

Client

Gresham Smith and Partners

ES Project No. 12911

Key Services Provided

- Literature Review
- TDOT Environmental Boundary Field Study
- Stream Habitat Assessment

Project Duration

2019

ES Project Cost

\$3,100

ES Key Staff

Dave Czayka

Ryan Schwegman

Andrew Zimmerman

FRESHWATER MUSSEL HABITAT ASSESSMENT

Columbia, Tennessee



Gresham Smith and Partners worked as an engineer for the City of Columbia, Tennessee, to enhance a major intersection between two highways. This project included widening the roadway, constructing sidewalks, and installing stormwater and other utilities. The project required the extension of culverts and other activities that had the potential to disturb two tributaries to the Duck River: Allen Branch and an unnamed tributary. After initial correspondence with U.S. Fish and Wildlife Service, they commented that there was potential for the project to impact native federally listed aquatic species, including some freshwater mussel species. EnviroScience, Inc. provided services to Gresham Smith and Partners, performing a habitat assessment for potential state and federally listed freshwater mussels per the Tennessee Department of Transportation's Environmental Boundary Field Study protocol. EnviroScience also collected stream chemistry and water quality data in conjunction with the habitat assessment.

EnviroScience compiled a list of all known mussels recorded in the Duck River – Bear Creek drainage area. The list consisted of four federally endangered mussels, one federally threatened mussel, and seven mussel species listed as locally endangered by the Tennessee Department of Environment and Conservation. An EnviroScience biologist then visited the site and performed a thorough stream survey along a 50-meter reach bracketing the proposed culvert crossing. No mussel specimens, alive or dead, were observed. It was determined during the stream survey that due to prolonged periods with no water, the stream was unlikely to support a sustained mussel population.