# **Modified Biological Opinion**

## I-26 Connector from I-40 to US 19/23/70 North of Asheville in Buncombe County, North Carolina

Service Log #02-252 NCDOT #I-2513 Original Biological Opinion Issued June 19, 2020



Prepared by:

U.S. Fish and Wildlife Service Asheville Ecological Services Office 160 Zillicoa Street Asheville, North Carolina 28801

Gary Peeples Acting Field Supervisor Asheville Ecological Services Field Office Asheville, North Carolina

## INTRODUCTION

This constitutes an amendment to the June 19, 2020 Biological Opinion (Opinion) for effects of the I-26 Connector from I-40 to US 19/23/70 North of Asheville in Buncombe County, North Carolina on Appalachian elktoe (*Alasmidonta raveneliana*). That Opinion also addresses project impacts on gray bat (*Myotis grisescens*). Additionally, an addendum Biological and Conference Opinion, issued for the project on December 14, 2023, addresses impacts on Indiana bat (*Myotis sodalis*), northern long-eared bat (*Myotis septentrionalis*), tricolored bat (*Perimyotis subflavus*), and little brown bat (*Myotis lucifugus*). This modification specifically addresses changes to a portion of the project description with impacts on Appalachian elktoe. The U.S. Fish and Wildlife Service (Service) received a request for modification to the 2020 Opinion from North Carolina Department of Transportation (NCDOT) Biological Surveys Group on April 17, 2025. The modification request addresses needed changes to the portion of the project description (Section 2.2.5.4 in the 2020 Opinion) on Investigative Drilling. As provided in 50 CFR §402.16, reinitiation of formal consultation is required when new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in the 2020 Opinion. We have reviewed the request and provide the following in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 - 1543) (Act).

## **CONSULTATION HISTORY**

No changes to the 2020 or subsequent Opinions. Additions follow:

- June 19, 2020 Original Opinion issued by the Service.
- December 14, 2023 Addendum Biological and Conference Opinion issued by the Service.
- April 15, 2025 In-person and phone discussions between the Service and NCDOT on the need for a modification on the Investigative Drilling portion of the project description.
- April 17, 2025 The NCDOT submitted (via email) a request to the Service to modify the project description in the 2020 Opinion.
- April 17, 2025 The Service responded, providing confirmation of receipt and submitting questions.
- April 27, 2025– NCDOT provided responses to the Service's questions.
- May 09, 2025 Service submitted draft Opinion modification to NCDOT for review prior to finalization.

## **DESCRIPTION OF THE PROPOSED ACTION**

This section describes the portion of the proposed project action that differs from that described in the 2020 Opinion. Outside of the changes discussed here, there are no changes to the 2020 Opinion for this section. In the original project description, as described in the BA and as written in the 2020 Opinion, Section 2.2.5.4 Investigative Drilling, the below was stated. The key elements to change are underlined:

In case drilled shafts will be used for bridge construction, investigative drilling for bridge footings will require roughly two 0.5 sq. ft. diameter borings for each bent to be placed in the water. Each boring will reach a depth of 25 to 30 ft. Investigative drilling will be conducted approximately ten hours/day, drilling roughly four holes per day (Jody Kuhne, NCDOT Regional Geological Engineer, personal communication). It will take approximately two months to complete the work in the French Broad River, including set-up time. The drill rig will sit on a 15 by 20 ft. (approximate) barge that is surrounded by a containment boom to minimize turbidity. If water levels do not allow the use of a barge, investigative drilling would happen immediately upon completion of bridge construction causeways, using the causeways for access.

Roughly 45-60 borings may be needed in the French Broad River, covering about 15 sq. ft. in total (Jody Kuhne, NCDOT Regional Geological Engineer, personal communication). Additional borings may be needed in Hominy Creek if bents will be placed in the water. The noise will be equivalent to or quieter than normal bridge traffic. The drilling fluid will be clear water and the output will consist of silt-sized

#### rock dust, approximately one pound per hole, which is direct sediment output from the hole.

It has since been determined that the relatively low normal water level (less than two feet) in the French Broad River (FBR) does not allow for proper draft of the barge- mounted equipment and has the potential to disturb/damage the riverbed and geotechnical equipment. Additionally, the causeway language is not accurate, as the causeways will not be constructed until the bridge is ready to be constructed. The updated description is as follows, with the key difference of drill rig mobilization underlined:

#### **Investigative Drilling**

Drilled shafts will be used for bridge construction and investigative drilling for the bridge foundations will require a vertical boring with an area of approximately 0.5 square foot at each of the drilled shaft locations. The investigative drilling occurs well in advance of the bridge shaft drilling and bridge construction. Each boring will reach a depth of 25 to 30 ft. Roughly 30 borings may be needed in the FBR, covering about 15 square feet in total. The borings will be performed with <u>drill rigs mounted to large diameter rubber tire all terrain carriers</u>. Riverbed disturbance will occur along the routes that will be established for the carriers through repeated use, though it is noted that the low-pressure tires serve to minimize contact pressures with the riverbed. Drilling will be performed during low water levels within the river (approximately 2 feet). The drill rigs will be in the river during the day and then moved, whenever possible, to the adjacent floodplain during the night. When parked on the floodplain, rigs will be secured to heavy equipment with cables. During rain events, water levels will be monitored, and the drilling equipment will be mobilized to the banks when water levels are elevated above 2 feet. Drilling will resume when the water level recedes to normal.

Investigative drilling will be conducted approximately eight to ten hours/day, resulting in approximately two borings per day. It will take approximately two months to complete the geotechnical investigative drilling which includes mobilization to the project location and weather delays that result in elevated water levels in the river. To expedite the borings, there will be two rigs in the river which will be the only pieces of equipment driving back and forth. Personnel will be in waders in the river by the machinery while doing work.

The noise will be equivalent to or quieter than baseline bridge traffic (70-80 decibels). Water from the river will be used as drilling fluid and the output from the drilling operations will consist of silt-sized rock dust, approximately one pound per hole which is the direct sediment output from the hole.

#### **Conservation Measures:**

The conservation measures provided in the 2020 Opinion remain the same and are applicable to the updated investigative drilling procedures. Notably, section 2.3.4 "Measures to Avoid/Minimize Effects to Gray Bat and Appalachian Elktoe during Bridge Construction" outlines commitments with direct application such as containment and erosion control measures. No additional measures are included in relation to the updated project description.

#### **STATUS OF THE SPECIES – Appalachian Elktoe**

Due to impacts from Tropical Storm (TS) Helene, which hit Western NC on September 27, 2024 and resulted in widespread and catastrophic flooding throughout much of the region including the FBR, the information presented in the 2020 Opinion is assumed to have changed. At the time of this document; however, measurable impacts to Appalachian elktoe from TS Helene remain largely unknown. Extreme flooding and scour in many of the rivers occupied by the species are believed to have resulted in reduced abundance in several locations, while other areas likely lost fewer individuals. While we assume the status of Appalachian elktoe has changed and been reduced by impacts precipitated by TS Helene, we lack comprehensive data at the time of this consultation to base any stated changes in species numbers or status. The Service's ability to make informed statements on species status will evolve over time once

recovery efforts are completed and biologists have the time and capacity to conduct comprehensive surveys and compile that data.

In general, natural flooding events combined with alteration of watersheds can lead to large fluctuations in abundance observed in Appalachian elktoe populations. Record catastrophic flooding in the species range occurred during TS Helene, with many areas inhabited by Appalachian elktoe being severely damaged by erosive flooding, bedload scour, and bank failures. Observations immediately after the flooding in October 2024 revealed that despite severe flooding, certain portions of Appalachian elktoe occurrences in North Carolina, such as the upper Pigeon River, were relatively intact. Those observations indicate that the species is likely to remain in most of the affected areas, though individual numbers were likely greatly reduced in many inhabited locations. Portions of TS Fred. The flooding likely resulted in loss of Appalachian elktoe individuals within populations in the hardest-hit portions of the Pigeon, Mills and FBRs.

While there are unknowns regarding the current status of Appalachian elktoe within the action area in the FBR, observations of the intact bedload and of mussel presence upstream at the confluence of Bent Creek and the FBR indicate that the species remains within the action area.

#### **ENVIRONMENTAL BASELINE – Appalachian Elktoe**

Flooding and scour from TS Helene impacted the portion of the FBR included in this consultation, resulting in an assumed shift in baseline. Post-storm in-water species surveys have not been conducted within the action area at this time, given the scale of post-storm efforts and the constraints associated with the TS Helene response. Discussions regarding site conditions as observed by the Service's Asheville Field Office aquatics recovery lead and NCDOT's Biological Surveys Group have occurred and there is consensus that the bedload remains intact. While the major flood event and requisite response work in the form of heavy machinery and in-water work damaged aquatic habitat within the FBR, the potential for individual Appalachian elktoe to still occur within the action area remains. At the time of this consultation, those individual numbers are believed to be reduced from pre-Helene conditions but are not believed to be zero.

#### **EFFECTS OF THE ACTION**

Effects analyzed in the 2020 Opinion are still relevant and valid. Additional effects on Appalachian elktoe from the all-terrain carrier vehicles that will transport the drill rigs in the FBR are examined below.

Impacts expected to occur from the use of the all-terrain carrier vehicles are: crushing/wounding/killing of Appalachian elktoe which could be present in the substrate where the vehicles drive; and/or degraded habitat quality in the form of disturbed sediment and/or leakage of vehicle fluids while in use in the river.

Within the Effects on Appalachian Elktoe - Section 5.2.3.2.1.1 Investigative Drilling in the 2020 Opinion, the below is stated and is expected to remain the same even with the updated drill rig transportation plan:

During investigative drilling for bridge footings, any mussels present in the drilling area, about 15 sq. ft. in the French Broad River, will be killed. The cuttings (rock dust) from drilling could potentially smother any mussels that happen to be in the area. Given the rarity of Appalachian elktoe within the French Broad River, the chances of an individual occurring within the location of the borings is small but cannot be completely discounted...

#### CONCLUSION

In the 2020 Opinion, we determined that the estimated level of take associated with the project is unlikely to result in jeopardy to Appalachian elktoe. That estimated number is based on the species density model as explained in the 2020 Opinion. Restating the above discussion, we do not currently have data to support a change in that density model. Given that the footprint of impacts associated with the updated

investigative drilling process will = 12,000 square feet (1,115 square meters) x 0.0005 estimated density per square meter = estimated 0.6 Appalachian elktoe within that 12,000 square foot area. Based on that calculation, the new estimated amount of take for Appalachian elktoe adds one additional individual for a total estimate of 13 individuals expected to be harmed during the FBR bridge construction portion of the project. While the change to the proposed action is expected to result in a slightly higher amount of take, the analysis of "no jeopardy" remains the same. This conclusion was reached through consideration of the scale of the additional impact in combination with what is currently known regarding post-TS Helene status of Appalachian elktoe throughout its range and within the FBR.

## **INCIDENTAL TAKE STATEMENT – Appalachian Elktoe**

#### Amount of Take Anticipated

In addition to the amount of take described in the 2020 Opinion, the following is now included: As explained in the previous section, the amount of take is expected to increase by 1 individual given the 12,000 square foot additional area of impact. Because impact area (i.e. square footage) serves as a surrogate measure of take for the purposes of this analysis for Appalahcian elktoe, the amount of incidental take will be exceeded if the impact area is exceeded.

#### **Reasonable and Prudent Measures**

No changes from the 2020 Opinion.

#### **Terms and Conditions**

No changes from the 2020 Opinion.

#### **CONSERVATION RECOMMENDATIONS**

In addition to the recommendations provided in the 2020 Opinion:

- Reduce the area of riverbed impact from large diameter rubber tire all terrain carriers and all other drilling-related equipment to the maximum extent possible.
- Conduct thorough and regular maintenance investigations on all machinery that will operate in the river to ensure avoidance of fluid leaks and spills.
- Stabilize, restore, and revegetate the area of riverbank used for access once work is completed. Utilize native riparian species.

## **REINITIATION AND CLOSING STATEMENT**

This concludes reinitiation of formal consultation on the actions outlined in your project description last updated April 27, 2025. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded, (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this BO, (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this BO, or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operation causing such take must cease, pending reinitiation.

## Figure

