



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

June 2, 2017

Memorandum to: Jason Dilday, Environmental Senior Specialist
NES, Environmental Coordination and Permitting Group

From: Matt Haney, Environmental Senior Specialist
NES, Biological Surveys Group

Subject: Freshwater Fish and Mussel Survey Report for the Proposed Replacement of Bridges 133 and 134 over the Black River and Black River Overflow on SR 1722 (Three Bridge Rd), Harnett County. TIP No. B-4544. WBS # 17BP.6.R.86 and 17BP.6.R.87

The North Carolina Department of Transportation proposes to replace Bridges 133 and 134 over the Black River and Black River Overflow on SR 1722 (Three Bridge Rd) in Harnett County. These waterbodies are in the Cape Fear River basin. From the project, the Black River flows approximately 12.1 river miles until converging with the South River. The federally endangered Cape Fear shiner (*Notropis mekistocholas*) is listed by the U.S. Fish and Wildlife Service (USFWS) as potentially occurring in Harnett County. Additionally, the Atlantic pigtoe (*Fusconaia masoni*) is being considered for listing by the USFWS and is known to occur in Harnett County.

The Cape Fear shiner is known only from the Cape Fear River watershed. In general, habitat occurs in streams with clean gravel, cobble, or boulder substrates. It is most often observed inhabiting slow pools, riffles, and slow runs associated with water willow (*Justicia americana*) beds, which it uses for cover. Juveniles can be found inhabiting slackwater, among large rock outcrops and in flooded side channels and pools. Spawning occurs May through June, when water temperatures reach 66 degrees Fahrenheit.

The Atlantic Pigtoe has been found in multiple physiographic provinces, from the foothills of the Appalachian Mountains, through the Piedmont and into the Coastal Plain, in streams less than one meter wide to large rivers. The preferred habitat is a substrate composed of gravel and coarse sand, usually at the base of riffles, however, it can be found in a variety of other substrates and lotic habitat conditions.

The Black River was classified as a 303d stream in 2006. The closest NPDES facility to the project is over 5 river miles upstream of this project.

Prior to conducting a habitat assessment, a review of the NC Natural Heritage Program database was conducted (May 5, 2017) to determine if there were any records of rare fish or mussels within the proposed project study area or receiving waters. **This review indicated that there are no known occurrences of Cape Fear shiner or Atlantic pigtoe in the Black River. The closest known occurrence of Cape Fear shiner and Atlantic pigtoe is over 30 river miles away from this project in the Cape Fear River.**

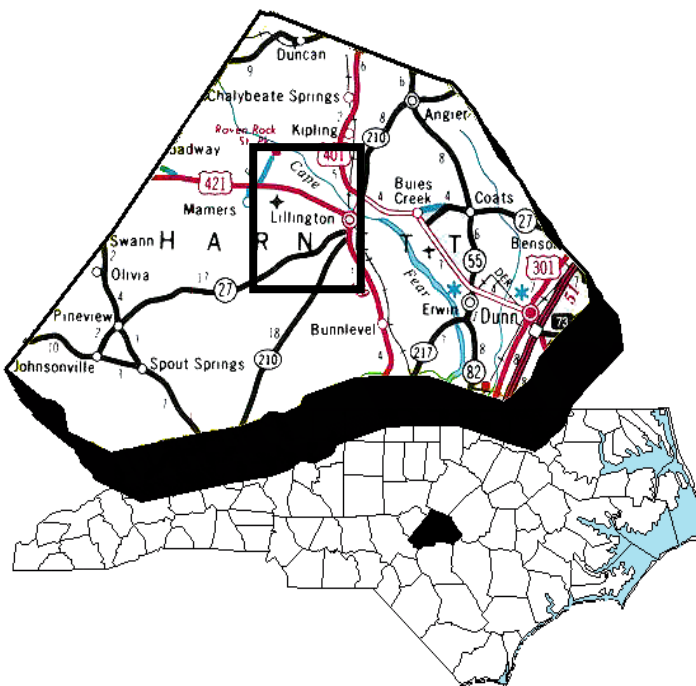
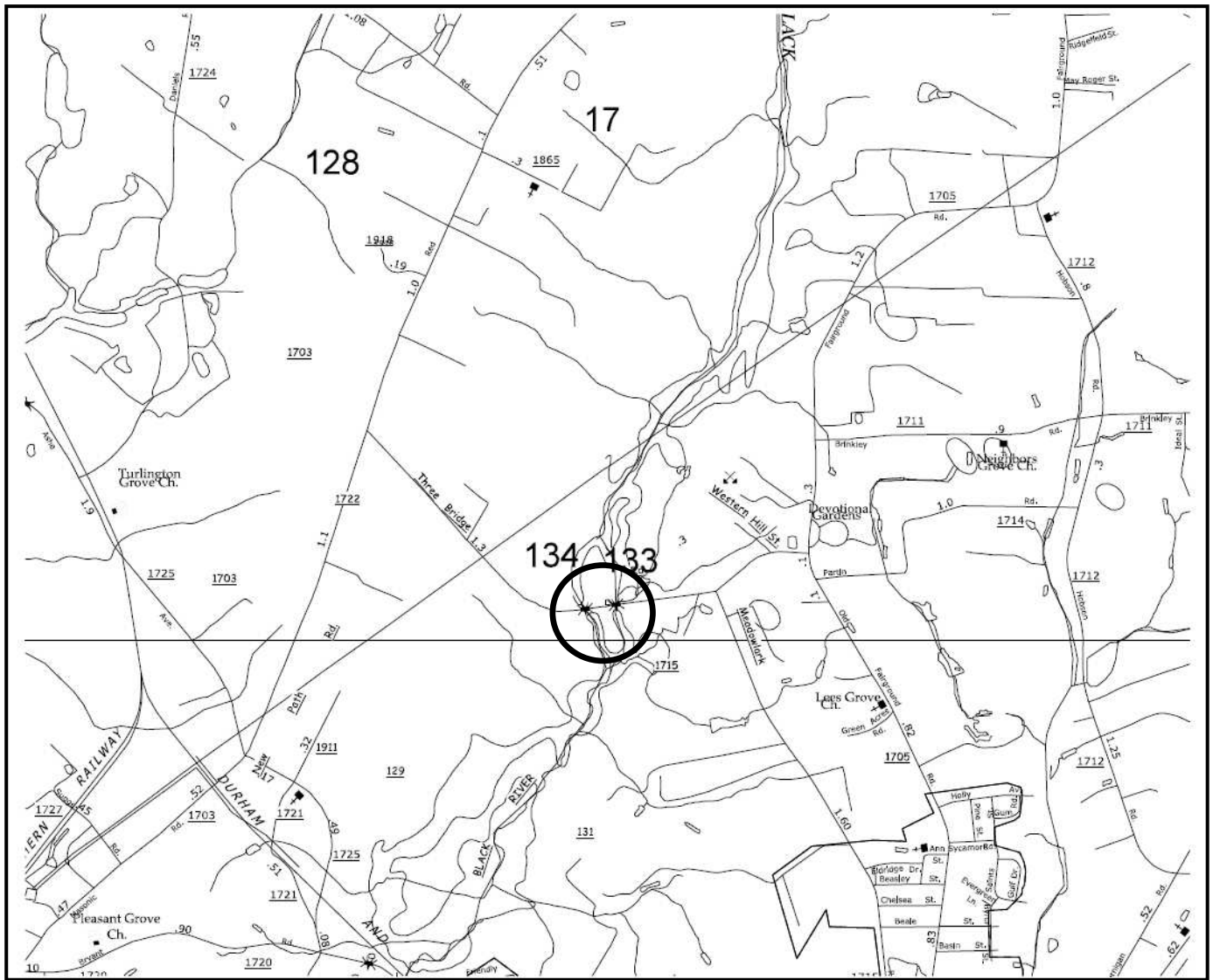
A habitat assessment was conducted on May 9, 2017 by NCDOT biologists Jared Gray (Permit No. 17-ES00314) and Matt Haney, along with RKK biologist Neil Medlin (Permit No. 17-ES00030). At the project site, the Black River was a large cypress/gum swamp system. The floodplain and buffer was wide. The flow of the river was very slow and no distinct channel was observed. The pH and dissolved oxygen associated with these systems are usually low, which is unsuitable for sensitive species such as Cape Fear shiner and Atlantic pigtoe.

Due to the habitat observed at the site and that there are no known occurrences of Cape Fear shiner in these waterbodies, this project will have no effect on this species.

Biological Conclusion Cape Fear shiner: No Effect

While the following species is not currently federally protected and a biological conclusion is not necessary at the time of the writing of this report, if this species was to receive federal protection, the appropriate biological conclusion due to the habitat observed at the site and that there are no known occurrences of Atlantic pigtoe in these waterbodies is as follows:

Biological Conclusion Atlantic pigtoe: No Effect



	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH
HARNETT COUNTY REPLACE BRIDGE NO.'S 133 & 134 ON SR 1722 OVER BLACK RIVER B-4544	
Figure 1	