



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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GOVERNOR

NICHOLAS J. TENNYSON
SECRETARY

April 28, 2016

Memorandum to: Pam Williams, Priority Projects – Project Engineer
Technical Services, Priority Projects Unit

From: Matt Haney, Environmental Senior Specialist
Natural Environment Section, Biological Surveys Group

Subject: Freshwater Fish Survey Report for the Proposed
Replacement of Bridge No. 68 on NC 214 over Big Creek
(Green Swamp), Columbus County. TIP No. B-5699.
WBS # 45653.1.1

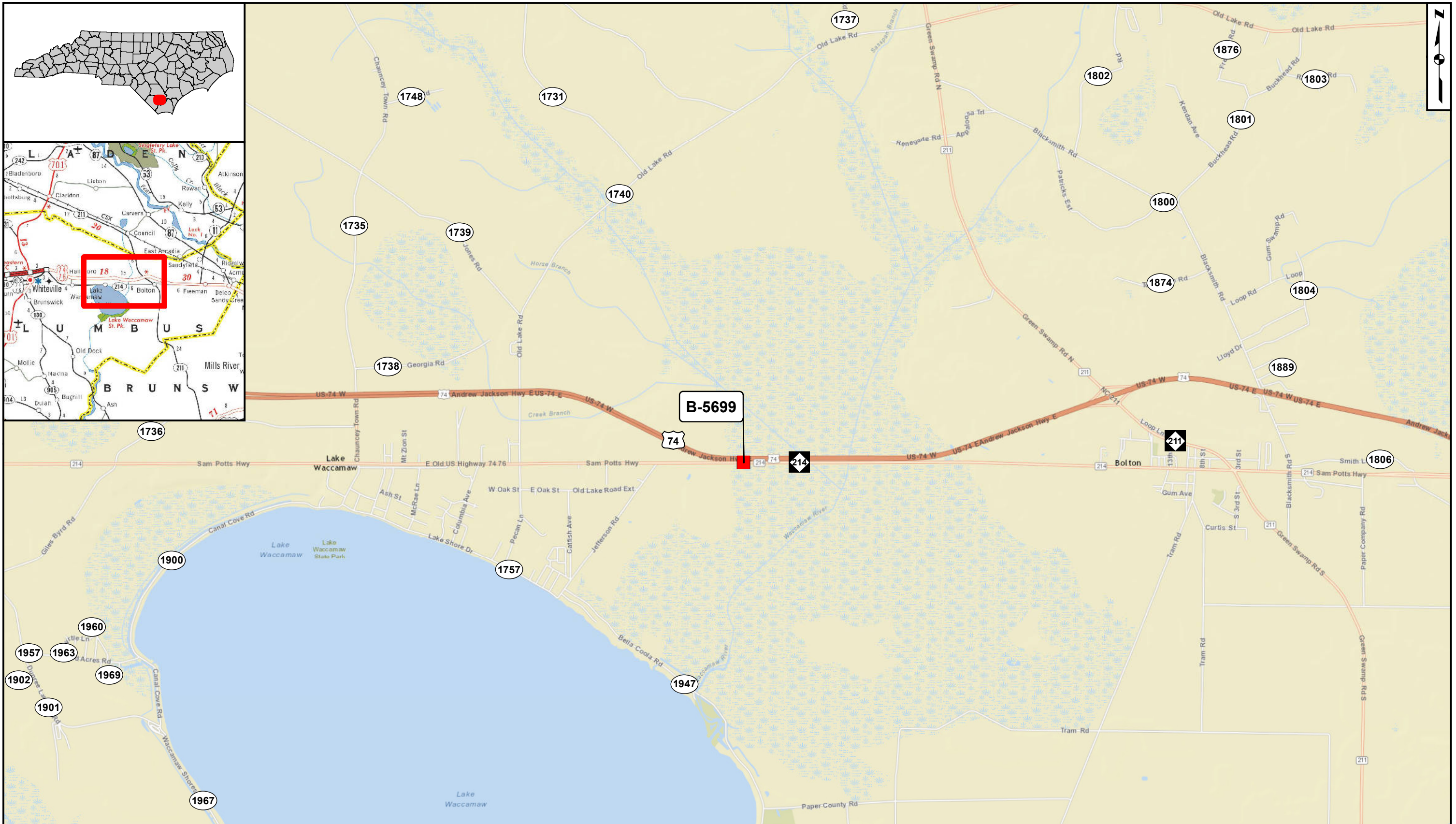
The North Carolina Department of Transportation proposes to replace Bridge No. 68 on NC 214 over Big Creek (Green Swamp) in Columbus County. Big Creek (Green Swamp) is in the Lumber River basin. From the project, this stream flows approximately 2 miles until converging with Lake Waccamaw. The federally threatened Waccamaw silverside (*Menidia extensa*) is listed by the U.S. Fish and Wildlife Service as potentially occurring in Columbus County.

The Waccamaw silverside is found only in the Waccamaw River watershed. The required habitat for the Waccamaw silverside to survive is high quality, neutral pH water with a clean sandy substrate. Waccamaw silversides inhabit the surface over shallow, dark bottomed areas. Spawning occurs in April through June and peaks when water temperatures reach 68-72 degrees Fahrenheit.

A review of the NC Natural Heritage Program database was conducted (April 28, 2016) to determine if there were any records of rare fish within the proposed project study area or receiving waters. **This review indicated that there are no known occurrences of Waccamaw silverside in Big Creek (Green Swamp). The closest known occurrence of Waccamaw silverside is approximately 2 river miles downstream from this project in Lake Waccamaw.**

The habitat at this project site is not suitable for Waccamaw silverside. Swamps and wetland complexes tend to have more acidic waters, whereas Waccamaw silverside requires neutral pH water. Therefore, this project will have no effect on Waccamaw silverside.

Biological Conclusions: No Effect for Waccamaw silverside for TIP No. B-5699



 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS UNIT	VICINITY MAP Replace Bridge No. 68 on NC 214 over Green Swamp in Columbus County TIP Project B-5699	0 0.75  Miles	<table border="1"> <tr> <td>Div: 6</td> <td>TIP# B-5699</td> </tr> <tr> <td colspan="2">Date: DECEMBER 2015</td> </tr> </table>	Div: 6	TIP# B-5699	Date: DECEMBER 2015		Figure 1
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