considerations:**

☐ Donation  
☐ Bargain Sale  
☐ Partner Contribution

**Recommendation:**

☒ Pursue  
☐ Do Not Pursue  
☐ Defer

**Additional Comments:**

The Southern Appalachian Highlands Conservancy has given a verbal commitment to provide the 25% matching funds in order for NCWRC to use PR money. SAHC also mentioned the possibility of them buying the tract and then subsequently transferring it to NCWRC. SAHC did say that providing the 25% match is the better scenario due to the undertaking of purchasing the property being much more significant for them.

## EXHIBIT C-2

### North Carolina Wildlife Resources Commission Land Acquisition Investigation Form – PHASE I: INITIAL INVESTIGATION –

County:	Johnson Tract Cold Mountain Game Land
	Haywood County

#### Resources Assessment and Biological Benefits (brief):

The Johnson tract contains approximately 166 acres in two separate tracts. The property lies in the Dix Creek drainage which is a tributary of the East Fork of the Pigeon River. The tract will provide good access to the existing Cold Mountain Game Land. The property is accessed from Dix Creek Road (SR 1106). Approximately 1 tenths of a mile of the property borders state paved road at the lower end of the property. This part of the property has suitable areas to establish public parking. The tract consists of wooded and open land. The wooded land is made up mostly of Southern Appalachian Oak Forest and Southern Appalachian Cove Forest. The open land is approximately 25 acres of pasture land that has had some recent grazing. The topography ranges from 10% - 30% in the lower portions of the property to over 60% on the upper portions of the property. Elevations range from 3360 feet to 4680 feet and the aspect is mainly north to northeasterly. Recent logging has created some good early successional habitats. These areas along with the open pasture land will provide good areas to enhance and expand early successional habitats. There are several logging and skidder trails throughout the property as a result of the logging. These trails will provide good access for management activities and access for game land users. These trails can also be converted into linear wildlife openings. Acquisition of this property is significant as part of the total management project being carried out in the mountain Eco region. WRC ownership of the Johnson Tract will increase conservation ownership of properties in the immediate area such as the Cold Mountain Game Land, Pisgah National Forest, Southern Appalachian Highlands Conservancy Lands, and various private holdings that are in conservation ownership or have conservation easements that are located in the vicinity. In a broader sense, WRC ownership of the tract will help ensure ecosystem integrity at the landscape level by increasing connectivity of lands in conservation ownership. Management objectives will focus on expanding on the management that is currently being implemented on Cold Mountain Game Land. WRC ownership would ensure that critical habitat are conserved. Public recreational opportunities may include hunting, hiking, bird watching, photography, and general nature study. Educational opportunities may exist as priority wildlife habitats are managed for or maintained. Common wildlife species found on the tract include wild turkey, black bear, white-tailed deer, gray squirrel, ruffed grouse as well as various songbirds, salamanders, and small mammals. The Johnson Tract will make a great addition to Cold Mountain Game Land. The Dix Creek Tract was a great addition to help improve access to that side of the game land, and the Johnson Tract will improve access even further by extending public land all the way to good, state road access.

Tract Name  
Date  
Staff Completing Form

Johnson Tract - Cold Mountain Game Land  
September 20, 2017  
David Stewart

<b>Species</b>	<b>0.296</b>
	Terrestrial
Overall Biodiversity	2
SGCN Species	2
Game Species	2
	Wetland
Overall Biodiversity	1
SGCN Species	1
Game Species	0
	Aquatic
Overall Biodiversity	0
SGCN Species	0
Game Species	0

<b>Comments</b>
Moderate biodiversity is based on a diversity of forest cover types and age classes, and the diversity of wildlife found on the property.

<b>Habitat</b>	<b>0.611</b>
Size	1
Quality	2
Diversity	2
Rare/Important	2
Connectivity	2
Buffer	2

<b>Comments</b>
The quality of the habitat on the tract is good, as is diversity. The properties provide good connectivity and buffer to Cold Mountain GL.

<b>Public Access</b>	<b>0.333</b>
Hunting/Viewing	3
Fishing	0
Boating	0

<b>Comments</b>
The property provide excellent legal access to Cold Mountain GL. No waters of sufficient size are located on the properties, so there is no fishing/boating opportunity.

<b>Wildlife Uses</b>	<b>0.400</b>
Hunting	3
Viewing	2
Fishing	0
Boating	0
Education	1

<b>Comments</b>
The property offer excellent hunting opportunity as well as some opportunity for wildlife viewing. Educational opportunities will be low. No significant water is located on the tract, so there is no fishing/boating opportunity.

<b>Other Values</b>	<b>0.778</b>
Timber Harvest	3
Local Economy	2
Quality of Life	2

<b>Comments</b>
The tract can produce good timber and will offer additional access to the game land. This will provide some benefit to the local economy and provide some quality of life benefits to local residents.

<b>Feasibility &amp; Logistics</b>	<b>0.667</b>
Existing Infrastructure	2
Compatibility of Multiple Uses on Tract	2
Compatibility with Adjoining Land	2
Inholding/Corridor	2
Proximity to Users	2

<b>Comments</b>
The tract has been logged and has existing roads that may be improved for access and/or wildlife habitat. Conflicts among game land users and adjoining should be minimal. The tract brings current State ownership to DOT maintained roads and will provide needed public access. The tract is in good proximity to GL users.

<b>Restoration/Mitigation Potential</b>	<b>0.833</b>
Species Restoration	2
Habitat Restoration	2
Access Improvement	3
Threat Mitigation	3

<b>Comments</b>
Restoration and habitat management potential on the tract is good, thus the rank is moderate. A new public access can be developed on the tract, thus the rank is high. There are few threats to the properties.

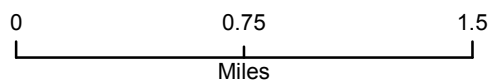
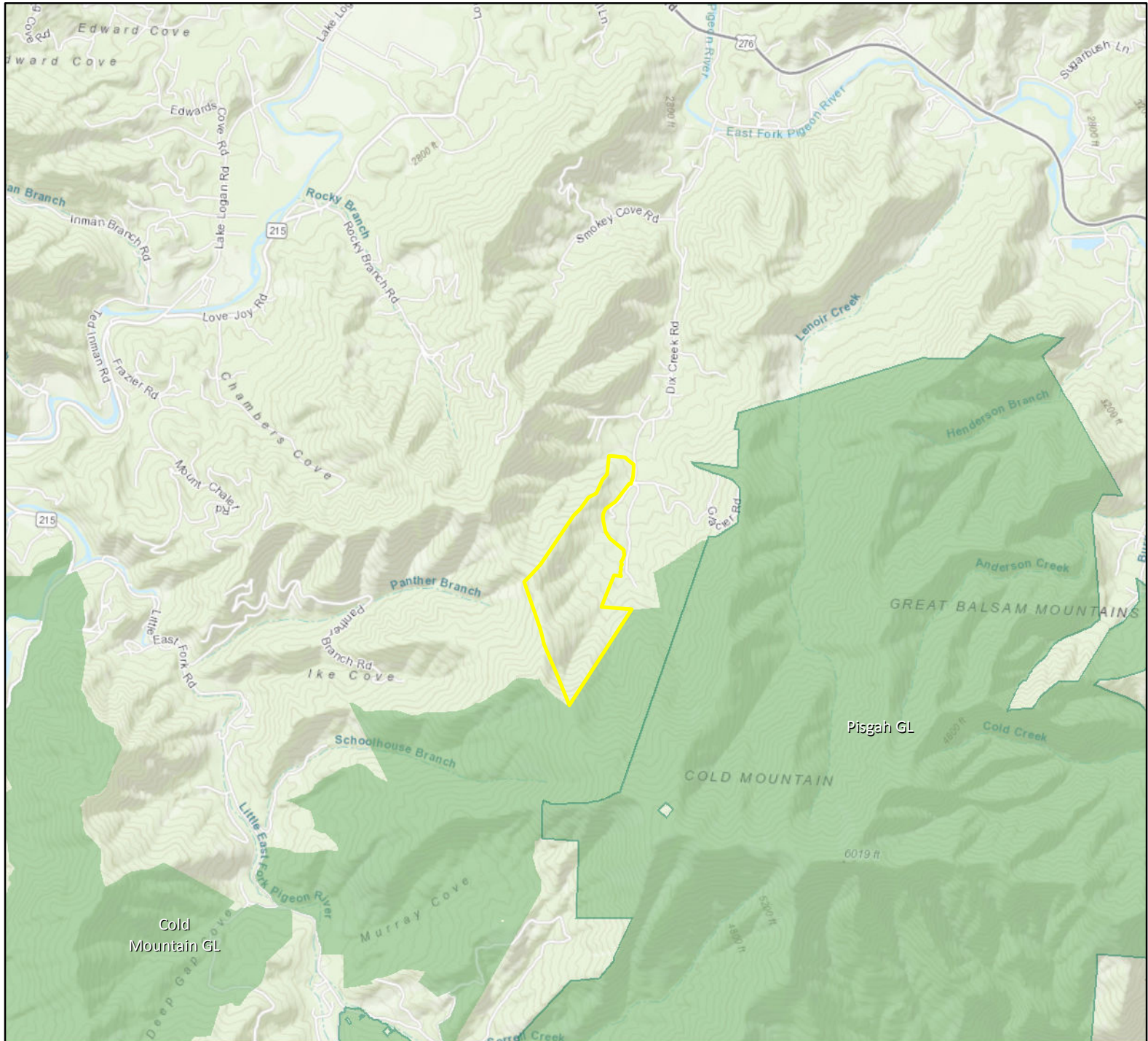
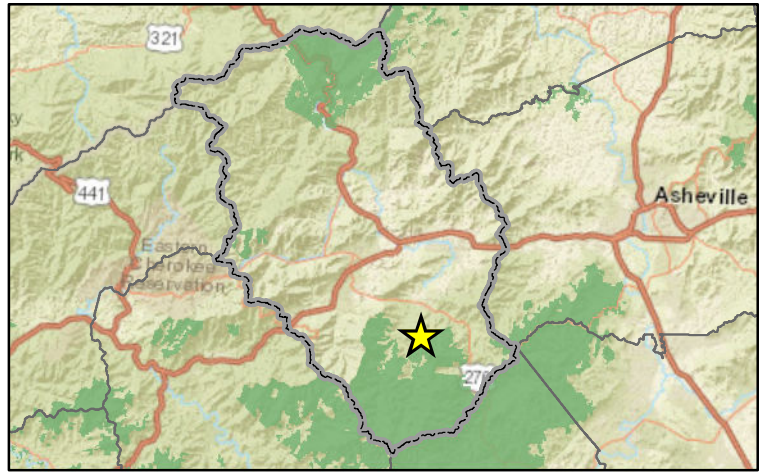
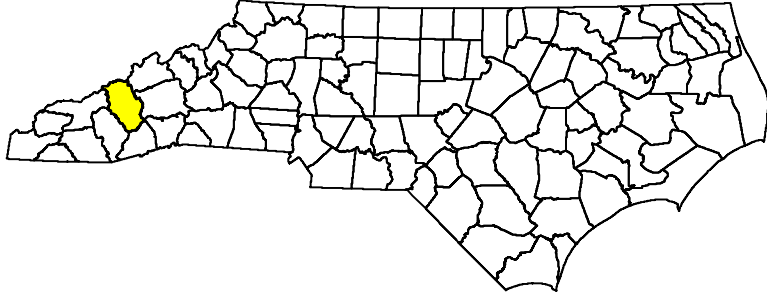
<b>Threats</b>	<b>0.333</b>
Number	1
Severity	2
Imminence	2
Manageability	0
Management Cost	0

<b>Comments</b>
The biggest threat in this area is loss of habitat due to residential development. Acquisition of the property would stop that threat on this tract.

<b>Overall Score</b>	<b>3.585</b>
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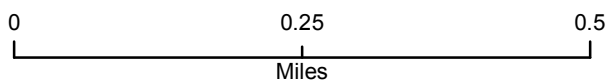
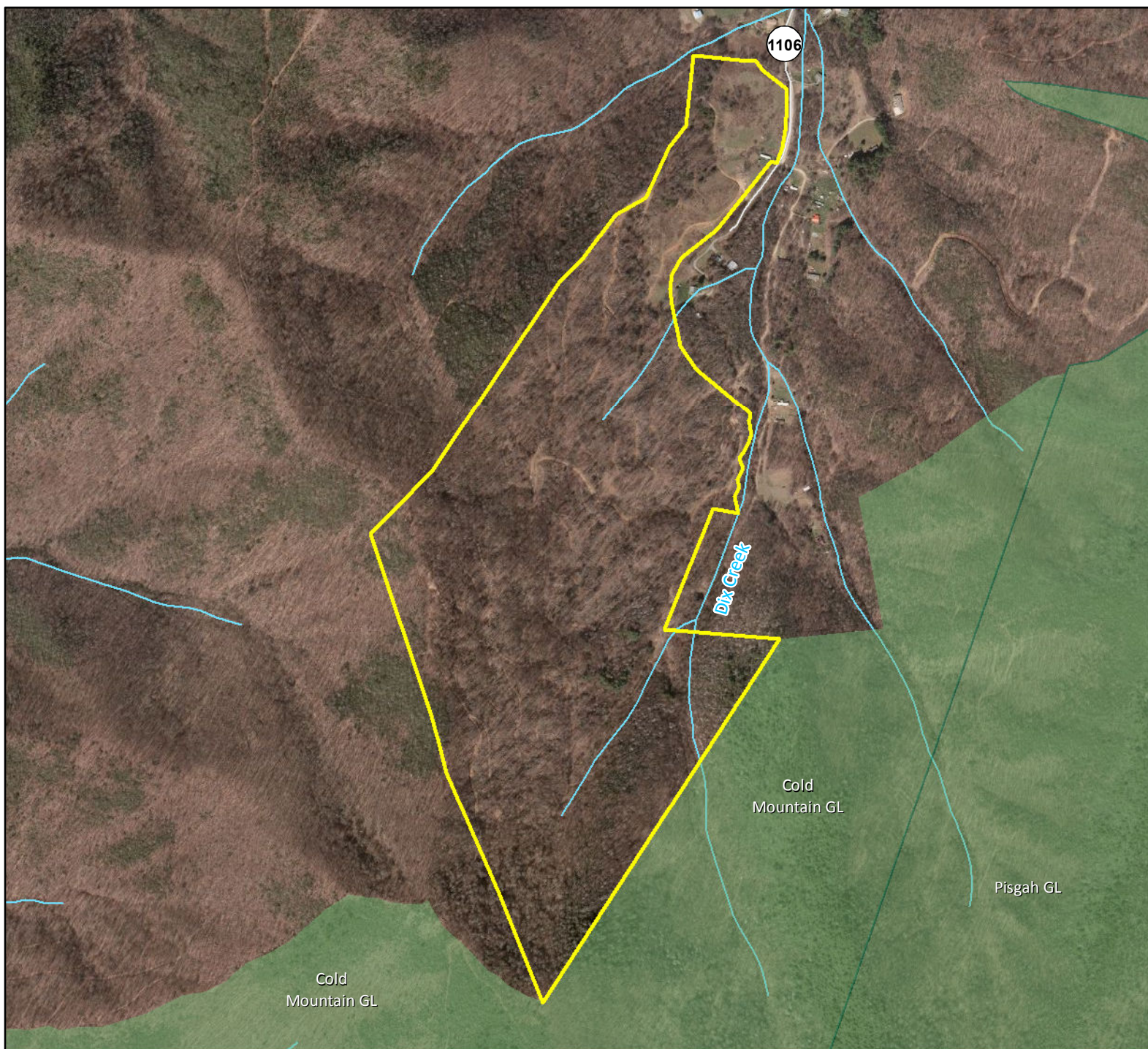
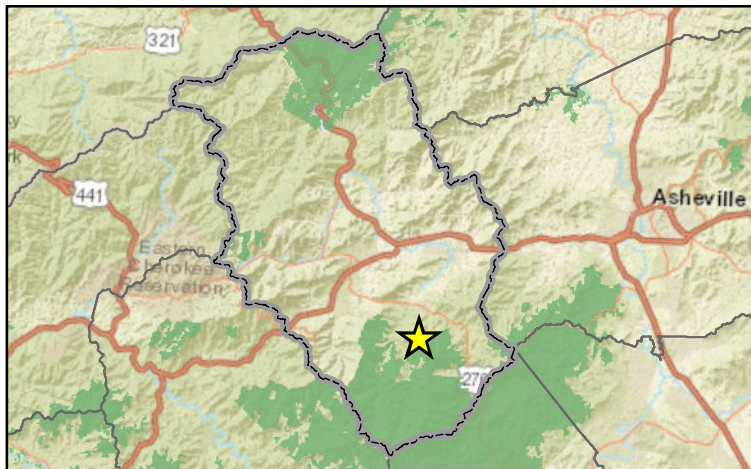
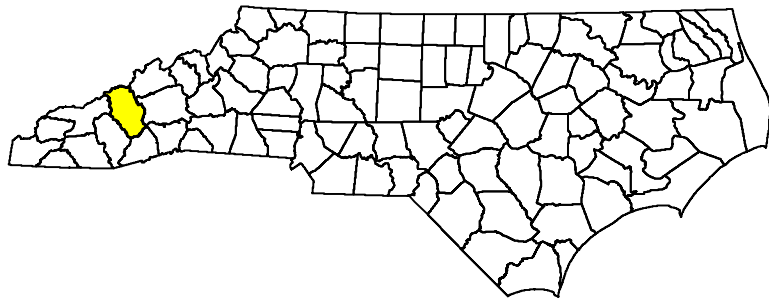


**Dix Creek / Johnson Tract**  
**Haywood County**  
**166 Acres**





**Dix Creek / Johnson Tract  
Haywood County  
166 Acres**



# Exhibit D-2

August 18, 2022

## North Carolina Wildlife Resources Commission Land Acquisition Investigation Form

### Phase II: FINAL ACQUISITION DETAILS

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**Tract Name:** Gaskins Swamp, Bertie County, 179 acres

**WRC Action/Approval to Pursue (Date):** December 8, 2021

**Acquisition Plan (specify total project costs AND sources of funding):**

NC LWF	\$122,500
ENVIVA	\$70,000
Wildlife Restoration	\$40,000
	\$232,500

If Yes, Explain Details:

**Acquisition Plan Includes Bargain Sale?** ☐ Yes ☒ No ☐ N/A

**Total Cost Based on Appraisal?** ☐ Yes ☐ No ☒ N/A

If Yes, Describe in Table:

Requested by:	Appraiser	Effective Date	Appraised Value
NCWRC	Quentin Bell	May 5, 2022	\$1,200/acre

**Appraisal Handled by State Property Office?** ☒ Yes ☐ No ☐ N/A

**Source(s) of Stewardship Funds (indicate federal:state match rates):**

Wildlife Restoration 75% / State Funds 25%

**Five-Year Stewardship Costs & Revenue Projections (worksheet attached):**

Total Stewardship Expenditures	\$ 1,700
Total Projected Revenue	\$ N/A



# Exhibit D-2

August 18, 2022

North Carolina Wildlife Resources Commission  
Land Acquisition Investigation Form

## Phase II: COSTS AND REVENUE WORKSHEET

---

Estimated Five Year Stewardship Costs and Revenue  
Projections: Gaskins Swamp Tract

Estimated Stewardship Costs				
Activity	Quantity	Unit	Unit Cost	Total Cost
Boundary Establishment	3	Mile	\$400	\$1,700
<b>TOTAL</b>				<b>\$1,700</b>

Estimated Revenue Projections				
Source	Quantity	Unit	Unit Revenue	Total Revenue
<b>TOTAL</b>				

**December 8, 2021**  
**North Carolina Wildlife Resources Commission**  
**Land Acquisition Investigation Form**  
**– PHASE I: INITIAL INVESTIGATION –**

<b>WRC Staff Contact:</b>	David Turner
<b>Date First Presented to Commission:</b>	December 8, 2017
<b>Tract Name:</b>	Gaskins Swamp
<b>County:</b>	Bertie
<b>Acreage:</b>	188.91
<b>Tax Value:</b>	
<b>Property Owner/Representative:</b>	
<b>Phone:</b>	
<b>Email Address:</b>	
<b>Address:</b>	

<b>Primary Purpose:</b>		<b>Program Potential:</b>	
<input checked="" type="checkbox"/> Resource Protection		<input checked="" type="checkbox"/> Game Land	
<input type="checkbox"/> Resource Management		<input type="checkbox"/> Wildlife Conservation Area	
<input type="checkbox"/> User Access		<input type="checkbox"/> Access Area	
<input type="checkbox"/> WRC Facility		<input type="checkbox"/> None	
<b>Type of Acquisition:</b>		<b>Type of Parcel:</b>	
<input checked="" type="checkbox"/> Purchase		<input checked="" type="checkbox"/> Tract	
<input type="checkbox"/> Lease		<input type="checkbox"/> Riparian Corridor	
<input type="checkbox"/> Easement			
<b>Grant Potential:</b>		<b>Owner Interest:</b>	
<input checked="" type="checkbox"/> LWF		<input checked="" type="checkbox"/> High	
<input checked="" type="checkbox"/> Federal Aid (PR, WB, etc.)		<input type="checkbox"/> Moderate	
<input checked="" type="checkbox"/> Other (NC EEP/NAWCA)		<input type="checkbox"/> Low	
<input type="checkbox"/> Other		<input type="checkbox"/> No	
<b>Tax Value:</b>		<b>Stewardship Considerations:</b>	
<input type="checkbox"/> Year Assessed		<input type="checkbox"/> PR Source:	
<input type="checkbox"/> PUV?		<input type="checkbox"/> 75/25 Match:	
<b>Funding Considerations:</b>		<b>Reviewed Appraisal &amp; Purchase Requirements?</b>	
<input type="checkbox"/> Donation		<input checked="" type="checkbox"/> Yes	
<input type="checkbox"/> Bargain Sale		<input type="checkbox"/> No	
<input type="checkbox"/> Partner Contribution		<input type="checkbox"/> N/A	
<b>Recommendation:</b>			
<input checked="" type="checkbox"/> Pursue			
<input type="checkbox"/> Do Not Pursue			
<input type="checkbox"/> Defer			

**Additional Comments:**

This collective of 4 parcels is located adjacent to the Windsor Boating Access Area. West Elm Street, which leads to the boat ramp, splits nearly 40 acres off from the main tract. GeoPIN #'s include 6802817406, 6802807265, 6811095269, and 6802907863. The total offering borders 1 mile of the Cashie River. Adjacent to the BAA, the Town of Windsor operates an RV camping area and 4 "tree houses" along the Cashie River. Approximately 50 acres of the tracts would be impacted by game land rules restricting discharge of firearms near dwellings. Thirty-three acres fall within municipality boundaries.

December 8, 2021

North Carolina Wildlife Resources Commission  
Land Acquisition Investigation Form  
– PHASE I: INITIAL INVESTIGATION –

Tract Name:	Gaskins Swamp Tract
County:	Bertie

**Resources Assessment and Biological Benefits (brief):**

The property has an average Biodiversity Relative Conservation Values of 6.99 (0- low-10 high values). The Biodiversity/Wildlife Habitat Index prioritizes aquatic and terrestrial habitat, landscape function and connectivity. The parcels are largely cypress-gum floodplain forests and tidal swamp forests. The southern portion of the tract falls in the NC Natural Heritage Programs Cashie River Swamp Natural Area. The extent to which the natural area extends into the tract was likely reduced following a mid-2000's(2005-2006) 43 acre timber harvest. The tract falls in the Atlantic Coast Joint Venture – South Atlantic Migratory Bird Initiative - Southeastern Coastal Plain Focus Area for waterfowl. Acquisition would protect the mature cypress-gum swamps from future timber harvest benefiting cavity nesters and a suite of neotropical migrants.

Tract Name	Gaskins Swamp	
Date	November 22, 2021	
Staff Completing Form	David Turner	

<b>Species</b>	<b>0.407</b>	<b>Comments</b> According to the NC Wildlife Habitat Threat Data Viewer and Analysis Tool, 32 Species of Greatest Conservation Need were identified as possibly present in habitats on the tract. Included are Acadian flycatcher, black-throated green warbler, prothonotary warbler, yellow-crowned night heron, northern myotis, northern yellow bat, and Rafinesque's big-eared bat. Bear may seasonally use the site, feeding on swamp black gum berries, though through a limited visit, no bear sign was found. Deer numbers would be low and relegated to the slopes surrounding the tract. Most of the tract has permanent standing water and would not be considered deer habitat.
	Terrestrial	
Overall Biodiversity	1	
SGCN Species	2	
Game Species	1	
	Wetland	
Overall Biodiversity	1	
SGCN Species	2	
Game Species	1	
	Aquatic	
Overall Biodiversity	1	
SGCN Species	1	
Game Species	1	

<b>Habitat</b>	<b>0.722</b>	<b>Comments</b> The majority of the parcels consists of mature cypress-gum swamp. Permanent water exist throughout under a closed canopy. Elevations provided on topo maps suggest dry ground is limited to the fringes of the tracts away from the river and a small 3 acre island in the main tract. The larger tract borders an existing Bertie County Game Land tract.
Size	1	
Quality	3	
Diversity	1	
Rare/Important	2	
Connectivity	3	
Buffer	3	

<b>Public Access</b>	<b>0.111</b>	<b>Comments</b> Access is possible from several city streets and the parcel with the warehouse. Boat access is via the Cashie River shore.
Hunting/Viewing	1	
Fishing	0	
Boating	0	

<b>Wildlife Uses</b>	<b>0.333</b>	<b>Comments</b> It is expected that this tract will receive limited hunting use. It is extremely difficult to walk in and waders would be required. The lack of canopy openings likely limits it use by waterfowl and therefore waterfowl hunters. Proximity to dwellings would prohibit the discharge of firearms on game lands on all portions of the higher ground fringe on the northern edges.
Hunting	2	
Viewing	2	
Fishing	0	
Boating	0	
Education	1	

<b>Other Values</b>	<b>0.222</b>	<b>Comments</b> Most of the tract classified as cypress-gum swamp. Management strategy is passive with the objective of maintaining a forested streamside buffer and the habitat values it offers for wetland and aquatic SGCN species. The wet nature of the swamp forest would not be amenable to hiking, so the best ecotourism opportunities would be related to boating on the river with the potential for development of platform camping facilities. Walking opportunities and access may improve over time as the timber matures on the upland portion.
Timber Harvest	0	
Local Economy	1	
Quality of Life	1	

<b>Feasibility &amp; Logistics</b>	<b>0.600</b>	<b>Comments</b> There are no roads on the tract. A small warehouse and carport are located on one tract and will likely be demolished if acquired. Tract joins an existing landlocked game land parcel, so if acquired would provide overland access to it. Portion of the tract falls in Windsor city limits with a connection to a city street that would be suitable for development of a parking area for user access.
Existing Infrastructure	0	
Compatibility of Multiple Uses on Tract	1	
Compatibility with Adjoining Land	3	
Inholding/Corridor	3	
Proximity to Users	2	

<b>Restoration/Mitigation Potential</b>	<b>0.250</b>	<b>Comments</b> The mature cypress-gum swamps are providing habitat for resident birds and neo-tropical migrants associated with that type of habitat. The threat to habitat would be if the landowner was to timber it. Species and habitat restoration is not needed to achieve habitat objectives for the forest type.
Species Restoration	0	
Habitat Restoration	0	
Access Improvement	0	
Threat Mitigation	3	

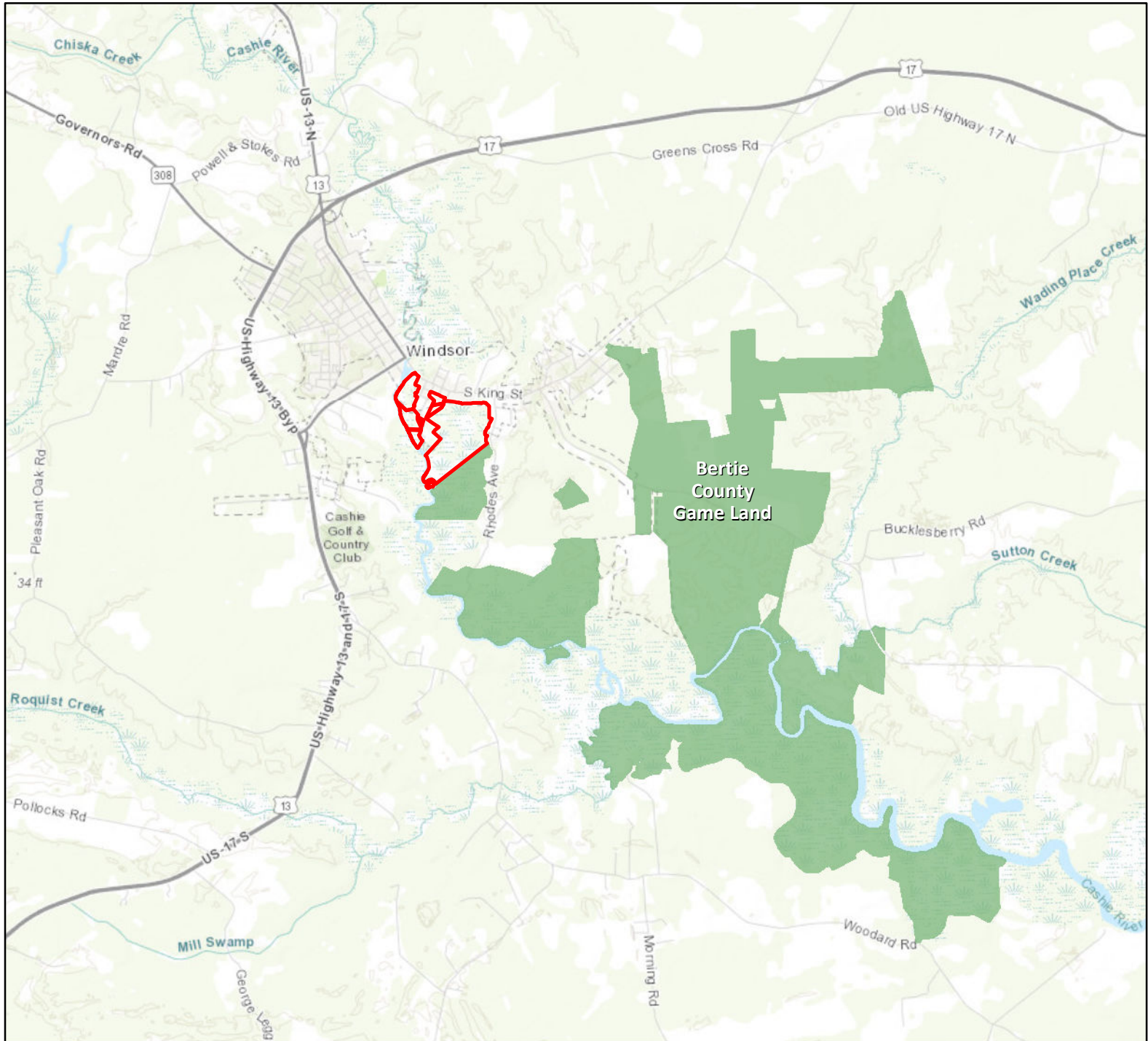
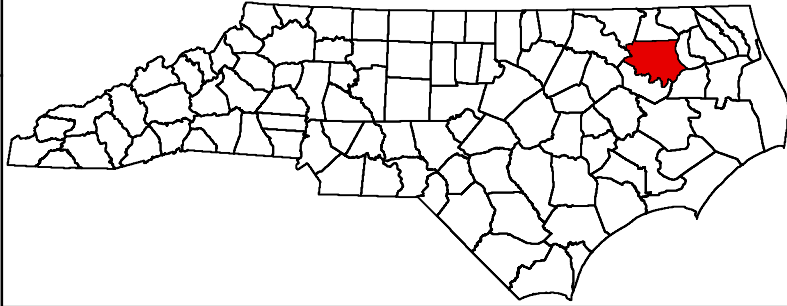
  

<b>Threats</b>	<b>0.267</b>	<b>Comments</b> A portion of the tract has been clearcut and there is no reason that most of the rest could not be cut.
Number	1	
Severity	2	
Imminence	1	
Manageability	0	
Management Cost	0	

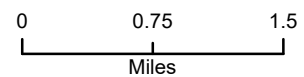
  

<b>Overall Score</b>	<b>2.380</b>
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# Gaskins Swamp Tract Bertie County 188.91 Acres



- Gaskins Swamp Tract
- Game Land





2022 Gaskins Swamp Tract  
North Carolina Wildlife Resources Commission



- |                     |             |         |
|---------------------|-------------|---------|
| Gaskins Swamp Tract | Roads       | Streams |
| Other Conservation  | Local Roads |         |





# **EXHIBIT E**

**August 18, 2022**



## **Proposed Emergency & Temporary Amendments to 15A NCAC 10B .0503 Surveillance Area - Recommended by Agency Staff for Adoption & Public Notice, Comment, and Presentation at Public Hearing**

Emergency amendments to this rule prohibit the use and possession of natural substances and materials containing excretions obtained from a cervid harvested in North Carolina within the primary and secondary surveillance areas. Temporary amendments to this rule include emergency amendments and an extension on the prohibition on placement of minerals or salt licks to purposefully congregate wildlife to year-round to provide greater protection due to potential perpetuation of prions in soils where minerals and salts have been placed.

*15A NCAC 10B .0503 Surveillance Area (page 2 - 3)*

15A NCAC 10B .0503 is amended under emergency procedures as follows:

**15A NCAC 10B .0503 SURVEILLANCE AREA**

(a) Placement of bait, food, food product, minerals, or salt licks to purposefully congregate wildlife shall be prohibited from January 2 through August 31 each year inside a Surveillance Area, except that bird feeders and other activities specifically permitted by the Commission shall be allowed. Placement of bait, food, or food products for the purpose of hunting during the urban archery season shall be allowed within the established season in participating municipalities.

(b) It is unlawful to export a live cervid, cervid carcass, or carcass parts originating from inside a Surveillance Area except:

- (1) meat that has been boned out such that no pieces or fragments of bone remain;
- (2) caped hides with no part of the skull or spinal column attached;
- (3) antlers, antlers attached to cleaned skull plates, or skulls free from meat or brain tissue;
- (4) cleaned lower jawbones with teeth or cleaned teeth;
- (5) finished taxidermy products and tanned hides; and
- (6) carcass or carcass parts permitted by the Commission for disposal outside of the Surveillance Area.

(c) White-tailed deer fawn rehabilitation is prohibited in a Surveillance Area.

(d) White-tailed deer fawns originating from within a Surveillance Area shall not be transported outside the Surveillance area.

(e) No person shall possess or use any substance or material that contains or is labeled as containing any excretion collected from a cervid, including feces, urine, blood, gland oil, or other bodily fluid for the purposes of taking or attempting to take, attracting, or scouting wildlife. This prohibition shall not apply to the following substances:

- (1) Products containing synthetic analogs of cervid excretions and labeled as such.
- (2) Natural substances collected from facilities within North Carolina that have a valid Farmed Cervid License from the North Carolina Department of Agriculture and Consumer Services and are labeled as such.
- (3) Natural deer urine products containing excretions from facilities within North Carolina that have a valid Farmed Cervid License from the North Carolina Department of Agriculture and Consumer Services and are labeled as such.
- (4) Natural deer urine products containing excretions from facilities that meet all the following requirements and are labeled as such:
  - (A) Determined to be free of chronic wasting disease (CWD) based on testing by an independent laboratory using a method that may help detect the presence of CWD prions.
  - (B) Complies with a federally approved CWD herd certification program and any federal CWD protocols.
  - (C) Participates in additional herd management requirements as specified by the Wildlife Resources Commission.

15A NCAC 10B .0503 is proposed for amendment under temporary procedures as follows:

**15A NCAC 10B .0503 SURVEILLANCE AREA**

(a) Placement of minerals or salt licks to purposefully congregate wildlife shall be prohibited. Placement of bait, food, or food product to purposefully congregate wildlife shall be prohibited from January 2 through August 31 each year inside a Surveillance Area, except that bird feeders and other activities specifically permitted by the Commission shall be allowed. Placement of bait, food, or food products for the purpose of hunting during the urban archery season shall be allowed within the established season in participating municipalities.

(b) It is unlawful to export a live cervid, cervid carcass, or carcass parts originating from inside a Surveillance Area except:

- (1) meat that has been boned out such that no pieces or fragments of bone remain;
- (2) caped hides with no part of the skull or spinal column attached;
- (3) antlers, antlers attached to cleaned skull plates, or skulls free from meat or brain tissue;
- (4) cleaned lower jawbones with teeth or cleaned teeth;
- (5) finished taxidermy products and tanned hides; and
- (6) carcass or carcass parts permitted by the Commission for disposal outside of the Surveillance Area.

(c) White-tailed deer fawn rehabilitation is prohibited in a Surveillance Area.

(d) White-tailed deer fawns originating from within a Surveillance Area shall not be transported outside the Surveillance area.

(e) No person shall possess or use any substance or material that contains or is labeled as containing any excretion collected from a cervid, including feces, urine, blood, gland oil, or other bodily fluid for the purposes of taking or attempting to take, attracting, or scouting wildlife. This prohibition shall not apply to the following substances:

- (1) Products containing synthetic analogs of cervid excretions and labeled as such.
- (2) Natural substances collected from facilities within North Carolina that have a valid Farmed Cervid License from the North Carolina Department of Agriculture and Consumer Services and are labeled as such.
- (3) Natural deer urine products containing excretions from facilities within North Carolina that have a valid Farmed Cervid License from the North Carolina Department of Agriculture and Consumer Services and are labeled as such.
- (4) Natural deer urine products containing excretions from facilities that meet all the following requirements and are labeled as such:
  - (A) Determined to be free of chronic wasting disease (CWD) based on testing by an independent laboratory using a method that may help detect the presence of CWD prions.
  - (B) Complies with a federally approved CWD herd certification program and any federal CWD protocols.

(C)      Participates in additional herd management requirements as specified by the Wildlife Resources Commission.

# EXHIBIT F

August 18, 2022



## **Proposed Amendments to 15A NCAC 10B .0201 Prohibited Taking and Manner of Take - Recommended by Agency Staff for Public Notice, Comment, and Presentation at Public Hearing**

Incorporate required exceptions to the prohibition on possession and use of any substance that contains or is labeled as containing any excretion collected from a cervid for the purpose of taking wildlife.

This rule was amended during the 2020-2021 Annual Cycle to prohibit possession and use of natural substances containing cervid excretions (excluding substances collected from deer harvested in NC) for the purposes of taking or attracting wildlife. However, 10 letters of objection to this change were received by the Rules Review Commission, thus subjecting it to legislative review. Session Law 2021-176 disapproved the amendments to the rule and provided exceptions to the prohibition. The Commission is required to adopt these amendments.

Additional amendments to this rule are part of the periodic review. This rule is required to be readopted by December 31, 2022.

*10B .0201 Prohibited Taking and Manner of Take (page 2-3)*

## **15A NCAC 10B .0201 PROHIBITED TAKING AND MANNER OF TAKE**

(a) ~~It is unlawful for any~~ No person ~~to shall~~ take, or have in ~~their~~ possession, any wild animal or wild bird listed in this Section except during the open seasons and in accordance with the limits herein prescribed, or as prescribed by 15A NCAC 10B .0300 pertaining to trapping or 15A NCAC 10D applicable to game lands managed by the Wildlife Resources Commission, unless otherwise permitted by law. ~~Lawful seasons and bag limits for each species apply beginning with the first day of the listed season and continue through the last day of the listed season, with all dates being included. When any hunting season ends on a January 1 that falls on a Sunday, that season shall be extended to Monday, January 2.~~

(b) Lawful seasons and bag limits for each species apply beginning with the first day of the listed season and continue through the last day of the listed season, with all dates being included.

(c) When any hunting season ends on a January 1 that falls on a Sunday, that season shall be extended to Monday, January 2.

~~(b)~~ (d) On Sundays, hunting on private lands shall be allowed under the following conditions:

- (1) archery equipment as described in 15A NCAC 10B .0116, falconry, and dogs where and when allowed the other days of the week are lawful methods of take, except as prohibited in G.S. ~~103-2;~~ 103-2;
- (2) firearms are lawful methods of take when used as described in G.S. 103-2; and
- (3) migratory game birds may not be taken.

~~(e) On Sundays, hunting on public lands is allowed with the following restrictions:~~

- ~~(1) — only falconry and dogs used in conjunction with falconry are lawful methods of take; and~~
- ~~(2) — migratory game birds may not be taken.~~

~~These restrictions do not apply to military installations under the exclusive jurisdiction of the federal government.~~

(e) On Sundays, the following shall be prohibited on public game lands:

- (1) hunting with a firearm between 9:30 AM and 12:30 PM;
- (2) the use of a firearm to take deer that are run or chased by dogs;
- (3) hunting with a firearm within 500 yards of a place of religious worship, as defined by G.S. 32 14-54.1(b), or any accessory structure thereof; and
- (4) hunting migratory game birds

Except for migratory game bird these restrictions do not apply to military installations under the exclusive jurisdiction of the federal government.

~~(f)~~ (f) Those animals not classified as game animals in G.S. 113-129(7c), and for which a season is set under this Section, may be taken during the hours and methods authorized for taking game animals.

(g) No person shall possess or use any substance or material that contains or is labeled as containing any excretion collected from a cervid, including feces, urine, blood, gland oil, or other bodily fluid for the purposes of taking or attempting to take, attracting, or scouting wildlife. This prohibition shall not apply to the following substances:

- (1) Products containing synthetic analogs of cervid excretions and labeled as such.

- (2) Products consisting of or containing natural substances collected by a hunter from a legally harvested cervid in North Carolina.
- (3) Natural substances collected from facilities within North Carolina that have a valid Farmed Cervid License from the North Carolina Department of Agriculture and Consumer Services and are labeled as such.
- (4) Natural deer urine products containing excretions from facilities within North Carolina that have a valid Farmed Cervid License from the North Carolina Department of Agriculture and Consumer Services and are labeled as such.
- (5) Natural deer urine products containing excretions from facilities that meet all the following requirements and are labeled as such:
  - (A) Determined to be free of chronic wasting disease (CWD) based on testing by an independent laboratory using a method that may help detect the presence of CWD prions.
  - (B) Complies with a federally approved CWD herd certification program and any federal CWD protocols.
  - (C) Participates in additional herd management requirements as specified by the Wildlife Resources Commission.

☞ (h) Where local laws govern hunting, or are in conflict with this Subchapter, the local law shall prevail.

*History Note:* Authority G.S. 103-2; 113-291.1(a); 113-134; 113-291.2; 113-291.3;  
Eff. February 1, 1976;

Amended Eff. May 1, 2016; August 1, 2012; July 10, 2010; July 1, 1996; July 1, 1987;



# EXHIBIT G-1

August 18, 2022



## **Proposed Amendments to 15A NCAC 10I .0100 - State Listed Species Rules Recommended by Agency Staff Public Notice, Comment, and Presentation at Public Hearing**

The NCWRC periodically reviews and updates taxa group classifications. The following changes are deemed necessary.

### **15A NCAC 10I .0103 Endangered Species Listed**

- 1) Add the following species to endangered species list: Carolina madtom, little brown bat, and tricolored bat
- 2) Remove Atlantic pigtoe from the endangered species list  
*15A NCAC 10I .0103 Endangered Species Listed (page 2-3)*

### **15A NCAC 10I .0104 Threatened Species Listed**

- 1) Add the following species to threatened species list: Neuse River waterdog, Atlantic pigtoe, blotched chub, ironcolor shiner, Santee chub, and thicklip chub
- 2) Remove Carolina madtom from the threatened species list  
*15A NCAC 10I .0104 Threatened Species Listed (page 4-5)*

### **15A NCAC 10I .0105 Special Concern Species Listed**

- 1) Add the following species to special concern species list: Collinses' mountain chorus frog and seagreen darter
- 2) Remove the following species from the special concern species list: Mountain chorus frog, Neuse River waterdog, and Pungo white footed mouse
- 3) Make technical corrections to the scientific name of Carolina swamp snake  
*15A NCAC 10I .0105 Special Concern Species Listed (page 6-8)*

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

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

- (1) Amphibians: None Listed At This Time.
- (2) Birds:
  - (A) Bachman's warbler (*Vermivora bachmanii*);
  - (B) Ivory-billed woodpecker (*Campephilus principalis*);
  - (C) Piping plover (*Charadrius melodus circumcinctus*);
  - (D) Red-cockaded woodpecker (*Dryobates borealis*); and
  - (E) Roseate tern (*Sterna dougallii dougallii*).
- (3) Crustacea: None Listed At This Time.
- (4) Fish:
  - (A) Cape Fear shiner (*Notropis mekistocholas*);
  - (B) Carolina madtom (*Noturus furiosus*);
  - ~~(B)(C)~~ Roanoke logperch (*Percina rex*);
  - ~~(C)(D)~~ Shortnose sturgeon (*Acipenser brevirostrum*), when found in inland fishing waters as defined in G.S. 113-129(9)a and (9)b.; and
  - ~~(D)(E)~~ Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), when found in inland fishing waters.
- (5) Mammals:
  - (A) Carolina northern flying squirrel (*Glaucomys sabrinus coloratus*);
  - (B) Eastern cougar (*Puma concolor*);
  - (C) Gray bat (*Myotis grisescens*);
  - (D) Indiana bat (*Myotis sodalis*);
  - (E) Manatee (*Trichechus manatus*), when found in inland fishing waters; and
  - (F) Virginia big-eared bat (*Corynorhinus townsendii virginianus*).
- (6) Mollusks:
  - (A) Appalachian elktoe (*Alasmodonta raveneliana*);
  - (B) Carolina heelsplitter (*Lasmigona decorata*);
  - (C) Dwarf wedgemussel (*Alasmodonta heterodon*);
  - (D) James spinymussel (*Parvaspina collina*);
  - (E) Littlewing pearlymussel (*Pegias fabula*);
  - (F) Tan riffleshell (*Epioblasma florentina walkeri*); and
  - (G) Tar River spinymussel (*Parvaspina steinstansana*).
- (7) Reptiles:
  - (A) Kemp's ridley seaturtle (*Lepidochelys kempii*);
  - (B) Atlantic hawksbill seaturtle (*Eretmochelys imbricata imbricata*); and
  - (C) Leatherback seaturtle (*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) Bewick's wren (*Thryomanes bewickii*);
  - (C) Common tern (*Sterna hirundo*);
  - (D) Henslow's sparrow (*Centronyx henslowii*); and
  - (E) Wayne's black-throated green warbler (*Setophaga virens waynei*).

- (3) Crustacea:
- (A) Bennett's Mill cave water slater (*Caecidotea carolinensis*); and
  - (B) Waccamaw crayfish (*Procambarus braswelli*).
- (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: ~~None Listed At This Time.~~
- (A) Little brown bat (*Myotis lucifugus*); and
  - (B) Tricolored bat (*Perimyotis subflavus*).
- (6) Mollusks:
- ~~(A) Atlantic pigtoe (*Fusconaia masoni*);~~
  - ~~(B)~~(A) Barrel floater (*Utterbackiana couperiana*);
  - ~~(C)~~(B) Brook floater (*Alasmodonta varicosa*);
  - ~~(D)~~(C) Carolina creekshell (*Villosa vaughaniana*);
  - ~~(E)~~(D) Fragile glyph (*Glyphyalinia clingmani*);
  - ~~(F)~~(E) Green floater (*Lasmigona subviridis*);
  - ~~(G)~~(F) Greenfield rams-horn (*Helisoma eucosmium*)
  - ~~(H)~~(G) Knotty elimia (*Elimia christyi*);
  - ~~(I)~~(H) Longsolid (*Fusconaia subrotunda*);
  - ~~(J)~~(I) Magnificent rams-horn (*Planorbella magnifica*);
  - ~~(K)~~(J) Purple wartyback (*Cyclonaias tuberculata*);
  - ~~(L)~~(K) Savannah lilliput (*Toxolasma pullus*);
  - ~~(M)~~(L) Slippershell mussel (*Alasmodonta viridis*);
  - ~~(N)~~(M) Tennessee clubshell (*Pleurobema oviforme*);
  - ~~(O)~~(N) Tennessee heelsplitter (*Lasmigona holstonia*);
  - ~~(P)~~(O) Tennessee pigtoe (*Pleuronaia barnesiana*); and
  - ~~(Q)~~(P) Yellow lampmussel (*Lampsilis cariosa*).
- (7) Reptiles:
- (A) Eastern coral snake (*Micrurus fulvius fulvius*); and
  - (B) Eastern diamondback rattlesnake (*Crotalus adamanteus*); and
  - (C) Mimic glass lizard (*Ophisaurus mimicus*).

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

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

- (1) Amphibians: ~~None Listed At This Time.~~  
(A) Neuse River waterdog (*Necturus lewisi*)
- (2) Birds:  
(A) Eastern black rail (*Laterallus jamaicensis jamaicensis*);  
(B) Piping plover (*Charadrius melodus melodus*);  
(C) Red knot (*Calidris canutus rufa*); and  
(D) Wood stork (*Mycteria americana*).
- (3) Crustacea: None Listed At This Time.
- (4) Fish:  
(A) Spotfin chub (*Erimonax monachus*); and  
(B) Waccamaw silverside (*Menidia extensa*).
- (5) Mammals: Northern long-eared bat (*Myotis septentrionalis*)
- (6) Mollusks:  
(A) Atlantic pigtoe (*Fusconaia masoni*);  
~~(A)(B)~~ Noonday globe (*Patera clarki nantahala*); and  
~~(B)(C)~~ Yellow lance (*Elliptio lanceolata*).
- (7) Reptiles:  
(A) Bog turtle (*Glyptemys muhlenbergii*);  
(B) American alligator (*Alligator mississippiensis*);  
(C) Green sea turtle (*Chelonia mydas*); and  
(D) Loggerhead sea turtle (*Caretta caretta*).

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

- (1) Amphibians:  
(A) Eastern tiger salamander (*Ambystoma tigrinum tigrinum*);  
(B) Green salamander (*Aneides aeneus*);  
(C) Junaluska salamander (*Eurycea junaluska*);  
(D) Long-tailed salamander (*Eurycea longicauda longicauda*);  
(E) Mabee's salamander (*Ambystoma mabeei*);  
(F) Pine Barrens tree frog (*Hyla andersonii*); and  
(G) Wehrle's salamander (*Plethodon wehrlei*).
- (2) Birds:  
(A) Bald eagle (*Haliaeetus leucocephalus*);  
(B) Caspian tern (*Hydroprogne caspia*);  
(C) Gull-billed tern (*Gelochelidon nilotica aranea*); and  
(D) Northern saw-whet owl (*Aegolius acadicus*).
- (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*)  
~~(B) Carolina madtom (*Noturus furiosus*)~~;  
(C) Carolina pygmy sunfish (*Elassoma boehlkei*);  
(D) Carolina redhorse (*Moxostoma sp.*);

- ~~(E)~~ (E) Ironcolor shiner (*Notropis chalybaeus*)
  - ~~(E)(F)~~ (F) Least brook lamprey (*Lampetra aepyptera*);
  - ~~(F)(G)~~ (G) Logperch (*Percina caprodes*);
  - ~~(G)(H)~~ (H) Mimic shiner (*Notropis volucellus*);
  - ~~(H)(I)~~ (I) Rosyface chub (*Hybopsis rubrifrons*);
  - ~~(I)(J)~~ (J) Sharphead darter (*Etheostoma acuticeps*);
  - ~~(K)~~ (K) Santee chub (*Cyprinella zanema*)
  - ~~(J)(L)~~ (L) Sicklefin redhorse (*Moxostoma* sp.);
  - (M) Thicklip chub (*Cyprinella labrosa*)
  - ~~(K)(N)~~ (N) Turquoise darter (*Etheostoma inscriptum*); and
  - ~~(L)(O)~~ (O) 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:
- (A) Alewife floater (*Utterbackiana implicata*);
  - (B) Big-tooth covert (*Fumonelix jonesiana*);
  - (C) Cape Fear threetooth (*Triodopsis soelneri*);
  - (D) Eastern lampmussel (*Lampsilis radiata*);
  - (E) Eastern pondmussel (*Ligumia nasuta*);
  - (F) Engraved covert (*Fumonelix orestes*);
  - (G) Mountain creekshell (*Villosa vanuxemensis*);
  - (H) Notched rainbow (*Villosa constricta*);
  - (I) Rainbow (*Villosa iris*);
  - (J) Roan supercoil (*Paravitrea varidens*);
  - (K) Sculpted supercoil (*Paravitrea ternaria*);
  - (L) Smoky Mountain covert (*Inflectarius ferrissi*);
  - (M) Creeper (*Strophitus undulatus*);
  - (N) Tidewater mucket (*Leptodea ochracea*);
  - (O) Triangle floater (*Alasmidonta undulata*); and
  - (P) Waccamaw ambersnail (*Catinella waccamawensis*).
- (7) Reptiles:
- (A) Northern pine snake (*Pituophis melanoleucus melanoleucus*); and
  - (B) Southern hognose snake (*Heterodon simus*).

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

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

- (1) Amphibians:
  - ~~(a)~~ ~~Crevice salamander (*Plethodon longicus*);~~
  - (a) Collinses' mountain chorus frog (*Pseudacris collinsorum*);
  - ~~(a)(b)~~ Crevice salamander (*Plethodon longicus*);
  - ~~(b)(c)~~ Dwarf salamander (*Eurycea quadridigitata*);
  - ~~(c)(d)~~ Dwarf black-bellied salamander (*Desmognathus folkertsi*);
  - ~~(d)(e)~~ Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*);
  - ~~(e)(f)~~ Four-toed salamander (*Hemidactylium scutatum*);
  - ~~(f)(g)~~ Gray treefrog (*Hyla versicolor*);
  - ~~(g)(h)~~ Mole salamander (*Ambystoma talpoideum*);
  - ~~(h)~~ ~~Mountain chorus frog (*Pseudacris brachyphona*);~~
  - (i) Mudpuppy (*Necturus maculosus*);
  - ~~(j)~~ ~~Neuse River waterdog (*Necturus lewisi*);~~
  - ~~(k)(j)~~ Southern chorus frog (*Pseudacris nigrita*);
  - ~~(k)~~ Southern zigzag salamander (*Plethodon ventralis*); and
  - ~~(m)(l)~~ Weller's salamander (*Plethodon welleri*).
- (2) Birds:
  - (a) American oystercatcher (*Haematopus palliatus*);
  - (b) Bachman's sparrow (*Peucaea aestivalis*);
  - (c) Barn owl (*Tyto alba*);
  - (d) Black-capped chickadee (*Parus atricapillus*);
  - (e) Black skimmer (*Rynchops niger*);
  - (f) Brown creeper (*Certhia americana nigrescens*);
  - (g) Cerulean warbler (*Setophaga cerulea*);
  - (h) Glossy ibis (*Plegadis falcinellus*);
  - (i) Golden-winged warbler (*Vermivora chrysoptera*);
  - (j) Least bittern (*Ixobrychus exilis*);
  - (k) Least tern (*Sternula antillarum*);
  - (l) Little blue heron (*Egretta caerulea*);
  - (m) Loggerhead shrike (*Lanius ludovicianus*);
  - (n) Painted bunting (*Passerina ciris*);
  - (o) Red crossbill (*Loxia curvirostra*);
  - (p) Snowy egret (*Egretta thula*);
  - (q) Tricolored heron (*Egretta tricolor*);
  - (r) Vesper sparrow (*Pooecetes gramineus*); and
  - (s) Wilson's plover (*Charadrius wilsonia*).
- (3) Crustacea:
  - (a) Carolina skistodiaptomus (*Skistodiaptomus carolinensis*);
  - (b) Carolina well diacyclops (*Diacyclops jeannelli putei*);
  - (c) Chowanoke crayfish (*Faxonius virginianus*);
  - (d) Graceful clam shrimp (*Lynceus gracilicornis*);
  - (e) Greensboro burrowing crayfish (*Cambarus catagius*);
  - (f) Hiwassee headwaters crayfish (*Cambarus parrishi*);
  - (g) Little Tennessee River crayfish (*Cambarus georgiae*);
  - (h) North Carolina spiny crayfish (*Faxonius carolinensis*); and
  - (i) Oconee stream crayfish (*Cambarus chaugaensis*).
- (4) Fish:



- (a) American brook lamprey (*Lethenteron* appendix);
- (b) "Atlantic" Highfin carpsucker (*Carpionodes* sp. cf. *velifer*);
- (c) Banded sculpin (*Cottus carolinae*);
- (d) Blue Ridge sculpin (*Cottus caeruleomentum*);
- (e) Blueside darter (*Etheostoma jessiae*);
- (f) Broadtail madtom (*Noturus* sp.);
- (g) Carolina darter (*Etheostoma collis*);
- (h) Cutlip minnow (*Exoglossum maxillingua*);
- (i) Freshwater drum (*Aplodinotus grunniens*);
- (j) Kanawha minnow (*Phenacobius teretulus*);
- (k) Lake sturgeon (*Acipenser fulvescens*);
- (l) Least killifish (*Heterandria formosa*);
- (m) Mooneye (*Hiodon tergisus*);
- (n) Mountain madtom (*Noturus eleutherus*);
- (o) Ohio lamprey (*Ichthyomyzon bdellium*);
- (p) Olive darter (*Percina squamata*);
- (q) Pinewoods darter (*Etheostoma mariae*);
- (r) River carpsucker (*Carpionodes carpio*);
- (s) Sandhills chub (*Semotilus lumbee*);
- (t) Seagreen darter (*Etheostoma thalassinum*);
- ~~(u)~~(u) Sickie darter (*Percina williamsi*);
- ~~(v)~~(v) Smoky dace (*Clinostomus* sp.);
- ~~(w)~~(w) Striped shiner (*Luxilus chrysocephalus*);
- ~~(x)~~(x) Snubnose darter (*Etheostoma simoterum*);
- ~~(y)~~(y) "Thinlip" chub (*Cyprinella* sp. cf. *zanema*);
- ~~(z)~~(z) Waccamaw killifish (*Fundulus waccamensis*);
- ~~(aa)~~(aa) Westfall's Darter (*Percina westfalli*);
- ~~(ab)~~(bb) Wounded darter (*Etheostoma vulneratum*); and
- ~~(bc)~~(cc) Yellowfin shiner (*Notropis 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) Pungo white footed mouse (*Peromyscus leucopus easti*)~~;
  - ~~(h)~~(g) Southeastern bat (*Myotis austroriparius*);
  - ~~(i)~~(h) Southern rock vole (*Microtus chrotorrhinus carolinensis*); and
  - ~~(j)~~(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) Pod lance (*Elliptio folliculata*);
  - (u) Queen crater (*Appalachina chilhoweensis*);
  - (v) Ramp Cove supercoil (*Paravitrea lacteodens*);
  - (w) Ridged lioplax (*Lioplax subcarinata*);
  - (x) Roanoke slabshell (*Elliptio roanokensis*);
  - (y) Saw-tooth disc (*Discus bryanti*);
  - (z) Seep mudalia (*Leptoxis dilatata*);
  - (aa) Spike (*Eurynia dilatata*);
  - (bb) Spiral coil (*Helicodiscus bonamicus*);
  - (cc) Velvet covert (*Inflectarius subpalliat*);
  - (dd) Waccamaw amnicola (*Amnicola* sp.);
  - (ee) Waccamaw siltsnail (*Cincinnatia* sp.); and
  - (ff) Wavy-rayed lampmussel (*Lampsilis fasciola*).
- (7) Reptiles:
- (a) Carolina pigmy rattlesnake (*Sistrurus miliarius miliarius*);
  - (b) Carolina swamp snake (~~*Seminatrix pygaea paludis*~~; *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~~ 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 minor peltifer*); and
  - (m) Timber rattlesnake (*Crotalus horridus*).

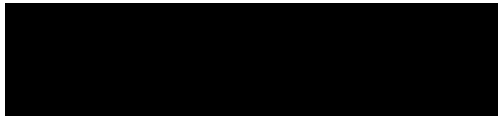
*History Note:* Authority G.S. 113-134; 113-291.2; 113-292; 113-333;  
 Eff. September 1, 1989;  
 Amended Eff. October 1, 2017; August 1, 2016; May 1, 2008; July 18, 2002; April 1, 2001;  
 November 1, 1991; April 1, 1991; June 1, 1990;  
 Readopted Eff. October 1, 2021.  
Amended Eff. January 1, 2023.



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

**Rule Amendments:** 15A NCAC 10I .0103 Endangered Species Listed  
15A NCAC 10I .0104 Threatened Species Listed  
15A NCAC 10I .0105 Special Concern Species Listed

**Agency Contact:** Ashley Pekrul  
Regulatory Analyst  
NC Wildlife Resources Commission



**Impact Summary:** State Government: Yes  
Local Government: Yes  
Private Impact: Yes  
Substantial Impact: No

**Authority:** G.S. 113-134, 113-333

### **Background**

The wildlife resources of the State belong to the people of the State as a whole, including the enjoyment of these resources (G.S. 113-131(a)). The Wildlife Resources Commission (WRC) is tasked with the conservation of wildlife resources of the State (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 process for updating the state listing involves 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 (<http://www.ncwildlife.org/plan>).

A summary of the proposed rule amendments is below, with the full text included in Appendix A.

## **I. Introduction and Purpose of Rule Change**

The endangered, threatened, and special concern species lists (hereinafter, referred to as the protected species list or state list) identify nongame wild animals to be protected and conserved, so conservation techniques can be developed for them, and their population numbers are enhanced. An endangered species is one whose continued existence has been determined to be in jeopardy in the state. 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. And a special concern species has been determined to need monitoring. 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 review of 39 species in a report from the Scientific Council approved by NWAC, the WRC recommends adding 7 species, removing 1 species (for a net addition of 6 species), changing the status of 3 species, and updating the taxonomic names of 2 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 Appendix B.

Proposed changes to the state list include an additional 2 species to be listed as endangered, 4 species to be listed as threatened, and 1 species to be listed as special concern. Overall, there will be 13 changes to the 15A NCAC 10I – Endangered and Threatened Species Rules due to additions, removals, shifting of species between lists, and taxonomic name corrections. The goal of these listing 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.

## II. Fiscal Impacts - Costs<sup>1</sup>

### *State Impact*

The proposed amendments to the 10I Rules are anticipated to have a minimal economic impact to the state.

It is unlawful, unless granted specific authorization, for an individual to take, possess, transport, sell, barter, trade, exchange, export or give away any species listed in 15A NCAC 10I .0103 - .0105.<sup>2</sup> 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 8 hours of information on the illegal pet trade, collection, and food market, and teaches officers accurate species identification. Additionally, routine refresher trainings are offered, which include 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, 2 hours, a one-time cost to the agency of \$78 ( $\$39/\text{hr}^3 \times 2 \text{ hrs} = \$78$ ).

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) 2021 and FY 2022, less than one percent of each officer's time is spent on nongame specific activities.<sup>4</sup> These activities include routine patrols for violations, responding to wildlife vs. human interactions and complaints, assisting biologists with complaints, following leads from citizens, and investigating actual crimes. Over the past two fiscal years, this activity accounted for an average of 5,544 hours/FY. There are over 1,000 nongame species in NC and two hundred and fifty (250) nongame species that are state listed as of FY2022. To estimate additional costs to the agency from the 7 newly listed species, it is assumed that about one-fourth of the 5,544 hours, 1,386 hours ( $5,544 \text{ hrs}/4 = 1,386 \text{ hours}$ ) spent patrolling in the last two fiscal years was specific to listed species. While it is not anticipated that the addition of 7 new species to the protected species list will have much impact on officer time because many of the new species reside in habitats that are already patrolled, the potential exists for increased illegal activity involving these species. Currently, patrol time and time spent addressing any illegal activity, are estimated to cost the agency \$51,282/FY ( $\$37/\text{hr} \times 1,386 \text{ hrs}/\text{FY}$ ). If there is an increase in illegal activity, this cost could increase. However, it is not possible to predict the potential change in illegal activity at this time.

Additionally, each person convicted of unlawful activities associated with a species on the protected species list is guilty of a Class I misdemeanor. A typical court case for a listed species requires approximately 11 hours of officer time. Based on the available data, the agency incurs a

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<sup>1</sup> All hourly rates for agency staff herein reflect total compensation.

<sup>2</sup> G.S. 113-337. Unlawful acts; penalties.

<sup>3</sup> Represents the midpoint hourly salary of a Conservation Biologist II.

<sup>4</sup> Personal correspondence with law enforcement staff 03/31/2022.

cost of \$407 per court case ( $\$37/\text{hr} \times 11 \text{ hrs/case} = \$407 \text{ case}$ ). However, the agency is not able to predict the number of instances involving illegal take that will go to court because of changes to the protected species list, though the number of cases per year is typically less than 5.

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. With this in mind, the species added to the state list may not be additive work per se but will 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 listings, 7 species will require new management plans, at an estimated cost to the agency of \$32,760 ( $\$39/\text{hr} \times 120 \text{ hrs/plan} = \$4,680/\text{plan}$ ;  $\$4,680/\text{plan} \times 7 \text{ plans} = \$32,760$ ). It is estimated that it will take the agency 12 months to develop these plans.

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 management plan (required if listed) and could range from monitoring to population augmentation. If a species requires monitoring and data collection, insignificant costs for staff time and supplies may be incurred at an estimated cost of \$200 to \$1,000 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.<sup>5</sup> However, we must note that these conservation actions would likely occur even if the species were not on the Protected Animal Lists. These species are SGCN (species of greatest conservation concern) within the NCWRC Wildlife Action Plan; therefore, habitat enhancement and restoration, monitoring, augmentation actions, and research would be undertaken to benefit these SGCN and others that occur in the same habitats. Although the Wildlife Action Plan summarizes recovery techniques for priority species, the conservation plans will provide more specific details by species.<sup>6</sup>

Any individual who wishes to collect a nongame species for research purposes is required to obtain a collection license.<sup>7</sup> Collection of a listed species, also requires an endangered species permit. Staff review endangered species permit applications before they are issued. This review requires approximately 2 hours to complete, at a cost to the agency of \$78 per permit ( $\$39/\text{hr} \times 2 \text{ hrs/permit} = \$78/\text{permit}$ ). Listing or uplisting a species increases the likelihood that researchers will target those species, but the agency is not able to predict how many new permits will be requested.

Agency staff currently review development projects from other state and local agencies to determine the effects of those projects on state-listed species. Though 7 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 impacts the project could have on these

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<sup>5</sup> Costs obtained from staff – based on Gopher frog recovery efforts 1/2021.

<sup>6</sup> <http://www.ncwildlife.org/Plan>

<sup>7</sup> 15A NCAC 10I .0102



newly listed species. There is no way for the agency to predict which projects will be affected, but this review requires approximately 4 hours of staff time per project and would cost an estimated \$156 ( $\$39/\text{hr} \times 4 \text{ hrs/project} = \$156/\text{project}$ ).

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 as wildlife reserve land or to conserve identified priority wildlife habitats and listed species.<sup>8</sup> Established in 2008, the program has provided the opportunity for 270 landowners in 58 counties across the state to conserve and manage 17,110 acres of land for the benefit of North Carolina's wildlife species.<sup>9</sup> Landowners who participate may voluntarily enter into a Wildlife Habitat Conservation Agreement with the WRC, provided that they have a minimum of 20 contiguous acres of qualifying habitat and have owned the property for a minimum of 5 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. While the agency cannot accurately estimate the number of new landowners who will be eligible and want to participate in the program, the estimated cost to the agency is \$1,330 per project ( $\$38/\text{hr}^{10} \times 35 \text{ hrs/project} = \$1,330/\text{project}$ ).

### *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 individual who wishes to collect a species on the protected animal list is required to obtain an endangered species permit. There is a \$10 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, individuals operating under endangered species permits are required to submit their project data annually if they wish to renew any of their collection permit(s). These data are valuable to the agency and assist in minimizing additional stresses on the species.

The agency issued 201 endangered species permits in 2021.<sup>11</sup> Though the agency is unable to predict the exact number of permits that will be issued for the newly listed species, private individuals who wish to collect or study species on the protected list will incur a minimal cost of \$10 per year to do so. Of the species being added to the protected species list, all 7 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 collectors permit request for these particular species to date. There is no way for the agency to

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<sup>8</sup> G.S. 105-277.15. Taxation of wildlife conservation land.

<sup>9</sup> Personal correspondence with agency staff 03/28/2022.

<sup>10</sup> Represents the midpoint hourly salary of a Conservation Biologist I.

<sup>11</sup> Personal correspondence with RAPS staff 03/30/2022.

estimate the potential cost without knowing what research will be conducted on these newly listed species.

The proposed listing changes will uplist 2 species to endangered from a lower listing level, which will impact the access to their habitat and potential for data collection. Once a species has been identified as having significant population declines or other threats, the agency works hard to limit the amount of disturbances in and around their habitat, which often results in limiting the number of collection permits issued and thus, the opportunities for studies to be performed on these species.

Though 7 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 Natural Heritage website for a fee of \$100 per project or \$600 for unlimited use<sup>12</sup>. Data are currently available for all 7 of these newly listed species, so the cost of obtaining 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 species is \$4,960, a threatened species is \$4,313, and a special concern species is \$54.<sup>13</sup> 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 not common.

### **III. 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 put restoration and recovery management in place proactively than it is to do so 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

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<sup>12</sup> <https://ncnhde.natureserve.org/>

<sup>13</sup> 15A NCAC 10B .0117. Replacement Costs of Wildlife Resources.

and decision-making. As such, all logged data are guaranteed to be accessible by the public for planning purposes.

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 2019 endangered species state expenditure data for conservation projects specific to federally listed species, this could be a savings of anywhere from \$4,600 per year (gray bat) to \$60,000 per year (piping plover) in state funds.<sup>14</sup> 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.<sup>15</sup> 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 5 years. Data were collected to help understand the species and its use of habitat to guide future conservation decisions. Currently, NCDOT is expending \$70,000-\$100,000 per year for monitoring northern long-eared bats' response to construction activities.<sup>16</sup>

Research shows that wildlife watching benefits the economy. According to a 2016 USFWS report, 86 million citizens, 16 years of age and older, participated in wildlife watching.<sup>17</sup> This activity resulted in an estimated \$156.9 billion in expenditures. In addition to contributing significantly to people's enjoyment of the outdoors, wildlife watching has a substantial impact on the nation's economies. Specific to North Carolina, a 2011 USFWS and Census Bureau report indicated over 2.4 million residents and non-residents engaged in wildlife watching within the state. The almost \$930 million spent in trip and equipment related expenditures substantially contributed to the state and local economies. The report stated that North Carolina had 2,432,000 recorded wildlife watchers ages 16 years and older.<sup>18</sup> Thus, the conservation and preservation of species can be assumed to yield substantial annual benefits to the state.

### *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

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<sup>14</sup> <http://ecos.fws.gov/expenditures>

<sup>15</sup> <https://www.fws.gov/midwest/Endangered/section7/section7.html>

<sup>16</sup> Personal correspondence with NCDOT staff 03/31/2022.

<https://connect.ncdot.gov/projects/construction/Pages/RRMan.aspx?Order=RR-33A>

<sup>17</sup> [http://insidewrc.org/div09\\_management/documents/FWS-021SurveyReport2011-2WildlifeWatching-FINAL.pdf](http://insidewrc.org/div09_management/documents/FWS-021SurveyReport2011-2WildlifeWatching-FINAL.pdf).

<sup>18</sup> <http://www.census.gov/prod/2013pubs/fhw11-nc.pdf>

they will never interact with them.<sup>19</sup> Together, the value of wildlife viewing and related recreation and the value of maintaining biodiversity are the “non-consumptive” benefits of the 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, the benefits are discussed below:

### Science and Land Conservation

- A variety of funding opportunities exist for conserving state listed species. These include but are not limited to, the Land and Water Conservation Trust 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 are proposed to benefit 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.<sup>20</sup> 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.<sup>21</sup> Although the WRC does not actively collect data specific to ecotourism, the agency does partner and participate in surveys on willingness to pay.<sup>22</sup> These surveys request participants to answer questions regarding

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<sup>19</sup> Wallmo, Kristy and Daniel Lew, 2016. A comparison of regional and national values for recovering threatened and endangered marine species in the United States. *Journal of Environmental Management*, Volume 179. Accessed at <http://www.sciencedirect.com/science/article/pii/S0301479716302249>

<sup>20</sup> <https://www.fws.gov/endangered/esa-library/pdf/landowners.pdf>

<sup>21</sup> Sandifer, Sutton-Grier, Ward, 2015

<sup>22</sup> Deason, Seekamp, 2015

their willingness to travel to see wildlife. Also, the USFWS 2011 report indicated that North Carolina had 2,432,000 recorded wildlife watchers ages 16 years and older.<sup>23</sup>

- To the average recreationist, a more diverse and abundant wildlife population may increase recreation in an area. Not only may it increase experiences but also the quality of those experiences. 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 7 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 owner's 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 1,595 (approximately 11%) of the 17,110 acres registered in the program are species-specific. Participation is usually based on the presence of qualifying habitat.

### 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.

## **IV. 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

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<sup>23</sup> [http://insidewrc.org/div09\\_management/documents/FWS-021SurveyReport2011-2WildlifeWatching-FINAL.pdf](http://insidewrc.org/div09_management/documents/FWS-021SurveyReport2011-2WildlifeWatching-FINAL.pdf).

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](http://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, the 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 7 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.<sup>24</sup> 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.

It is also important to note that the values of the benefits created by listing 7 new species and uplisting 2 species may be offset to some degree by the 1 delisted and 1 downlisted species. 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.<sup>25</sup> 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

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<sup>24</sup> Richardson, Leslie and John Loomis, 2008. The Total Economic Value of Threatened, Endangered and Rare Species: An Updated Meta-Analysis. *Ecological Economics*. Volume 68. Accessed at <http://www.sciencedirect.com/science/article/pii/S0921800908004771>

<sup>25</sup> Richardson, Leslie and John Loomis, 2008. The Total Economic Value of Threatened, Endangered and Rare Species: An Updated Meta-Analysis. *Ecological Economics*. Volume 68. Accessed at <http://www.sciencedirect.com/science/article/pii/S0921800908004771>



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.<sup>26</sup>

## **V. Economic Impact 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.

In estimating the economic impact of the proposed amendments to the protected species list, the agency was able to estimate and quantify several identified costs, which are expected to include:

### *State*

- Officer training materials: \$78 per year
- Officer patrol time for newly listed species: \$51,282 per year
- Officer court time for newly listed species cases: \$2,035 per year (assume max 5 cases per year, \$407 per court case)

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<sup>26</sup> Loomis, John and Douglas White, 1996. Economic Benefits of Rare and Endangered Species: Summary and Meta-Analysis. *Ecological Economics*, Volume 18. Accessed at <http://www.sciencedirect.com/science/article/pii/0921800996000298>

- Development of 7 Species Conservation Plans: \$32,760 total one-time cost
- Development project reviews: \$780 per year (\$156 per project and assume 5 project reviews per year)
- Endangered species permit reviews: \$13,884 per fiscal year (average 178 permit reviews per year, \$78 per permit)
- Monitoring for 7 newly listed species: \$4,200 per fiscal year (\$200 - \$1,000 per species, assume average \$600 per species)

The cumulative State impact is estimated to be approximately \$72,259 per year, depending on number of court cases, development project reviews, and endangered species permit reviews during a fiscal year. Additionally, a one-time cost of \$32,760 will be incurred to complete 7 species conservation plans.

#### *Local*

- Tax deferment for landowners in WCLP is unquantifiable.

#### *Private*

- Collection license fee for newly listed species is unquantifiable.
- Data collection before development projects is unquantifiable.
- Replacement costs for illegal take of newly listed species: endangered species is \$4,960, a threatened species is \$4,313, and a special concern species is \$54.
- Court fees for illegal take of newly listed species is unquantifiable.

Although most of the costs are not quantifiable with available data, the agency was able to quantify several State-associated costs (above). However, the agency expects the benefits of the proposed species listings to outweigh the costs.

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

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

- (1) Amphibians: None Listed At This Time.
- (2) Birds:
  - (A) Bachman's warbler (*Vermivora bachmanii*);
  - (B) Ivory-billed woodpecker (*Campephilus principalis*);
  - (C) Piping plover (*Charadrius melodus circumcinctus*);
  - (D) Red-cockaded woodpecker (*Dryobates borealis*); and
  - (E) Roseate tern (*Sterna dougallii dougallii*).
- (3) Crustacea: None Listed At This Time.
- (4) Fish:
  - (A) Cape Fear shiner (*Notropis mekistocholas*);
  - (B) Carolina madtom (*Noturus furiosus*);
  - ~~(B)(C)~~ Roanoke logperch (*Percina rex*);
  - ~~(C)(D)~~ Shortnose sturgeon (*Acipenser brevirostrum*), when found in inland fishing waters as defined in G.S. 113-129(9)a and (9)b.; and
  - ~~(D)(E)~~ Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), when found in inland fishing waters.
- (5) Mammals:
  - (A) Carolina northern flying squirrel (*Glaucomys sabrinus coloratus*);
  - (B) Eastern cougar (*Puma concolor*);
  - (C) Gray bat (*Myotis grisescens*);
  - (D) Indiana bat (*Myotis sodalis*);
  - (E) Manatee (*Trichechus manatus*), when found in inland fishing waters; and
  - (F) Virginia big-eared bat (*Corynorhinus townsendii virginianus*).
- (6) Mollusks:
  - (A) Appalachian elktoe (*Alasmidonta raveneliana*);
  - (B) Carolina heelsplitter (*Lasmigona decorata*);
  - (C) Dwarf wedgemussel (*Alasmidonta heterodon*);
  - (D) James spinymussel (*Parvaspina collina*);
  - (E) Littlewing pearlymussel (*Pegias fabula*);
  - (F) Tan riffleshell (*Epioblasma florentina walkeri*); and
  - (G) Tar River spinymussel (*Parvaspina steinstansana*).
- (7) Reptiles:
  - (A) Kemp's ridley seaturtle (*Lepidochelys kempii*);
  - (B) Atlantic hawksbill seaturtle (*Eretmochelys imbricata imbricata*); and
  - (C) Leatherback seaturtle (*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) Bewick's wren (*Thryomanes bewickii*);
  - (C) Common tern (*Sterna hirundo*);
  - (D) Henslow's sparrow (*Centronyx henslowii*); and
  - (E) Wayne's black-throated green warbler (*Setophaga virens waynei*).
- (3) Crustacea:
- (A) Bennett's Mill cave water slater (*Caecidotea carolinensis*); and
  - (B) Waccamaw crayfish (*Procambarus braswelli*).
- (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: ~~None Listed At This Time.~~
- (A) Little brown bat (*Myotis lucifugus*); and
  - (B) Tricolored bat (*Perimyotis subflavus*).
- (6) Mollusks:
- ~~(A)~~ (A) Atlantic pigtoe (*Fusconaia masoni*);
  - ~~(B)~~ (A) Barrel floater (*Utterbackiana couperiana*);
  - ~~(C)~~ (B) Brook floater (*Alasmodonta varicosa*);
  - ~~(D)~~ (C) Carolina creekshell (*Villosa vaughaniana*);
  - ~~(E)~~ (D) Fragile glyph (*Glyphyalinia clingmani*);
  - ~~(F)~~ (E) Green floater (*Lasmigona subviridis*);
  - ~~(G)~~ (F) Greenfield rams-horn (*Helisoma eucosmium*);
  - ~~(H)~~ (G) Knotty elimia (*Elimia christyi*);
  - ~~(I)~~ (H) Longsolid (*Fusconaia subrotunda*);
  - ~~(J)~~ (I) Magnificent rams-horn (*Planorbella magnifica*);
  - ~~(K)~~ (J) Purple wartyback (*Cyclonaias tuberculata*);
  - ~~(L)~~ (K) Savannah lilliput (*Toxolasma pullus*);

~~(M)~~(L) Slippershell mussel (*Alasmodonta viridis*);  
~~(N)~~(M) Tennessee clubshell (*Pleurobema oviforme*);  
~~(O)~~(N) Tennessee heelsplitter (*Lasmigona holstonia*);  
~~(P)~~(O) Tennessee pigtoe (*Pleuroanaia barnesiana*); and  
~~(Q)~~(P) Yellow lampmussel (*Lampsilis cariosa*).

(7) Reptiles:

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

*History Note: Authority G.S. 113-134; 113-291.2; 113-292; 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.*

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

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

- (1) Amphibians: ~~None Listed At This Time.~~  
(A) Neuse River waterdog (*Necturus lewisi*)
- (2) Birds:
  - (A) Eastern black rail (*Laterallus jamaicensis jamaicensis*);
  - (B) Piping plover (*Charadrius melodus melodus*);
  - (C) Red knot (*Calidris canutus rufa*); and
  - (D) Wood stork (*Mycteria americana*).
- (3) Crustacea: None Listed At This Time.
- (4) Fish:
  - (A) Spotfin chub (*Erimonax monachus*); and
  - (B) Waccamaw silverside (*Menidia extensa*).
- (5) Mammals: Northern long-eared bat (*Myotis septentrionalis*)
- (6) Mollusks:
  - (A) Atlantic pigtoe (*Fusconaia masoni*);
  - ~~(A)(B)~~ Noonday globe (*Patera clarki nantahala*); and
  - ~~(B)(C)~~ Yellow lance (*Elliptio lanceolata*).
- (7) Reptiles:
  - (A) Bog turtle (*Glyptemys muhlenbergii*);
  - (B) American alligator (*Alligator mississippiensis*);
  - (C) Green sea turtle (*Chelonia mydas*); and
  - (D) Loggerhead sea turtle (*Caretta caretta*).

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

- (1) Amphibians:
  - (A) Eastern tiger salamander (*Ambystoma tigrinum tigrinum*);
  - (B) Green salamander (*Aneides aeneus*);
  - (C) Junaluska salamander (*Eurycea junaluska*);
  - (D) Long-tailed salamander (*Eurycea longicauda longicauda*);
  - (E) Mabee's salamander (*Ambystoma mabeei*);
  - (F) Pine Barrens tree frog (*Hyla andersonii*); and
  - (G) Wehrle's salamander (*Plethodon wehrlei*).
- (2) Birds:
  - (A) Bald eagle (*Haliaeetus leucocephalus*);
  - (B) Caspian tern (*Hydroprogne caspia*);
  - (C) Gull-billed tern (*Gelochelidon nilotica aranea*); and
  - (D) Northern saw-whet owl (*Aegolius acadicus*).
- (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*)
  - ~~(B) — Carolina madtom (*Noturus furiosus*);~~
  - (C) Carolina pygmy sunfish (*Elassoma boehlkei*);
  - (D) Carolina redhorse (*Moxostoma* sp.);
  - (E) Ironcolor shiner (*Notropis chalybaeus*)
  - ~~(E)(F)~~ Least brook lamprey (*Lampetra aepyptera*);
  - ~~(F)(G)~~ Logperch (*Percina caprodes*);
  - ~~(G)(H)~~ Mimic shiner (*Notropis volucellus*);
  - ~~(H)(I)~~ Rosyface chub (*Hybopsis rubrifrons*);
  - ~~(H)(J)~~ Sharphead darter (*Etheostoma acuticeps*);
  - (K) Santee chub (*Cyprinella zanema*)
  - ~~(J)(L)~~ Sicklefin redhorse (*Moxostoma* sp.);
  - (M) Thicklip chub (*Cyprinella labrosa*)
  - ~~(K)(N)~~ Turquoise darter (*Etheostoma inscriptum*); and
  - ~~(L)(O)~~ 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:
- (A) Alewife floater (*Utterbackiana implicata*);
  - (B) Big-tooth covert (*Fumonelix jonesiana*);
  - (C) Cape Fear threetooth (*Triodopsis soelneri*);
  - (D) Eastern lampmussel (*Lampsilis radiata*);
  - (E) Eastern pondmussel (*Ligumia nasuta*);
  - (F) Engraved covert (*Fumonelix orestes*);
  - (G) Mountain creekshell (*Villosa vanuxemensis*);
  - (H) Notched rainbow (*Villosa constricta*);
  - (I) Rainbow (*Villosa iris*);
  - (J) Roan supercoil (*Paravitrea varidens*);
  - (K) Sculpted supercoil (*Paravitrea ternaria*);



- (L) Smoky Mountain covert (*Inflectarius ferrissi*);
  - (M) Creeper (*Strophitus undulatus*);
  - (N) Tidewater mucket (*Leptodea ochracea*);
  - (O) Triangle floater (*Alasmidonta undulata*); and
  - (P) Waccamaw ambersnail (*Catinella waccamawensis*).
- (7) Reptiles:
- (A) Northern pine snake (*Pituophis melanoleucus melanoleucus*); and
  - (B) Southern hognose snake (*Heterodon simus*).

*History Note: Authority G.S. 113-134; 113-291.2; 113-292; 113-333;*  
*Eff. March 17, 1978;*  
*Amended Eff. June 1, 2008; April 1, 2001; November 1, 1991; April 1, 1991; June 1, 1990;*  
*September 1, 1989;*  
*Temporary Amendment Eff. February 27, 2015;*  
*Amended Eff. October 1, 2017; July 1, 2016; August 1, 2016;*  
*Readopted Eff. October 1, 2021.*

## 15A NCAC 101 .0105 SPECIAL CONCERN SPECIES LISTED

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

- (1) Amphibians:
  - (a) Collinses' Mountain Chorus Frog (*Pseudacris collinsorum*)
  - ~~(a)(b)~~ Crevice salamander (*Plethodon longicrus*);
  - ~~(b)(c)~~ Dwarf salamander (*Eurycea quadridigitata*);
  - ~~(c)(d)~~ Dwarf black-bellied salamander (*Desmognathus folkertsi*);
  - ~~(d)(e)~~ Eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*);
  - ~~(e)(f)~~ Four-toed salamander (*Hemidactylium scutatum*);
  - ~~(f)(g)~~ Gray treefrog (*Hyla versicolor*);
  - ~~(g)(h)~~ Mole salamander (*Ambystoma talpoideum*);
  - ~~(h)~~ ~~Mountain chorus frog (*Pseudacris brachyphona*)~~;
  - (i) Mudpuppy (*Necturus maculosus*);
  - ~~(j)~~ ~~Neuse River waterdog (*Necturus lewisi*)~~;
  - ~~(k)(j)~~ Southern chorus frog (*Pseudacris nigrita*);
  - ~~(j)(k)~~ Southern zigzag salamander (*Plethodon ventralis*); and
  - ~~(m)(l)~~ Weller's salamander (*Plethodon welleri*).
- (2) Birds:
  - (a) American oystercatcher (*Haematopus palliatus*);
  - (b) Bachman's sparrow (*Peucaea aestivalis*);
  - (c) Barn owl (*Tyto alba*);
  - (d) Black-capped chickadee (*Parus atricapillus*);
  - (e) Black skimmer (*Rynchops niger*);
  - (f) Brown creeper (*Certhia americana nigrescens*);
  - (g) Cerulean warbler (*Setophaga cerulea*);
  - (h) Glossy ibis (*Plegadis falcinellus*);
  - (i) Golden-winged warbler (*Vermivora chrysoptera*);
  - (j) Least bittern (*Ixobrychus exilis*);
  - (k) Least tern (*Sternula antillarum*);
  - (l) Little blue heron (*Egretta caerulea*);
  - (m) Loggerhead shrike (*Lanius ludovicianus*);
  - (n) Painted bunting (*Passerina ciris*);
  - (o) Red crossbill (*Loxia curvirostra*);
  - (p) Snowy egret (*Egretta thula*);
  - (q) Tricolored heron (*Egretta tricolor*);
  - (r) Vesper sparrow (*Pooecetes gramineus*); and
  - (s) Wilson's plover (*Charadrius wilsonia*).
- (3) Crustacea:

- (a) Carolina skistodiaptomus (*Skistodiaptomus carolinensis*);
  - (b) Carolina well diacyclops (*Diacyclops jeannelli putei*);
  - (c) Chowanoke crayfish (*Faxonius virginianus*);
  - (d) Graceful clam shrimp (*Lynceus gracilicornis*);
  - (e) Greensboro burrowing crayfish (*Cambarus catagius*);
  - (f) Hiwassee headwaters crayfish (*Cambarus parrishi*);
  - (g) Little Tennessee River crayfish (*Cambarus georgiae*);
  - (h) North Carolina spiny crayfish (*Faxonius carolinensis*); and
  - (i) Oconee stream crayfish (*Cambarus chaugaensis*).
- (4) Fish:
- (a) American brook lamprey (*Lethenteron appendix*);
  - (b) "Atlantic" Highfin carpsucker (*Carpionodes sp. cf. velifer*);
  - (c) Banded sculpin (*Cottus carolinae*);
  - (d) Blue Ridge sculpin (*Cottus caeruleomontum*);
  - (e) Blueside darter (*Etheostoma jessiae*);
  - (f) Broadtail madtom (*Noturus sp.*);
  - (g) Carolina darter (*Etheostoma collis*);
  - (h) Cutlip minnow (*Exoglossum maxillingua*);
  - (i) Freshwater drum (*Aplodinotus grunniens*);
  - (j) Kanawha minnow (*Phenacobius teretulus*);
  - (k) Lake sturgeon (*Acipenser fulvescens*);
  - (l) Least killifish (*Heterandria formosa*);
  - (m) Mooneye (*Hiodon tergisus*);
  - (n) Mountain madtom (*Noturus eleutherus*);
  - (o) Ohio lamprey (*Ichthyomyzon bdellium*);
  - (p) Olive darter (*Percina squamata*);
  - (q) Pinewoods darter (*Etheostoma mariae*);
  - (r) River carpsucker (*Carpionodes carpio*);
  - (s) Sandhills chub (*Semotilus lumbee*);
  - (t) Seagreen Darter (*Etheostoma thalassinum*);
  - ~~(u)~~(u) Sickie darter (*Percina williamsi*);
  - ~~(v)~~(v) Smoky dace (*Clinostomus sp.*);
  - ~~(w)~~(w) Striped shiner (*Luxilus chrysocephalus*);
  - ~~(x)~~(x) Snubnose darter (*Etheostoma simoterum*);
  - ~~(y)~~(y) "Thinlip" chub (*Cyprinella sp. cf. zanema*);
  - ~~(z)~~(z) Waccamaw killifish (*Fundulus waccamensis*);
  - ~~(aa)~~(aa) Westfall's Darter (*Percina westfalli*);
  - ~~(bb)~~(bb) Wounded darter (*Etheostoma vulneratum*); and

- ~~(bb)~~(cc) Yellowfin shiner (*Notropis 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) — Punga white-footed mouse (*Peromyscus leucopus easti*);~~
  - ~~(h)~~(g) Southeastern bat (*Myotis austroriparius*);
  - ~~(i)~~(h) Southern rock vole (*Microtus chrotorrhinus carolinensis*); and
  - ~~(j)~~(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 ancyliid (*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) Pod lance (*Elliptio folliculata*);
  - (u) Queen crater (*Appalachina chilhoweensis*);
  - (v) Ramp Cove supercoil (*Paravitrea lacteodens*);
  - (w) Ridged lioplax (*Lioplax subcarinata*);
  - (x) Roanoke slabshell (*Elliptio roanokensis*);
  - (y) Saw-tooth disc (*Discus bryanti*);

- (z) Seep mudalia (*Leptoxis dilatata*);
  - (aa) Spike (*Eurynia dilatata*);
  - (bb) Spiral coil (*Helicodiscus bonamicus*);
  - (cc) Velvet covert (*Inflectarius subpalliatu*s);
  - (dd) Waccamaw amnicola (*Amnicola* sp.);
  - (ee) Waccamaw siltsnail (*Cincinnatia* sp.); and
  - (ff) Wavy-rayed lampmussel (*Lampsilis fasciola*).
- (7) Reptiles:
- (a) Carolina pigmy rattlesnake (*Sistrurus miliarius miliarius*);
  - (b) Carolina swamp snake (~~*Seminatrix pygaea paludis*~~); (*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 attenuates 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 minor peltifer*); and
  - (m) Timber rattlesnake (*Crotalus horridus*).

*History Note: Authority G.S. 113-134; 113-291.2; 113-292; 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.*

# EXHIBIT H-1

August 18, 2022



## Public Comments for 15A NCAC 10B .0100, .0200, .0300, and .0400 Hunting & Trapping Rules

Position	Comment
<i>15A NCAC 10B .0106 Wildlife Taken for Depredations</i>	
Disagree (1)	I'm realizing now that NCWRC does not care at all about bears and wildlife. It's all about the comforts of developers and those people who move in and find wildlife a nuisance. In my opinion, you work the laws and rules to benefit yourselves and not wildlife or habitat. I watched someone slingshot a moma bear because he didn't like her going through his overloaded trash bin. Imagine if he's permitted to shoot her. I'm disgusted! This is a sanctuary for humans too.
<i>15A NCAC 10B .0107 Black Bears</i>	
Support (2)	
Disagree (1)	Again, your organization does not really care about bears.
<i>15A NCAC 10B .0109 Chasing Deer with Dogs in Certain Counties:</i>	
Support (2)	Additionally, I don't think deer dog hunting should be allowed on any game land. Deer dog hunters take over our game lands during deer season and prevent others from using them.
<i>15A NCAC 10B .0117 Replacement Costs of Wildlife Resources</i>	
Support (1)	
<i>15A NCAC 10B .0120 Taking Deer and Bear with Handguns</i>	
Support (1)	Thank you. Since I can no longer bow hunt out of a tree due to injury's I often hunt with a hand gun. Depending on the animal you should consider the caliber used.
Disagree (1)	The proposed changes to 15A NCAC 10B.0120 are in conflict with state law. You cannot take or dispatch the following game species with pistols or handguns:. Bobcats EXCEPT as classified as a furbearer during trapping season. Red foxes except as allowed by law. Gray foxes except as allowed by law. Also the text of your rule change seems to make it illegal to take non game birds (crows) with handguns even though state law allows such.
<i>15A NCAC 10B .0126 Sate Hunting License Exemptions</i>	
Support (1)	

Position	Comment
<i>15A NCAC 10B .0127 Possession of Wildlife Killed Accidentally or Found Dead</i>	
Disagree (1)	
Support (1)	let any law enforcement officer issue a possession permit if a commission officer isn't available on a timely basis
<i>15A NCAC 10B .0212 Foxes</i>	
Disagree (2)	I think a possession permit should be required for any elk accidentally killed or found dead. They should be treated like black bears and there are only 200 of them. (c) Black bears or elk killed accidentally or found dead shall not be possessed or transported unless a possession permit is obtained from the Commission
Support (1)	Foxes should be allowed to be hunted with firearms and traps in the entire state.
<i>15A NCAC 10B .0216 Falconry</i>	
Support (1)	
<i>15A NCAC 10B .0217 Pistol Seasons</i>	
Support (1)	
<i>15A NCAC 10B .0223 Feral Swine</i>	
Support (1)	
<i>15A NCAC 10B .0302 Prohibited Taking</i>	
Disagree (1)	
<i>15A NCAC 10B .0304 Bag Limits</i>	
Support (2)	
<i>15A NCAC 10B .0305 Traps</i>	
Support (1)	
<i>15A NCAC 10B .0401 Definitions</i>	
Support (2)	
<i>15A NCAC 10B .0404 Trappers and Hunters</i>	
Support (1)	
<i>15A NCAC 10B .0405 Fur Dealers</i>	
Support (1)	
<i>15A NCAC 10B .0406 Misuse of Tags</i>	
Support (2)	

One public hearing was held on June 7, 2022



# EXHIBIT H-2

August 18, 2022



## Proposed Amendments to 15A NCAC 10B Hunting & Trapping Rules Recommended by Agency Staff for Adoption

### **15A NCAC 10B .0100 General Regulations**

These rules are part of the 2017 periodic review. Rules listed below were determined to be “necessary with substantive public interest” and need to be readopted.

#### **10B .0106**

Updated to simplify formatting and remove repetitive rule language.  
*15A NCAC 10B .0106 Wildlife Taken for Depredations (pages 4-8)*

#### **10B .0107**

Updated to clarify possession of bear and definition of cub bear.  
*15A NCAC 10B .0107 Black Bear (page 9)*

#### **10B .0109**

Updated to simplify formatting and aligned counties with 10D .0103.  
*15A NCAC 10B .0109 Chasing Deer with Dogs in Certain Counties (page 9)*

#### **10B .0117**

Proposed for repeal.  
*15A NCAC 10B .0117 Replacement Costs of Wildlife Resources (Pages 10-11)*

#### **10B .0118**

Clarify and simplify formatting. Removed restriction that hunters can only sell bobcats, opossums, and raccoons to a licensed fur dealer.  
*15A NCAC 10B Sale of Wildlife (page 12)*

#### **10B .0120**

Added language from 10B .0217 pistol seasons.  
*15A NCAC 10B .0120 Taking Deer and Bear with Handguns (page 13)*

#### **10B .0126**

Removed unnecessary language in paragraph (d).  
*15A NCAC 10B .0126 State Hunting License Exemptions (page 13)*

### **10B .0127**

Added armadillo under parts or pelts to be sold if trapped under a license. Clarified that black bears killed accidentally or found dead shall not be possessed or transported unless a possession permit is obtained from the Commission.

*15A NCAC 10B .0127 Possession of Wildlife Killed Accidentally or Found Dead (page 14)*

### **15A NCAC 10B .0200 Hunting**

These rules are part of the 2017 periodic review. Rules listed below were determined to be “necessary with substantive public interest” and need to be readopted.

### **10B .0212**

Updated to simplify formatting.

*15A NCAC 10B .0212 Foxes (Gray and Red) (page 15)*

### **10B .0216**

Updated to simplify formatting and clarify rule language.

*15A NCAC 10B .0216 Falconry (page 16)*

### **10B .0217**

Proposed for repeal. Language has been rolled into 10B .0120.

*15A NCAC 10B .0217 Pistol Seasons (page 16)*

### **10B .0223**

Updated to simplify formatting and align language with 10D .0103.

*15A NCAC 10B .0223 Feral Swine (page 17)*

### **15A NCAC 10B .0300 Trapping**

This rule was a part of the 2017 periodic review. This rule was determined to be “necessary with substantive public interest” and needs to be readopted.

### **10CB .0302**

Added armadillo, coyote, and groundhog to wildlife no person shall trap, take, or possess.

Simplified formatting.

*15A NCAC 10B .0302 Prohibited Taking (page 17)*

### **10CB .0304**

Added armadillos and fur-bearing animals to no bag limit restrictions and simplified formatting.

*15A NCAC 10B .0304 Bag Limits (page 17)*

### **10CB .0305**

Added foothold as a trap type which is synonymous with steel-jaw and leghold.

*15A NCAC 10B .0305 Traps (page 18)*

### **15A NCAC 10B .0400 Tagging Furs**

This rule was a part of the 2017 periodic review. This rule was determined to be “necessary with substantive public interest” and needs to be readopted.

**10B .0401**

Added definition of “parts” for clarification to match statute.

*15A NCAC 10B .0401 Definitions (page 18)*

**10B .0404**

Updated to simplify language and clarify that bobcat and fox can be shipped without a tag to an out-of-state taxidermist.

*15A NCAC 10B .0404 Trappers and Hunters (page 19)*

**10B .0405**

Rewritten for clarification and formatting.

*15A NCAC 10B .0405 Fur Dealers (pages 20-22)*

**10B .0406**

Updated to simplify language.

*15A NCAC 10B .0406 Misuse of Tags (page 23)*

15A NCAC 10B .0106 is proposed for readoption with changes as published in X:X as follows:

#### **15A NCAC 10B .0106 WILDLIFE TAKEN FOR DEPREDACTIONS**

(a) Depredation permits shall authorize the taking, destruction, transfer, removal, transplanting, or driving away of undesirable, destructive, or excess wildlife or wildlife resources as specified in **Paragraph (d)** of this Rule.

~~(b) The following conditions shall apply to depredation permits:~~

- ~~(1) depredation permits shall be prepared on a form supplied by the Commission; and~~
- ~~(2) depredation permits shall only be issued by authorized employees of the Commission or licensed Wildlife Control Agents (WCA).~~

~~(c) (b)~~ Depredation permits shall not be required for the owner or lessee of a property to take wildlife while committing depredations ~~on to~~ that property; however, the manner of take, disposition of dead wildlife, and reporting requirements specified in this Rule shall apply.

~~(d) (c)~~ No permit shall be issued to take endangered or threatened species of wildlife listed under 15A NCAC 10I, except alligators, by reason of depredations to property. ~~The Only the~~ Executive Director or his or her designee may issue depredation permits for Special Concern species listed in 15A NCAC 10I .0105 and for alligators. ~~An individual may take an endangered or threatened species in immediate defense of his or her own life or of the lives of others without a permit. Any endangered or threatened species that may constitute a demonstrable but non-immediate threat to human safety shall be reported to a federal or Commission wildlife enforcement officer, who, upon verification of the report, may take or remove the specimen as provided by 15A NCAC 10I .0102. Depredation permits for other species may be issued under the following conditions:~~

(d) An individual may take an endangered or threatened species in immediate defense of his or her own life or of the lives of others without a permit. Any endangered or threatened species that may constitute a demonstrable but non-immediate threat to human safety shall be reported to a state or Federal conservation Officer or employee who is designated by their agency, who, upon verification of the report, may take or remove the specimen as provided by 15A NCAC 10I .0102 (c)(2).

(e) No permit may be issued for the taking of migratory birds and other federally-protected animals unless a current Federal Depredation Order applies to a species or a corresponding, valid U.S. Fish and Wildlife Service depredation permit(s), if required, has been issued.

(f) Depredation permits may be issued for taking of wildlife resources in circumstances of overabundance or when the wildlife resources present a danger to human safety. Cities, as defined in G.S. 160A-1(2), seeking a depredation permit pursuant to these circumstances shall submit to the Commission the following information:

- (1) the name and location of the city;
- (2) the acreage of the affected property;
- (3) a map of the affected property;
- (4) the signature of an authorized city representative;

- (5) the nature of the overabundance or the threat to public safety; and
  - (6) a description of previous actions taken by the city to ameliorate the problem.
- 
- (1) ~~for taking wildlife that is or has been damaging or destroying property, provided there is evidence of property damage. No permit may be issued for the taking of migratory birds and other federally-protected animals unless a corresponding, valid U.S. Fish and Wildlife Service depredation permit(s), if required, has been issued. A permit issued pursuant to this Rule shall name the species allowed to be taken and may include limitations as to age, sex, type of depredation, location of animal or damage, and local laws. The permit shall be issued to a landholder or an authorized representative of a unit of local government for depredations on public property. The permit shall be used only by individuals named on the permit.~~
  - (2) ~~for taking of wildlife resources in circumstances of overabundance or when the wildlife resources present a danger to human safety. Cities, as defined in G.S. 160A-1(2), seeking a depredation permit pursuant to these circumstances shall apply to the Commission using an application available from the Commission. The application shall include the following information:~~
    - (A) ~~the name and location of the city;~~
    - (B) ~~the acreage of the affected property;~~
    - (C) ~~a map of the affected property;~~
    - (D) ~~the signature of an authorized city representative;~~
    - (E) ~~the nature of the overabundance or the threat to public safety; and~~
    - (F) ~~a description of previous actions taken by the city to ameliorate the problem.~~

(g) Depredation permits for other species may be issued for taking wildlife that is or has been damaging or destroying property, provided there is evidence of property damage.

~~(g)~~ (h) The following shall apply to depredation permits:

- (1) the permits shall be prepared on a form supplied by the Commission; and
- (2) the permits shall only be issued by authorized employees of the Commission or licensed Wildlife Control Agents (WCA).
- (3) each permit shall have an expiration date.
- (4) the permit shall name the species allowed to be taken and may include limitations as to age, sex, type of depredation, location of animal or damage, and local laws.
- (5) the permit shall be issued to a ~~landowner~~ landholder or an authorized representative of a unit of local government for depredations on public property.
- (6) the permit shall be used only by individuals named on the permit.
- (7) permit authorizes the possession of wildlife resources taken under the authority of the permit.
- (8) the permits shall be retained as long as the wildlife resource is in the authorized individual's possession.

~~(e) Each depredation permit shall have an expiration date. A depredation permit authorizes the possession of wildlife resources taken under the authority of the permit. Depredation permits shall be retained as long as the wildlife resource is in the authorized individual's possession. Individuals taking wildlife resources under the authority of a depredation permit shall comply with the conditions of the permit and the requirements specified in this Rule.~~

~~(h) (i)~~ Individuals taking wildlife resources under the authority of a depredation permit shall comply with the conditions of the permit and the requirements specified in this Rule.

~~(f) (h) (i)~~ Manner of Taking: The following shall apply to manner of take:

- ~~(1) Taking Without a Permit.~~ Wildlife taken without a permit while committing depredations to property may, during the open season ~~on~~ for the species, be taken by the landholder ~~landowner~~ by any lawful method. During the closed season, such depredating wildlife may be taken without a permit only by ~~the~~ use of firearms or archery equipment as defined in 15A NCAC 10B .0116.
- ~~(2) Taking With a Permit.~~ Wildlife taken under a depredation permit may be taken only by the method or methods authorized by the permit. When trapping is authorized, in order to limit the taking to the intended purpose, the permit may specify a reasonable distance from the property sought to be protected, within which the traps shall be set. The Executive Director, Commission employee, or WCA may also state in a permit authorizing trapping whether or not bait or lure may be used and the type of bait or lure that is authorized based upon factors such as type of depredation, locations of animal or damage, and local laws. In addition to any trapping restrictions that may be contained in the permit, the method of trapping shall be in accordance with the requirements and restrictions imposed by G.S. 113-291.6 and other local laws passed by the General Assembly. No depredation permit shall authorize the use of poisons or pesticides in taking wildlife except in accordance with the provisions of the North Carolina Pesticide Law of 1971, G.S. 143, Article 52, the Structural Pest Control Act of 1955, G.S. 106, Article 4C, and G.S. 113, Article 22A. No depredation permit shall authorize the taking of wildlife by any method by any landholder ~~landowner~~ upon the lands of another except when the individual is listed as a second party on a depredation permit.
- ~~(3) Intentional Wounding. It is unlawful for any~~ Any landholder, ~~landowner~~, with or without a depredation permit, or second party on a depredation permit ~~to~~ shall not intentionally wound a wild animal in a manner ~~so as not to~~ that will not cause its immediate death as suddenly and humanely as the circumstances permit.

~~(g) (h) (k)~~ Disposition of Wildlife Taken: The following shall apply to the disposition of wildlife taken:

- ~~(1) Generally.~~ Except as provided by Subparagraphs (2) through ~~(5)~~ (7) of this Paragraph, any wildlife killed without a permit while committing depredations shall be buried or disposed of in a safe and sanitary manner on the property where taken. Wildlife killed under a depredation permit shall be buried or otherwise disposed of as stated on the permit. ~~Wildlife killed under a depredation permit may be transported to an alternate disposal site if desired. Anyone in possession of carcasses of animals being transported under a depredation permit shall have the depredation permit in his or her~~

~~possession. Except as provided by Subparagraphs (2) through (5) of this Paragraph, all wildlife killed under a depredation permit shall be buried or otherwise disposed of as stated on the permit.~~

- (2) Wildlife killed under a depredation permit may be transported to an alternate disposal site if desired. Anyone in possession of carcasses of animals being transported under a depredation permit shall have a copy of the depredation permit in his or her possession.

- (2) (3) ~~Deer and feral swine.~~ The edible portions of feral swine and deer may be retained by **landholder** **[landowner]** for consumption but shall not be transported from the property where the depredations took place without a valid depredation permit. The **landholder** **[landowner]** may give a second party the edible portions of feral swine or deer taken under a depredation permit. The receiver of the edible portions shall hold a copy of the depredation permit. The nonedible portions of any deer carcass, including head, hide, feet, and antlers, shall be disposed of as specified in Subparagraph (1) or (2) of this Paragraph or turned over to a Commission employee ~~wildlife enforcement officer~~ for disposition.

- (3) (4) ~~Fox.~~ Any fox killed under a depredation permit may be disposed of as described in Subparagraph (1) or (2) of this Paragraph or, upon compliance with the fur tagging requirements of 15A NCAC 10B Section .0400, the carcass or pelt ~~thereof~~ may be sold to a licensed fur dealer.

- (4) (5) ~~Furbearing Animals.~~ The carcass or pelt of any furbearing animal killed during ~~the their~~ open season for ~~taking such furbearing animal for~~ control of depredations to property, whether with or without a permit, may be sold to a licensed fur dealer provided that the person offering such carcass or pelt for sale has a valid hunting or trapping ~~license;~~ license. ~~provided further that bobcats~~ Bobcats and otters may only be sold upon compliance with any required fur tagging requirement set forth in 15A NCAC 10B .0400.

- (5) (6) ~~Animals Taken Alive.~~ Wild animals in the order Carnivora, armadillos, groundhogs, nutria, and beaver shall be humanely euthanized either at the site of capture or at a facility designed to humanely handle the euthanasia, or such wild animals must be released on the property where ~~captured.~~ captured with permission from the [landowner.] landholder. Feral swine shall be euthanized while still in the trap in accordance with G.S. 113-291.12. Animals transported or held for euthanasia shall be euthanized within 12 hours of possession. Anyone in possession of live animals being transported for relocation or euthanasia under a depredation permit shall have a copy of the depredation permit in his or her possession. ~~For all other animals taken alive, the animal shall be euthanized or released on property with permission of the landowner.~~ When the relocation site is public property, written permission shall be obtained from the local, State, or federal official authorized to manage the property before any animal may be released. ~~Animals transported or held for euthanasia shall be euthanized within 12 hours of possession. Anyone in possession of live animals being transported for relocation or euthanasia under a depredation permit shall have the depredation permit in his or her possession.~~

(7) The edible portions of bear may only be retained by the [landowner] landholder for consumption but shall not be transported from the property where the depredations took place without a valid depredation permit. The [landowner] landholder may give a second party the edible portions of a bear taken under a valid depredation permit. The receiver of the edible portions shall hold a copy of the depredation permit. The complete carcass of a bear taken without a depredation permit and nonedible portions of any bear carcass, including head, hide, feet, claws, and internal organs, from a bear taken under a valid depredation permit shall be disposed of as specified in Subparagraph (1) or (2) of this Paragraph or turned over to a Commission employee for disposition.

~~(h) [(k)]~~ (l) Reporting Requirements. Any landholder [landowner] who kills an alligator; coyote in the counties of Beaufort, Dare, Hyde, Tyrrell, or Washington; deer; Canada goose; bear; elk; or wild turkey under a valid depredation permit shall report the number and species of animal(s) kill on killed upon the expiration date of the depredation permit to the Wildlife Resources Commission on the form provided with the permit, or through the website link provided on the permit. ~~including the number and species of animal(s) killed, and submit the form upon the expiration date of the depredation permit to the Commission. Any landowner who kills a coyote in the counties of Beaufort, Dare, Hyde, Tyrrell, and Washington shall report the kill, including the number of coyotes killed, on the form provided with the depredation permit. The killing and method of disposition of every alligator; coyote in the counties of Beaufort, Dare, Hyde, Tyrrell, and Washington; bear; or elk taken without a permit shall be reported to the Wildlife Resources Commission within 24 hours following the time of such killing.~~

~~(4)~~ (m) The killing and method of disposition of every alligator; coyote in the counties of Beaufort, Dare, Hyde, Tyrrell, and Washington; bear; or elk taken without a permit shall be reported to the Wildlife Resources Commission within 24 hours following the killing.

~~(i) (m)~~ (n) Exemption for Animal Control Officers. Animal Control Officers, as defined by G.S. 130A-184(1) when in the performance of official duties, shall be exempt from obtaining a depredation permit when taking wild animals that:

- (1) exhibit visible signs of rabies;
- (2) exhibit unprovoked aggression that may be associated with rabies;
- (3) are suspected to be rabid; or
- (4) have or may have exposed humans, pets, or livestock to rabies.



#### **15A NCAC 10B .0107    BLACK BEAR**

It is unlawful to take or possess a female bear with a cub or cubs at its side, or to take or possess a cub ~~bear~~ bear, unless authorized by a valid captivity license, depredation permit, or scientific collection license issued by the Commission. For the purpose of this Rule, a cub bear is defined as specified in G.S. 113-291.7(b). ~~as any bear weighing less than 75 pounds.~~

#### **15A NCAC 10B .0109    CHASING DEER BY DOGS IN CERTAIN COUNTIES**

(a) ~~It is unlawful to allow~~ Allowing dogs to run or chase deer or to attempt to take deer with dogs at any time in and west of the following counties or parts of counties is prohibited:

- (1)     Alamance County south of I-85
- (2)     Anson County west of NC 742
- (3)     Chatham
- (4)     Guilford
- (5)     Lee
- (6)     Montgomery
- (7)     Orange County south of I-85
- (8)     Randolph
- (9)     Rockingham
- (10)    Stanly
- (11)    Union
- (12)    Wake south of NC 98

~~Alamance County south of I-85; Orange County south of I-85; Chatham County; Lee County; Wake County south of NC 98; and in and west of Rockingham, Guilford, Randolph and Montgomery Counties and that part of Anson County west of NC 742.~~

~~Note: See 15A NCAC 10D .0103 which prohibits any hunting with dogs on game lands during the season for hunting deer with guns in and west of these counties.~~

(e) For counties and parts of counties east of those listed in paragraph (a), local laws may restrict the taking of deer with dogs.

## 15A NCAC 10B .0117 REPLACEMENT COSTS OF WILDLIFE RESOURCES

~~(a) Replacement Costs Distinguished.~~ As it applies to wildlife resources, the term "replacement costs" must be distinguished from the "value" of the wildlife concerned. Except in cases where wild animals and wild birds may lawfully be sold on the open market, as with the carcasses or pelts of furbearing animals, the monetary value of the specimens cannot be determined easily. The degree of special interest or concern in a particular species by the public, including not only hunters and trappers, but conservationists and those to whom the value of wildlife resources is primarily aesthetic, cannot be measured in dollar amounts. The average cost per animal or bird legally taken by hunters, including travel and lodging, weapons and ammunition, excise taxes on equipment, licenses, and hunting club fees, may fairly be estimated. This too, however, is a reflection of the value of existing wildlife resources rather than a measure of the cost of its replacement. Thus, the relative values of wildlife species shall be considered only as they may bear on the necessity or desirability of actual replacement.

~~(b) Factors to Be Considered.~~ The factors which shall be considered in determining the replacement costs of resident species of wildlife resources that have been taken, injured, removed, harmfully altered, damaged, or destroyed include the following:

- ~~(1) — whether the species is classified as endangered or threatened;~~
- ~~(2) — the relative frequency of occurrence of the species in the state;~~
- ~~(3) — the extent of existing habitat suitable for the species within the state;~~
- ~~(4) — the dependency of the species on unique habitat requirements;~~
- ~~(5) — the cost of acquiring, by purchase or long term lease, lands and waters for habitat development;~~
- ~~(6) — the cost of improving and maintaining suitable habitat for the species on lands and waters owned or acquired;~~
- ~~(7) — the cost of live trapping the species in areas of adequate populations and transplanting them to areas of suitable habitat with low populations;~~
- ~~(8) — the availability of the species and the cost of acquisition for restocking purposes;~~
- ~~(9) — the cost of rearing in captivity those species which, when released, have a probability of survival in the wild;~~
- ~~(10) — the ratio between the natural life expectancy of the species and the period of its probable survival when, having been reared in captivity, it is released to the wild;~~
- ~~(11) — the change in the value of money as reflected by the consumer price index. Inflation costs are based on the consumer price index from the last update shown in Paragraph (c) of this Rule.~~

~~(c) Costs of Replacement.~~ Based on the factors listed in Paragraph (b) of this Rule, including a June, 2001 update of the original figures using consumer price index from the June, 1980 base, the following wild animals and wild birds are listed with the estimated replacement cost of each individual specimen:

Species	Replacement Cost
Any endangered species	\$4,960.00
Any threatened species	—4313.00

<del>Any other species with no open season</del>	<del>—54.00</del>
<del>Beaver</del>	<del>—104.00</del>
<del>Black Bear</del>	<del>—2232.00</del>
<del>Crow</del>	<del>—4.00</del>
<del>Deer</del>	<del>—602.00</del>
<del>Dove</del>	<del>—13.00</del>
<del>Duck</del>	<del>—41.00</del>
<del>Elk</del>	<del>—2500.00</del>
<del>Fox</del>	<del>—88.00</del>
<del>Goose</del>	<del>—125.00</del>
<del>Grouse</del>	<del>—37.00</del>
<del>Mink</del>	<del>—75.00</del>
<del>Muskrat</del>	<del>—19.00</del>
<del>Nutria</del>	<del>—15.00</del>
<del>Opossum</del>	<del>—6.00</del>
<del>Otter</del>	<del>—647.00</del>
<del>Pheasant</del>	<del>—37.00</del>
<del>Quail</del>	<del>—30.00</del>
<del>Rabbit</del>	<del>—13.00</del>
<del>Raccoon</del>	<del>—58.00</del>
<del>Rail</del>	<del>—37.00</del>
<del>Skunk</del>	<del>—19.00</del>
<del>Snipe</del>	<del>—26.00</del>
<del>Squirrel, fox</del>	<del>—54.00</del>
<del>Squirrel, gray and red</del>	<del>—17.00</del>
<del>Tundra swan</del>	<del>—1078.00</del>
<del>Weasel</del>	<del>—11.00</del>
<del>Wild boar</del>	<del>—755.00</del>
<del>Wildeat</del>	<del>—647.00</del>
<del>Wild turkey</del>	<del>—1617.00</del>
<del>Woodcock</del>	<del>—26.00</del>

~~(d) Costs of Investigations~~

- ~~(1) — Factors to Be Considered. Upon any investigation required as provided by G.S. 143-215.3(a)(7) or by court order for the purpose of determining the cost of replacement of wildlife resources which have been killed, taken, injured, removed, harmfully altered, damaged, or destroyed, the factors to be considered in determining the cost of the investigation are as follows:~~

## **15A NCAC 10B .0118 SALE OF WILDLIFE**

(a) ~~The carcasses, carcasses, parts, or pelts of bobcats, opossums, and raccoon that have been lawfully taken and tagged in accordance with taken by any hunting method, upon compliance with applicable fur tagging requirements set forth in 15A NCAC 10B .0402, may be sold, sold to licensed fur dealers.~~ The sale of carcasses or pelts of bobcats, opossums, and raccoon killed accidentally or taken by hunting for control of depredations shall be permitted under the conditions set forth in 15A NCAC 10B .0106~~(e)(4)~~ and 15A NCAC 10B .0127.

(b) ~~Except as otherwise provided in Paragraphs (a), (d), (e), and (f) of this Rule, the~~ The sale of lawfully acquired game birds and game animals or their parts thereof is prohibited, except that processed non-edible products ~~other than those made from edible portions~~ may be sold except as otherwise provided in this Rule or by statute, provided that no label or advertisement identifies the product as a game bird, game animal, or part thereof; that the game bird or game animal was lawfully acquired; and the product is not readily identifiable as a game bird or game animal, or part thereof.

~~(c) The sale of edible portions or products of game birds and game animals is prohibited, except as may be otherwise provided by statute.~~

~~(d)~~ (c) The dressed pelt or feathers of deer, elk, fox, pheasant, quail, rabbit, or squirrel (fox and gray) may be bought or sold for the purpose of making fishing flies provided that the source of these animals may be documented as being legally obtained from out of state sources or from lawfully operated commercial breeding facilities. The buying and selling of migratory game birds shall be in accordance with 50 C.F.R. 20.91 which is hereby incorporated by reference, including subsequent amendments and editions (<https://www.gpo.gov/fdsys/granule/CFR-2000-title50-vol1/CFR-2000-title50-vol1-sec20-91>).

~~(e)~~ (d) The Executive Director or his designee may issue Trophy Wildlife Sale permits as authorized in G.S. 113-274 for the sale of lawfully taken and possessed individual dead wildlife specimens or their parts that are mounted, stuffed, or otherwise permanently preserved that may be sold under G.S. 113-291.3. A copy of the permit shall be retained with the specimen.

~~(f)~~ (e) Raw hides from any lawfully-taken or possessed white-tailed deer may be sold.

## **15A NCAC 10B .0120 TAKING ~~DEER AND BEAR~~ OF WILDLIFE WITH HANDGUNS**

Unless otherwise prohibited by law, handguns ~~Handguns~~ of any type may be used to take game, fur-bearing, and nongame birds and animals as defined in G.S. 113-129 during the established open season for take with firearms or trapping for each species. ~~deer and bear.~~ Ammunition of any type may be used ~~to take deer and bear,~~ unless otherwise prohibited by state or federal law.

## **15A NCAC 10B .0126 STATE HUNTING LICENSE EXEMPTIONS**

(a) Any governmental or non-profit entity conducting an organized hunting event may obtain from the Executive Director or his designee, subject to the requirements in Paragraph (b) of this Rule, an exemption which allows all participants in the event to hunt without first obtaining hunting licenses, but the participants must:

- (1) comply with the hunter safety requirements of G.S. 113-270.1A or be accompanied by a properly licensed adult who maintains a proximity to the license exempt individual which enables the adult to monitor the activities of, and communicate with, the individual at all times;
- (2) report all big game harvested as proscribed in Rule .0113 of this Section;
- (3) obtain a certificate of participation in federal Harvest Information Program, if hunting migratory game birds; and
- (4) obtain a federal Migratory Bird Hunting and Conservation Stamp, if the participant is 16 years of age or older and hunting waterfowl.

(b) The governmental or non-profit entity requesting a state hunting license exemption shall apply using a form provided by the Commission and submit that form to the Chief of the Division of Wildlife Management not less than 21 days prior to the organized hunting event. A statement of purpose for the event must be attached to the completed form. The Executive Director or his designee shall deny any request with a statement of purpose that is:

- (1) inconsistent with the mission of the Wildlife Resources Commission as stated in Paragraph (d) of this Rule; or
- (2) for a purpose other than to promote hunting to youth, disabled people, novice hunters or lapsed hunters.

(c) The person in charge of the event must be on-site at all times and have a copy of the exemption available for inspection on request by Commission personnel. The exemption is limited to the immediate location of the event and shall remain in effect for the time period specified on the exemption.

~~(d) The mission of the N.C. Wildlife Resources Commission is to conserve North Carolina's wildlife resources and their habitats and provide programs and opportunities that allow hunters, anglers, boaters and other outdoor enthusiasts to enjoy wildlife associated recreation.~~

**15A NCAC 10B .0127 POSSESSION OF WILDLIFE KILLED ACCIDENTALLY OR FOUND DEAD**

(a) For wildlife killed accidentally or found dead of natural causes the following apply:

~~(1) When a deer is Deer killed accidentally killed on a road or highway by reason of collision with a motor vehicle, vehicle may be possessed and transported if authorization is obtained from the law enforcement officer who investigates the accident shall, upon request, authorize possession accident. Possession and transport of the deer carcass of the deer for personal and lawful use, including delivery of the carcass to a second person for his or her private use or the use by a charitable organization. organization shall be authorized. Commission employees may authorize possession of any deer or turkey found dead of natural causes or as the result of a vehicle collision.~~

(b) Commission employees may authorize possession and transport of deer and turkey killed accidentally or found dead.

~~(2) Black bears shall not be possessed. Species listed as endangered, threatened, or of special concern under 15A NCAC 10I .0103, .0104, and .0105 may be possessed with written permission. Raptors and nongame migratory birds may be possessed under federal permits.~~

(c) Black bears killed accidentally or found dead shall not be possessed or transported unless a possession permit is obtained from the Commission.

(d) Species listed as endangered, threatened, or of special concern under 15A NCAC 10I .0103, .0104, and .0105 killed accidentally or found dead may be possessed or transported if an endangered species permit is obtained from the Commission.

(e) Raptors and migratory birds killed accidentally or found dead may be possessed and transported under federal permits obtained from the U.S. Fish and Wildlife Service.

(f) All other wildlife resources may be possessed and transported legally if killed accidentally or found dead.

~~(3) For all other wildlife resources possession shall be legal. The sale of any wildlife resources or wildlife parts found dead is prohibited, except licensed trappers and hunters may sell the carcasses or pelt of any beaver, coyote, groundhog, mink, muskrat, nutria, opossum, otter, raccoon, skunk, weasel or bobcat to a licensed fur dealer if the dead furbearing animal was found during the open season for that species. Licensed trappers and hunters may also sell the carcasses carcasses or pelt of any fox to a licensed fur dealer if the dead fox was found during an open fox season and the county in which the fox was found allows for the sale of fox carcasses and pelts. All tagging requirements set forth in 15A NCAC 10B .0400 apply.~~

(g) The sale of any wildlife resources or wildlife parts from any animal killed accidentally or found dead is prohibited, except that licensed trappers and hunters may sell the carcasses, parts, or pelt of any armadillo, beaver, coyote, groundhog, mink, muskrat, nutria, opossum, otter, raccoon, skunk, weasel or bobcat to a licensed fur dealer if the dead furbearing animal was found during the open season for that species. Licensed trappers and hunters may also sell the carcasses, parts, or pelt of any fox to a licensed fur dealer if the dead fox was found during an open fox season and the county where the fox was found allows for the sale of fox carcasses, parts, and pelts. All tagging requirements set forth in 15A NCAC 10B .0400 apply.

**15A NCAC 10B .0212 FOXES (GRAY AND RED)**

~~(a) Fox Season:~~

- ~~(1) There shall be no closed season on taking foxes with dogs, except on Bladen Lakes State Forest Game Land from March 15 through July 15;~~
- ~~(2) Foxes may be taken with weapons or traps the first to fourth Saturday in January in the following counties:~~

~~Caswell \_\_\_\_\_ Henderson~~

~~Clay \_\_\_\_\_ Macon~~

~~Graham \_\_\_\_\_ Tyrrell~~

- ~~(3) Foxes may be taken the Saturday before Thanksgiving Day through January 1 using archery equipment in all areas of the State east of Interstate Highway 77 and in Mitchell County.~~

(a) Foxes may be taken with weapons or traps the first through fourth Saturday in January in the following counties:

- (1) Caswell
- (2) Clay
- (3) Graham
- (4) Henderson
- (5) Macon
- (6) Tyrell

~~(b) Bag Limit for Foxes:~~

- ~~(1) Except in areas of open season for taking foxes with weapons or traps, foxes shall not be intentionally killed by any method;~~
- ~~(2) For areas of open season detailed in Subparagraph (a)(2) and (a)(3) of this Rule, the following bag limit applies: the daily limit is two; and the season limit is 10.~~

(b) The season for pursuing or taking foxes with dogs on Bladen Lakes State Forest Game Land is August 2 through February 14.

(c) Foxes may be taken the Saturday before Thanksgiving Day through January 1 using archery equipment in all areas of the State east of Interstate Highway 77 and in Mitchell County.

(d) For areas of open season detailed in Subparagraph (a) through (c), the daily limit is two; and the season limit is 10.

~~(e) Where local laws governing the taking of foxes conflict with this Rule, local laws shall prevail.~~

#### 15A NCAC 10B .0216 FALCONRY

- (a) ~~Seasons.~~ Except as provided in Paragraphs (d) and (e) of this Rule, ~~the~~ The open seasons for the practice of falconry ~~as permitted by the rules contained in 15A NCAC 10H .0800 coincides~~ coincide with the regular open seasons ~~contained in this Section for squirrels, rabbits, squirrel, rabbit,~~ quail, ruffed grouse and pheasant, and with the open seasons set forth in the Code of Federal Regulations for migratory game birds in this ~~state.~~ State.
- (b) ~~Bag Limits.~~ The daily bag, ~~possession~~ possession, and season limits ~~set forth in this Section for squirrels, rabbits,~~ squirrel, rabbit, quail, ruffed grouse and pheasant and the daily bag, field possession, and total possession limits set forth in the Code of Federal Regulations for migratory game birds shall apply to ~~falconry~~ falconry. ~~except as provided in Paragraph (e) of this Rule.~~
- (c) An extended falconry season on rabbits is the Monday on or nearest October 15 through the last day of February.
- (d) The daily bag limit for the extended season on rabbits is three, and the possession limit is six.
- (~~e~~) (e) Out of Season Kills. When any raptor being used in falconry kills any species of wildlife for which there is no open season or a species of game on which the season is then closed, the licensed falconer or person using the raptor shall not take the dead wildlife into his or her possession ~~possession~~, but shall leave the same game where it lies, ~~provided except~~ that the raptor may be allowed to feed on the dead wildlife before leaving the site of the kill. If the species ~~so~~ killed is a ~~resident~~ species of game on which there is a season limit, the kill shall be included as part of the season limit of the ~~person using the raptor for falconry.~~ licensed falconer.
- (d) ~~Hunting After Limit Taken.~~ After a falconer has acquired the daily bag, possession or season limit of any lawful species, regardless of the manner of taking, the falconer shall not release any raptor.
- (e) ~~Extended Seasons.~~ An extended falconry season on rabbits is the Monday on or nearest October 15 until the last day of February. ~~Bag limits for those portions of the season outside the regular seasons are three rabbits daily, and a possession limit of six.~~

#### 15A NCAC 10B .0217 PISTOL SEASONS

The seasons for taking rabbits, squirrels, opossums, raccoons, furbearing animals, groundhogs, and crows by the use of pistols as authorized by G.S. 113-291.1(g) shall be the same as the hunting and trapping seasons established by the applicable rules of this Section and of Section .0300 of this Subchapter for the particular species.



#### **15A NCAC 10B .0223 FERAL SWINE**

(a) ~~This Rule applies to hunting feral swine. There is no closed season for taking feral swine. swine Feral swine may be taken on private lands anytime during the day or night. Feral swine may be taken on public lands without a permit from the hours of one half hour before sunrise until one half hour after sunset, and from one half hour after sunset to one half hour before sunrise by permit only.~~

(b) Feral swine may be taken on game lands from the hours of one-half hour before sunrise until one-half hour after sunset during the open season for any game animal or game bird using any legal manner of take allowed during those seasons.

(c) Feral swine may be taken on game lands from one-half hour after sunset to one-half hour before sunrise by permit only.

(b) There are no bag ~~limit~~ limits ~~restrictions~~ on feral swine.

(c) Hunters may use artificial lights and electronic calls.

#### **15A NCAC 10B .0302 PROHIBITED TAKING**

~~It is unlawful for any person to No person shall trap, take, or have in possession possess any armadillo, beaver, coyote, groundhog, mink, muskrat, nutria, opossum, otter, raccoon, skunk, weasel or wildcat (bobcat), bobcat, except except: during the open seasons and in accordance with the limits set forth in Rules .0302 and .0303 of this Section or during the open seasons and within the limits prescribed for the particular species under NCAC 10B .0200.~~

Note: ~~See 15A NCAC 10B .0110 as to requirements of tagging and attending traps.~~

- (1) during the open trapping seasons for that species and in accordance with the bag limits set forth in Rule .0303 of this section; or
- (2) during the open hunting seasons for that species and within the bag limits prescribed for the species in Rule .0200 of this Section.

#### **15A NCAC 10B .0304 BAG LIMITS**

There are no ~~restrictions on~~ bag limits of ~~fur bearers, on fur-bearing animals as defined in G.S. 113-129(7a), armadillos, coyotes, groundhogs, and feral swine. swine, except where local laws govern trapping, or conflict with this Rule.~~

Note: ~~Where local laws govern trapping, or are in conflict with these regulations, the local law shall prevail.~~

#### 15A NCAC 10B .0305 TRAPS

(a) A foothold, steel-jaw or leghold trap set on dry land with a solid anchor shall not have a chain longer than eight inches unless the chain is fitted with a shock-absorbing device with at least 40 pounds and no more than 75 pounds of pressure to stretch or compress the device.

(b) A Collarum™-type trap shall:

- (1) Have a cable that is ~~3/16th~~ 3/16 inch in diameter, a loop stop with a minimum loop diameter of three inches, a relaxing lock, and a breakaway device that has been tested to break or disassemble at no more than 285 pounds of pull.
- (2) Have a set capture loop no less than 10 inches and no greater than 12 inches in diameter.
- (3) Be equipped with at least one swivel device between the loop and the anchor.
- (4) Be staked in a manner that does not allow the animal or the restraint device to reach any part of a fence or reach rooted, woody vegetation greater than ~~1/2~~ one-half inch in diameter.
- (5) Not be set using a ~~drag drag, or used with a kill pole.~~
- (6) Not be used with a kill pole.

#### 15A NCAC 10B .0401 DEFINITIONS

As used in this Section, the following definitions shall apply:

- (1) "Affix", when used in reference to attachment of a fur tag to the carcass or pelt of an animal, means permanent attachment of the tag through some portion of the carcass or pelt in ~~such a manner as not to be~~ that is not removable without damage to the tag;
- (2) "Carcass" means the dead body of an animal from which the pelt ~~thereof~~ has not been removed;
- (3) "Fur dealer" means any person who is licensed under the provisions of G.S. 113-273(f); Paragraph (f) of Section 113-273 of the General Statutes of North Carolina;
- (4) "Pelt" means the fur, hide, or skin of an animal which has been removed from the ~~carcass thereof,~~ carcass, but does not include a finished product which has been manufactured from such fur, hide or skin or is in the active process of such manufacture;
- (5) "Person" means any individual, firm, corporation corporation, or association which is authorized by law to act as an entity.
- (6) "Parts" means any part or portion from the dead body of an animal, including the meat, glands, urine, skull, and dead body of the animal without the pelt.

**15A NCAC 10B .0404    TRAPPERS AND HUNTERS TAGGING**

(a) Every fox taken in an area of open season as provided by G.S. 113-291.4 shall be tagged at the scene of taking.

(b) Every person taking any bobcat or otter in this State, or any foxes under a depredation permit, general statute, rule, or local law that permits taking, shall obtain and affix the appropriate tag to ~~each~~the carcass or pelt before selling, transferring, or transporting within or outside the state, selling or transferring the same to any person or transporting the same for any purpose, except that:

- (1) A person may transport the same from the place of taking to his North Carolina residence and from his North Carolina residence to a fur tag agent or taxidermist's place of business.
- (2) A person may transport the same from the place of taking to the nearest place in this State where the appropriate tag may be obtained.
- (3) The carcass, pelt or mounted specimen is exempt from tagging requirements while in the taxidermist's place of business or after the mount is completed.
- (4) A licensed trapper may take live foxes during any legal trapping season, except foxes taken under G.S. ~~113-291.4~~, 113-291.4 (f) and (f1), without tagging them and sell them to a licensed controlled hunting preserve for fox in accordance with G.S. 113-273(g).
- (5) A licensed taxidermist may ship to a tannery for processing.

~~No carcass or pelt of any bobcat, otter or fox taken within this State may be removed from the state without an appropriate fur tag having been affixed thereto, except a licensed taxidermist may ship the same to a tannery for processing. Any carcass or pelt remaining in a person's possession after the end of the season, except those in a licensed taxidermist's place of business or his or her taxidermy preservation facility, shall be properly tagged by him or her within 30 days following the close of such season, provided that no tags shall be shipped from the Commission to a person 23 consecutive days from the close of the season. When the U.S. Fish and Wildlife Service repeals its tagging requirements for otter and bobcat this Paragraph shall apply only to tagging foxes.~~

~~(e) In any case where the taking of foxes with weapons or traps and the sale thereof is authorized by local legislation, except live foxes taken by licensed trappers who live trap foxes for sale during any open season, the hunter or trapper taking any such fox shall, in the absence of a specific provision to the contrary, obtain and affix the carcass or pelt with an appropriate tag before selling or transferring the same to any other person, or transporting the same for any purpose than as authorized by Paragraph (a) of this Rule.~~

(c) Carcasses and pelts of bobcats, otters, and foxes taken within this State shall not be removed from the state without an appropriate fur tag affixed thereto, except a licensed taxidermist may ship the same to a tannery for processing. When the U.S. Fish and Wildlife Service repeals its tagging requirements for otter and bobcat this Paragraph shall apply only to tagging foxes.

(d) Where the taking of foxes with weapons or traps, and the sale thereof is authorized by local legislation, except foxes taken by licensed trappers who live-trap for sale during any open season, the hunter or trapper taking the fox shall, in the absence of a specific provision to the contrary, obtain and affix the carcass or pelt with an appropriate

tag before selling or transferring to any other person, or transporting the same for any purpose than as authorized by Paragraph (a) of this Rule.

#### **15A NCAC 10B .0405 FUR DEALERS**

~~(a) It is unlawful for any fur dealer licensed or otherwise authorized to deal in furs in this State, or any person or agent acting in his behalf, to buy or accept delivery from any person the carcass or pelt of any fox taken within the State which has not been previously affixed with a tag provided by the North Carolina Wildlife Resources Commission as required by this Section.~~

~~(b) It is unlawful for any fur dealer to import into this State the carcass or pelt of any otter or bobcat which has not been previously affixed with a tag required and supplied by the state in which the animal was taken. It is unlawful for any fur dealer, or agent of a fur dealer, to import into this State or to accept delivery of a carcass or pelt of any fox from a source located in any other state which does not by law or regulation require tagging of such carcasses or pelts, or a carcass or pelt of any fox which has not been tagged in accordance with the tagging requirements of the state from which it is imported, unless documentation of the date and hour of the arrival of such carcass or pelt at such fur dealer's place of business is available for inspection and such carcass or pelt is affixed with a fur tag provided by the North Carolina Wildlife Resources Commission within seven days after the date and hour of such arrival. No such carcass or pelt shall be resold or removed from such fur dealer's place of business without having been tagged as required by this Section. When the U.S. Fish and Wildlife Service repeals its tagging requirements for otter and bobcat this Paragraph shall apply only to tagging foxes.~~

~~(c) Any fur dealer or agent of a fur dealer authorized to do business in this State may import and accept delivery in this State of the carcass or pelt of any bobcat, otter or fox which has been affixed with a tag when and as required by the laws or regulations of the state from which such carcass or pelt is imported. When the U.S. Fish and Wildlife Service repeals its tagging requirements for otter and bobcat this Paragraph shall apply only to tagging foxes.~~

~~(d) Except as provided by Paragraph (b) of this Rule, it is unlawful for any fur dealer licensed to do business in this State to have in possession the carcass or pelt of any bobcat, otter or fox which has not been affixed with a fur tag provided by the North Carolina Wildlife Resources Commission or a tag required by the laws or regulations of the state from which the same was imported. When the U.S. Fish and Wildlife Service repeals its tagging requirements for otter and bobcat this Paragraph shall apply only to tagging foxes.~~

~~(e) Each fur dealer licensed to do business in this State shall maintain records of all acquisitions of carcasses and pelts of beaver, bobcat, mink, muskrat, nutria, opossum, otter, raccoon, skunk, weasel, and foxes. Such records shall consist of receipts, copies of receipts, or other written evidence of the transactions showing the sources and numbers of acquisition. Each fur dealer shall provide the Wildlife Resources Commission with monthly reports, made on forms supplied by the Commission, summarizing all acquisitions of carcasses and pelts of such animals, except those which have been acquired from and reported by other fur dealers licensed by the State. The reports shall include all such acquisitions made during each month beginning with October and ending with March of the following year; shall distinguish between acquisitions made within the State and those made from without the State; and, if acquired from within the State, shall indicate the counties in which the animals were taken. The report covering each month shall be~~

~~mailed or delivered to the Commission on or before the 15th day of the next succeeding month. The records required by this Paragraph and the inventory of carcasses and pelts on hand shall be made available for inspection by any officer or representative of the Wildlife Resources Commission upon request at all reasonable times. In the case of nonresident fur dealers licensed to do business in this State, the records and reports required by this Paragraph apply only to carcasses or pelts of animals acquired from within this State, and no reports are required from nonresident fur dealers who acquire pelts only from other fur dealers licensed in the State.~~

(a) Any individual wanting to engage in the business of buying or selling fur-bearing animals or other wild animals that may lawfully be sold, as specified in G.S. 113-273(f), shall first obtain a fur dealer license from the Commission.

(b) Application for a fur dealer license shall be made online at [www.ncwildlife.org](http://www.ncwildlife.org) or at the Commission headquarters located at 1751 Varsity Drive, Raleigh, NC 27606. Information required from the applicant shall include:

- (1) the applicant's name, address, telephone number, date of birth; and
- (2) a list of all employees to be covered under the license.

(c) The fur dealer license shall not be transferable.

(d) Any individual working on behalf of the licensed fur dealer shall have a copy of the fur dealer's current license.

(e) It is unlawful for any fur dealer, or person acting on his or her behalf, to import, buy, or accept delivery of a carcass or pelt of any fur-bearing animal or other wild animal from a source located in any other state that has not been affixed with a tag in accordance with the tagging requirements of the state from which the animal was taken, unless documentation of the date and hour of the arrival of such carcass or pelt at the fur dealer's place of business is available for inspection

(f) Imported carcasses and pelts shall not be resold or removed from a fur dealer's place of business without having been tagged as required by Paragraph (e) of this Rule.

(g) Except as provided by Paragraph (e) of this Rule, it is unlawful for any licensed fur dealer to have in his or her possession, the carcass or pelt of any bobcat, otter or fox which has not been affixed with a fur tag provided by the Commission unless the fox was taken from a county exempt from fox tagging requirements.

(h) Licensed fur dealers shall maintain records of all acquisitions of carcasses and pelts of beaver, bobcat, coyote, mink, muskrat, nutria, opossum, otter, raccoon, striped skunk, spotted skunk, weasel, and foxes. Such records shall consist of receipts, copies of receipts, or other written evidence of the transactions showing the sources and numbers of acquisition.

(i) Monthly reports shall be submitted to the Commission on or before the 15<sup>th</sup> day of the succeeding month on forms supplied by the Commission at [www.ncwildlife.org](http://www.ncwildlife.org) or at the Commission headquarters located at 1751 Varsity Drive, Raleigh, NC 27606-2576. Reports shall include the following:

- (1) all acquisitions of carcasses and pelts, except those which have been acquired from and reported by other fur dealers licensed by the State;
- (2) all acquisitions made during each month beginning with October and ending with March of the following year;
- (3) distinguishment between acquisitions made within the State and those made from outside the State; and

(4) counties in which the animals were taken if within the State.

In the case of nonresident fur dealers licensed to do business in this State, the records and reports required by this Paragraph apply only to carcasses or pelts of animals acquired from within this State, and no reports are required from nonresident fur dealers who acquire pelts only from other fur dealers licensed in the State.

(j) The records required by Paragraph (i) of this Rule and the inventory of carcasses and pelts on hand shall be made available for inspection by representatives of the Commission upon request or during the fur dealer's business hours.

~~(f) The tagging requirements of Paragraph (a) of Rule .0402 of this Section and of Paragraphs (b) and (d) of this Rule do not apply to the pelts or furs of foxes that are imported into this State by a fur dealer operating under a valid North Carolina Fur Dealer Station License at a fixed place of business or to such pelts or furs delivered to the place of business of such fur dealer by a seller from another state provided that the following conditions are satisfied:~~

- ~~(1) — the nonresident seller is a licensed fur dealer in the state from which the pelts or furs originated;~~
- ~~(2) — the resident dealer has available for inspection a dated, signed bill of sale indicating the precise number of green pelts and dry pelts of fox purchased in each lot of imported fur; the name, address, and fur dealer license number of the seller; and the date of arrival of the lot of pelts at the licensed place of business;~~
- ~~(3) — imported green pelts of fox are kept separate from the green pelts of native fox during processing and are readily identifiable as to imported lot number and bill of sale;~~
- ~~(4) — imported dry pelts of fox are not batched with native dry pelts of fox unless such pelts are marked in a manner that readily identifies them as to imported lot number and bill of sale;~~
- ~~(5) — such imported, untagged pelts of fox are imported, processed, and stored only for sale and export to buyers in other states; and~~
- ~~(6) — such imported, untagged pelts of fox are not held on the premises for longer than 21 days from the date of arrival without having been tagged as required by Rule .0402(a) of this Section.~~

**15A NCAC 10B .0406 MISUSE OF TAGS**

~~(a) It is unlawful for any person to affix any fur tag~~ Fur tags shall only be affixed to the carcass or pelt of any the  
species of animal other than that for which its their use is authorized authorized, and it is unlawful to buy or sell any  
bobcat, otter, or fox carcass or pelt which has an unauthorized tag so affixed. When the U.S. Fish and Wildlife Service  
repeals its tagging requirements for otter and bobcat this Paragraph shall apply only to tagging foxes.

(b) it is unlawful to buy or sell any bobcat, otter, or fox carcass or pelt that has an unauthorized tag affixed.

~~(b) (c) It is unlawful for any person to sell or transfer any unused~~ Unused fox tag tags shall not be sold or transferred  
to any other person. It is unlawful for any person to sell any unused fur tag for a price greater than the fee listed for  
such tag in Paragraph (c) of Rule .0403 of this Section.

(d) Unused fur tags shall not be sold for a price greater than the fee listed for such tag in Paragraph (c) of Rule .0403  
of this Section.

~~(e) (e) Fur tags shall not be reused or removed from~~ It is unlawful for any person to reuse a fur tag or to remove the  
same from the pelt to which they are affixed prior to delivery to a manufacturer or fur processor.

~~(d) (f) It is unlawful to counterfeit or modify any fur tag.~~ Fur tags shall not be counterfeit or modified.

# EXHIBIT I-1

August 18, 2022



## Public Comments for 15A NCAC 10C .0200 Inland Fishing Rules

Position	Comment
	<i>15A NCAC 10C .0203 Reciprocal License Agreements</i>
Support (1)	
	<i>15A NCAC 10C .0214 Fish Collectors</i>
Support (1)	
	<i>15A NCAC 10C .0215 Replacement Costs of Wildlife (Fish)</i>
Support (1)	
	<i>15A NCAC 10C .0216 State Inland Fishing License Exemptions</i>
Support (1)	
Disagree (1)	no exemptions for anyone, but instead have a reduced price for the license. everyone fishing should have to pay something

One public hearing was held on June 7, 2022



# EXHIBIT I-2

August 18, 2022



## **Proposed Amendments to 15A NCAC 10C .0200 Inland Fishing Rules Recommended by Agency Staff for Adoption**

These rules are part of the 2017 periodic review. Rules listed below were determined to be “necessary with substantive public interest” and need to be readopted.

### **15A NCAC 10C .0200 General Regulations**

#### **10C .0203**

Updated to clarify language and simplify formatting.

*15A NCAC 10C .0203 Reciprocal License Agreements (pages 2-3)*

#### **10C .0206**

Updated to clarify language and simplify formatting.

*15A NCAC 10C .0206 Trotlines, Jug Hooks and Set Hooks (page 4)*

#### **10C .0214**

Amended to be consistent with wildlife collectors rule.

*15A NCAC 10C .0214 Fish Collectors (pages 5-6)*

#### **10C .0215**

Proposed for Repeal. Fish replacement costs are incorporated into 10A .1501

*15A NCAC 10C .0217 Replacement Costs of Wildlife Resources - Fish (Pages 7-8)*

#### **10C .0216**

Updated to clarify language and simplify formatting.

*15A NCAC 10C .0216 State Inland Fishing License Exemptions (Page 9)*

## 15A NCAC 10C .0203    RECIPROCAL LICENSE AGREEMENTS

(a) Virginia. In accordance with a reciprocal license agreement between the States of North Carolina and Virginia, ~~and North Carolina~~, all valid fishing licenses and permits ~~authorizing sport fishing and~~ legally obtained from the Virginia Department of ~~Game and Inland Fisheries~~ Wildlife Resources or the North Carolina Wildlife Resources Commission, or the duly authorized agents of either, shall be reciprocally honored for the purpose of fishing by means of: rod and reel, hook and line, casting, or trotline in the Dan River east of the Union Street Dam at Danville, and east of the mouth of Difficult Creek on the Staunton River arm of Kerr Reservoir to the Gaston Dam on the Roanoke River, including all tributary waters lying in either Virginia or North Carolina that are accessible by boat from the main bodies of the Kerr and Gaston Reservoirs, or from the Island Creek subimpoundment. Senior citizen and juvenile license exemptions authorized by either state shall be honored by both states. In addition, all valid fishing licenses and permits legally obtained from the Virginia Department of Game and Inland Fisheries or the North Carolina Wildlife Resources Commission, or the duly authorized agents of either, shall be reciprocally honored for fishing with rod and reel, hook and line, or by casting in that portion of the New River between the confluence of the North and South forks of the New River in North Carolina (Alleghany County) and the confluence of the New and Little Rivers in Virginia (Grayson County)-with rod and reel, or hook and line, in the following waters:

- (1)    Portions of New River:
  - (A)    between the confluence of the North and South fork of the New River in Allegheny County North Carolina; and
  - (B)    confluence of New and Little Rivers in Grayson County Virginia.
- (2)    Dan River east of the Union Street Dam at Danville;
- (3)    Staunton River arm of Kerr Reservoir East of the mouth of Difficult Creek;
- (4)    Kerr Reservoir;
- (5)    Lake Gaston; and
- (6)    all tributary waters in either Virginia or North Carolina that are accessible by boat from the main bodies of the Kerr and Gaston Reservoirs, from the Island Creek subimpoundment.

(b) Georgia. In accordance with a reciprocal license agreement between the States of North Carolina and Georgia, all valid ~~statewide-fishing licenses, licenses and permits permits, and license exemptions required by and~~ legally obtained from the Georgia Department of Natural Resources, the North Carolina Wildlife Resources Commission ~~Commission, or the Georgia Department of Natural Resources,~~ or duly authorized agents of either, shall be reciprocally honored for the purposes of fishing with hook and line in all of Chatuge Reservoir including all tributary waters lying in either Georgia or North Carolina that are accessible by boat from the main body of Chatuge Reservoir. All persons fishing in the waters of Chatuge Reservoir beyond the bounds of the state from which they hold a valid fishing license, shall be authorized to fish with said license only from boats not anchored to the shore or to a pier or boat dock connecting to the shore. Senior citizen and juvenile license exemptions authorized by either state shall be honored by both states.

(c) Tennessee. In accordance with a reciprocal license agreement between the States of North Carolina and Tennessee, all valid ~~statewide-inland~~ fishing licenses and permits obtained from the Tennessee Wildlife Resources Agency, the North Carolina Wildlife Resources Commission ~~Commission, or the Tennessee Wildlife Resources Agency,~~ or the

duly authorized agents of either, shall be reciprocally honored for the ~~purposes of fishing with hook and line or fishing in designated mountain trout waters, in that portion of Slick Rock Creek that coincides with the state line between North Carolina and Tennessee and in all of Calderwood Reservoir.~~ Purpose of fishing with rod and reel, or hook in line in the following waters:

- (1) The portion of Slick Rock Creek that coincides with the state line between North Carolina and Tennessee; and
- (2) Calderwood Reservoir.

## 15A NCAC 10C .0206 TROTTLINES, JUG HOOKS AND SET HOOKS

(a) For purposes of this Rule, the following definitions apply:

- (1) "set hook" means a fishing device consisting of a single line having no more than three hooks that is attached at one end only to a stationary object.
- (2) "jug hook" means a fishing device consisting of a single line having no more than three hooks that is attached to a float.
- (3) "trotline" means a fishing device consisting of a horizontal common line having multiple hooks attached.

(b) ~~Except as otherwise prohibited in this Rule, trotlines, jug hooks, and set hooks may be set in the inland waters of North Carolina, provided no live bait is used.~~ used, except that they: Trotlines, jug hooks, and set hooks may not be set in any of the impounded waters on the Sandhills Game Land. Trotlines, jug hooks, and set hooks may not be set in any designated public mountain trout waters except impounded waters of power reservoirs and municipally-owned water supply reservoirs open to the public for fishing. In Lake Waccamaw, trotlines, jug hooks, or set hooks may be set only from October 1 through April 30.

- (1) may not be set in any of the impounded waters on the Sandhills Game Land;
- (2) may not be set in any designated public mountain trout waters except impounded waters of power reservoirs and municipally-owned water supply reservoirs open to the public for fishing; and
- (3) in Lake Waccamaw, trotlines, jug hooks, or set hooks may be set only from October 1 through April 30.

(c) Each trotline, set hook, and jug hook shall bear legible and indelible identification of the user's name and address or the user's Wildlife Resources Commission customer number. ~~Each trotline shall be conspicuously marked at each end and each set hook conspicuously marked at one end with a flag, float, or other prominent object so that its location is readily discernible by boat operators and swimmers. Trotlines shall be set parallel to the nearest shore in all inland fishing waters unless otherwise prohibited. The number of jug hooks that may be fished is limited to 70 per boat. All trotlines, set hooks, and jug hooks shall be fished at least once daily and all fish removed at that time. Trotlines, set hooks, and jug hooks without bait or not labeled as described in this Paragraph may be removed from the water by wildlife enforcement officers. It is unlawful to use metal cans or glass jugs as floats.~~

(d) Each trotline and set hook shall be conspicuously marked at each end with a flag, float, or other prominent object so that its location is readily discernible by boat operators and swimmers.

(e) Trotlines shall be set parallel to the nearest shore in all inland fishing waters unless otherwise prohibited.

(f) The number of jug hooks that may be fished is limited to 70 per boat.

(g) All trotlines, set hooks, and jug hooks shall be fished at least once daily with all fish removed.

(h) Trotlines, set hooks, and jug hooks without bait or not labeled as described in this Paragraph may be removed from the water by wildlife enforcement officers.

(i) It is unlawful to use metal cans or glass jugs as floats.

## **15A NCAC 10C .0214 FISH COLLECTORS**

~~(a) Collection Licenses. The Executive Director is authorized to~~ A collection license may be issued to qualified individuals to take or collect any species of fish from the inland fishing waters of the State, or inland game fish from the joint or coastal waters, other than an endangered or threatened species. Such license shall be issued upon payment of a fee of five dollars (\$5.00), except that licenses may be issued to representatives of educational or scientific institutions or of governmental agencies without charge. Such license may be used in lieu of any other fishing license required by law and shall authorize possession and transportation of the fish incidental to the authorized taking.

(b) Individuals interested in obtaining a collection license shall apply by sending an application to 1701 Varsity Drive, Raleigh, NC 27606 or by completing and submitting an application online at [www.ncwildlife.org](http://www.ncwildlife.org). Information required by the applicant shall include

- (1) name, address, date of birth, email, and driver's license number;
- (2) species information;
- (3) organizational affiliation, if any; and
- (4) full documentation of research or educational proposal(s), if applicable.

(c) The Commission shall consider the following qualifications when issuing a license:

- (1) prior research or educational experience in the same or similar field;
- (2) work with or for an educational institution;
- (3) type of study requested of license (harvest or catch and release);
- (4) current status and quantity of species requested;
- (5) collection methodology proposed; and
- (6) disposition of collection.

(d) A collection license may be used in lieu of any other fishing license required by law and shall authorize possession and transportation of the fish incidental to the authorized taking.

(e) A collection license may be issued:

- (1) upon payment of the license fee.
- (2) to any individual, so long as the take is not deemed harmful to the efficient conservation of the species to be collected or to other fish or wildlife resources that may be dependent thereon.

(f) Endangered and threatened species shall not be taken or collected under a collection license except with a valid endangered species permit.

(g) Unless a more limited duration is designated on the license, collection licenses shall be valid from January 1 through December 31 of the applicable year.

~~(h) Qualifications of Licensees. In addition to representatives of educational or scientific institutions and governmental agencies, the collection license may be issued to any individual for any worthwhile purpose that is not deemed inimical to the conservation of the species to be collected or to some other fish or wildlife resources that may be dependent thereon.~~

~~(e)-(h) Methods of Taking.~~ The manner of taking fish under a collection license may be specified ~~by the Executive Director on the license~~ and need not be restricted to the usual methods of lawful fishing.

~~(d) Term of License.~~ The Executive Director may, in his discretion, impose time limits, but unless so restricted the license shall be valid from January 1 through December 31 of the applicable year.

~~(e)-(i) Report of Collecting Activity.~~ Each individual licensed under this Rule ~~Licensed individuals~~ shall submit a ~~written report~~ the following information to the ~~Commission~~ Executive Director within 15 days of license expiration, ~~following the date of expiration of the license.~~ The report shall be ~~on a form supplied by the Wildlife Resources~~ completed online at [www.ncwildlife.org](http://www.ncwildlife.org) and include: ~~and shall show the numbers of each species taken under the license and the use or disposition thereof.~~ The Executive Director may require additional information for statistical purposes such as the dates and places of the taking and the sex, size, weight, condition, and approximate age of each specimen taken. Such additional information may be required on the form of report or by a separate writing accompanying the form.

(1) the numbers of each species taken under the license;

(2) the use or disposition thereof; and

(3) the date and waterbody of taking.

Depending on the species taken, additional information including the sex, size, weight, age, and condition of species taken may be required.

~~(f)(j) Other Requirements and Restrictions.~~ The Executive Director or his or her designee may, ~~in his discretion,~~ pursuant to G.S. 113-272.4(d), impose ~~such other requirements and further~~ restrictions or conditions on ~~persons~~ individuals licensed under this Rule ~~as he may deem deemed~~ to be necessary to the efficient administration of the wildlife conservation laws and ~~regulations.~~ Rules.

# ~~15A NCAC 10C .0215 — REPLACEMENT COSTS OF WILDLIFE RESOURCES — FISH~~

~~(a) Replacement Costs Distinguished. As it applies to fishes the term "replacement costs" must be distinguished from the "value" of the fish concerned. Except in cases where fish may lawfully be sold on the open market, as with commercially reared species, the monetary value of the specimens cannot be determined easily. The degree of special interest or concern in a particular species by the public, including not only anglers, but conservationists and those to whom the value of fishes is primarily aesthetic, cannot be measured in dollar amounts. The average cost per fish legally taken by anglers including travel and lodging, fishing equipment and bait, excise taxes on equipment, licenses and other fees, may fairly be estimated. This too, however, is a reflection of the value of existing fishery resources rather than a measure of the cost of their replacement. Thus, the relative value of fish species should be considered only as they may bear on the necessity or desirability of actual replacement.~~

~~(b) Factors to be Considered. The factors which should be considered in determining the replacement costs of resident species of fishes that have been taken, injured, removed, harmfully altered, damaged, or destroyed include the following:~~

- ~~(1) — whether the species is classified as endangered or threatened;~~
- ~~(2) — the relative frequency of occurrence of the species in the state;~~
- ~~(3) — the extent of existing habitat suitable for the species within the state;~~
- ~~(4) — the dependency of the species on unique habitat requirements;~~
- ~~(5) — the cost of improving and maintaining suitable habitat for the species;~~
- ~~(6) — the cost of capturing the species in areas of adequate populations and transplanting them to areas of suitable habitat with low populations;~~
- ~~(7) — the cost of propagating and rearing the species in a hatchery and the cost of transporting them to areas of suitable habitat with low populations;~~
- ~~(8) — the availability of the species and the cost of acquisition for restocking purposes;~~
- ~~(9) — the cost of those species which, when released, have a probability of survival in the wild;~~
- ~~(10) — the ratio between the natural life expectancy of the species and the period of its probable survival when, having been reared in a hatchery, it is released to the wild;~~
- ~~(11) — the change in the value of money as reflected by the consumer price index.~~

~~(c) Costs of Replacement. Based on the factors listed in Paragraph (b) of this Rule, including the June, 1980, consumer price index of 247.6 percent of the 1967 base, the following fishes are listed with the estimated replacement cost:~~

Species	Weight	Replacement Cost
Striped bass and	up to 5 lbs.	\$25/fish
Bodie bass	5 lbs. to 10 lbs.	\$20/lb.
	10 lbs. to 20 lbs.	\$25/lb.
	Over 20 lbs.	\$30/lb.
White bass	up to 2 lbs.	\$10/fish
	Over 2 lbs.	\$10/lb.
Largemouth bass	Up to 2 lbs.	\$10/fish
	2 lbs. to 7 lbs.	\$10/lb.

	Over 7 lbs.	\$20/lb.
Smallmouth bass and other black bass	Up to 2 lbs.	\$10/fish
	2 lbs. to 4 lbs.	\$10/lb.
	Over 4 lbs.	\$20/lb.
Walleye	Up to 2 lbs.	\$10/fish
	2 lbs. to 5 lbs.	\$10/lb.
	Over 5 lbs.	\$20/lb.
Muskellunge	Up to 1 lb.	\$30/fish
	Over 1 lb.	\$30/lb.
Sunfish	All Sizes	\$5/fish
Crappie	All Sizes	\$10/fish
Catfish (Channel, Blue and Flathead)	Up to 1 lb.	\$5/fish
	1 lb. to 20 lbs.	\$5/lb.
	Over 20 lbs.	\$10/lb.
Trout (Wild)	Up to 7 in.	\$10/fish
	7 in. to 13 in.	\$15/fish
	Over 13 in.	\$30/lb.
Trout (Hatchery)	7 in. to 13 in.	\$5/fish
	Over 13 in.	\$10/lb.
All Other Game Fish	All Sizes	\$5/fish
All Other Non Game Fish	All Sizes	\$2.50/fish

(d) ~~Cost of Investigations.~~ The factors to be considered and the computation of costs are as specified in 15A NCAC 10B .0117.



## 15A NCAC 10C .0216 STATE INLAND FISHING LICENSE EXEMPTIONS

(a) ~~The Commission may exempt participants of an organized fishing event conducted by a governmental or non-profit entity from obtaining an inland fishing license. Any governmental or non-profit entity conducting an organized fishing event for educational or therapeutic purposes may obtain from the Commission an exemption from the requirements of the fishing license for participants in the event.~~

(b) The state inland fishing license exemption shall only be issued when all the following information ~~required by these Rules contained on a form provided by the Commission~~ is submitted by the applicant on a form found online at [www.ncwildlife.org](http://www.ncwildlife.org) to the Chief of the Division of Inland Fisheries not less than 21 days prior to the organized fishing event, ~~subject to the following conditions:~~ event:

- (1) applicant name, address, phone number, and email address;
- (2) applicant organization name and address;
- (3) date, time, and location of event; and
- (4) estimated number of event attendees and event description.

(c) The state inland fishing license exemption is subject to the following conditions:

- (1) The person in charge of the event must be on-site at all times and have a copy of the exemption available for inspection on request by Commission personnel; and
- (2) The exemption shall be limited to the immediate location of the event and shall remain in effect only for the duration of the event.

~~(e)(d)~~ The Commission may require that a the applicant ~~applicant~~ submit participant information for those fishing under the exemption, ~~receiving a state fishing license exemption report both the number of male participants and the number of female participants less than 16 years of age and the names of participants 16 years of age and older who do not have a fishing license.~~

# EXHIBIT J-1

August 18, 2022



## Public Comments for 15A NCAC 10H .1510 Wildlife Control Technician

Position	Comment
No Preference (1)	

One public hearing was held on June 14, 2022

# **EXHIBIT J-2**

**August 18, 2022**



## **Proposed Rule 15A NCAC 10H .1510 Wildlife Control Technician Certification and Eligibility Requirements Recommended by Agency Staff for Adoption**

Establish Wildlife Control Technician Certification (WCT) requirements and eligibility in rule. Clarify that a WCT may not issue depredation permits and may only place traps, perform euthanasia, bat evictions, and alligator removal under direct supervision of a licensed Wildlife Control Agent.

Session Law 2021-160 established a Wildlife Control Technician Certification. This rule is necessary to set standards and requirements for this certification.

*10H .1510 Wildlife Control Technician Certification and Eligibility Requirements (page 2)*

## **15A NCAC 10H .1510 Wildlife Control Technician Certification Eligibility and Requirements**

(a) The following definitions shall apply in this Section:

- (1) “Wildlife control technician” or “WCT” means an individual that holds a current and valid wildlife control technician certification issued by the Commission.
- (2) “Wildlife control technician certification” or “WCT certification” means a certification issued by the Commission that authorizes an individual to engage in wildlife control or wildlife removal activities, for compensation, including reimbursement for the cost of materials, under the supervision of a licensed wildlife control agent.
- (3) “Direct supervision” means to physically be within one’s presence while maintaining visual and verbal contact.
- (4) “Wildlife damage control” and “wildlife removal activities” means and includes:
  - (A) bat eviction and alligator damage control or removal activities;
  - (B) setting and moving traps;
  - (C) euthanasia; and
  - (D) issuing depredation permits in accordance with the applicable provision and requirements of 15A NCAC 10H .1502

(b) It shall be unlawful to engage in wildlife damage control or wildlife removal activities for compensation, without first obtaining a WCT certification from the Commission, except that licensed trappers taking wild animals during the applicable open trapping season for that species shall not be required to obtain a WCT certification.

(c) Wildlife control technicians may only perform the following wildlife control or removal activities under direct supervision of a licensed WCA, or certified Alligator Control Agent if applicable:

- (1) placement of traps;
- (2) euthanasia of wildlife;
- (3) bat evictions; and
- (4) alligator removal or relocation.

(d) Wildlife control technicians shall not issue depredation permits.

(e) Individuals shall complete a Commission-approved, WCT training course, that reviews wildlife laws and rules, including methods for trapping, capture, and safe and humane wildlife handling to qualify for a WCT certification.

(f) Individuals may register for a Commission-approved training course at [www.ncwildlife.org/wca](http://www.ncwildlife.org/wca). Required information shall include the following:

- (1) the applicant's name, mailing address, email address, residence address, telephone number, driver’s license number, and date of birth; and
- (2) organizational affiliation, if applicable.

(g) A WCT certification shall not be transferable between individuals.

# **EXHIBIT K-1**

**August 18, 2022**



## **Public Comments for 15A NCAC 10B .0101 Importation of Wild Animals, Birds, and Native Reptiles and Amphibians**

There were no public comments.

One public hearing was held on June 28, 2022.

# EXHIBIT K-2

August 18, 2022



## **Proposed Amendments to 15A NCAC 10B .0101 Importation of Wild Animals and Birds** **Recommended by Agency Staff for Adoption**

Add language regarding importation of domestically raised game birds, chukars and Hungarian partridges to align with the NC Department of Agriculture and Consumer Services (NCDACS) rules regarding the importation of poultry (“any bird”). Clarify that these species coming into the State must be accompanied by a certificate or label showing the name and address of the shipper and the National Poultry Improvement Plan Disease Program Status and if they are not a part of the program, the birds must be tested within 21 days.

Discussions with the NC Department of Agriculture and Consumer Services (NCDACS) identified discrepancies between the WRC importation rule and the NCDACS rule on entry of avian species to North Carolina. The NCDACS defines poultry as any bird and our rules needed to reflect their importation requirements for these species.

*10B .0101 Importation of Wild Animals and Birds (page 2)*

**15A NCAC 10B .0101 IMPORTATION OF WILD ANIMALS, BIRDS, AND NATIVE REPTILES AND AMPHIBIANS**

(a) Before any live wild bird, wild animal, or any native reptile or amphibian, is imported into North Carolina for any purpose, a permit shall be obtained from the Executive Director of the North Carolina Wildlife Resources Commission authorizing the importation, using application forms provided by the ~~Commission~~Commission, available at [ncwildlife.org](http://ncwildlife.org); and from the North Carolina Department of Agriculture and Consumer Services per 02 NCAC 52B .0200, if applicable.

(b) ~~Waterfowl~~ Domestically raised game birds, chukars, and Hungarian partridges imported into North Carolina shall be accompanied by a certificate or label showing the name and address of the shipper and the National Poultry Improvement plan (NPIP) Disease Program Status of the flock of origin per 02 NCAC 52B .0603. ~~must be received from facilities or individuals who are certified under the National Poultry Improvement Plan (NPIP) as pullorum-typhoid and avian influenza negative.~~ If the source birds are not part of NPIP, they must be tested pullorum-typhoid and avian influenza negative by NPIP standards within ~~30~~21 days prior to entry into North Carolina. Health certificates for imported waterfowl shall be available for inspection by authorized Commission personnel upon request.

# **EXHIBIT L-1**

**August 18, 2022**



## **Public Comments for 15A NCAC 10A .1502 Replacement Costs of Wildlife**

There were no public comments.

One public hearing was held on June 28, 2022.



# **EXHIBIT L-2**

**August 18, 2022**



## **Proposed Rule 15A NCAC 10A .1502 Replacement Costs of Wildlife Recommended by Agency Staff for Adoption**

Combine wildlife and fish replacement cost rules into one rule (10B .0117 and 10C .0215 proposed for repeal). Added various species of ducks, rails, and reptiles and removed nutria and wild boar from the list of species. Updated replacement costs for various fish from a per pound cost to a per-inch or per fish cost based on NC American Fisheries Society recommendations and hatchery production costs.

Replacement costs were updated or added for several species to account for changes in species values as it related to their habitat, sale, production costs, and frequency of occurrence in the state.

*10A .1502 Replacement Costs of Wildlife (pg. 2-6)*

## 15A NCAC 10A .1502 REPLACEMENT COSTS OF WILDLIFE

(a) For the purpose of this Rule, “replacement cost” means the monetary amount to replace a specimen of wildlife that has been taken, injured, removed, harmfully altered, damaged, or destroyed. As specified in G.S. 113-267, this term shall be broadly construed to include indirect costs of replacement if direct stocking or replacement is not feasible, including the costs of habitat improvement or restoration, the establishment of sanctuaries, and any other recognized conservation technique.

(b) The following factors shall be considered when determining replacement costs:

- (1) whether the species has a season for take;
- (2) whether the species is classified as endangered, threatened, or special concern;
- (3) the relative frequency of species occurrence in the State;
- (4) the extent of existing suitable habitat for the species within the State;
- (5) the unique habitat requirements of the species;
- (6) the cost of acquiring, by purchase or long-term lease, lands and waters for habitat development;
- (7) the cost of improving and maintaining suitable habitat for the species on lands and waters owned or acquired;
- (8) the cost of live-trapping the species in areas of adequate populations and transplanting them to areas of suitable habitat with low populations;
- (9) the availability of replacement specimens and the cost of acquisition for restocking species in the wild;
- (10) the cost of propagating and rearing the species in captivity or a hatchery and the cost of transporting them to an area with suitable habitat;
- (11) the ratio between the natural life expectancy of the species and the period of its probable survival in the wild when having been reared in captivity;
- (12) the consumer price index; and
- (13) any other factor that gives value to the species.

(c) Based on the factors in Paragraph (b) of this Rule, the following scheduled amounts shall represent the estimated replacement cost of an individual wildlife specimen. Replacement costs are per individual for wildlife species and per inch for fish species unless otherwise noted:

<u>Species</u>	<u>Replacement Cost</u>
<u>Birds</u>	
<u>Crow</u>	<u>4.00</u>
<u>Dove</u>	<u>13.00</u>
<u>Duck</u>	
<u>American black duck</u>	<u>125.00</u>
<u>Canvasback</u>	<u>125.00</u>

<u>Gadwall</u>	<u>125.00</u>
<u>Long-tailed duck</u>	<u>125.00</u>
<u>White-winged scoter</u>	<u>125.00</u>
<u>All other ducks</u>	<u>41.00</u>
<u>Goose (includes Brant and Snow)</u>	<u>125.00</u>
<u>Grouse</u>	<u>125.00</u>
<u>Pheasant</u>	<u>37.00</u>
<u>Quail</u>	<u>125.00</u>
<u>Rail</u>	
<u>Clapper, king, and Virginia</u>	<u>125.00</u>
<u>Coot, Gallinule, Moorhen, and Sora</u>	<u>37.00</u>
<u>Snipe</u>	<u>26.00</u>
<u>Swan, tundra</u>	<u>1078.00</u>
<u>Woodcock</u>	<u>125.00</u>
<u>Big Game</u>	
<u>Bear, black</u>	<u>2232.00</u>
<u>Deer</u>	<u>602.00</u>
<u>Turkey, wild</u>	<u>525.00</u>
<u>Small Game</u>	
<u>Beaver</u>	<u>104.00</u>
<u>Bobcat</u>	<u>647.00</u>
<u>Fox</u>	<u>88.00</u>
<u>Mink</u>	<u>75.00</u>
<u>Muskrat</u>	<u>19.00</u>
<u>Opossum</u>	<u>6.00</u>
<u>Otter</u>	<u>647.00</u>
<u>Rabbit</u>	<u>13.00</u>
<u>Raccoon</u>	<u>58.00</u>
<u>Skunk</u>	<u>19.00</u>
<u>Squirrel, fox</u>	<u>54.00</u>
<u>Squirrel, gray and red</u>	<u>17.00</u>
<u>Weasel</u>	<u>11.00</u>
<u>Reptiles</u>	
<u>Kingsnake, scarlet</u>	<u>100.00</u>
<u>Milksnake, coastal plain</u>	<u>200.00</u>
<u>Milksnake, eastern</u>	<u>100.00</u>

<u>Snake, eastern hognose</u>	<u>100.00</u>
<u>Turtle, eastern box</u>	<u>150.00</u>
<u>Turtle, spotted</u>	<u>150.00</u>
 <u>Elk</u>	 <u>2500.00</u>
<u>Any other species with no open season</u>	<u>54.00</u>
 <u>Endangered Species</u>	 <u>4960.00</u>
<u>Threatened Species</u>	<u>4313.00</u>
<u>Special Concern Species</u>	<u>3000.00</u>
 <u>Fish Species</u>	
 <u>Bass</u>	
<u>Alabama Bass</u>	<u>0.80</u>
<u>Hybrid (Bodie) Bass</u>	<u>1.27</u>
<u>Largemouth Bass</u>	<u>0.80</u>
<u>Redeye Bass</u>	<u>0.80</u>
<u>Smallmouth Bass</u>	<u>2.34</u>
<u>Spotted Bass</u>	<u>0.80</u>
<u>Striped Bass</u>	<u>1.27</u>
<u>White</u>	<u>0.25</u>
 <u>Bullhead</u>	
<u>Black Bullhead</u>	<u>1.72/fish</u>
<u>Brown Bullhead</u>	<u>1.72/fish</u>
<u>Flat Bullhead</u>	<u>1.72/fish</u>
<u>Snail Bullhead</u>	<u>1.72/fish</u>
<u>Yellow Bullhead</u>	<u>1.72/fish</u>
 <u>Catfish</u>	
<u>Blue Catfish</u>	<u>0.61</u>
<u>Channel Catfish</u>	<u>0.61</u>
<u>Flathead Catfish</u>	<u>0.61</u>
<u>White Catfish</u>	<u>0.61</u>
 <u>Crappie</u>	 <u>0.48</u>
<u>Kokanee Salmon</u>	<u>0.71</u>
<u>Muskellunge</u>	<u>9.99</u>
<u>Pickerel</u>	

<u>Chain Pickerel</u>	<u>0.99</u>
<u>Redfin Pickerel</u>	<u>0.99</u>
<u>Sauger</u>	<u>0.92</u>
<u>Shad</u>	
<u>American Shad</u>	<u>1.40/fish</u>
<u>Hickory Shad</u>	<u>1.40/fish</u>
<u>Sunfish</u>	
<u>Bluegill Sunfish</u>	<u>2.65/fish</u>
<u>Flier Sunfish</u>	<u>2.65/fish</u>
<u>Green Sunfish</u>	<u>2.65/fish</u>
<u>Pumpkinseed Sunfish</u>	<u>2.65/fish</u>
<u>Redbreast (Robin)</u>	<u>2.65/fish</u>
<u>Redear (Shellracer)</u>	<u>2.65/fish</u>
<u>Roanoke Bass</u>	<u>2.65/fish</u>
<u>Rock Bass Sunfish</u>	<u>2.65/fish</u>
<u>Warmouth Sunfish</u>	<u>2.65/fish</u>
<u>Trout</u>	
<u>Brook Trout</u>	<u>0.71</u>
<u>Brown Trout</u>	<u>0.71</u>
<u>Rainbow Trout</u>	<u>0.71</u>
<u>Walleye</u>	<u>0.92</u>
<u>White Perch</u>	<u>0.25</u>
<u>Yellow Perch</u>	<u>0.92</u>
 <u>All other game fish</u>	 <u>0.76/fish</u>
<u>All other nongame fish</u>	<u>1.87/fish</u>
 <u>Endangered, Threatened, Special Concern</u>	
<u>Mussels</u>	<u>50.54/mussel</u>
<u>Crayfish</u>	<u>50.00/crayfish</u>
<u>Finfish</u>	<u>157.54/fish</u>

(d) The following factors shall be considered when determining the costs of an investigation conducted pursuant to G.S. 143-215.3(a)(7) or by court order for the purpose of determining the cost of replacement of wildlife:

- (1) the time expended by the employee(s) conducting or involved in the investigation, including travel time between the place of usual employment and the site of the investigation, and the time required in formulating and rendering the report;

- (2) the total compensation cost of service to the state for each employee involved, including annual salary, total insurance, and the state's contribution to social security taxes and to the applicable retirement system;
- (3) subsistence costs for the investigating personnel, including meals, reasonable gratuities, and lodging, when required;
- (4) the cost of all necessary transportation;
- (5) the use or rental equipment or vehicles, when required;
- (6) the cost of cleaning, repairing, or replacing any clothing damaged, soiled, or contaminated by conducting the investigation; and
- (7) any other expense directly related to and necessitated by the investigation.

(e) In assessing the cost of time expended in completing the investigation, the time expended by each person required to take part in the investigation shall be recorded in hours, the value of which shall be computed according to the ratio between the annual costs of service of the employee and his or her total annual working hours (2087 hours reduced by holidays, annual leave entitlement, and earned sick leave). Other costs shall be assessed as follows:

- (1) the actual cost of meals, reasonable gratuities, and lodging away from home, not to exceed the current maximum per diem for state employees at the time of the investigation;
- (2) total mileage by motor vehicle multiplied by:
  - (A) the then current rate per mile for travel by state-owned vehicle; or
  - (B) the then current rate per mile for travel by privately owned vehicle, if applicable;
- (3) ten dollars (\$10.00) per hour for boat and motor use;
- (4) uniform and clothing cleaning and repair cost; and
- (5) any other expense directly related to and necessitated by the investigation.

History Note: Authority G.S. 113-134; 113-267.

# EXHIBIT M-1

August 18, 2022



## Public Comments for 15A NCAC 10C .0208 Spawning Areas

Position	Comment
Support (1)	<p>As one of three primary guides on the French Broad River, it's a great moment to see this come to fruition. In 2019, when the slough opened, I had gone to the Musky Club and have a presentation on the closure possibilities associated with the spawn sloughs. Seeing into the future, I knew they would work and how important they'll continually be for the sustainability of our fishery. As a guide, I rely on these fish to be here. They're my livelihood and a special fish that I generate revenue from, both myself and from my clients who participate in the surrounding economy in hotels, eateries, etc. I fully support a closed season in these specific slough areas. Take it from the northern states who dominate the heartlands of musky country: this is the right move to build a stronger fishery. We have to protect these critical areas. Having the data of 70+ fish moving in and out of the mud creek slough is just the beginning of the significant and amazing success this will have on our fishery! Please reach out, I'd love to help anyway I can to support this endeavor.</p>

One public hearing was held on June 28, 2022

# EXHIBIT M-2

August 18, 2022



## **Proposed Amendments to 15A NCAC 10C .0208 Spawning Areas Recommended by Agency Staff for Adoption**

Remove the fishing prohibitions on the Linville River and bypass channel around Lock and Dam No. 1 on the Cape Fear River and prohibit fishing from March 1 to May 31 in three restored floodplain sloughs connected to the French Broad River and Mud Creek in Henderson County.

Fishing on the Linville River from the NC 126 bridge downstream to the mouth of the Linville River from February 15 to April 15 was originally prohibited to protect Walleye migrating upriver from Lake James to spawn. Hatchery broodfish were collected from this area historically. However, the Walleye population in Lake James is no longer self-sustaining and is supported through hatchery stockings. The prohibition is no longer necessary given the lack of spawning activity in this area.

On the Cape Fear River, a bypass channel was designed to pass anadromous Striped Bass and American Shad around Lock and Dam No. 1 but was never constructed. A rock-arch weir was instead constructed to allow fish to pass over the lock and dam. The prohibition is being removed given the bypass channel does not exist.

As part of the Mud Creek Habitat Restoration Project, three backwater sloughs were restored to provide Muskellunge spawning habitat. To prevent potential targeting of Muskellunge by anglers in the sloughs during the spawn, the proposal prohibits fishing in the sloughs from March through May.



## 15A NCAC 10C .0208 SPAWNING AREAS

The following waters are designated as spawning areas in which fishing is prohibited or restricted as indicated:

- (1) ~~No person shall fish by any method from February 15 to April 15, both inclusive, in Linville River from the NC 126 bridge downstream to the mouth of the Linville River.~~
- (2) ~~No person shall fish by any method within the bypass channel constructed by the U.S. Army Corps of Engineers around Lock and Dam No. 1 on the Cape Fear River at any time.~~

(a) No person shall fish by any method from March 1 to May 31 in the following restored floodplain sloughs connected to the French Broad River and Mud Creek in Henderson County:

- (1) Slough 1 at 35.403687, -82.531970 connected to the French Broad River, located 0.25 miles upstream of Butler Bridge Rd (SR 1345).
- (2) Slough 2 at 35.398380, -82.528750 connected to the French Broad River, located 1.0 miles upstream of Butler Bridge Rd.
- (3) Slough 3 at 35.396449, -82.525462 connected to Mud Creek, located 0.1 miles upstream from confluence with the French Broad River.

(b) Each slough shall be marked with signs on both banks.

# **EXHIBIT N-1**

**August 18, 2022**



## **Public Comments for Proposed Temporary Rule 15A NCAC 10F .0305 Brunswick County, Town of Sunset Beach**

There were no public comments during the open comment period.

One public hearing was held on July 18, 2022.

# EXHIBIT N-2

August 18, 2022



## Temporary Rulemaking Final Adoption 15A NCAC 10F .0305 Brunswick County, Town of Sunset Beach

The Town of Sunset Beach in Brunswick County requested temporary rulemaking by the Wildlife Resources Commission to establish a no-wake zone in part of South Jinks Creek for the duration of a dredging project planned to begin in November 2022, to remove a large drifting sandbar that causes part of the creek to be less than two feet deep at mean low tide. The temporary no-wake zone until the dredging is completed will mitigate hazards to boater safety and navigation. At the conclusion of the dredging project the no-wake zone will no longer be necessary.

The proposed temporary Rule was filed on the Office of Administrative Hearings website with an open comment period and public hearing on July 18, 2022. No comments were received.

Staff recommends adoption of this temporary rule, subject to final review by the NC Rules Review Commission. The earliest effective date of the temporary rule will be October 1, 2022.

### 15A NCAC 10F .0305 BRUNSWICK COUNTY

(a) Regulated Areas. This Rule shall apply to the waters and portions of waters described as follows:

- (1) Lockwoods Folly River in the Town of Varnamtown, from a point at 33.94966 N, 78.22587 W, 500 yards northwest of the boat ramp located at the end of SR 1123 otherwise known as Fisherman Road, to a point at 33.94498 N, 78.22206 W, 180 yards southeast of the boat ramp, and including the portion of the river otherwise known as Mill Creek where it meets Lockwoods Folly River directly across from the boat ramp, to a point 100 feet northeast at 33.94687 N, 78.22235 W;
- (2) Calabash River in the Town of Calabash, from a point in the water at the end of Marina Drive at 33.88638 N, 78.56254 W to a point 650 yards southwest at the southern end of the deep-sea fishing docks at 33.88344 N, 78.56751 W;
- (3) the Small Boat Harbor, shore to shore beginning at its intersection with the Intracoastal Waterway at a point at 33.91685 N, 78.02865 W;

- (4) Shallotte River east of SR 1233, otherwise known as Village Point Road SW south of the Town of Shallotte, shore to shore from its intersection with the Intracoastal Waterway at a point at 33.91477 N, 78.37103 W to point 500 feet north at 33.91613 N, 78.37126 W;
- (5) Montgomery Slough otherwise known as Davis Creek, within 100 yards of the hotel and marina at the northern end of 57<sup>th</sup> Place West in the Town of Oak Island;
- (6) the waters in the natural and concrete canals located on the south side of the Intracoastal Waterway, east of N.C. Highway 904 in the Town of Ocean Isle Beach;
- (7) Town Creek east of SR 1609, otherwise known as Clearview Lane in Town Creek Township, shore to shore from a point at 34.16788 N, 78.07139 W, north and east around a bend in the creek to a point at 34.16910 N, 78.07030 W;
- (8) Montgomery Slough, otherwise known as Davis Creek, shore to shore from its entrance at the Intracoastal Waterway west of SW Yacht Drive at a point at 33.92145 N, 78.19408 W, to the canal end at NE 40<sup>th</sup> Street in the Town of Oak Island;
- (9) Intracoastal Waterway in the Town of Sunset Beach, shore to shore from a point 150 yards east of the Sunset Boulevard South bridge at 33.88173 N, 78.50995 W, to a point 50 yards west of the bridge at 33.88111 N, 78.51194 W; and
- (10) Intracoastal Waterway in the Town of Ocean Isle Beach, shore to shore from a point 100 yards east of the NC Hwy 904 Odell Williamson Bridge at 33.89578 N, 78.43870 W, to a point 100 yards west of the bridge at 33.89567 N, 78.44092 W.

(b) Speed Limit. No person shall operate a vessel at greater than no-wake speed within any of the regulated areas described in Paragraph (a) of this Rule.

(c) Placement of Markers. The following agencies shall be the designated agencies for the placement of markers implementing this Rule, subject to the approval of the United States Coast Guard and the United States Army Corps of Engineers:

- (1) the Board of Aldermen of Varnamtown for areas indicated in Subparagraph (a)(1) of this Rule;
- (2) the Board of Commissioners of Brunswick County for areas indicated in Subparagraphs (a)(2) through (8) of this Rule;
- (3) the North Carolina Wildlife Resources Commission for the area indicated in Subparagraph (a)(9) of this Rule; and
- (4) the Town of Ocean Isle Beach for the area indicated in Subparagraph (a)(10) of this Rule.

(d) Notwithstanding Paragraphs (a) through (c) of this Rule, no person shall operate a vessel at greater than no-wake speed in the waters of South Jinks Creek in the Town of Sunset Beach, south of a line from a point on the north shore of the peninsula at the eastern end of North Shore Drive at 33.87481 N, 78.49324 W, eastward to a point in the water at 33.87516 N, 78.49215 W, then west of a line from that point at 33.87516 N, 78.49215 W southward to a point on the shore at 33.87300 N, 78.49133 W, then westward the waters, shore to shore, to a line from a point on the shore at 33.87250 N, 78.49373 W northward to a point on the south shore of the peninsula at 33.87370 N, 78.49411 W. The

North Carolina Wildlife Resources Commission shall be the designated agency for placement and maintenance of markers for this regulated area.

*History Note: Authority G.S. 75A-3; 75A-15.*

*Eff. February 1, 1976;*

*Amended Eff. April 1, 1997; July 1, 1994; July 1, 1993; January 1, 1989; January 1, 1987;*

*Temporary Amendment Eff. March 1, 1998;*

*Amended Eff. April 1, 2009; April 1, 1999;*

*Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. December 6, 2016;*

*Amended Eff. May 1, 2021; ~~July 1, 2018.~~ July 1, 2018.*

*Temporary Amendment Eff. October 1, 2022.*



15A NCAC 10F .0305 - Proposed Temporary No Wake Zone  
South Jinks Creek, eastern end of North Shore Drive, Town of Sunset Beach, Brunswick County



# **EXHIBIT O-1**

**August 18, 2022**



## **Public Comments for 15A NCAC 10F .0310 Dare County**

There were no public comments.

One public hearing was held on June 8, 2022.



# EXHIBIT O-2

August 18, 2022



## PERMANENT RULEMAKING FINAL ADOPTION 15A NCAC 10F .0310 – DARE COUNTY, AVON

Dare County submitted an application for water safety rulemaking to extend a no-wake zone in Mill Creek in Avon to include a small portion of Pamlico Sound between Big Island and the mainland. Notice of Text was published in the *NC Register* on May 16, 2022, with one virtual public hearing and an open comment period. No comments were received during the open comment period.

Per the assessment matrix there were significant safety hazards that will be mitigated by extending the no-wake zone in the waters of Mill Creek to include part of the Sound between Big Island and the mainland. The water is shallow and causes hazards to navigation and to water recreation in the busy area.

Staff recommends adoption of this proposed rule amendment, subject to final review by the NC Rules Review Commission. The earliest effective date of the Rule will be October 1, 2022.

### 15A NCAC 10F .0310 DARE COUNTY

(a) Regulated Areas. This Rule shall apply to the following waters and portions of waters in Dare County:

- (1) Manteo. Doughs Creek off of Shallowbag Bay and all canals off of Shallowbag Bay.
- (2) Hatteras.
  - (A) the waters of Pamlico Sound otherwise known as Hatteras Harbor and Muddy Creek bounded on the north and south by the high-water mark, on the west by a straight line between channel markers number 20 and 17 at the entrance to Hatteras Harbor, and on the east by the mouth of Muddy Creek at Sandy Bay at a point at 35.22801 N, 75.68050 W; and
  - (B) Hatteras Ferry Terminal and United States Coast Guard basins ending at Coast Guard Beacon Number One in the Hatteras Channel.
- (3) Mann's Harbor. Old Ferry Dock Road Canal, beginning at a point at 35.90654 N, 75.76916 W.
- (4) Nags Head.
  - (A) the canals of Old Nags Head Cove where the canal entrance meets Roanoke Sound beginning at a point at 35.94192 N, 75.62571 W;
  - (B) the Roanoke Sound inlets at Pond Island on either side of W. Marina Drive extending north from U.S. Highway 64-264.



- (5) Wanchese.
    - (A) Wanchese Harbor otherwise known as Mill Landing Creek, beginning at its entrance from Roanoke Sound at a point at 35.84006 N, 75.61726 W; and
    - (B) the canal from its beginning where it connects with Roanoke Sound south of the dead-end road SR 1141 otherwise known as Thicket Lump Drive, extending northwest roughly parallel to SR 1141, SR 1142 otherwise known as The Lane, and SR 1143 otherwise known as Tink Tillet Road, then westward roughly parallel to N.C. Highway 345, and finally curving to the southwest roughly parallel to SR 1289 otherwise known as C B Daniels SR Road to its end.
  - (6) Stumpy Point Canal shore to shore, beginning 50 yards west of the Wildlife Resources Commission boating access area.
  - (7) Stumpy Point Basin off of Stumpy Point Bay, east of U.S. Highway 264 where it intersects Stumpy Point Bay at a point at 35.69591 N, 75.77264 W.
  - (8) Town of Southern Shores. ~~canals~~ Canals and lagoons within the Town of Southern Shores north of U.S. Highway 158.
  - (9) Colington Harbour. The waters in the canals of Colington Harbour Subdivision on Albemarle Sound.
  - (10) Kitty Hawk. ~~the~~ The waters contained in the canals of Kitty Hawk Landing Subdivision.
  - (11) Washington Baum Bridge. Roanoke Sound from marker 24B north of the bridge to marker 24A south of the bridge, and 50 yards east of the navigation span west to the shore as designated by the appropriate markers.
  - (12) Kill Devil Hills. Baum Bay Harbor, beginning at a point at 36.00572 N, 75.68105 W.
  - (13) Avon. ~~Mill Creek beginning at its entrance at Pamlico Sound at a point at 35.36434 N, 75.50603 W.~~  
The waters of Pamlico Sound shore to shore beginning at a line from a point on the east shore of Big Island at 35.36653 N, 75.50770 W westward to a point on the mainland at 35.36653 N, 75.50556 W, south to include the waters of the cove between North Albacore Lane and South Albacore Lane and the waters of Mill Creek, and ending east of a line from a point on the south shore of Big Island at 35.36500 N, 75.50820 W southward to a point on the mainland at 35.36358 N, 75.50826 W.
  - (14) Jean Guite Creek. Jean Guite Creek from where it meets Kitty Hawk Bay at 36.04887 N, 75.72754 W, north to a line from a point on the east shore in Southern Shores at 36.10460 N, 75.74192 W to a point on the west shore in Martin's Point Subdivision at 36.10452 N, 75.73948 W.
  - (15) Frisco. The waters of the marina canal and boat basin at Palmetto Shores Subdivision, shore to shore beginning at the canal's entrance at Pamlico Sound at a point at 35.25427 N, 75.60301 W.
- (b) Speed Limit. No person shall operate a vessel at greater than no-wake speed within any of the regulated areas described in Paragraph (a) of this Rule.
- (c) Swimming Area. No person operating or responsible for the operation of any vessel, surfboard, water skis, or jet skis shall permit it to enter the marked swimming area at Colington Island on the west shore, from a point where the

canal enters the harbor at 36.01797 N, 75.72681 W, north 600 feet to a point at 36.01964 N, 75.72683 W and extending 300 feet west into Albemarle Sound.

(d) Placement of Markers. The following agencies shall be the designated agencies for placement of markers implementing this Rule, subject to the approval of the United States Coast Guard and the United States Army Corps of Engineers:

- (1) the Board of Commissioners of the Town of Manteo for the areas indicated in Subparagraph (a)(1) of this Rule;
- (2) the Board of Commissioners of Dare County for the areas indicated in Subparagraphs (a)(2) through (a)(7), (a)(9) and (a)(11) through (a)(15) of this Rule;
- (3) the Board of Commissioners of the Town of Southern Shores for the areas indicated in Subparagraph (a)(8) of this Rule; and
- (4) the Board of Commissioners of the Town of Kitty Hawk for the area indicated in Subparagraph (a)(10) of this Rule.

*History Note: Authority G.S. 75A-3; 75A-15;*

*Eff. February 1, 1976; Amended Eff. April 1, 1997; December 1, 1994; May 1, 1994; March 1, 1993; May 1, 1988;*

*Temporary Amendment Eff. February 1, 1999; July 1, 1998;*

*Amended Eff. July 1, 2000; April 1, 1999;*

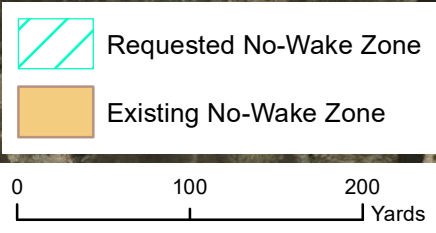
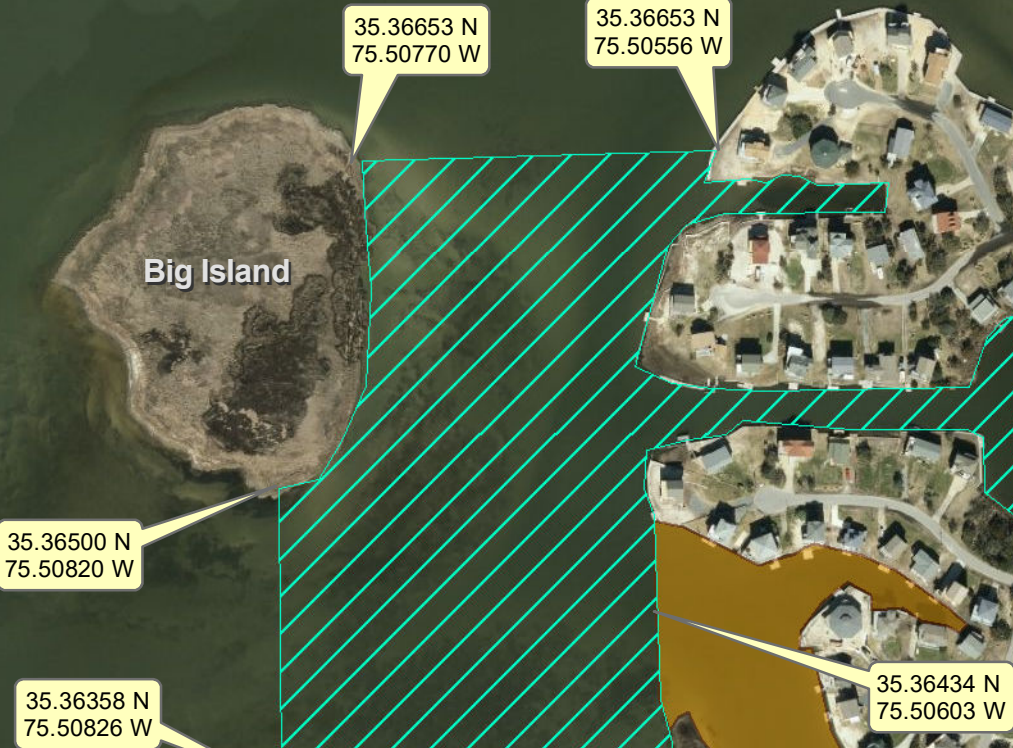
*Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. December 6, 2016;*

*Amended Eff. October 1, 2022; October 1, 2018.*



Requested No-Wake Zone Extension  
Mill Creek/Pamlico Sound, Avon, Dare County

PAMLICO SOUND





# EXHIBIT P-1

August 18, 2022



## APPLICATION FOR RULEMAKING FROM NEW HANOVER COUNTY FOR PROPOSED AMENDMENT TO 15A NCAC 10F .0314 – CITY OF WILMINGTON

The Wildlife Resources Commission received a formal application and Resolution from New Hanover County, requesting consideration of rulemaking to extend the no-wake zone within the navigation channel on Bradley Creek from the U.S. 76 bridge in Wilmington, southeast toward the Intracoastal Waterway and terminating at Channel Marker 8 near the mouth of Bradley Creek.

USACE Wilmington District was consulted and offered their concurrence with rulemaking, so long as the extended no-wake zone does not extend into the Intracoastal Waterway.

Agency Enforcement has investigated the area and returned the Assessment Matrix (**Attachment A and Map**). Multiple hazards to boater safety and navigation were noted, including a narrow channel and shallow water in the very busy creek. There have been documented boat incidents and several citations issued in the vicinity. Heavy traffic entering and leaving the Bradley Creek Marina has caused traffic safety and maneuverability issues.

New Hanover County has agreed to purchase and place the buoys to mark the extended no-wake zone. A Fiscal Note was prepared for the Office of State Budget and Management, which reviews rulemaking that creates fiscal impacts upon local and state units of government.

Staff recommends that the Commission approve publishing Notice of Text in the *NC Register* for adoption of an amendment to 15A NCAC 10F .0314, with an open comment period of at least 60 days and one public hearing, per the Administrative Procedure Act. Upon the close of the open comment period, the WRC will then consider adoption of the amendment to extend the Bradley Creek no-wake zone.

**15A NCAC 10F .0314 NEW HANOVER COUNTY**

(a) Regulated Areas. This Rule shall apply to the following waters in New Hanover County:

- (1) the area bounded on the north by the US 74-76 Bridge crossing the Intracoastal Waterway, on the south by a line shore to shore intersecting Intracoastal Waterway marker number 127, on the west by the shore of Wrightsville Sound, and on the east by a line perpendicular to US Highway 74-76 and intersecting marker number 25 in Motts Channel;
- (2) the area of Motts Channel between marker number 25 at the Intracoastal Waterway on the west and marker number 16 at the entrance from Banks Channel on the east;
- (3) ~~the area bounded on the west by the US 76 Bridge crossing Bradley Creek, on the north and south by the banks of Bradley Creek, on the east by a line from a point on the southwest shore at 34.21298 N, 77.83173 W, to a point on the northeast shore at 34.21446 N, 77.83063 W; the waters of the navigation channel in that portion of Bradley Creek in the City of Wilmington between the US 76 Bridge crossing Bradley Creek and Channel Marker 8, near the mouth of Bradley Creek at 34.20858 N, 77.82272 W;~~
- (4) Lee's Cut from its western intersection with the Intracoastal Waterway at 34.21979 N, 77.80965 W, to its eastern intersection with Banks Channel at 34.21906 N, 77.79645 W;
- (5) the unnamed channel lying between the shore west of Bahama Drive in the Town of Wrightsville Beach and an unnamed island located approximately 500 feet northeast of the US 74 bridge over Banks Channel; and
- (6) the waters of the Northeast Cape Fear River between the US Hwy. 117 bridge and the railroad trestle 60 yards east of the Castle Hayne Boating Access Area.

(b) Speed Limit. No person shall operate a vessel at greater than no-wake speed within any of the regulated areas described in Paragraph (a) of this Rule.

(c) Placement of Markers. The Board of Commissioners of New Hanover County shall be the designated agency for placement of the markers implementing this Rule, subject to the approval of the United States Coast Guard and the United States Army Corps of Engineers.

*History Note: Authority G.S. 75A-3; 75A-15;*

*Eff. February 1, 1976;*

*Amended Eff. July 1, 1993; May 1, 1989; June 1, 1987; May 1, 1987;*


*Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. December 6, 2016;*

*Amended Eff. October 1, 2018; April 1, 2017.*



## NO-WAKE ZONE INVESTIGATION MATRIX

### SECTION 1: APPLICANT REQUEST AND INFORMATION

- Name of organization/entity: New Hanover County
- Primary contact information: \_\_\_\_\_ 
- Location of requested no-wake zone:
  - Body of water and County: Bradley Creek New Hanover Co
  - Location: east of existing NWZ at Light 14, ending at channel marker 6 or 8
  - Popular name of area, if any: \_\_\_\_\_
  - Width of No-Wake Zone: Narrowest Point: \_\_\_\_\_ Widest Point: \_\_\_\_\_
  - Brief Description of area (example: bridge overpass, obstructed views, Intracoastal Waterway; etc.)  
Narrow channel 20-30 feet wide with shallow waters on either side. Heavy vessel traffic going to and from the ICW plus about 170 boats moored in very congested area.

**\*Attach map of designated no-wake zone\***

**\*Ensure proposed no-wake zone map/and or location is agreed upon by point of contact\***



## NO-WAKE ZONE INVESTIGATION MATRIX

### **Provide detailed reason given from point of contact for the request**

Mr. Burpeau states New Hanover Co is concerned over high traffic congestion impacting safety of boaters and water recreationists on both sides of Bradley Creek. Bradley Creek Yacht Club Marina has grown considerably since existing NWZ was established, and the marina drops over 200 boats on weekends from their large dry storage facility, and there are approximately 170 boats moored at the marina. Multiple homes and docks have been added along with new subdivisions. Residents are concerned for safety of their children from large wakes thrown from fast moving vessels. The County received at least one report of personal injury from large boat wake, by a resident's son who was thrown off the side of a boat waiting to launch. Mr. Burpeau requests a safety assessment of the area from the eastern end of the NWZ at Light 14, ending at Channel Marker 8 or 6 to mitigate hazards to boating safety.

- Is the proposed no-wake zone located within an area that is regulated by the U.S Army Corps of Engineers or the Division of Coastal Management (CAMA) i.e., Intracoastal Waterway?

YES ☒

NO ☐

**When dealing with the point of contact, please advise that placement of markers in these waters is subject to prior approval of above agency in waters where applicable. NCWRC has no authority to supersede these rules.**



## NO-WAKE ZONE INVESTIGATION MATRIX

### SECTION 2: PUBLIC SAFETY HAZARD

Identify all public safety hazards in this section by checking the block and listing name and/or location

☐ FUELING DOCK OR FACILITY

Name of Facility: \_\_\_\_\_

☐ PUBLIC SWIMMING OR RECREATIONAL AREA

Would the establishment of a roped swimming area or placement of no-wake regulatory buoys be more appropriate?

ROPED SWIM AREA ☐

NO-WAKE BUOYS ☐

☐ PUBLIC BOAT ACCESS

Name of Access Area: \_\_\_\_\_

☐ PUBLIC FISHING PIER OR FISHING ACCESS AREA

Name of Pier/Access Area: \_\_\_\_\_

☐ RESTAURANT DOCKS

Name of Restaurant: \_\_\_\_\_

Number of Docks: \_\_\_\_\_

☐ OTHER (list and describe)

### SECTION 3: NAVIGATIONAL HAZARDS

Identify all potential hazards associated with the proposed no-wake zone (check all that apply)

☐ OBSTRUCTIONS (Identify) \_\_\_\_\_

Can obstructions be removed? ☐ YES ☐ NO

☒ NARROW CHANNEL (give approximate width) 90 Feet

☒ SHALLOW WATER (give average depth) 7 Feet





## NO-WAKE ZONE INVESTIGATION MATRIX

☐ OBSTRUCTED VISION (for approximately how great a distance) \_\_\_\_\_

STRUCTURES: (Check all applicable)

☐ DAM Name: \_\_\_\_\_

☐ SPILLWAY Location: \_\_\_\_\_

☐ FLOOD CONTROL STRUCTURE Location: \_\_\_\_\_

☐ BRIDGE Roadway: \_\_\_\_\_

Height above water: \_\_\_\_\_

Width between piers: \_\_\_\_\_

☐ TRESTLE Height above water: \_\_\_\_\_

Width between piers: \_\_\_\_\_

☐ POWER LINE \_\_\_\_\_

☐ LOCK Lock Number: \_\_\_\_\_

☐ JETTY \_\_\_\_\_

☐ SUBMERGED STRUCTURE Identify Structure: \_\_\_\_\_

- Would placement of "Danger" buoys or other informational markers mitigate the hazards in lieu of a no-wake zone? ☐ YES ☒ NO

☐ SANDBAR \_\_\_\_\_

☐ SHOAL \_\_\_\_\_

☐ OTHER (list and describe)



## NO-WAKE ZONE INVESTIGATION MATRIX

### SECTION 4: SUMMARY OF BOATING SAFETY STATISTICS

Identify known data reflecting safety concerns:

☒ BOAT INCIDENTS      Date(s): Dates approximate: 2003, 2019

☒ CITATIONS ISSUED      Violations: Several BWI's, careless and wreckless

☐ VERIFIED COMPLAINTS      List: \_\_\_\_\_

- =====
- Rate traffic density in this area HEAVY ☒
  - Is traffic density specific to weekend/and or holidays? YES ☒ NO ☐
  - Does traffic density or ability to maneuver a vessel due to traffic cause safety issues?  
YES ☒ NO ☐

### SECTION 5: CURRENT REGULATIONS

- List existing local laws currently in place restricting vessel speed in the requested area:  
None
- Would enforcement of existing boating laws mitigate the issues and concerns addressed in the proposed area?

☐ YES      Identify Violations: \_\_\_\_\_  
☒ NO



## NO-WAKE ZONE INVESTIGATION MATRIX

### SECTION 6: NO-WAKE ZONE DIMENSIONS AND SCOPE

Evaluate the applicant's proposed no-wake request based on criteria and complete Section 6. If investigated area does not meet criteria for a no-wake zone, move to section 7. If the area meets no-wake zone criteria but the proposed area exceeds the need to address the issues, recommend appropriately sized area and attach map with changes.

#### A. PROPOSED

- If approved, does no-wake zone extend into a designated channel?  
☐ YES      Distance extended into channel: \_\_\_\_\_  
☒ NO
- Total distance travelled at no-wake speed (in feet): 3225'
- Estimated travel time through propose area at no-wake speed: 8 Minutes
- Width of proposed no-wake zone (in feet): Narrowest: 82'      Widest: 105'
- Does proposed no-wake zone meet criteria for consideration?  
☒ YES: Appropriately sized  
☐ YES: Adjusted size recommended  
☐ NO
- Description/Explanation of adjusted size
- ☐ Adjusted map attached



## NO-WAKE ZONE INVESTIGATION MATRIX

### SECTION 7: OFFICER ASSESSMENT OF WATER SAFETY HAZARDS

- Does the proposed area meet the criteria to be recommended as a no-wake zone?

YES: ☒

NO: ☐

- Justification:

This is a narrow channel with a heavy amount of boat traffic (during the boating season) coming from Bradley Creek Marina and the Intra-coastal Waterway. There is currently a no wake zone located at Bradley Creek Marina at the farthest point in the back of the creek. Bradley Creek Marina is also in the process of being expanded and this will also add more boat traffic to this channel. This proposed no wake zone will be an extension of the no wake zone currently in place and will slow traffic down in a very busy and congested area. There have been several boating incidents in this channel as well as several boating while impaired and carless & reckless boating violations/charges.

The waters average depth in the center of the channel is approximately 7 feet deep at mid to high tide. The channel is very narrow and the water depth immediately on the outside of the channel is approximately 2 feet and reduces to a mud flat very quickly. This restricts navigating a vessel to stay within the channel causing vessels to pass very closely in a busy cove. Operators not having the ability to discern the changes in depth can create extremely dangerous boat operations especially at night when operated at higher speeds.

Officer: Clayton Ludwick

Date: 2/17/2022

Sergeant:

Date: 2/23/2022

**From:** [Vafier, Ken](#)  
**To:** [Haywood, Betsy](#)  
**Subject:** [External] Application and Supplemental Materials  
**Date:** Tuesday, June 21, 2022 11:57:51 AM  
**Attachments:** [D-1-Application-form\\_with\\_signature\\_NEW\\_rev\\_Sept\\_2021.docx](#)  
[Item18-BradleyCreekNoWakeZoneResolution.pdf](#)  
[6.20.22 Public Notice.docx](#)  
[New Hanover Bradley Creek 15A NCAC 10F 0314 a3 - proposed extension.pdf](#)  
[New Hanover Co Bradley Creek ExtensionCompleted Matrix.pdf](#)  
[App Cover Letter.pdf](#)

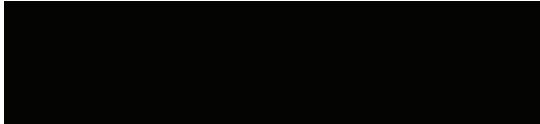
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**CAUTION:** External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [Report Spam](#).

Hi Betsy, our Board unanimously adopted a resolution requesting rulemaking for the Bradley Creek request on Monday. I have attached a cover letter, resolution, the D-1 application, and its supporting materials for consideration at the August WRC Board meeting. Please let me know if there is anything else needed from us to process this request, and thanks for all you have done to assist us thus far!

Ken

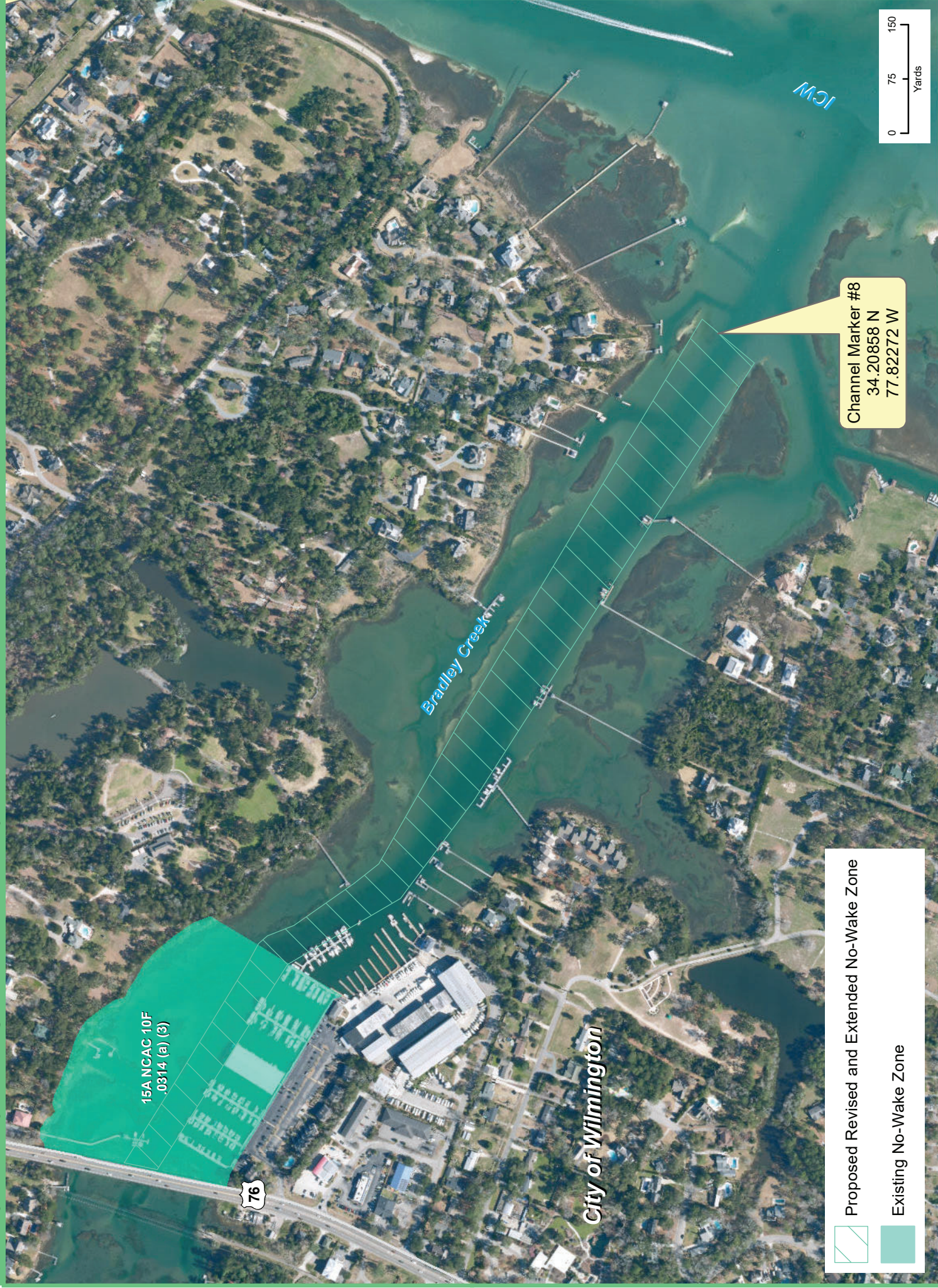
**Ken Vafier**  
Planning Manager  
New Hanover County - Planning & Land Use - Planning & Zoning



[www.NHCgov.com](http://www.NHCgov.com)



15A NCAC 10F .0314 (a) (3) - Proposed Revised and Extended No Wake Zone  
Bradley Creek, City of Wilmington, New Hanover County

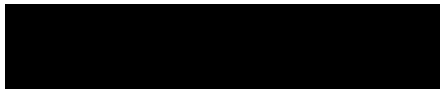




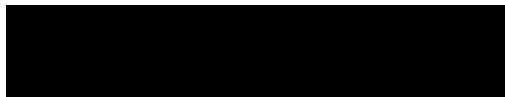


**Fiscal Note Review of  
Proposed Wildlife Resources Commission No-Wake Zone Rule  
15A NCAC 10F .0314 – New Hanover County**

**Contact:** Ashley Pekrul  
Regulatory Analyst



Betsy Haywood



**Impact:** State Government: Yes  
Local Government: Yes  
Private Impact: Yes  
Substantial Impact: No

**Authority:** G.S. 75A-3: 75A-15

The proposed amendment to 15A NCAC 10F .0314 – New Hanover County (APPENDIX 1), will extend a no-wake zone in the navigation channel of Bradley Creek in the City of Wilmington to the southeast, between the US 76 Bridge crossing Bradley Creek and Channel Marker 8 near the mouth of Bradley Creek at 34.20858 N, 77.82272 W, just west of the navigation channel of the Intracoastal Waterway (ICW).

New Hanover County applied for rulemaking to mitigate hazards to boater safety. Navigational hazards include a narrow channel and shallow water in this very busy creek. There have been documented boat incidents and several citations in the vicinity. The heavy vessel traffic entering and leaving the marina has caused traffic safety and maneuverability issues.

**State Impact Analysis:** The WRC is responsible maintenance of buoys once installed. It is anticipated that the total annual cost to maintain the markers will be no more than \$200.00 (assuming the chain and anchor are not needed) and only if a marker is destroyed and must be replaced. Costs to maintain no-wake markers will be covered under existing funds budgeted for maintenance and upkeep and only upon request; and will not require reallocation of funds.

**Local Impact Analysis:** New Hanover County is responsible for initial purchase and placement of three additional markers to mark the extended no-wake zone navigation channel between the US 76 Bridge and Channel Marker 8. Two technicians' time to place three buoys will be \$116.00 (4 hours x \$29<sup>1</sup>/hr = \$116). Cost for three buoys to be purchased will be \$600.00 (\$200/buoy x 3=\$600), for a total cost by New Hanover County of \$716.00.

<sup>1</sup>Calculated using average salary and benefits of current technicians as of July, 2022.

**Private Impact:** The regulated community will not incur any direct financial cost because of this rule, but their behavior will be restricted in that boaters will be required to reduce speeds for a longer distance in the navigation channel of Bradley Creek east of the US 76 Bridge. The reduction in speed has the potential to improve boating traffic safety and reduce the potential for collisions. Given the history of boat incidents in this area, these potential benefits are likely to be realized; however, these benefits could not be quantified.

**Substantial Economic Impact:** There is not expected to be a substantial economic impact to the public.



## APPENDIX 1

### 15A NCAC 10F .0314 NEW HANOVER COUNTY

(a) Regulated Areas. This Rule shall apply to the following waters in New Hanover County:

- (1) the area bounded on the north by the US 74-76 Bridge crossing the Intracoastal Waterway, on the south by a line shore to shore intersecting Intracoastal Waterway marker number 127, on the west by the shore of Wrightsville Sound, and on the east by a line perpendicular to US Highway 74-76 and intersecting marker number 25 in Motts Channel;
- (2) the area of Motts Channel between marker number 25 at the Intracoastal Waterway on the west and marker number 16 at the entrance from Banks Channel on the east;
- (3) ~~the area bounded on the west by the US 76 Bridge crossing Bradley Creek, on the north and south by the banks of Bradley Creek, on the east by a line from a point on the southwest shore at 34.21298 N, 77.83173 W, to a point on the northeast shore at 34.21446 N, 77.83063 W; the waters of the navigation channel in that portion of Bradley Creek in the City of Wilmington between the US 76 Bridge crossing Bradley Creek and Channel Marker 8, near the mouth of Bradley Creek at 34.20858 N, 77.82272 W;~~
- (4) Lee's Cut from its western intersection with the Intracoastal Waterway at 34.21979 N, 77.80965 W, to its eastern intersection with Banks Channel at 34.21906 N, 77.79645 W;
- (5) the unnamed channel lying between the shore west of Bahama Drive in the Town of Wrightsville Beach and an unnamed island located approximately 500 feet northeast of the US 74 bridge over Banks Channel; and
- (6) the waters of the Northeast Cape Fear River between the US Hwy. 117 bridge and the railroad trestle 60 yards east of the Castle Hayne Boating Access Area.

(b) Speed Limit. No person shall operate a vessel at greater than no-wake speed within any of the regulated areas described in Paragraph (a) of this Rule.

(c) Placement of Markers. The Board of Commissioners of New Hanover County shall be the designated agency for placement of the markers implementing this Rule, subject to the approval of the United States Coast Guard and the United States Army Corps of Engineers.

*History Note: Authority G.S. 75A-3; 75A-15;*

*Eff. February 1, 1976;*

*Amended Eff. July 1, 1993; May 1, 1989; June 1, 1987; May 1, 1987;*

*Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. December 6, 2016;*

*Amended Eff. October 1, 2018; April 1, 2017.*

# EXHIBIT Q

August 18, 2022



## **APPLICATION FOR RULEMAKING FROM WILKES COUNTY ON BEHALF OF U.S. ARMY CORPS OF ENGINEERS – W. KERR SCOTT RESERVOIR 15A NCAC 10F .0361**

The Wildlife Resources Commission received a formal application and Resolution from Wilkes County on behalf of the U.S. Army Corps of Engineers, Project Manager at the W. Kerr Scott Reservoir and Dam, for rulemaking on the waters of the W. Kerr Scott Reservoir. USACE requested modification of two no-wake zones on the Reservoir and codification in the N.C. Administrative Code, at Dam Site Access Area and at Smithey's Creek/Fort Hamby Boating Access Areas.

Agency Enforcement completed a boater safety assessment matrix for the Dam Site Access Area and Smithey's Creek/Fort Hamby Boating Access Area coves (attached). Enforcement found numerous hazards to boater and recreationist safety, including fishing docks, boat docks, boat ramps, USACE boathouse within a cove that houses their patrol boat, maintenance boat, WRC Enforcement patrol boat, and USACE staff equipment. Enforcement noted that wakes caused by vessels that travel into these areas cause hazards to boaters and affect their ability to launch and retrieve their vessels. Non-motorized vessels use the coves along the reservoir in several parks on site, and they are endangered by boat wakes within the narrow coves. Enforcement recommends no-wake zones in the entire coves where the Dam Site Boating Access Area and Smithey's Creek/Fort Hamby Boating Access Areas are located.

As part of the agency's ongoing review of Rules for accuracy and clarity, staff also worked with Operations Project Managers at the Reservoir to remove vague language in the Rule that has allowed for regulation of any areas on the lake that are "marked boat launching areas, bridges, docks, piers, marina, boat storage structures and boat service areas." The revised proposed Rule instead describes with coordinates and addresses, all areas on W. Kerr Scott Reservoir that already are legal and enforceable regulated zones under this vague language. Boating Access Areas, marinas, one bridge, parks, and no wake zones surrounding marked swim areas are itemized in the revised Rule. Additionally, five marked swim areas where vessel access is prohibited are identified by name, coordinates, and address. The 50-yard Safety Zone surrounding the W. Kerr Scott Dam and Intake Tower, where entry is denied other than to authorized persons and vessels, is described.

As part of its project management of the facility, USACE is responsible for the purchase, placement, and maintenance of all markers associated with the Rule at no expense to the State or local government. No Fiscal Note is required.

Staff recommends that the Commission approve publishing Notice of Text in the *NC Register* for adoption of amendments to 15A NCAC 10F .0361, with an open comment period of at least 60 days and one public hearing, per the requirements of the Administrative Procedure Act. Upon the close of the open comment period, the WRC will then consider adoption of the amendments to the Rule for W. Kerr Scott Reservoir in Wilkes County.

#### **15A NCAC 10F .0361 WILKES COUNTY**

(a) Regulated Areas. This Rule shall apply to ~~those waters within 50 yards of any marked boat launching area, bridge, dock, pier, marina, boat storage structure, or boat service area located~~ to the following waters on W. Kerr Scott Reservoir in Wilkes ~~County~~. County:

- (1) the waters of Dam Site Park Cove at Dam Site Shelter, 499 Reservoir Road, Wilkesboro, south of a line at the mouth of the cove from a point on the east shore at 36.13090 N, 81.22955 W to a point on the west shore at 36.13040 N, 81.23122;
- (2) the waters of the cove at Skyline Marina, 4008 W. N.C. Hwy 268, Wilkesboro, south of a line at the mouth of the cove from a point on the east shore at 36.12738 N, 81.23530 W to a point on the west shore at 36.12608 N, 81.23847 W;
- (3) the waters of the cove north and west of Berry Mountain Park, 4732 W. N.C. Hwy 268, Wilkesboro, south of a line at the mouth of the cove from a point on the east shore at 36.12558 N, 81.24025 W to a point on the west shore at 36.12545 N, 81.24245 W, surrounding the Berry Mountain swim beach, and to the southwest to the end of the cove;
- (4) within 50 yards of the Boomer Park boat ramp, 400 Boomer Road, Boomer;
- (5) within 50 yards of the Keowee boat ramp, 7659 N.C. Hwy 268, Boomer;
- (6) the waters of the cove where Smithy's Creek boat ramp and Fort Hamby boat ramp are located, northwest of a line at the mouth of the cove from a point on the east shore at 36.12612 N, 81.26129 W to a point on the west shore at 36.12361 N, 81.26404 W;
- (7) the waters within 50 yards north and 50 yards south of the N.C. Hwy 268 Bridge, at 36.09902 N, 81.28070 W;
- (8) the waters within 50 yards surrounding the Boomer Park Beach Swim Area located at 400 Boomer Road, Boomer;
- (9) the waters within 50 yards surrounding the Fort Hamby Swim Area located at 1534 S. Recreation Road, Wilkesboro; and
- (10) the waters of the cove where the Warrior Creek Swim Area is located, southwest of a line at the mouth of the cove from a point on the south shore at 36.10494 N, 81.28304 W to a point on the north shore at 36.10591 N, 81.28412 W.

(b) Swimming Areas. No person operating or responsible for the operation of a vessel shall permit it to enter the waters of the following swim areas:

- (1) the waters of the Fort Hamby Swim Area located at 36.12314 N, 81.26870 W, at 1534 S. Recreation Road, Wilkesboro;

- (2) the waters of Warrior Creek Swim Area located at 36.10367 N, 81.28664 W, at 7659 W. Hwy 268, Boomer;
- (3) the waters of Boomer Park Beach Swim Area located at 36.09271 N, 81.27967 W, 400 Boomer Road, Boomer;
- (4) the waters of the Berry Mountain Park Swim Beach located at 36.12498 N, 81.24010 W, 4732 W. N.C. Hwy 268, Wilkesboro; and
- (5) the waters of the Bandit's Roost Park Swim Area located at 36.12425 N, 81.25172 W, 667 Jess Walsh Road, Wilkesboro.

(c) Safety Zone. With the exception of authorized persons and vessels, no entry shall be allowed in the waters 50 yards downstream from the W. Kerr Scott Dam and Intake Tower.

(d) Speed Limit. No person shall operate a vessel at greater than no wake speed within the regulated areas described in Paragraph (a) of this Rule.

(e) Placement of Markers. The Wilkes County Board of Commissioners and the U.S. Army Corps of Engineers shall be the designated agencies for placement and maintenance of the markers implementing this Rule, subject to the authority of the U.S. Army Corps of Engineers.

~~(b) Speed Limit. No person shall operate a vessel at greater than no wake speed within any of the regulated area described in Paragraph (a) of this Rule.~~

~~(c) Placement of Markers. The Wilkes County Board of Commissioners shall be the designated agency for placement of the markers implementing this Rule.~~

*History Note: Authority G.S. 75A-3; 75A-15;*

*Eff. September 1, 1989;*


*Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. December 6, 2016;*

*Amended Eff. October 1, 2018.*



## NO-WAKE ZONE INVESTIGATION MATRIX

### SECTION 1: APPLICANT REQUEST AND INFORMATION

- Name of organization/entity: Wilkes County Kerr Scott Reservoir
- Primary contact information: \_\_\_\_\_ 
- Location of requested no-wake zone:
  - Body of water and County: W. Kerr Scott Reservoir, Wilkes County
  - Location: Dam Site Cove, Reservoir Rd. and Smithcys Creek Public Ramp, S. Minton Rd, proposed NWZ extensions \_\_\_\_\_
  - Popular name of area, if any: Wilkesboro
  - Width of No-Wake Zone: Narrowest Point: 50 yds/ 50 yds \_\_\_\_\_ Widest Point: 165 yds/ 460 ; \_\_\_\_\_
  - Brief Description of area (example: bridge overpass, obstructed views, Intracoastal Waterway; etc.)

Reservoir is maintained by US Army Corps of Engineers (USACE). W. Kerr Scott Reservoir would purchase and maintain no-wake buoys to extend the no-wake zones. Also, this Rule 15A NCAC 10F .0361 needs update to list by name and location all no-wake zones within 50 yards of boat launching areas, bridge, dock, marina boat storage structure and boat service area on the reservoir.

**\*Attach map of designated no-wake zone\***

**\*Ensure proposed no-wake zone map/and or location is agreed upon by point of contact\***



## NO-WAKE ZONE INVESTIGATION MATRIX

### **Provide detailed reason given from point of contact for the request**

Dave Funderburk, USACE Assistant Operations Project Manager at W. Kerr Scott Dam and Reservoir, requests consideration of extension of no-wake zones located at Dam Site Park and Smithy's Creek Boat Ramp and fishing pier, from currently within 50 yards to include the entire coves at those locations. At Dam Site Park there is an increase in boat traffic and paddle sports launching in the same area. Entering and exiting the lake there are canoe launchings in the Yadkin River. A vendor rents boats for users. There is a courtesy float that adds to danger in the cove. The Reservoir boathouse is in the cove along with patrol boat and work boat and NCWRC patrol boat. Extension of the NWZ would cove the boat house. The small cove where Smithy's Creek Boat Ramp and handicapped fishing pier is located on the east side at South Minton Road also has Fort Hamby campground and boat ramp on the west side of the cove. This entire cove is surrounded by designated recreation areas. Kayaks and paddle sports also launch from both sides of the cove, along with power boats and bank fishing in the area. Staff also requests assistance describing name and location of other areas on the reservoir that are already designated as no-wake zones (Skyline Marina, Berry Mountain, Bandits Roost, Keowee, Hwy 268 bridge, Boomer (two locations) for purposes of itemizing them in the NCAC. Map was provided by USACE Wilmington District. Please advise if there are other areas to be designated.

- Is the proposed no-wake zone located within an area that is regulated by the U.S Army Corps of Engineers or the Division of Coastal Management (CAMA) i.e., Intracoastal Waterway?

YES ☒

NO ☐

**When dealing with the point of contact, please advise that placement of markers in these waters is subject to prior approval of above agency in waters where applicable. NCWRC has no authority to supersede these rules.**



## NO-WAKE ZONE INVESTIGATION MATRIX

### SECTION 2: PUBLIC SAFETY HAZARD

Identify all public safety hazards in this section by checking the block and listing name and/or location

☐ FUELING DOCK OR FACILITY

Name of Facility: \_\_\_\_\_

☐ PUBLIC SWIMMING OR RECREATIONAL AREA

Would the establishment of a roped swimming area or placement of no-wake regulatory buoys be more appropriate?

ROPED SWIM AREA ☐

NO-WAKE BUOYS ☐

☒ PUBLIC BOAT ACCESS

Name of Access Area: Ranger Station Dam Site/ Smitheys Creek

☒ PUBLIC FISHING PIER OR FISHING ACCESS AREA

Name of Pier/Access Area: Smithey's Creek Fishing Pier

☐ RESTAURANT DOCKS

Name of Restaurant: \_\_\_\_\_

Number of Docks: \_\_\_\_\_

☒ OTHER (list and describe)

Kerr Scott Ranger boathouse housing Army Corps staff vessels and Wildlife Enforcement vessels.

### SECTION 3: NAVIGATIONAL HAZARDS

Identify all potential hazards associated with the proposed no-wake zone (check all that apply)

☐ OBSTRUCTIONS (Identify) No obstructions

Can obstructions be removed? ☐ YES ☐ NO

☒ NARROW CHANNEL (give approximate width) 300 feet

☐ SHALLOW WATER (give average depth) No shallow area



## NO-WAKE ZONE INVESTIGATION MATRIX

☐ OBSTRUCTED VISION (for approximately how great a distance) \_\_\_\_\_

STRUCTURES: (Check all applicable)

☐ DAM Name: \_\_\_\_\_

☐ SPILLWAY Location: \_\_\_\_\_

☐ FLOOD CONTROL STRUCTURE Location: \_\_\_\_\_

☐ BRIDGE Roadway: \_\_\_\_\_

Height above water: \_\_\_\_\_

Width between piers: \_\_\_\_\_

☐ TRESTLE Height above water: \_\_\_\_\_

Width between piers: \_\_\_\_\_

☐ POWER LINE \_\_\_\_\_

☐ LOCK Lock Number: \_\_\_\_\_

☐ JETTY \_\_\_\_\_

☐ SUBMERGED STRUCTURE Identify Structure: \_\_\_\_\_

- Would placement of "Danger" buoys or other informational markers mitigate the hazards in lieu of a no-wake zone? ☐ YES ☐ NO

☐ SANDBAR \_\_\_\_\_

☐ SHOAL \_\_\_\_\_

☐ OTHER (list and describe)





## NO-WAKE ZONE INVESTIGATION MATRIX

### SECTION 4: SUMMARY OF BOATING SAFETY STATISTICS

Identify known data reflecting safety concerns:

☐ BOAT INCIDENTS      Date(s): \_\_\_\_\_

☒ CITATIONS ISSUED      Violations: Wake Zone Violation

☒ VERIFIED COMPLAINTS      List: Motorboaters and Kayakers

- =====
- Rate traffic density in this area    SELECT ONE
  - Is traffic density specific to weekend/and or holidays?    YES ☒      NO ☐
  - Does traffic density or ability to maneuver a vessel due to traffic cause safety issues?  
YES ☒      NO ☐

### SECTION 5: CURRENT REGULATIONS

- List existing local laws currently in place restricting vessel speed in the requested area:  
15A NCAC 10F.0361 Wilkes County
- Would enforcement of existing boating laws mitigate the issues and concerns addressed in the proposed area?

☒ YES      Identify Violations: Wake Zone Violaions  
☐ NO



## NO-WAKE ZONE INVESTIGATION MATRIX

### SECTION 6: NO-WAKE ZONE DIMENSIONS AND SCOPE

Evaluate the applicant's proposed no-wake request based on criteria and complete Section 6. If investigated area does not meet criteria for a no-wake zone, move to section 7. If the area meets no-wake zone criteria but the proposed area exceeds the need to address the issues, recommend appropriately sized area and attach map with changes.

#### A. PROPOSED

- If approved, does no-wake zone extend into a designated channel?  
☐ YES      Distance extended into channel: \_\_\_\_\_  
☒ NO
- Total distance travelled at no-wake speed (in feet): 2130 feet/ 1650 feet @ furthest point
- Estimated travel time through propose area at no-wake speed: 2 min/ 1.5 min
- Width of proposed no-wake zone (in feet): Narrowest: 150 feet/ 150 feet Widest: 495 feet/ 1380 feet
- Does proposed no-wake zone meet criteria for consideration?  
☒ YES: Appropriately sized  
☐ YES: Adjusted size recommended  
☐ NO
- Description/Explanation of adjusted size  
N/A
- ☐ Adjusted map attached



## NO-WAKE ZONE INVESTIGATION MATRIX

### SECTION 7: OFFICER ASSESSMENT OF WATER SAFETY HAZARDS

- Does the proposed area meet the criteria to be recommended as a no-wake zone?

YES: ☒

NO: ☐

- Justification:

Dave Funderburk, Assistant Operations Project Manager at Kerr Scott Reservoir in Wilkes County requested modification of the existing wakes zones at Smithey's Creek and Dam Site Access Areas. Inside the current wake zone areas are fishing docks, boat docks, the boat ramps themselves, and the Army Corps boathouse which houses their patrol boat, a maintenance boat, a Wildlife Enforcement patrol boat, as well as other Army Corps staff equipment.

The layout of the existing wake zones allows a boat to legally create a wake that travels well into these areas, not offering any protection for boaters inside that area. The current area you could travel at greater than no wake speed skirts around the outside of the existing wake zone and further into the back of the coves. Operating a boat in that manner in a narrow cove creates a wake that casts outward and affects the boaters attempting to launch or retrieve their vessels. While patrolling I have observed vessels operating outside of the established wake zone legally whose wake traveled into the wake zone and violently rocked the boat dock potentially causing someone to be injured while walking or standing on the dock. The boat dock is very small in comparison to most docks. Due to the size of the boat dock, it allows one boat per side to enter or exit at a time.

The proposed areas are frequently used by kayakers and paddleboarders during both day and nighttime hours. I have received complaints from motorboaters and kayakers themselves of near collision instances from motorboats running on plane all the way to the back of the cove. Kayakers, canoers, and paddleboarders launch their vessels along the grassy and rocky areas of the mentioned location due to the size of the boat docks. It is an area where these boaters avoid the main channel due to safety issues arising from boat traffic and wake. The fishing dock is used by many fishermen. By creating a no-wake area, this would eliminate the danger issues that the wake causes.

In the past six years that I have been enforcing the boating laws on Kerr Scott Lake, I have noticed boat traffic continually grow each year.

Officer: E.D.Crouse

Date: 05/04/2022

Sergeant: JW Ennis

Date: 5/10/2022

**RESOLUTION REQUESTING RULEMAKING FOR THE EXTENSION  
OF A NO WAKE ZONE LOCATED ON W. KERR SCOTT DAM & RESERVOIR  
AT DAM SITE COVE, RESERVOIR ROAD AND  
SMITHEY'S CREEK PUBLIC RAMP, S. MINTON ROAD, WILKESBORO, NC.**

**WHEREAS**, the North Carolina Wildlife Resources Commission completed an assessment of the area and made a recommendation to expand the current No Wake Zone; and

**WHEREAS**, the North Carolina Wildlife Resources Commission found the proposed No Wake Zone is needed to ensure the safety of the recreating public in this area; and

**WHEREAS**, the North Carolina Wildlife Resources Commission will enforce the No Wake Zone once buoys are installed; and

**WHEREAS**, the W. Kerr Scott Reservoir unanimously recommended the Board of Commissioners of Wilkes County submit an Application for Water Safety Rulemaking to expand the No Wake Zone in accordance with the attached map; and

**WHEREAS**, Wilkes County has given public notice of the intention to apply for rulemaking on waters within the County's territorial jurisdiction.

**NOW, THEREFORE, BE IT RESOLVED**, the Board of Commissioners of Wilkes County, North Carolina hereby adopts the following resolution for the state to consider expanding the No Wake Zone area in accordance with the attached map.

Approved by the Wilkes County Board of Commissioners of the County of Wilkes, this the 2<sup>nd</sup> day of August, 2022.

[REDACTED]  
Gideon Keith Elmore,  
Chairman of the Wilkes County Board of Commissioners

ATTEST:

[REDACTED]  
Sarah D. Call, Clerk





DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS

W. KERR SCOTT DAM & RESERVOIR




*14 July 2022*

To Whom It May Concern:

Subject: U.S. Aids to Navigation Realignment affirmation

Memo For Record:

U.S Army Corps of Engineers, Wilmington District, W. Kerr Scott Reservoir is the designee in charge of purchase, maintenance and management of the U.S. Aids to Navigation on W. Kerr Scott Reservoir. All monetary costs associated with the adjustment request for the subject No Wake Zones will be the responsibility of the Project.

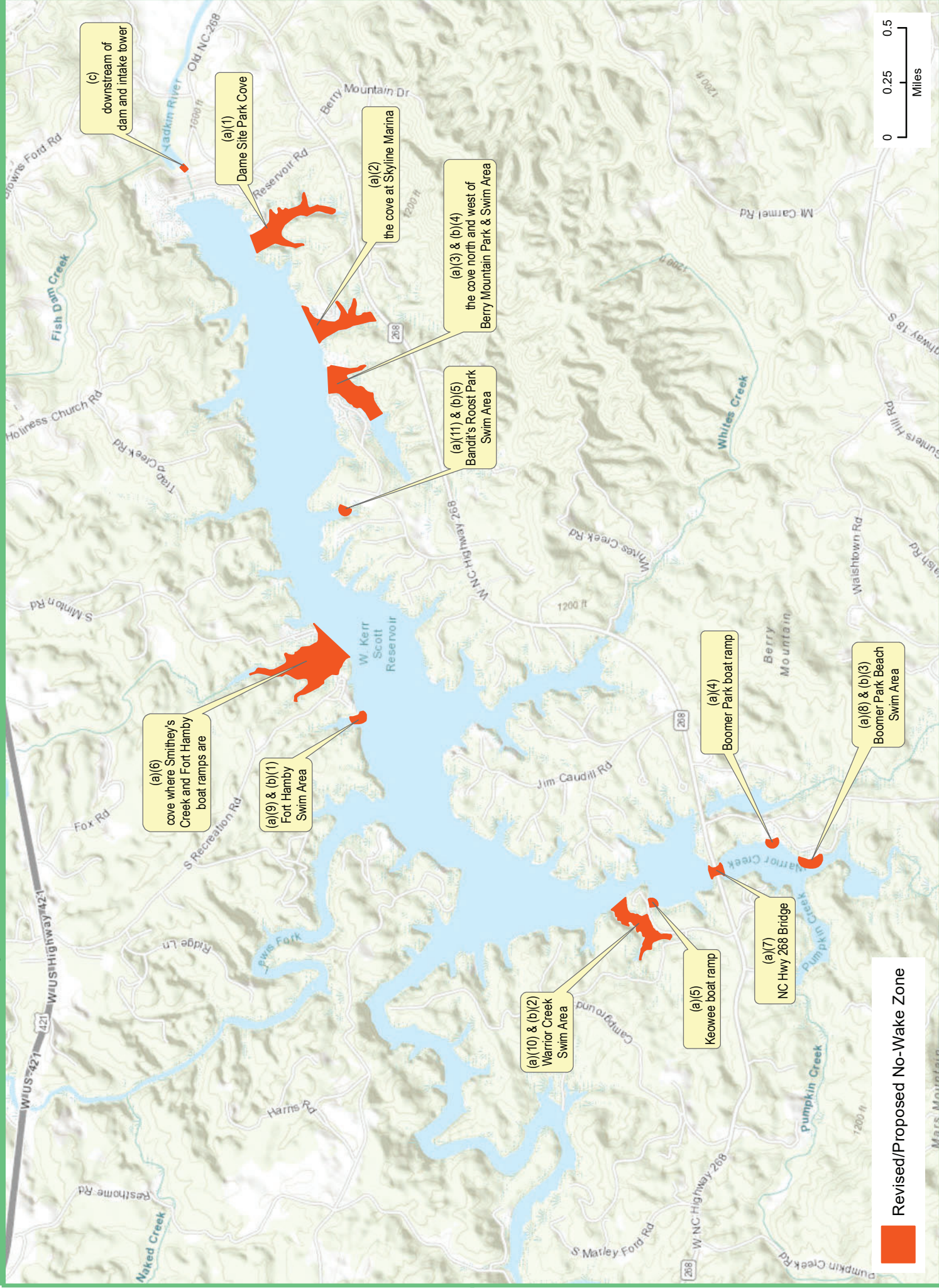
Thomas Nicholson  
Operations Project Manager  
W. Kerr Scott Reservoir  
Wilmington District, USACE  


NICHOLSON.THOMAS  
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15A NCAC 10F .0361 - Revised and Proposed No-Wake Zones  
W. Kerr Scott Reservoir, Wilkes County



Revised/Proposed No-Wake Zone

# EXHIBIT R

August 18, 2022



## REQUEST TO PUBLISH NOTICE OF TEXT FOR TECHNICAL CORRECTIONS TO 15A NCAC 10F .0336 NORTHAMPTON AND WARREN COUNTIES

Staff requests that the Commission approve publishing Notice of Text in the *NC Register*, with an open comment period and one public hearing, to make technical corrections to 15A NCAC 10F .0336 Northampton and Warren Counties. We want to codify in the North Carolina Administrative Code an existing no-wake zone on Lake Gaston at the Stonehouse Timber Lodge Marina in Warren County. Enforcement notified staff that this marina has long been a marked and enforceable no-wake zone under the previous vague text, since removed from this Rule, that provided for no-wake zones around marked piers, docks, marinas, boat service businesses, and bridges. Staff also wishes to add in the NC Administrative Code the newly constructed Odom Boating Access Area, located at 1017 Striper Lane on the Roanoke River in Jackson.

Staff recommends that the Commission approval to begin the rulemaking process for these technical corrections. Upon the close of the open comment period, the WRC will then consider adoption of the amendments to the Northampton and Warren counties Rule.

### 15A NCAC 10F .0336 NORTHAMPTON AND WARREN COUNTIES

(a) No person shall operate a vessel at greater than no-wake speed in the following waters of Lake Gaston and the Roanoke River in Northampton and Warren counties.

(1) Lake Gaston:

- (A) the cove on the north shore of Lake Gaston in Northampton County east of SR 1252 otherwise known as Vincent Lane, shore to shore from a point on the north shore at 36.51660 N, 77.82226 W to a point on the south shore at 36.51578 N, 77.82269 W;
- (B) Jimmies Creek in Northampton County shore to shore, north of a line from a point on the east shore at 36.52450 N, 77.82600 W to a point on the west shore at 36.52445 N, 77.82810 W;
- (C) within 50 yards of the Henrico Boating Access Area in Northampton County, 142 Wildlife Landing Road, Henrico, N.C.;
- (D) within 50 yards of the Vulture Boating Access Area in Northampton County, 773 Old Gaston Road, Gaston, N.C.;

- (E) within 50 yards east and west of the N.C. Highway 903 Eaton Ferry Road Bridge in Warren County;
  - (F) within 50 yards of the Hawtree Creek Boating Access Area in Warren County, 1200 Peete Farm Road, Warrenton, N.C.;
  - (G) within 50 yards of the Salmons Landing Boating Access area in Warren County, 129 Salmon Landing Road, Littleton, N.C.;
  - (H) within 50 yards of the Wildwood Point boat ramp in Warren County, 184 N. Oak Drive, Littleton, N.C.;
  - (I) within 50 yards of the Lizard Creek boat ramp in Warren County, 417 Lizard Creek Road, Littleton, N.C.;
  - (J) Songbird Creek in Warren County within 50 yards of the culvert under N.C. Highway 903 at 36.53260 N, 77.97330 W; and
  - (K) Sixpound Creek in Warren County within 50 yards of the culvert under SR 1704 otherwise known as Nocarva Road at 36.52950 N, 78.07283 W;
  - (L) Lizard Creek in Warren County within 50 yards of the culvert under SR 1362 otherwise known as Lizard Creek Road at 36.52501 N, 77.91187 W;
  - (M) within 50 yards of the Waters View Restaurant adjacent to the northwest end of the N.C. Highway 903 bridge in Warren County;
  - (N) the cove west of the Pointe at Lake Gaston at the southwest end of the N.C. Highway 903 bridge in Warren County, south of a point at 36.50937 N, 77.96644 W;
  - (O) Camp Willow Run Canoe and Sail Cove in Warren County, beginning at a line shore to shore from a point on the southwest shore at 36.49355 N, 77.91795 W, to a point on the north shore at 36.49534 N, 77.91508 W; ~~and~~
  - (P) the cove on Hubquarter Creek in Warren County, shore to shore beginning at a line from a point on the northeast shore at 36.50030 N, 78.00474 W to a point on the southwest shore at 36.49947 N, ~~78.00553 W.~~ 78.00553 W; and
  - (Q) the waters of the cove east of the Stonehouse Timber Lodge Marina, 154 Stonehouse Lodge Drive, Littleton, N.C., shore to shore south of a point at 36.49206 N, 77.94085 W.
- (2) ~~Roanoke River. No person shall operate a vessel at greater than no wake speed in Roanoke River in Northampton County within 50 yards of the Gaston Boating Access Area, 601 Roanoke Rapids Road, Gaston, N.C.~~ Roanoke River:
- (A) within 50 yards of the Gaston Boating Access Area, 601 Roanoke Rapids Road, Gaston, N.C.
  - (B) within 50 yards of the Odom Boating Access Area, 1017 Striper Lane, Jackson, N.C.

(b) Speed Limit in Mooring Areas. No person shall operate a vessel at greater than no-wake speed while within a marked mooring area on the waters of Lake Gaston within Northampton and Warren counties.



(c) Placement of Markers. The Boards of Commissioners of Northampton County and Warren County shall be the designated agencies for placement of the markers implementing this Rule, subject to the approval of the United States Coast Guard and United States Army Corps of Engineers.

*History Note: Authority G.S. 75A-3; 75A-15;*

*Eff. March 29, 1981;*

*Amended Eff. June 1, 1994; March 1, 1993; September 1, 1989;*

*Temporary Amendment Eff. March 15, 2003;*

*Temporary Amendment Expired October 12, 2003;*

*Amended Eff. May 1, 2014; May 1, 2004;*

*Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. December 6, 2016;*

*Amended Eff. June 1, 2022; February 1, 2020; October 1, 2018.*

15A NCAC 10F .0336 (a) (1) (Q) - Proposed No-Wake Zone  
Lake Gaston, Littleton, Warren County





# EXHIBIT S

August 18, 2022

## TECHNICAL CORRECTION REQUEST 15A NCAC 10F .0326 PAMLICO COUNTY

Staff requests approval to publish Notice of Text in the *NC Register* with an open comment period and one public hearing, for technical corrections to 15A NCAC 10F .0326 Pamlico County. Correct names and addresses of two no-wake zones in Pamlico County are added. Also added are the names and addresses of the four boating access areas in Pamlico County that are owned or operated by the WRC.

### 15A NCAC 10F .0326 PAMLICO COUNTY

(a) Regulated Areas. This Rule shall apply to the following waters or portions of waters in Pamlico County:

- (1) Silverthorn Bay off of Burton Creek: the waters of Burton Creek known as Silverthorn Bay, Burton Creek in Merritt, north of a line at a point on the east shore at 35.09531 N, 76.60791 W to a point on the west shore at 35.09572 N, 76.60883 W.
- (2) Minnesott Beach: the Minnesott Beach Yacht Basin Alligator Gut Basin and its access channel extending 30 yards beyond the outermost rock jetties in Neuse River, east of Neuse River Drive, Minnesott Beach.
- (3) within 50 yards of Lee's Landing Boating Access Area on Upper Broad Creek, at 3337 Lee Landing Road, Reelsboro.
- (4) within 50 yards of the Vandemere Waterfront Park and Boat Ramp's eastern end at the concrete walkway, at 86 Griffin Road in Vandemere.
- (5) within 50 yards of the Dawson Creek Boating Access Area on Dawson Creek, at 303 Creek Place Road, Oriental.
- (6) within 50 yards of the Oriental Boating Access Area on Smith Creek, at 100 Midyette Street, Oriental.

(b) Speed Limit. No person shall operate a vessel at greater than no-wake speed in the regulated areas described in Paragraph (a) of this Rule.

(c) Placement of Markers. The Board of Commissioners of Pamlico County shall be the designated agency for placement of the markers implementing this Rule, subject to the approval of the United States Coast Guard and the United States Army Corps of Engineers.

*History Note: Authority G.S. 75A-3; 75A-15;*  
*Eff. May 1, 1977;*  
*Amended Eff. December 1, 1985; November 1, 1977;*  
*Temporary Amendment Eff. March 15, 2003;*  
*Temporary Amendment Expired October 12, 2003;*  
*Amended Eff. May 1, 2014; May 1, 2004;*  
*Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. December*  
*6, 2016;*  
*Amended Eff. October 1, 2018.*





# EXHIBIT T

August 18, 2022

## TECHNICAL CORRECTION REQUEST 15A NCAC 10F .0327 MONTGOMERY COUNTY

Staff requests approval to publish Notice of Text in the *NC Register* with an open comment period and one public hearing, for a technical correction to 15A NCAC 10F .0327 Montgomery County. The address of the Old North State Marina will be added to the Rule to be consistent with descriptions at other locations in the Rule.

### 15A NCAC 10F .0327 MONTGOMERY COUNTY

(a) Regulated Areas. This Rule shall apply to the waters and portions of waters described as follows:

(1) Badin Lake.

- (A) Lake Forest Drive Cove shore to shore, west of a point 50 yards east of the fueling site at the marina at 35.48739 N, 80.10918 W;
- (B) Garr Creek shore to shore, north of a line beginning at a point on the east shore at 35.47952 N, 80.13633 W to a point on the west shore at 35.47946 N, 80.13932 W;
- (C) the channel between Beyer's Island and the mainland, shore to shore beginning at a line from a point on Beyer's Island at 35.49102 N, 80.10221 W to a point on the mainland at 35.49230 N, 80.10241 W, ending at a line westward, from a point on Beyer's Island at 35.48988 N, 80.10573 W to a point on the mainland at 35.49077 N, 80.10702 W;
- (D) within 50 yards of the fueling station at the Old North State Marina at the entrance to a cove within the ~~Uwharrie Point community~~; Uwharrie Point community at 139 Marina Lane in New London;
- (E) within 50 yards of the Circle Drive Boating Access Area, at 724 Shoreline Drive in New London;
- (F) within 50 yards of Lakemont Boating Access Area, at 241 Lakemont Road in New London; and
- (G) within 50 yards of the Cove Boat Ramp at 400 Cove Road in New London.

- (2) Lake Tillery.
- (A) the waters within 50 yards of the boat ramp in the south end of Woodrun Cove at 35.33113 N, 80.06277 W;
  - (B) Carolina Forest Cove shore to shore and the waters within 50 yards of the boat ramps and boat slips at the end of Arroyo Drive in Carolina Forest Community, from a point on the south shore at 35.36276 N, 80.05386 W, northeast to a point on the north shore at 35.36405 N, 80.05304 W;
  - (C) Lilly's Bridge Boating Access Area shore to shore, from line 25 feet north of the SR 1110 bridge otherwise known as Lillys Bridge Road at a point on the east shore at 35.23223 N, 80.06166 W, to a point on the west shore at 35.23289 N, 80.06318 W, to a line 200 feet southwest of the Lilly's Bridge Boating Access Area, from a point on the east shore at 35.23067 N; 80.06262 W, to a point on the west shore at 35.23156 N; 80.06437 W; and
  - (D) within 50 yards of Swift Island Boating Access Area at 4917 NC Highway 24/27 in Mount Gilead.
- (3) Tuckertown Reservoir. Pee Dee River, within 50 yards of the Clarks Creek Boating Access Area at 177 Tillery Dam Road in Mount Gilead.

(b) Speed Limit. No person shall operate a vessel at greater than no-wake speed within any regulated area described in Paragraph (a) of this Rule.

(c) Swimming Area. No person operating or responsible for the operation of a vessel shall permit it to enter the marked swimming area on Badin Lake at the Pinehaven Village beach area at 370 Pinehaven Drive in New London, within 50 feet of the shoreline between points at 35.49927 N, 80.11428 W; and 35.49934 N, 80.11437 W.

~~(e)~~(d) Placement of Markers. The following agencies shall be responsible for placement or placement and maintenance of the markers implementing this Rule, subject to the approval of the United States Coast Guard and United States Army Corps of Engineers:

- (1) The Board of Commissioners of Montgomery County for placement of the markers implementing Parts (a)(1)(A), (B), (C), (D), and (a)(2)(A), and (B) of this Rule;
- (2) The North Carolina Wildlife Resources Commission for placement and maintenance of the markers implementing Parts (a)(1)(E), (F), (a)(2)(C), (D), and Subparagraph (a)(4) of this Rule;
- (3) The Board of Commissioners of Montgomery County shall be the designated agency for placement and maintenance of the ropes and markers implementing Paragraph (c) of this Rule; and
- (4) The U.S. Forest Service for placement and maintenance of the markers implementing Part (a)(1)(G) of this Rule.

*History Note: Authority G.S. 75A-3; 75A-15;*  
*Eff. November 1, 1977;*  
*Amended Eff. December 1, 1990; May 1, 1989; March 25, 1978;*  
*Temporary Amendment Eff. June 1, 1998;*  
*Amended Eff. April 1, 1999; July 1, 1998;*  
*Temporary Amendment Eff. July 1, 2002;*  
*Amended Eff. August 1, 2006; June 1, 2005; April 1, 2003;*

*Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. December 6, 2016;*

*Amended Eff. October 1, 2018; April 1, 2017;*

*Emergency Amendment Eff. July 30, 2019;*

*Temporary Amendment Eff. October 1, 2019;*

*Amended Eff. May 1, 2020;*

*Temporary Amendment Eff. June 1, 2020;*

*Temporary Amendment Expired March 12, 2021;*

*Amended Eff. June 1, 2022; October 1, 2021.*

# EXHIBIT U

August 18, 2022

## TECHNICAL CORRECTION REQUEST 15A NCAC 10F .0301 GENERAL PROVISIONS

Staff requests approval to publish Notice of Text in the *NC Register* with an open comment period and one public hearing, for a technical correction to 15A NCAC 10F .0301(g) Safety Zones. That section sets a size limit upon Safety Zones, which is not accurate. There is no required size limit on Safety Zones.

15A NCAC 10F .0301 is proposed for amendment as follows:

### 15A NCAC 10F .0301 GENERAL PROVISIONS

(a) Definitions. The definitions used in G.S. 75A shall apply in this Subchapter. In addition, the following definitions shall apply:

- (1) "Commission" means the North Carolina Wildlife Resources Commission;
- (2) "Executive Director" means the Executive Director of the Commission;
- (3) "No wake speed" means idle speed or slow speed creating no appreciable wake;
- (4) "USATONS" means the U. S. Aids to Navigation System, which prescribes regulatory markers and aids to navigation that mark navigable waters of the United States, and is hereby incorporated by reference including all subsequent amendments and editions and can be found free of charge online at [www.ecfr.gov](http://www.ecfr.gov);
- (5) "Designated agency" means a subdivision of the State that the Commission designates for placement of markers that conform to USATONS standards;
- (6) "Regulatory Marker" and "Information Marker" means markers with an orange geometric shape against a white background, used to alert a mariner to warnings or regulatory matters, as defined in 33 CFR 62.33;
- (7) "Swimming area" means an enclosed area on the water for swimming that is marked against entry by vessels;
- (8) "Mooring area" means an area on the water delineated by speed zone markers where vessels may be tied to objects anchored on the seabed;
- (9) "Restricted area" means an area on the water that is marked to limit recreational activity and vessel speed; and
- (10) "Safety Zone" means a water area or shore area where, for safety or environmental purposes, access is limited to authorized persons and vessels, as defined in 33 CFR 165.20.



(b) Formal application for water safety rulemaking. Any subdivision of the State may, after public notice, apply to the Commission for rules on waters within the subdivision's territorial limits on an application provided by the Commission at [www.ncwildlife.org](http://www.ncwildlife.org). The completed application and supporting documents shall be mailed to the No Wake Zone Coordinator at North Carolina Wildlife Resources Commission, 1701 Mail Service Center, Raleigh, North Carolina 27699-1701 or submitted via email to [nowakezonecoordinator@ncwildlife.org](mailto:nowakezonecoordinator@ncwildlife.org). The application shall contain the following information:

- (1) the name of the subdivision of the State applying for water safety rulemaking;
- (2) the date of the application;
- (3) the contact person's name, telephone number, and mailing address;
- (4) descriptive information for the body of water;
- (5) location of the proposed no wake zone, marked swimming area, or other regulated area;
- (6) a statement that the subdivision of the State has given public notice of its intention to apply for rulemaking on waters within its territorial limits;
- (7) a resolution from the subdivision of the State requesting water safety rulemaking; and
- (8) an affirmation that the subdivision of the State or its designee will bear the cost for purchase and placement of markers that conform to USATONS standards.

(c) Marking Regulated Areas. The Commission may designate agencies for the placement of markers in areas established by rules in this Section. The designated agency or its designee shall be responsible for the purchase and placement of markers conforming to USATONS required to implement a water safety rule.

(d) Placement of Markers. Except where done by supervening federal authority, it shall be unlawful for anyone to place or maintain regulatory markers or navigational aids without authorization from the Commission; or to place information markers without permission from the Executive Director or his or her designee.

(e) Mooring Areas. The boundaries of mooring areas shall be defined by the placement of speed zone markers.

(f) Swimming Areas. No vessel entry shall be permitted in the waters of marked swimming areas. Marked swimming areas shall meet the following requirements:

- (1) the enclosed swimming area in the water shall not exceed 5,000 square feet;
- (2) the enclosed area shall be marked with float lines that, in conjunction with the shoreline, form an enclosed area;
- (3) the swimming area shall not extend into a navigational channel or interfere with navigation of vessels;
- (2) float lines shall have white, international orange, or alternating white and international orange floats along their length at intervals of not less than one every 10 feet;
- (3) floats shall be buoyant enough to float at the surface of the water while attached to the float line, and no float shall exceed a size of 18 inches in length or diameter;
- (4) buoys or floating signs bearing the USATONS "boat exclusion area" symbol shall be attached to float lines to give warning to vessels approaching the swimming area from all directions; and
- (5) float lines and warning markers shall be anchored.

(g) Safety Zones. Markers prohibiting entry or use by vessels and swimmers in waters surrounding impoundment structures and powerhouses associated with hydroelectric generating facilities shall be buoys or floating signs placed in the water. ~~water no greater than 50 yards from the protected facility~~. Markers shall be sufficient in number and size to give warning of the restriction to vessels approaching from all directions.

(h) Enforcement. If an agent of the Commission discovers markers and navigational aids that do not conform to USATONS standards, that are placed without lawful authority or permission, or that fail to mark the defined regulated area, written notice shall be served upon the individuals responsible for the improper placement of the markers or navigational aids. Failure to take action to correct the deficiency within 10 days, in accordance with the written notice, shall be a violation of this Rule.

(i) Miscellaneous Restrictions. Except for mooring buoys or markers that are specifically permitted by State or federal law, it shall be unlawful to tie a vessel to any waterway marker, as specified in 33 CFR 70.05. It shall be unlawful for any unauthorized person to move, remove, damage, block, paint over, or tamper with any marker lawfully placed in the waters of North Carolina in conformity with these rules or USATONS standards.

*History Note:* Authority G.S. 75A-15;  
Eff. February 1, 1976;  
Amended Eff. November 1, 1993; March 25, 1978;  
Temporary Amendment Eff. July 1, 1998;  
Amended Eff. April 1, 1999;  
Readopted Eff. November 1, 2018.

# EXHIBIT V-1

August 18, 2022



## Henslow's Sparrow Conservation Plan for North Carolina

# HENSLOW'S SPARROW CONSERVATION PLAN for NORTH CAROLINA

AUGUST 18, 2022



NORTH CAROLINA WILDLIFE RESOURCES COMMISSION





*Color-banded male Henslow's Sparrow captured at the Voice of America Game Land*



**North Carolina Wildlife Resources Commission**  
**1701 Mail Service Center**  
**Raleigh, N.C. 27599-1700**  
**[ncwildlife.org](http://ncwildlife.org)**

Table of Contents

EXECUTIVE SUMMARY ..... 4

BIOLOGICAL INFORMATION ..... 5

    Description and Taxonomic Classification ..... 5

    Life History and Habitat..... 6

    Distribution and Population Status..... 8

THREAT ASSESSMENT ..... 10

    Reason for Listing..... 10

    Present and Anticipated Threats ..... 10

    Historic and Ongoing Conservation Efforts ..... 11

CONSERVATION GOAL, OBJECTIVES, and ACTIONS..... 12

    Conservation Goal ..... 12

    Conservation Objectives ..... 12

CONSERVATION ACTIONS ..... 12

    1. Habitat Protection and Management..... 12

    2. Population Management ..... 13

    3. Voice of America Site B ..... 13

    4. Conduct Research ..... 13

    Incentives (Tax break, Cost-sharing) ..... 14

    Education and Outreach ..... 15

    Regulations..... 15

GLOSSARY ..... 16

## EXECUTIVE SUMMARY

The Henslow's Sparrow (*Centronyx henslowii*) is considered one of the most vulnerable nongame avian species in eastern North America. A state-listed endangered species during the breeding season, they are limited by a lack of suitable habitat at both landscape and local scales. They currently breed at only two locations in North Carolina — Voice of America (VOA) Game Land (formerly Site A) and VOA Site B — each a contiguous >1200-ha grassland habitat historically maintained with annual mowing. The N.C. Wildlife Resources Commission (NCWRC) acquired VOA Game Land in 2016 and has begun managing its habitat with prescribed fire; this population has been steadily increasing since consistent monitoring began in 2011. Site B remains a federally owned facility managed with mowing, and evidence suggests that this population is experiencing a severe population decline, although dedicated monitoring is urgently needed. The success of the species' conservation will depend heavily on the use of recurring disturbance, preferably prescribed fire, to control woody stem encroachment, as well as acquisition or long-term protection of additional sites to buffer the isolated populations from catastrophic events. Consistent population monitoring and research investigating the effects of fire on behavior and nesting phenology are necessary to help determine appropriate timing and intensity of management actions.

The objective of this plan — to protect and increase abundance and distribution of breeding Henslow's Sparrow populations and grassland habitats in North Carolina — will be achieved using a combination of consistent habitat management, population monitoring, research, and land protection and management using several approaches (e.g., acquisition, conservation easements, tax reduction incentives, and partnerships).





## BIOLOGICAL INFORMATION

The Henslow's Sparrow (HESP) currently breeds across the Great Lakes region of the eastern United States and southern Ontario (Canada), to New York, south to Maryland, across northern Virginia, West Virginia, and Kentucky, and west to eastern portions of Oklahoma and Kansas. The HESP is found in North Carolina year-round. Currently, only two breeding populations are known to exist, one each in Beaufort and Pitt counties, east of Greenville, North Carolina. During winter, HESP are distributed across a greater number of sites, occupying a gradient of habitats structurally similar to where they breed, including longleaf pine forests. The focus of this conservation plan is solely on the state-listed breeding population of HESP; however, we expect that conservation efforts will benefit many other plants and animals that also depend on similar habitats. Our objectives will be achieved using a combination of consistent habitat management, population monitoring, novel research, and land acquisition.

### Listing Status

#### State

- Endangered<sup>1</sup>
- Species of Greatest Conservation Need<sup>2</sup>
- S1B, Critically Imperiled<sup>3</sup>

#### Federal/Global

- Bird of Management Concern<sup>4</sup>
- Species of Continental Concern, Yellow Rank (not declining but vulnerable)<sup>5</sup>
- Least Concern<sup>6</sup>

### Description and Taxonomic Classification

The HESP is small (10-13 cm, 11-15 g), short-tailed with a large head, thick bill, thin but dark stripes on the breast, an olive-green cast to the supercilium and nape, and rufous-red edges to wing coverts; a dark spot is visible on the posterior margin of the ear coverts (Rising 1996). They are sexually monomorphic with males measuring slightly larger than females.

The Henslow's Sparrow belongs to the order Passeriformes, family Passerellidae, and genus *Centronyx* (Chesser et al. 2021). Currently, two weakly differentiated subspecies that intergrade broadly are recognized — *C. h. henslowii* [western form] and *C. h. susurrans* [eastern form] — distinguished most notably by bill size and plumage color (Browning 1990, Pyle 1997). Extirpated populations from Texas, *C. h. houstonensis*, and South Dakota, *C. h. occidentalis*, were overall darker and paler in appearance, respectively; however, lack of morphological differences and a high degree of individual variation in plumage characteristics precluded classification of additional subspecies (Arnold 1983, Browning 1990).

<sup>1</sup>NC Wildlife Resources Commission, Protected Wildlife Species of North Carolina, 2017

<sup>2</sup>NC Wildlife Resources Commission, NC Wildlife Action Plan, 2015

<sup>3</sup>NC Natural Heritage Program, List of Rare Animal Species of North Carolina, 2018

<sup>4</sup>US Fish & Wildlife Service, Status Assessment and Conservation Plan for the Henslow's Sparrow, 2012

<sup>5</sup>Partners in Flight, Landbird Conservation Plan, 2016

<sup>6</sup>BirdLife International, The International Union of Conservation Red List, 2019



### Life History and Habitat

The life history and habitat needs of this species in North Carolina have received little attention. As a result, related information from other parts of the breeding range is referenced to help understand and anticipate its needs in North Carolina. The HESP is often described as secretive and inconspicuous with an unobtrusive song (Burhans 2002). Both sexes spend significant time on the ground, but males sing prominently from exposed perches while defending a territory. Nocturnal singing occurs in some populations; for instance, males from Jasper County, Illinois sang more often at night than sunrise (Walk et al. 2000). Their song is described as “tse-zlik” and under ideal conditions may be heard at a distance up to nearly 200 m (JPC, pers. obs., Bajema et al. 2001).



*Voice of America Game Land, May 2018. This unit last burned August 2016.*

Birds arrive on their breeding grounds from late March to April (Herkert 2002). Depending on latitude, nesting begins late April with early clutches completed in 15 to 20 days, and nesting activities continue into August (Hyde 1939, Burhans 2002). Nests are built in 4-6 days (Hyde 1939) with early egg laying dates ranging from 30 April (Indiana) to 2 June (Ontario) and late egg laying from 18 July (Iowa) to 24 August (Ontario) (Peck and James 1987, Melde and Koford 1996, Herkert et al. 2002); we expect that HESP in North Carolina begin nesting much earlier. Females attempt two broods with clutch size ranging from 2-5 eggs and incubation lasting 11-12 days (Hyde 1939, Burhans 2002, Herkert et al. 2002). Females alone incubate and brood, but both sexes feed young and dispose of fecal sacs (Robins 1971, Herkert et al. 2002). Weighted average (by sample size) of published apparent and Mayfield nest success was 51% and 29%, respectively (Giocomo et al. 2008).

Henslow's Sparrows select grasslands with a well-developed litter layer, relatively high cover of standing dead residual vegetation, tall, dense vegetation, generally low woody stem densities, and a high percentage of grass cover and scattered forbs for song perches (Herkert 2002, Herkert et al. 2002). They have no apparent preference for native, warm-season or exotic, cool-season grasses in Illinois or Missouri (Herkert 1994b, Jaster et al. 2013). In North Carolina, habitat use is related to abundance of *Carex stricta* (straight sedge) and *Sorghum halepense* (Johnsongrass); areas dominated by *Arundinaria gigantea* (giant cane) were avoided (Mangun and Kolb 2000). At Voice of America Game Land (VOAGL), males used habitat with greater cover of graminoids and standing dead vegetation but fewer woody stems compared to unused areas (NCWRC, unpub. data). Structural characteristics of microhabitat, field size (>30 ha, Range = 10-1084 ha), and patch isolation are the most important components of use. In regions with many large and contiguous patches of habitat, HESP can occupy smaller sites because their life requisites are met by this optimal habitat (Burhans 2002). However, HESP avoid nesting in habitat adjacent to tree lines (O'Leary and Nyberg 2000, Ellison et al. 2013).

The dynamic nature of this habitat type necessitates frequent disturbance to prevent succession of woody vegetation (Reinking 2002). Breeding populations elsewhere are found on pastures and hayed prairies managed without fire (Swengel 1996, Burhans 2002). In the mid-west, HESP are generally absent in the first growing season following a fire, reaching their highest densities 2-3 years after the last burn (Herkert 2002). Recent evidence from North Carolina suggests that habitat burned in the spring will not be used for breeding the summer immediately following the burn (Mangun and Kolb 2000), but habitat can be used for breeding following a late summer burn conducted the preceding year (NCWRC, unpub. data.). Occupancy at VOAGL may also be tied to soil type and topography, i.e., lower, wetter sites are preferred.

Henslow's Sparrows now occupy an extremely restricted breeding range in North Carolina with only two known breeding populations: VOA Game Land and VOA Site B, both east of Greenville, North Carolina.

*Juvenile Henslow's Sparrow, VOA Game Land, July 2018.*





## Distribution and Population Status

Before clearing of old-growth forests by European colonists, populations of HESP along the Atlantic Coast inhabited, and were possibly limited to, edges of coastal marshes (Hyde 1939). The earliest records for North Carolina are from 1932 of a small breeding population near Chapel Hill in a swampy meadow (Coker 1933, Odum and Taylor 1934, Hyde 1939). Encounters increased in coastal North Carolina counties in the mid to late 1980s, attributed to birds occupying recently harvested pocosin swamps and pine plantations (Lynch and LeGrand 1985). Sightings of this magnitude have since ceased, and no HESP have been counted on a Breeding Bird Survey (BBS) route in North Carolina since 1995 (Fig. 1, Pardieck et al. 2018).

Henslow's Sparrows now occupy an extremely restricted breeding range in North Carolina with only two known breeding populations: VOAGL (formerly VOA Site A) and VOA Site B, both east of Greenville, North Carolina in Beaufort and Pitt counties, respectively (Fig. 2). Unpublished USFWS records suggest that the VOA sites, each nearly 1200 ha, support the largest breeding populations east of the Mississippi River (Cooper 2007).

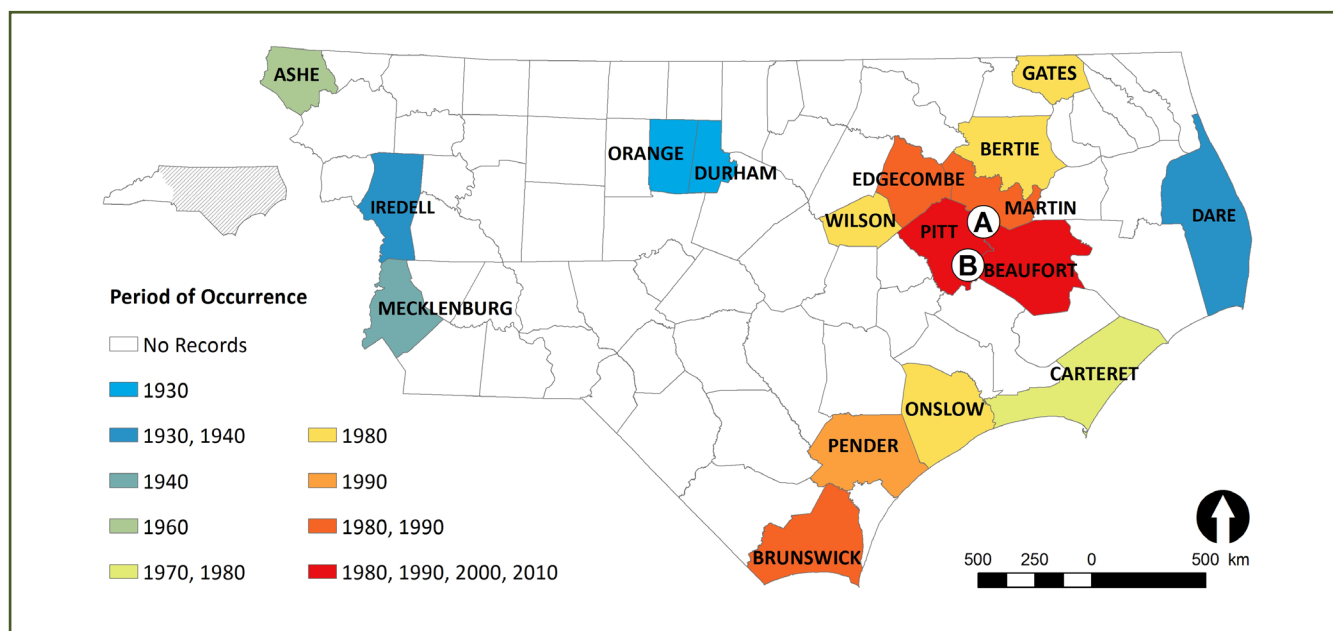


Figure 1. Breeding season records of Henslow's Sparrow in North Carolina by county per decade, including relative locations of (A) Voice of America Game Land and (B) Voice of America Site B (Coker 1933, Odum and Taylor 1934, Lynch and LeGrand 1985, Potter et al. 2006, NCWRC 2015, LeGrand et al. 2018, Pardieck et al. 2018)

John S. Wright (unpub. data, 1994-2000) reported a mean of 91.4 (SE  $\pm$  10.2, range = 67-144) and 58.0 (SE  $\pm$  6.8, range = 31- 91) singing males at VOAGL and B, respectively. Wright noted that HESP were completely absent from large areas of the VOA sites and formed loose colonies, as described elsewhere (Cully and Michaels 2000). Mangun and Kolb (2000) examined male use in 400- to 500-ha plots and estimated a mean of 49 territorial males at VOAGL but found only two males at Site B. NCWRC staff conducted standardized point count surveys (n = 45 survey points) at VOAGL from 2011-2018 during the breeding season. The mean number of males detected ( $48.4 \pm 8.3$ , Range = 17-78) and total number of stations with a detection ( $20.8 \pm 2.4$ , Range = 10-29) follow a positive trend over the eight years of surveys (Fig. 3). Point count surveys (n = 19 survey points) were established at Site B in 2015 and surveyed once; only two males were detected from

a single location, but consistent monitoring is needed. NCWRC data provide an estimated breeding season density of 0.32 sparrows/ha (95% CI = 0.19-0.58) at VOAGL, which is lower than the mean estimate of 0.41 sparrows/ha (Range = 0.11-0.97) reported from other studies elsewhere in the HESP range (Wiens 1969, Robins 1971, Herkert 1994a, Winter and Faaborg 1999, Mangun and Kolb 2000, Bajema et al. 2001, Monroe and Ritchison 2005, Cooper 2007, 2012).

Male territory size at VOAGL is estimated to be 0.3 ha (Range = 0.2-0.5) compared to 0.45 ha (Range = 0.3-0.7) elsewhere (Wiens 1969, Robins 1971, Monroe and Ritchison 2005, Jaster et al. 2013). Territory size can increase during the breeding season, possibly in response to density and habitat quality (Cooper 2012). Additional targeted searches for HESP were conducted from 25 June to 14 July 2001 throughout the Albemarle-Pamlico Peninsula in high marsh, firebreak, and early successional pocosin and pine plantation habitats but resulted in no encounters (Paxton and Watts 2002). This outcome was attributed to a lack of suitable habitat, but singing can decrease significantly after pairing occurs (Leftwich and Ritchison 2000), thereby potentially making males more difficult to detect during their sampling period. Males at VOAGL continue to sing into mid-July (NCWRC, unpub. data), which may be characteristic of its larger population.

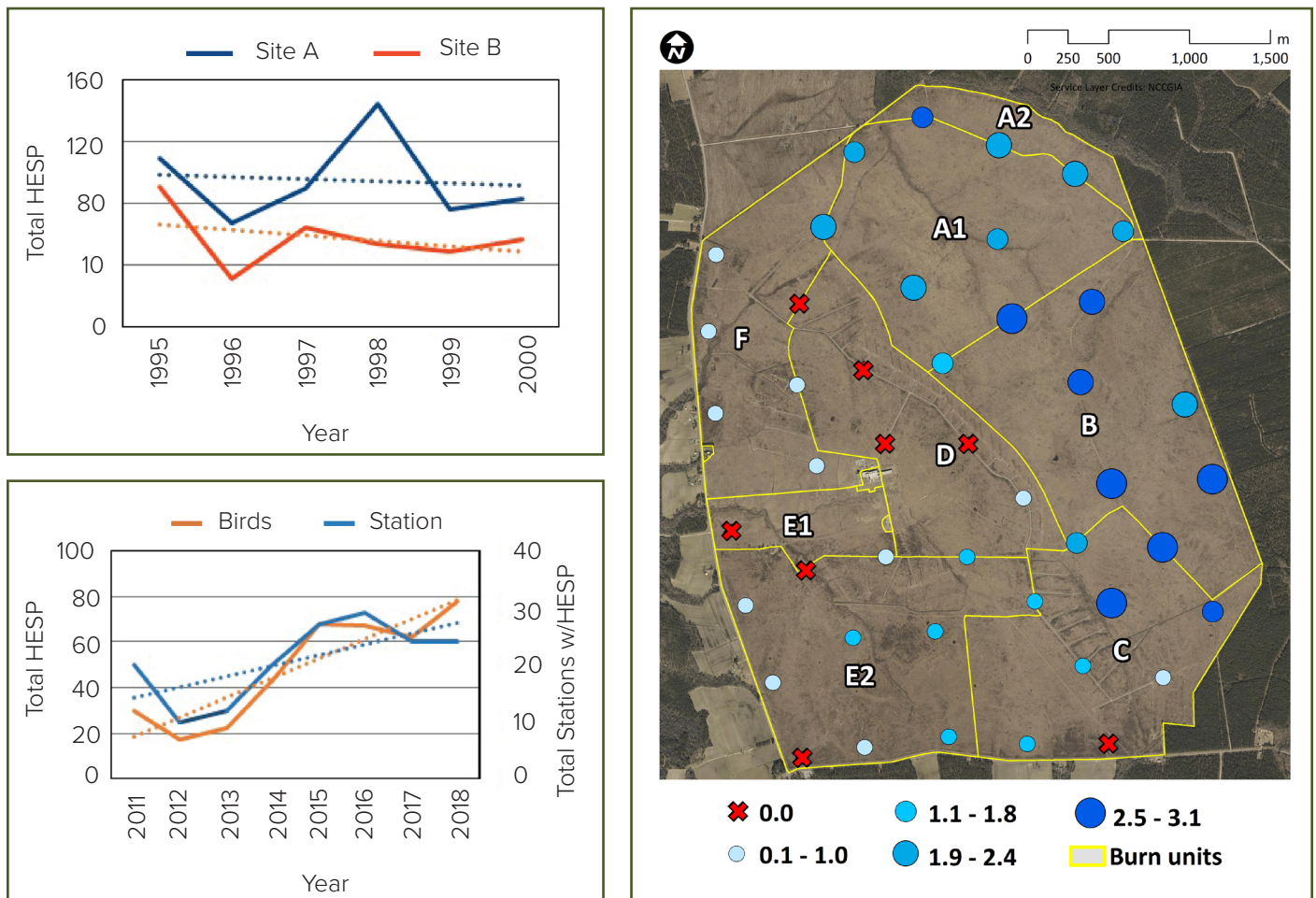


Figure 2. Total singing Henslow's Sparrows (HESP) in early surveys of both VOA sites (J. Wright, unpub. Data; top left graph) and from recent NCWRC point counts at VOAGL (bottom left graph). Survey methods differed between Wright and NCWRC. Average HESP (graduated by color) and total years found at a station (proportional by size), VOAGL, 2011-18 (right).

## THREAT ASSESSMENT

### Reason for Listing

The HESP is one of the most vulnerable nongame species in eastern North America (Burhans 2002). In North Carolina, it is listed as endangered (breeding season only) and is a Species of Greatest Conservation Need (SGCN) in the NC Wildlife Action Plan (NCWRC 2015, 2017).

### Present and Anticipated Threats

**Habitat requisites.**— The most deleterious threat to the HESP throughout its range is loss and degradation of grassland habitat from urban development, expansion of agricultural lands, and natural succession of vegetation due to fire suppression (Herkert 2002, Herkert et al. 2002). The HESP is limited by its need for large habitat patches, often >100 ha (247 ac) (Burhans 2002), which are extremely scarce in North Carolina where only 6.4% of the landscape in 2016 was classified as herbaceous or perennial grassland (U.S. Geological Survey 2016). Furthermore, it is unlikely that any ≥100-ha grassland area would be properly managed by private entities, without incentives, to sustain breeding populations for prolonged periods, primarily because such management is expensive and labor-intensive.

### Small population size, isolation, and restricted distribution.

— Such characteristics as these increase susceptibility of VOA sparrows to catastrophic events, such as wildfires, and climate change (DeWan et al. 2010). However, high levels of dispersal estimated by genetic, bio-acoustic, and stable isotope methods (Ibargüen 2004) suggest that inbreeding at these two sites would not be a concern following traditional one-migrant-per-generation principles (Mills and Allendorf 1996, Vucetich and Waite 2000).

**Brood parasitism and predation.**— The Henslow's Sparrow is an infrequent cowbird host with low to moderate parasitism frequencies (Peck and James 1987, Winter 1999, Reinking et al. 2000). Predators of HESP include mammals and snakes, which take both adults and nestlings (Hyde 1939, Robins 1971). This is considered a non-significant threat at this time and will not be addressed.



Example of woody stem encroachment at VOA Game Land in 2014. Pole marked in 1-ft. increments would not be visible today due to extensive growth if there was no disturbance from burning or other management.

**Contaminants.**— Bartuszevige et al. (2000) reported common avian grassland associates with detectable levels of organochlorine pesticide contamination; birds that frequented moist grassland habitats had significantly higher levels of these compounds. It is unknown if chemical contaminants affect HESP in North Carolina. This is considered a non-significant threat at this time and will not be addressed.

**Disease.**— Limited study of disease is available (Burhans 2002). Red mites (*Trombicula bisignata*) have been found on breeding specimens from Michigan (Hyde 1939). In Wisconsin, a 6.1% prevalence of pox-like lesions was reported and evidence of missing digits (9.7%) – potential sign of current or past infections of Avipoxvirus – which could be linked to temperature (Ellison et al. 2014). Ticks (*Ixodidae*) have been detected on two of fourteen males (14.2%) captured at VOAGL in 2016 and 2018, and one additional male was missing a portion of its right hallux (hind toe). This is considered a non-significant threat at this time and will not be addressed.

**Collisions.**— Mortality from collisions with man-made structures, such as wind turbines and communication towers, during migration is poorly understood but does occur (Longcore et al. 2013). This is considered a non-significant threat at this time and will not be addressed.

### Historic and Ongoing Conservation Efforts

NCWRC acquired VOA Site A in February 2016 from the Federal Lands to Parks program. The property was officially opened to the public as Voice of America Game Land in August 2017 and designated for permit hunts only. The HESP and maintenance of early successional grassland habitat are the focal points of management.

Voice of America Site B remains an active broadcasting, federally owned facility. Mowing continues biannually in its primary area (approx. 440 ha) and annually in the secondary areas (IBB station manager, pers. comm.). Henslow's Sparrows are found only in the secondary areas. Specific timing of this practice is unclear but has commenced as early as July in recent years.



## CONSERVATION GOAL, OBJECTIVES, and ACTIONS

### Conservation Goal

The overarching conservation goal for the HESP is to protect and increase abundance and distribution of breeding populations and their associated grassland habitats in North Carolina.

### Conservation Objectives

1. Acquire, protect, and manage early successional, grassland **habitat** in North Carolina.
2. Estimate **population** carrying capacity of VOA Game Land using best available estimates from annual surveys and HESP response to habitat management.
3. Engage with **Voice of America Site B** to promote conservation of HESP and early successional habitat.
4. Conduct studies to increase understanding of HESP needs in North Carolina.

## CONSERVATION ACTIONS

### 1. Habitat Protection and Management

#### A. Voice of America Game Land

1. Prohibit development, such as additional infrastructure or impervious surfaces, but not activities required for habitat management, on eastern half of property. Restrict development elsewhere until sufficient evidence indicates activities will not adversely impact colonization of remaining areas.
2. Maintain rotational disturbance of vegetation, including but not limited to prescribed burning, that will promote and enhance native vegetation.
  - a. Avoid disturbing occupied habitat during the nesting season, April-July, unless fire is needed to maintain the early successional habitat.
3. Apply mechanical or chemical treatments to eliminate pockets of dense or large woody stems.
  - a. Seek alternate funding sources for tree control treatments beyond prescribed burning to enable contracting for less WRC staff commitment.
4. Restore native grasses known to provide necessary structural characteristics, especially in areas where they are currently deficient or have been degraded.

#### B. Other Sites

1. Continue to support and collaborate with public agencies and private landowners to acquire or manage early successional habitats, especially those near established populations.
2. Restore and protect longleaf pine savannah forests, which HESP require during the non-breeding season, to increase annual survivorship and recruitment of migrants into breeding population gene pool.

## **2. Population Management**

### **A. Surveys and monitoring**

1. Continue annual point count surveys of singing males at VOAGL to provide coarse abundance, trend, and distributional information. Modeling efforts using these data may indicate less frequent surveys are needed.
2. Initiate similar, recurring surveys at VOA Site B.
3. Support efforts to expand surveys to locate new breeding populations in potentially suitable habitat, such as large abandoned or fallow farm fields, clear-cuts, and peripheries of tactical landing zones on military installations, using site visits and remotely sensed data.

## **3. Voice of America Site B**

1. Revisit unsigned Memorandum of Understanding; help develop plan to stabilize and grow HESP population.
2. Confirm that Henslow's Sparrow habitat continues to receive annual mowing during the non-breeding season.
3. Work with site managers to propose using prescribed fire or lengthening the current mowing rotation in all or a portion of the secondary area.
4. Identify alternative funding sources or more affordable approaches to offset management costs while protecting transmission lines.
5. As permitted, apply management prescriptions and guidelines used at VOAGL.
6. Prepare for potential future offering and transfer to the state of North Carolina.

## **4. Conduct Research**

1. Determine if unoccupied areas on VOAGL (based on surveys and monitoring of HESP and of habitat conditions relative to management activities) are unsuitable because of management strategy or other environmental or man-made conditions, e.g., soil type, hydrology, elevation profile, edge effects.
2. Examine genetic markers using novel and modern techniques to provide context to the HESP's evolutionary history and examine signatures of gene flow and changes in the breeding population size over time.
3. Quantify peak occupancy and detectability using repeated visits throughout breeding season.
4. Determine impacts of disturbance type and frequency on behavior, including nesting phenology and success.
5. Estimate territory size to assist with abundance estimates.
6. During capture and handling of HESP for research purposes, examine and sample for Avipox-virus infection and ectoparasite infestation to confirm assumption of disease as an insignificant population effect.



## Incentives (Tax break, Cost-sharing)

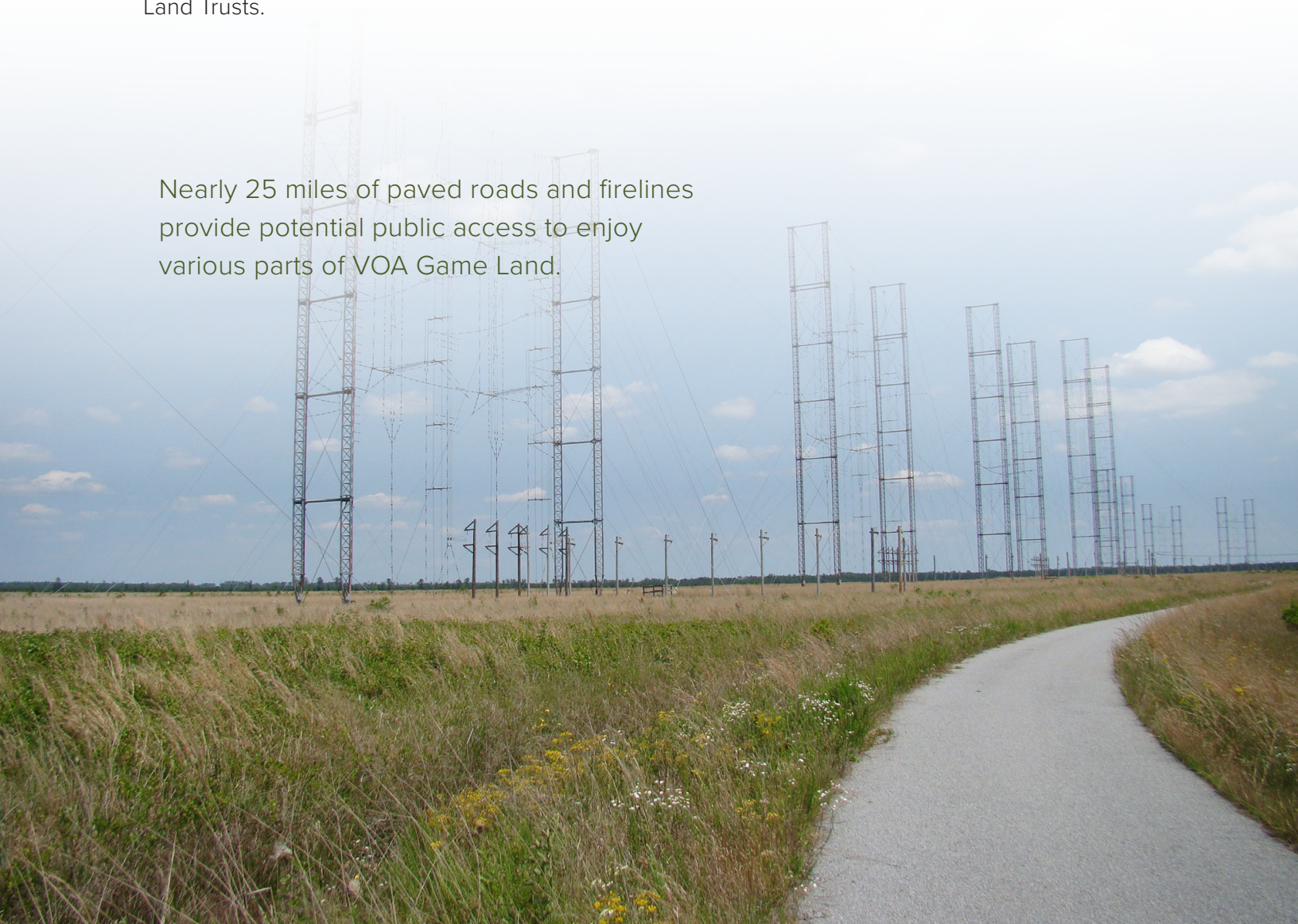
*Private landowners play a vital role in all species conservation plans by creating or enhancing habitat. The following programs are available to encourage meaningful and long-term habitat protection occurring on private property:*

**Wildlife Conservation Land Program.** Reduces tax assessment for landowners with 20-800 qualifying acres, including early successional habitat, managed under a written wildlife habitat conservation agreement that addresses needs of species designated as state endangered, threatened, or special concern. Administered by NCWRC.

**Present-Use Value.** Lowers classification from assessed market value for landowners with at least one 10-acre tract of agricultural land that produced \$1,000 average gross income over three preceding years. Administered by NC Department of Revenue.

**Conservation Easement.** Provides federal tax benefits to landowners who donate conservation agreements on properties that protect natural habitats for fish, wildlife, and plants and preserve land for public outdoor recreation, educational opportunities, or as historically significant. Administered by non-profit Land Trusts.

Nearly 25 miles of paved roads and firelines provide potential public access to enjoy various parts of VOA Game Land.



**Conservation Reserve Program.** Yearly rental payments with 10- to 15-year contracts to private landowners who remove environmentally sensitive land from agricultural production, and plant species that improve environmental health and quality. Recent increases in breeding populations in other parts of the Henslow's Sparrow range appear to be associated with creation of undisturbed grassland habitat through this program (Herkert 2007). Administered by Farm Service Agency.

**Environmental Quality Incentives Program.** Financial assistance covers partial costs associated with implementing conservation practices on cropland, rangeland, pastureland. Administered by Natural Resources Conservation Service.

**Partners for Fish and Wildlife.** Cost-sharing reimbursement to landowners who implement a cooperative agreement, including native grass and forb planting, that benefits rare, threatened and endangered species. Administered by U.S. Fish and Wildlife Service.

## Education and Outreach

1. Provide routine status updates targeting various outlets, such as professional journals, Carolina Bird Club, NC Partners in Flight, Cape Fear Arch Conservation Collaboration, Onslow Bight Conservation Forum, and other interested academic and citizen groups.
2. Register VOAGL with the NC Coastal Birding Trail and the National Audubon Society's Important Bird Areas Program.
3. Develop a bird checklist for VOAGL.
4. Encourage birders to enter observations into eBird ([www.ebird.org](http://www.ebird.org)).

## Regulations

No state regulations are proposed at this time. Henslow's Sparrows are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §§ 703–712), and is a state listed endangered species [15A NCAC 101.0103(b)(2)(D)].

## GLOSSARY

**Avipoxvirus:** A viral infection characterized by proliferative lesions of the skin and diphtheric membranes of the respiratory tract, mouth and oesophagus, which affects over 232 species in 23 orders of birds.

**Conservation easement:** A restriction placed on a piece of property to protect its associated resources. The easement is either voluntarily donated or sold by the landowner and constitutes a legally binding agreement that limits certain types of uses or prevents development from taking place on the land in perpetuity while the land remains in private hands.

**Cool-season grass:** Types of grasses that grow more slowly during a longer period and make most of their active growth during fall and spring months when the minimum daily temperature is approximately 40° F. These species can grow in dense mats that are almost impenetrable by wildlife and consequently are poor providers of nesting and escape cover for many species.

**Grassland:** Any upland habitat in which the principal vegetation is grasses.

**Habitat:** A physical location with the resources and conditions present that produce occupancy— including survival and reproduction, or both—by a given organism.

**Litter:** Dead or decomposing plant material, including leaves, bark, needles, and twigs, that have fallen and accumulate on the ground.

**Microhabitat:** Small-scale physical and vegetation requirements of an organism or a community of organisms.

**Monomorphic:** Having the same basic appearance throughout the life cycle.

**Population:** Group of individuals of a single species in a defined area.

**Prescribed fire:** A planned fire used to meet habitat management objectives; also referred to as a “controlled burn”.

**Subspecies:** A population of species in which individuals show the same structurally definable variation from other populations of the same species but are normally separated geographically or by habitat use.

**Territory:** Any area defended and used by an organism.

**Warm-season grass:** Types of grasses that grow more rapidly during a relatively short period of time with photosynthetic potential much higher than that of cool-season grasses. They make most of their active growth when minimum daily temperatures reach approximately 60° F and are dormant during autumn and winter. Once established, they are drought tolerant and almost completely disease free.

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Matthew Winks

# EXHIBIT V-2

August 18, 2022



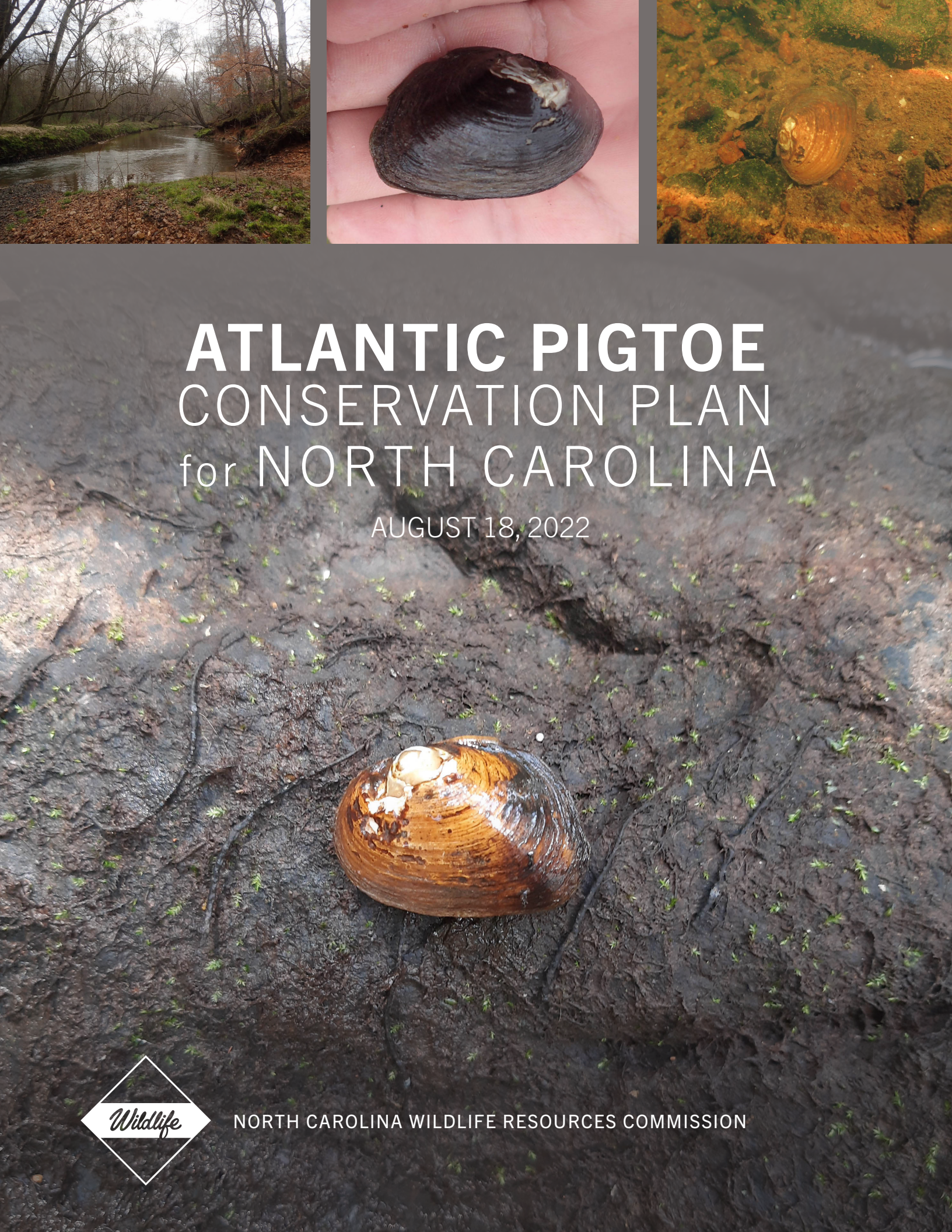
## Atlantic Pigtoe Conservation Plan for North Carolina





# ATLANTIC PIGTOE CONSERVATION PLAN for NORTH CAROLINA

AUGUST 18, 2022



NORTH CAROLINA WILDLIFE RESOURCES COMMISSION





*Atlantic Pigtoes ready for reintroduction into Fishing and Little Fishing Creeks* (U.S. Fish and Wildlife Service)



North Carolina Wildlife Resources Commission  
1701 Mail Service Center  
Raleigh, N.C. 27599-1700  
[ncwildlife.org](http://ncwildlife.org)

Table of Contents

EXECUTIVE SUMMARY ..... 4

BIOLOGICAL INFORMATION ..... 5

    Description and Taxonomic Classification ..... 5

    Life History and Habitat..... 6

    Distribution and Population Status ..... 8

THREAT ASSESSMENT ..... 13

    Reason for Listing..... 13

    Present and Anticipated Threats ..... 13

    Historic and Ongoing Conservation Efforts ..... 14

CONSERVATION GOALS..... 15

    Overarching Goal ..... 15

    Objectives..... 15

CONSERVATION ACTIONS ..... 15

    Habitat Protection and Habitat Management..... 15

    Population Management ..... 16

    Incentives (Tax Break)..... 16

    Monitoring and Research ..... 16

    Education and Outreach ..... 17

    Regulations..... 17

LITERATURE CITED ..... 18

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Unless otherwise indicated, all photos by Michael Fisk



## EXECUTIVE SUMMARY

The North Carolina Wildlife Resources Commission developed this conservation plan to direct management activities for the Atlantic Pigtoe, *Fusconaia masoni*, known in North Carolina from the Roanoke, Tar, Neuse, Cape Fear, and Yadkin-Pee Dee river basins. Historically, this species inhabited waterways from the headwaters to lower reaches of these river basins. The species requires high-quality waterways containing cool, well oxygenated and unpolluted water. Waterways must contain adequate suitable habitat, including constant flow, natural flow regime, unembedded substrate, and stable instream habitat. Direct threats to these species include pollution (chemical and thermal), altered flow conditions, dams, sedimentation, unstable or fragmented habitat, invasive species, and diseases.

The Atlantic Pigtoe is designated as Threatened by the U.S. Fish and Wildlife Service. The conservation goal is to prevent the extinction of this species and ensure population viability within North Carolina for the next 100 years. The plan focuses on identifying and reducing threats, promoting population viability, habitat protection, population monitoring, research, and partnerships. Establishing and maintaining partnerships between North Carolina Wildlife Resources Commission staff and other state agencies, federal agencies, universities, non-profit organizations, companies, local governments, and citizens are essential to the implementation of this conservation plan. The management of this species will require collaborative stakeholder efforts to protect sensitive habitats and maintain high-quality water resources throughout North Carolina.



## BIOLOGICAL INFORMATION

Portions of this document were pulled directly from the Atlantic Pigtoe Species Status Assessment (SSA) with the permission of the U.S. Fish and Wildlife Service (USFWS 2019).

### Description and Taxonomic Classification

The Atlantic Pigtoe, *Fusconaia masoni*, belongs to the family Unionidae, and purported subfamily Ambleminae — the most diverse, but also the most imperiled, subfamily of freshwater mussels (Campbell et al. 2005; Campbell and Lydeard 2012). It has been reported in the literature as *Unio subplanus*, *Lexingtonia subplana*, *U. masoni*, or *Pleurobema masoni* (Fuller 1973; Alderman 2003), however the tetragenous nature of marsupial gills (i.e., females use all 4 demibranchs when fully gravid to brood glochidia) places it in the genus *Fusconaia*. It is one of 15 species in the genus *Fusconaia*, one of the most primitive genera, and it is the only representative of the genus along the Atlantic Seaboard (Fuller 1973; Bogan et al. 2003). The species *F. masoni* was described by T.A. Conrad in 1834, with the type specimen from the Savannah River near Augusta, Georgia (Conrad 1834). It was named after one of Conrad's friends, William Mason, an early American conchologist (Conrad 1834). From Burlakova et al. (2012), *F. masoni* appears to be closely related genetically to *F. cerina*, *F. flava*, *F. askewi*, *F. burkei*, and *F. escambia*. Except for *F. flava* (a more wide-ranging species), these taxa are centered in the Gulf of Mexico region.

The currently accepted classification is (Integrated Taxonomic Information System 2020):

Phylum: Mollusca

Class: Bivalvia

Order: Unionoida

Family: Unionidae

Subfamily: Ambleminae

Genus: *Fusconaia*

Species: *Fusconaia masoni*

The Atlantic Pigtoe is a small freshwater mussel with a sub-rhomboidal shaped shell. Although larger specimens exist, the Atlantic Pigtoe rarely exceeds 50 mm (2 inches) in length (Wisniewski 2008). Except in headwater stream reaches, where specimens may be elongated, this species is tall relative to its length (Alderman and Alderman 2014). Valves are compressed, the hinge ligament is relatively short and prominent, and the umbo is positioned slightly anterior of the middle of valve and is elevated above the hinge line (Fuller 1973; Wisniewski 2008). The posterior ridge is angular and very distinct. The periostracum is yellow to dark brown and has been described as clothlike or parchmentlike (Fuller 1973), and young individuals may have greenish rays across the entire shell surface. When collected fresh, the nacre in the anterior half of the shell tends to be salmon colored, while nacre in the posterior half tends to be more iridescent (Fuller 1973; Alderman and Alderman 2014). The shell has full dentition with two pseudocardinals in each valve (although the anterior one in the right valve is vestigial) and well-developed lateral teeth (Fuller 1973). In addition to simple papillae, branched and arborescent papillae are often seen on the incurrent aperture (Alderman and Alderman 2014). Salmon colored demibranchs in females are often seen during the spawning season. When fully gravid, females use all four demibranchs to brood glochidia (Fuller 1973).



## Life History and Habitat

As is the case with most freshwater mussels, the Atlantic Pigtoe has a unique life cycle that relies on fish hosts for successful reproduction. The Atlantic Pigtoe is a short-term, tachytictic breeder, meaning spawning takes place in the early spring with release of semi-buoyant white to pink-colored conglomerates in the late spring to early summer (C. Eads, North Carolina State University [NCSU], personal communication; Alderman and Alderman 2014). The conglomerates are tubular, and the color varies from white to pink to red depending on the percentage of fertilization, with lower fertilization rates being more red (unfertilized eggs are red; C. Eads, NCSU, personal communication).

Like other species in the Pleurobemini tribe, the Atlantic Pigtoe targets drift-feeding minnow species by releasing pelagic conglomerates (Haag 2012), a highly targeted strategy that decreases encounters with incompatible fish species. Following release from the female mussel, the semi-buoyant conglomerates float and occupy the middle and upper water column where they are targeted by sight-feeding minnows (Wolf 2012). Lab studies by O'Dee and Watters (2000) determined that Bluegill *Lepomis macrochirus* and Shield Darter *Percina peltata* served as host fish for the Atlantic Pigtoe; however, more recent host work at White Sulphur Springs National Fish Hatchery (Wolf 2012) found that Rosefin Shiner *Lythrurus ardens*, Creek Chub *Semotilus atromaculatus*, and Longnose Dace *Rhinichthys cataractae* serve as very effective hosts. Additional studies by Eads and Levine (2011) have confirmed that members of the Leuciscidae (formerly Cyprinidae; Tan and Armbruster 2018) family seem to serve as the primary hosts; those tested include the White Shiner *Luxilus albeolus*, Satinfish Shiner *Cypripinella analostana*, Bluehead Chub *Nocomis leptcephalus*, Rosyside Dace *Clinostomus funduloides*, Pinewoods Shiner *Lythrurus matutinus*, Creek Chub, Swallowtail Shiner *Notropis procne*, and Mountain Redbelly Dace *Chrosomus oreas*. This study did not have success with Bluegill or the Chainback Darter *Percina nevisense* (C. Eads, NCSU, personal communication).

Time period for glochidia to complete metamorphosis varies between 8–19 days at 21–22°C and depends on the host fish (Eads and Levine 2011). In captivity in a hatchery/pond setting, age to sexual maturity is approximately 3 years (C. Eads, NCSU, personal communication). Fecundity is uniformly low in most species that have an equilibrium strategy (Haag 2012), and species like Atlantic Pigtoe rely on a consistent,



Ryan Hagerty/USFWS



Studies indicate members of the Leuciscidae family seem to serve as primary hosts for the Atlantic Pigtoe. These include (from top): Rosyside Dace, Bluehead Chub and Pinewoods Shiner.

low level of reproductive success to maintain populations. This strategy can allow populations to reach high densities over time in stable habitats, but it also makes them susceptible to habitat disturbances (Wolf 2012). Thus, loss of a small proportion of the Atlantic Pigtoe population when population levels are already low, or a bad recruitment year, can have a dramatic effect on reproductive success (Wolf 2012).

Atlantic Pigtoe demonstrates an “equilibrium life history strategy”, which means it is a slow growing and long-lived species with low fecundity (Haag 2012; Alderman and Alderman 2014). As seen in many organisms, this mussel’s growth is rapid during the first few years of life but slows with increasing age, as resources are likely diverted to reproduction. Patterns of age structure in healthy Atlantic Pigtoe populations are available for the Nottoway River and Swift Creek (Tar) populations. Shell thin-sectioning conducted by Wolf (2012) yielded a population with multiple age classes ranging from 1–58 years (although the 58-year-old individual was likely an outlier and when removed the age range is 1–33 years). Similarly, a 1991 survey of muskrat middens in Swift Creek (Tar) utilizing an age-length formula developed by Wolf (2012) revealed multiple size classes, ranging from 16–63 mm (age estimates were 1–30+ years; Alderman and Alderman 2014).

The Atlantic Pigtoe is dependent on clean, moderate flowing water with high dissolved oxygen content in creek and riverine environments. Historically, the best populations existed in creeks and rivers with excellent water quality, where stream flows were sufficient to maintain clean, silt-free substrates (Alderman and Alderman 2014). Because this species prefers more pristine conditions, it typically occurs in headwaters and rural watersheds, but not exclusively. It is associated with gravel and coarse sand substrates at the downstream edge of riffles, and less commonly occurs in cobble, silt, or sand-detritus mixtures (Bogan 2017; Alderman and Bogan 2008). Most freshwater mussels, including the Atlantic Pigtoe, are found in aggregations (mussel beds) that vary in size and are often separated by stream reaches in which mussels are absent or rare (Vaughn 2012).

Genetic exchange occurs between and among mussel beds via sperm drift, host fish movement, and movement of mussels during high flow events. Theoretically, prior to anthropogenic influence, it is likely that Atlantic Pigtoe mussel beds were distributed contiguously in suitable habitats throughout its known range. The contemporary distribution of Atlantic Pigtoe is patchy, resulting in largely isolated populations and, in turn, potentially limited genetic exchange.

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Mussels, such as the Atlantic Pigtoe, filter algae, detritus, microscopic animals, and bacteria from the water column (Fuller 1973; Nichols and Garling 2000; Strayer et al. 2004; Haag 2012). Encysted glochidia are nourished by their fish hosts and feed for a period of one to three weeks. Nutrient uptake by glochidia is not well understood, but probably occurs through the microvillae of the mantle (Watters 2020). For the first

several months, juvenile mussels partially employ pedal (foot) feeding, extracting bacteria, algae, and detritus from the sediment, although they also may filter interstitial (pore) water (Yeager et al. 1994; Alderman and Alderman 2014). However, their gills are rudimentary and generally incapable of filtering particles (Watters 2007). Adult mussels also can obtain their food by deposit feeding, siphoning in food from the sediment and its pore water and pedal feeding directly from the sediment (Yeager et al. 1994; Vaughn and Hakenkamp 2001). Food availability and quality for the Atlantic Pigtoe in its habitats are affected by habitat stability and connectivity, flow, and water and sediment quality.

## Distribution and Population Status

The Atlantic Pigtoe has been documented in all major river basins in the Atlantic coastal drainages from the James River Basin in Virginia south to the Altamaha River Basin in Georgia. Johnson (1970) indicated the southernmost records were from the Ogeechee River Basin, however, recent curation of the H. D. Athearn collection uncovered valid specimens from the Altamaha River. The Atlantic Pigtoe has been documented

from multiple physiographic provinces, from the foothills of the Appalachian Mountains through the Piedmont and into the Coastal Plain, in streams ranging in size from lower order streams up to some of the largest Atlantic Slope rivers within the species' range. In North Carolina, the Atlantic Pigtoe has historically been found in the Roanoke, Tar, Neuse, Cape Fear, Pee Dee, and Catawba river basins.



*In North Carolina and throughout the species' range, the Tar Basin supports the most robust population of Atlantic Pigtoe.*

The Atlantic Pigtoe is currently occupying 40% of its historic range (USFWS 2019). Of the three physiographic regions where the species occurs, the most significant declines have occurred in the Coastal Plain and Mountains (USFWS 2019). The remaining populations are small and fragmented. The cumulative impacts of land use change and associated watershed-level effects on water quantity and quality, habitat connectivity, and in-stream habitat suitability have led to habitat degradation and ultimately declines in abundance and distribution (USFWS 2019). Populations that are small and fragmented are more vulnerable to extirpation.

In North Carolina and throughout the species' range, the Tar Basin supports the most robust population of Atlantic Pigtoe. Historically they have been documented in 15 HUC10s and currently occupy 12 of these (Figure 1). Alderman (1994) documented 18 separate populations and described around half of them as being in poor condition. The other half was split between being good



and fair. In the Neuse Basin, the species has been detected in 10 HUC10s and currently occupies 8 of these. The known ranges of the Atlantic Pigtoe in the Roanoke, Cape Fear, and Yadkin Pee Dee are more restricted with 5, 6, and 7 historic occupied HUC10s, respectively. Current HUC10s occupied have been reduced to Roanoke = 3, Cape Fear = 2, and Yadkin Pee Dee = 2 for each basin. There is one observation of Atlantic Pigtoe in the Catawba Basin from the 1800s although this population is considered extirpated. During targeted and non-targeted surveys for Atlantic Pigtoe, typically <10 mussels per site are collected for the upper Tar Basin and upper Neuse Basin while <5 mussels per site are typically found elsewhere. Some exceptions do occur where 38 and 28 individuals have been collected at sites in the Tar and Neuse basins.

Atlantic Pigtoe was considered as threatened in the early 1990s (Williams et al. 1993) and then upgraded to State Endangered effective July 1, 2002 in North Carolina (Bogan 2017). NatureServe classifies the Atlantic Pigtoe as Critically Imperiled (G1) and Vulnerable (S3) in North Carolina (NatureServe 2020, NCNHP 2020). The Atlantic Pigtoe is now listed as Threatened by the U.S. Fish and Wildlife Service (USFWS 2019).

Current conditions of the Tar and Neuse populations characterized by the U.S. Fish and Wildlife Service (USFWS) as high and moderate while the Roanoke, Cape Fear, and Yadkin-Pee Dee populations are characterized as low (USFWS 2019). Factors including urban development, climate change, agricultural practices, forest conversion and management, invasive species, and dams and barriers have impacted Atlantic Pigtoe distribution and abundance (USFWS 2019). For detailed accounts on how these factors have impacted Atlantic Pigtoe refer to the USFWS SSA. Of these factors, urban development and climate change were considered to have the greatest impacts on Atlantic Pigtoe populations. These factors were used to determine future population conditions (up to 50 years) under several management scenarios. These predictions suggest that the Roanoke, Cape Fear, and Yadkin-Pee Dee populations may become extirpated while the Tar and Neuse populations will be characterized as having low occupancy and abundance.



The Atlantic Pigtoe was considered as threatened in the early 1990s and upgraded to State Endangered on July 1, 2002 in North Carolina. It is now designated as Threatened under the Endangered Species Act of 1974.

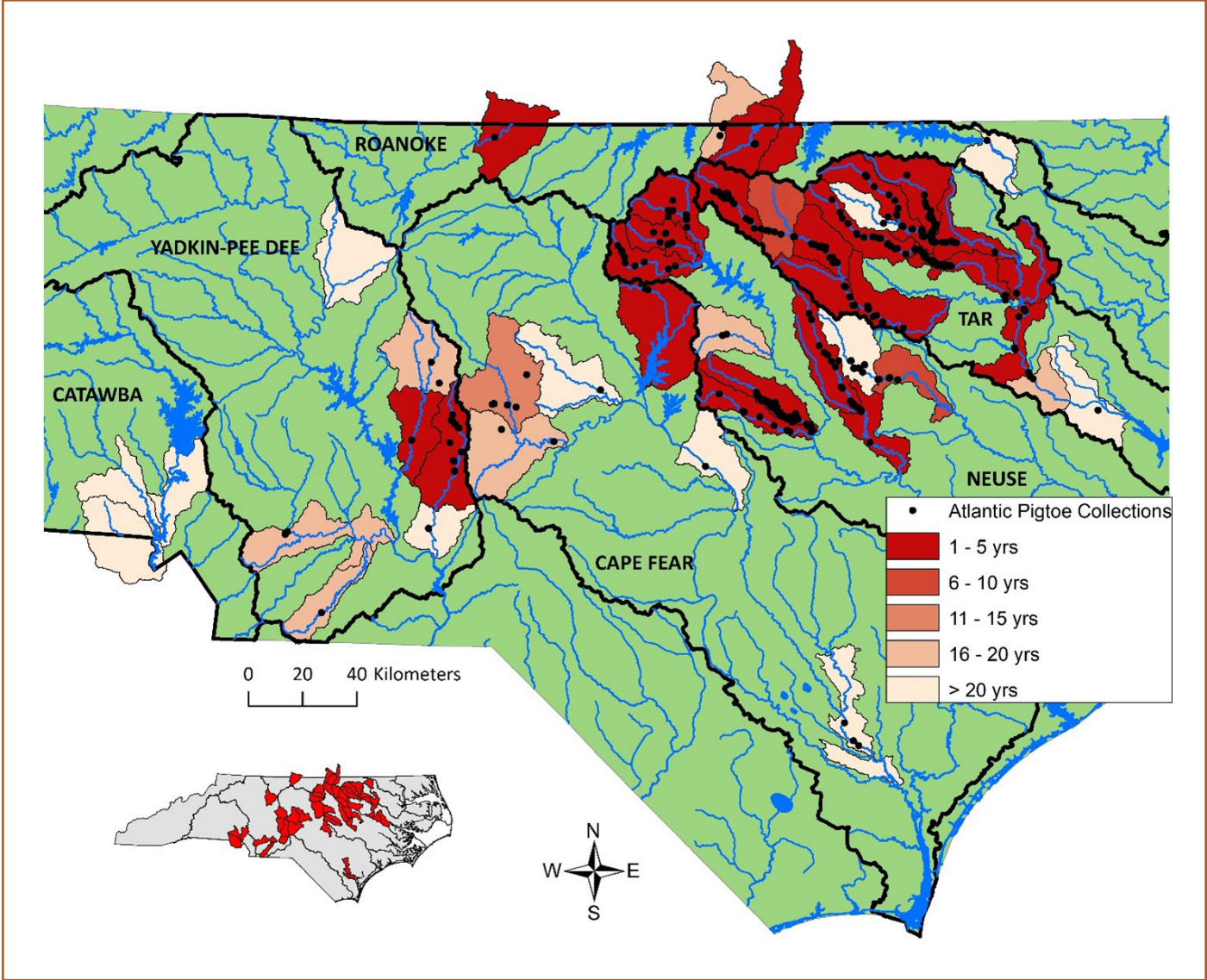


FIGURE 1 – Distribution map of the Atlantic Pigtoe within North Carolina depicting 10-digit hydrologic units (colored and categorized based on year of observation) and collection locations (black dots). Locations for historical collections in the Catawba and Muddy Creek (upper Yadkin-Pee Dee) are not known.



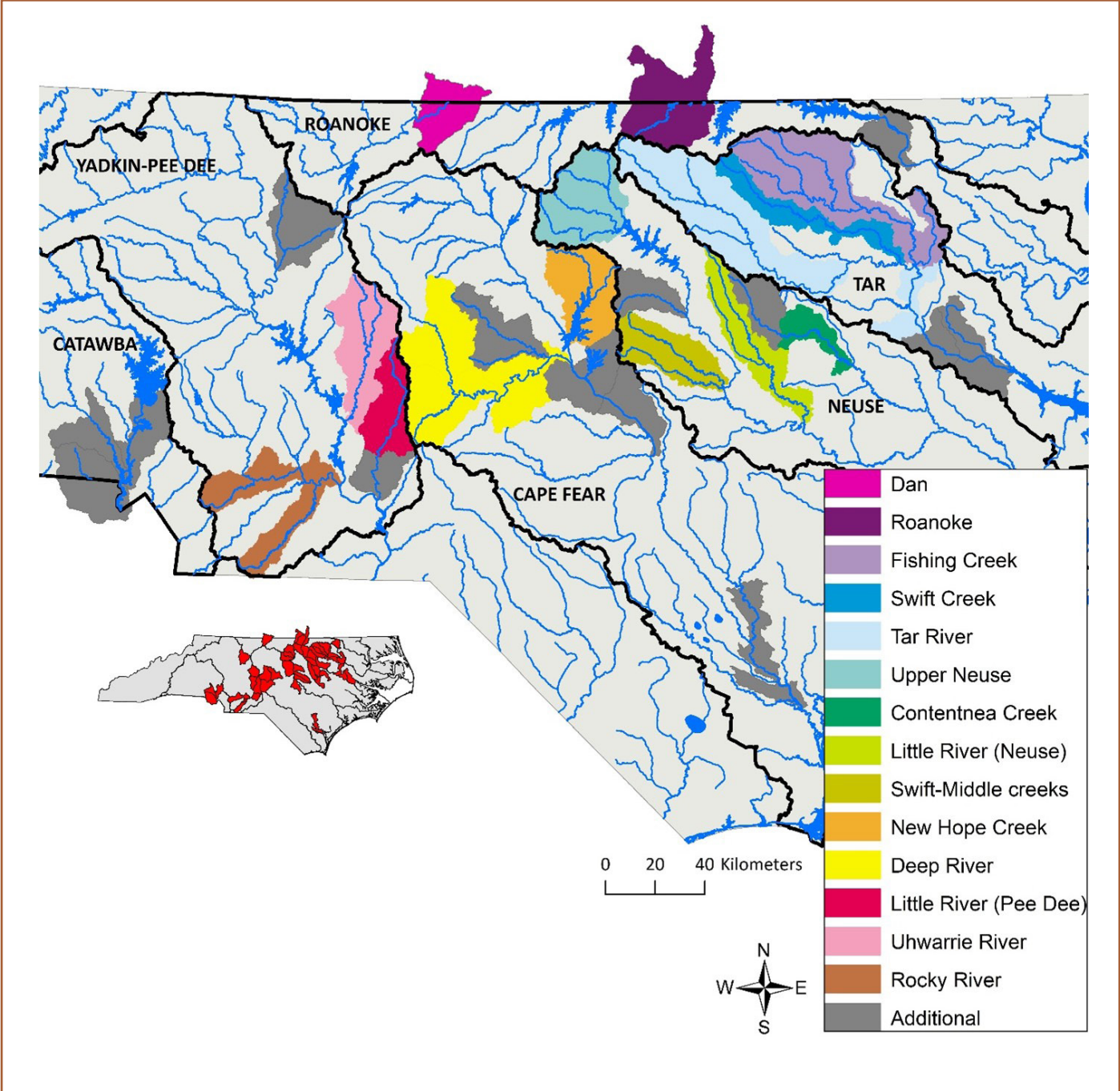


FIGURE 2. Management Units (MUs) in the Roanoke, Tar, Neuse, Cape Fear, Yadkin-Pee Dee, and Catawba basins depicting 10-digit hydrologic units. Primary MUs are in color, additional augmentation/reintroduction MUs are in grey. Descriptions of MUs are in Table 1.

Basin	Management Unit	HUC10s		Category
Roanoke	Dan	301010309		Primary
	Upper Roanoke	301010208	301010407	Primary
		301010209		Primary
		301010701		Additional
Tar	Fishing Creek	302010201	302010205	Primary
		302010202	302010206	Primary
		302010203		Primary
	Swift Creek	302010108	302010107	Primary
	Tar River	302010102	302010104	Primary
		302010106	302010302	Primary
		302010103	302010101	Primary
		302010304		Additional
		302010306		Additional
Neuse	Upper Neuse	302020102	302020103	Primary
		302020101		Primary
	Contentnea Creek	302020304		Primary
		302020301		Additional
	Little River	302020115	302020116	Primary
	Swift/Middle creeks	302020110	302020109	Primary
	Crabtree Creek	302020108		Additional
Cape Fear	Deep River	303000302	303000304	Primary
			0303000306	Primary
	New Hope Creek	303000206		Primary
	Cape Fear River	303000405	0303000401	Additional
	Rocky River	303000305		Additional
	Black River	303000608		Additional
Pee Dee	Little River	304010403		Primary
		304010404		Additional
	Uwharrie River	304010304	304010305	Primary
		304010507	304010506	Primary
	Muddy Creek	304010113		Additional
Catawba	Lower Catawba	305010114	305010115	Additional
		305010206		Additional

TABLE 1. Prioritized management units (10-digit hydrologic units) for augmentations. Categories are defined as: Primary) MUs within known range that are considered the best habitat, Additional) MUs within known range to be used if Primary MU targets are exceeded. If Primary and Additional targets are exceeded, then reintroductions will focus within the presumed historical range of the species if suitable habitat exists.

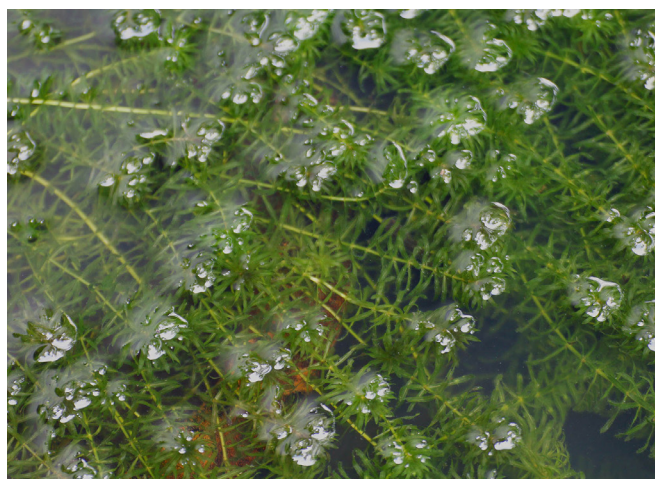
## THREAT ASSESSMENT

### Reason for Listing

The Atlantic Pigtoe was originally listed as threatened in North Carolina in 1991 due to perceived rarity and decline. Only the Tar River's Swift Creek population of the Atlantic Pigtoe was considered relatively healthy and the species was considered extremely rare elsewhere in the state (Adams et al. 1991).

### Present and Anticipated Threats

As with all aquatic species, there are many natural and anthropogenic factors that threaten the long-term viability of Atlantic Pigtoe. Extinction and decline of North American unionid bivalves can be linked to impoundment and inundation of riffle habitat throughout the United States. The loss of obligate hosts, coupled with increased siltation, and various types of industrial and domestic pollution have resulted in the rapid decline of the unionid bivalve fauna in North America (Bogan 1993, NCWRC 2015). Dams, both manmade and natural (created by beavers, see Kemp et al. (2012), are a barrier to dispersal of host fish and attached glochidia. Throughout the Neuse and Tar-Pamlico River basins, beavers have continued to build dams and impound an increasing number of river kilometers. Beaver dams not only inundate and alter riffle/run mussel habitat upstream of the dam but also affect mussel populations downstream of the dam by increasing fluctuations in flow regime, decreasing dissolved oxygen levels, and increasing the variability of food quality and quantity (Hoch 2012, Kemp et al. 2012). Wastewater that contains monochloramine and unionized ammonia compounds are acutely toxic and pose a significant threat to all aquatic species, especially mussels. Point source discharges from municipalities may be responsible for glochidial mortality that results in local extirpation of mussels (Goudreau et al. 1993, Gangloff et al. 2009, NCWRC 2015). Impervious surfaces in urbanized watersheds exacerbate high water levels, even during short rainfall events, which can result in flash flooding. These high or flashy flow events contribute to increased sediment loads and erosion, turbidity throughout the water column, and stream bed movements that stress mussel populations (Gangloff et al. 2009, NCWRC 2015). Climate change and development will continue to bring additional stressors that need to be evaluated for mussels. Furthermore, specific pollutants that may be introduced into the aquatic environment, the interactions of pollutants and temperature (from climate change), salinity (related to sea level rise), and lower dilution (from altered flows) will need to be considered (NCWRC 2015). In addition, invasive species such as the Asian Clam, *Corbicula fluminea*, the Flathead Catfish, *Pylodictis olivaris*, and Hydrilla, *Hydrilla verticillata* can create competitive pressures on food resources and habitat availability. These factors can decrease oxygen availability, cause ammonia spikes, alter benthic substrates, impact host fish communities, reduce stream flow, and increase sediment buildup (Belanger 1991, Scheller 1997, NCANSMPC 2015, NCWRC 2015).



*Hydrilla* (Shutterstock)



## Historic and Ongoing Conservation Efforts

Prior to 2009, North Carolina Wildlife Resources Commission (NCWRC) staff conducted general surveys for the species throughout its range in North Carolina. In 2009, NCWRC partnered with NCSU to propagate Atlantic Pigtoes and augment existing populations. An augmentation plan for four species including Atlantic Pigtoe was developed in 2010 (Eads and Levine 2010) and potential broodstock sources were identified. The following year, host fish trials were conducted and grow-out techniques refined (Eads and Levine 2011). The trials found that multiple species of Cyprinids are suitable host fish (see background above) and floating baskets in small impoundments can be used as grow-out facilities to reach stocking size (Levine et al. 2012). After the completion of these studies, in September and October of 2015, 370 Atlantic Pigtoes were stocked into Fishing (5 sites) and Little Fishing creeks (4 sites).

Follow-up snorkel surveys were conducted at eight of nine augmentation reaches in 2016. Fishing Creek monitoring surveys were completed at each of the five reaches between July and September 2016. A total of 68 live (31%) Atlantic Pigtoes were recaptured at the augmentation locations. Growth among the recaptured mussels in Fishing Creek was minimal (mean = 0.8 mm, standard deviation [SD] = 0.3 mm). Little Fishing Creek monitoring surveys were completed at three of four reaches in August 2016. A total of 19 live (13%) Atlantic Pigtoes and one shell were recaptured in Little Fishing Creek. The mussels in Little Fishing Creek exhibited minimal growth (mean = 1.1 mm, SD = 0.8 mm). Since 2016, non-targeted surveys have recaptured six individuals in 2018 and one individual in 2019 in Little Fishing Creek. Mean growth of the 2018 recaptures was 5.9 mm, SD = 9.2 mm, and the one individual recaptured in 2019 grew 4.8 mm since being released in 2015. Given the life history characteristics of the Atlantic Pigtoe and the low productivity of Fishing and Little Fishing Creeks, the slow observed growth is expected. Since 2017, targeted surveys for Atlantic Pigtoe have been conducted throughout its range in North Carolina.



*A few of the 370 Atlantic Pigtoes that were grown out and stocked into Fishing and Little Fishing Creeks in September and October 2015* (Chris Eads)

The NCWRC, in conjunction with Georgia Southern University, is currently examining genomic data for the species. The goal of the genetic monitoring and research is to maximize genetic diversity in the augmented and reintroduced populations, while minimizing outbreeding and inbreeding depressions, and the loss of unique alleles.

The objectives of the genetic study are to:

1. Describe the genetic diversity within and among wild populations,
2. Identify unique single nucleotide polymorphisms that describe the effective population size in the wild and in the hatchery,
3. Evaluate the genetic diversity of progeny within the hatchery, and
4. Evaluate the genetic diversity of any augmented populations.

## CONSERVATION GOALS

### Overarching Goal

To prevent the extinction of Atlantic Pigtoe and promote population viability (i.e., multiple age classes and wild recruitment) within North Carolina for the next 100 years.

### Objectives

The primary conservation strategy is to promote habitat protection and maintain the best populations of Atlantic Pigtoe throughout its range in North Carolina.

1. Promote habitat protection and maintain populations of Atlantic Pigtoe within Management Units (MUs). Management Units will be defined based on hydrologic units (i.e., HUC10s; Table 1; Figure 2).
2. Maintain an ark population of Atlantic Pigtoe from each river basin.
3. Utilize captive propagation and/or translocations to augment or establish populations of Atlantic Pigtoe where appropriate habitat exists (pending approval from the Habitat, Nongame and Endangered Species Committee of the NCWRC).
4. Establish connectivity and gene flow between existing and established populations by either translocating individuals or removing barriers.

## CONSERVATION ACTIONS

### Habitat Protection and Habitat Management

Protecting habitat integrity, including hydrology, is crucial for species survival. Comments on permit reviews should stress minimizing inputs that include chemical pollutants such as herbicides, pesticides, pharmaceuticals, and industrial compounds, as well as thermal plumes, sediment and nutrients carried by storm water. NCWRC Habitat Conservation Division staff will recommend that all permits issued within basins where



Atlantic Pigtoe occur implement the recommendations of the NCWRC's *Guidance Memorandum to Address and Mitigate Secondary and Cumulative Impacts to Aquatic and Terrestrial Wildlife Resources and Water Quality* (NCWRC 2002). Forestry activities should incorporate forest practice guidelines (FPGs), or best management practices (BMPs) as required by certifying organizations such as those of the Sustainable Forestry Initiative/Forest Stewardship Council/American Tree Farm System certification standards. Restoration of habitat should be prioritized for primary HUCs and should focus on the protection of riparian habitat and associated uplands (Table 1, Figure 2).

The NC Wildlife Action Plan (NCWRC 2015) lists priority 12-digit HUCs by watershed. NCWRC staff will encourage acquisition of riparian lands in these priority HUCs that occur within the 10-digit HUCs listed in Figure 2 of this document. Acquisitions can include both fee simple ownership and conservation easements. Ideally these lands would be in the vicinity of other conservation lands such as NCWRC game lands, NC State Parks, National Forests, or lands managed by a local land trust.

## Population Management

Atlantic Pigtoe populations may be enhanced by augmenting existing populations with propagated individuals. Propagated mussels may also be reintroduced into areas that were historically occupied where suitable habitat exists. To minimize any real or perceived regulatory burden associated with the federal Endangered Species Act, a stakeholder cooperative agreement, such as Safe Harbor, will be established prior to reintroduction into an unoccupied area. Augmentations will be prioritized as follows:

- a. All primary river basin MUs (Table 1, Figure 2).
- b. Additional augmentation areas within the known range of Atlantic Pigtoe (Table 1; Figure 2), if propagation efforts exceed primary MU needs.
- c. Introduction of Atlantic Pigtoe into areas within the presumed historical range, if propagation efforts exceed MU needs. Ideally located in areas with reduced likelihood of anthropogenic threats.

## Incentives (Tax Break)

The NCWRC will encourage private landowners within Atlantic Pigtoe watersheds to participate in the Wildlife Conservation Lands program. This program reduces tax assessment for landowners with 20-800 qualifying acres, including early successional habitat, managed under a written wildlife habitat conservation agreement that addresses needs of species designated as state endangered, threatened, or special concern and is administered by NCWRC.

## Monitoring and Research

1. Monitor Atlantic Pigtoe populations every 2–5 years within each MU to assess survival, abundance, population structure, recruitment, and genetic diversity.
2. Conduct Atlantic Pigtoe focused surveys within the Roanoke and Chowan River basins to assess presence or absence of the species.
3. Develop captive propagation techniques to maximize yield, genetic diversity, and post release survival.
4. Determine locations for establishing Atlantic Pigtoe populations and monitor the success of population establishment.

5. Determine the genetic diversity and number of genetically distinct populations of Atlantic Pigtoe throughout its range.
6. Develop microsatellite markers or similar genetic tagging techniques to determine age structure, parentage, and hatchery contribution to wild stock.
7. Conduct surveys for host fish abundance, population structure, and recruitment within each MU.
8. Develop techniques to reduce the abundance of Asian Clam.
9. Determine the known historical range of Atlantic Pigtoe by verifying the identification of specimens held in museum collections.
10. Determine the impact of Flathead Catfish and other invasive species on Atlantic Pigtoe host fish populations.

## Education and Outreach

Staff will continue to develop publications and reports as well as highlight conservation efforts through channels such as the NC Chapter of the American Fisheries Society and the Freshwater Mollusk Conservation Society. Results of research and monitoring projects will be presented at professional and non-technical meetings. Coordination with the Communications, Marketing and Digital Engagement staff to promote education and awareness of the Atlantic Pigtoe and efforts to conserve the species and its habitat will be important to disseminate information about the species.

## Regulations

Take or possession of this species without a valid permit is currently prohibited under NC law and administrative code (15A NCAC 10I .0102) and is considered a Class 1 misdemeanor (§ 113 337b). Due to difficulties in identifying mussels, some level of incidental take may occur but is not assumed to be significant. Currently, individuals with a valid fishing license can harvest up to 200 mussels per day, but only within specified impounded waters where Atlantic Pigtoe usually do not occur (NCWRC 2021).



*NCWRC staff and partners conduct a survey on Little Fishing Creek (Melissa McGaw)*

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*Swift Creek in the Neuse River basin*