

#### Client

West Virginia American  
Water through Hatch Mott  
McDonald

ES Project No. 5937

#### Location

Kanawha County, WV

#### Key Services Provided

- Safety & Dive Plan
- Three Mussel Surveys
- Biological Assessment
- USFWS / State Formal Consultation
- Mussel Relocation
- Sediment Monitoring
- Mussel Monitoring
- GIS Services

#### Project Duration

2013 - 2018

#### ES Project Cost

Est. \$230,000

#### ES Key Staff

Greg Zimmerman  
Martin Huehner  
Ryan Schwegman  
Tim Willaman  
Dale Dunford  
Patrick Evankovich  
Nick Shoots

## FRESHWATER MUSSEL SURVEYS/RELOCATION, BIOLOGICAL ASSESSMENT, USFWS/STATE FORMAL CONSULTATION, & SEDIMENT MONITORING

Kanawha River Near Pratt, WV



West Virginia American Water proposed placing an 8-inch water pipeline 284m (931ft) across the Kanawha River near Hansford, WV to serve the approximately 2,000 residents of Pratt and outlying areas with reliable drinking water. The community's health was at risk due to the town's inability to produce drinking water that meets state and federal standards.

Hatch Mott MacDonald, the consulting engineer, contracted EnviroScience, Inc. to conduct two freshwater mussel surveys (preferred and alternate locations) during spring and early summer of 2013. The surveys found federally endangered mussels (Fanshell, *Cyprogenia stegaria*, and Pink Mucket, *Lampsilis abrupta*) at both locations.

Since the characteristics of the location precluded Horizontal Directional Drilling, trenching by a barge-mounted clamshell bucket was the final selected construction alternative to install the waterline into the riverbed. Presence of the endangered mussel species and public health concerns for the Pratt community precipitated an emergency formal consultation (normally a 4-month process) with USFWS. EnviroScience developed the Biological Assessment document to begin the formal consultation process by late summer of 2013. Approval for relocating freshwater mussels from the water line's path was granted in early fall of 2013. EnviroScience immediately mobilized a large field team to successfully relocate a total of 1,434 mussels of 26 species, including the federally endangered species. These mussels were tagged before placing them in the relocation site for later identification. In the summer of 2014, we documented changes to the native substrate using video equipment. We will continue monitoring the tagged mussels through 2018 to assess the effectiveness of the relocation effort.

This project demonstrates how EnviroScience can quickly adapt to the emerging needs of complex situations to produce positive results in a timely manner and help balance the needs of communities and industry with USFWS and State wildlife regulations.