

North Tarrant Extensions Project

In North Tarrant Extension Segment 3A prior to begin with the drill shaft in Trinity River Bridge, was necessary assess the current status of **freshwater native mussel** population in order to contribute their conservation and persistence. The mussel have to be removed and relocate upstream by specialist in relocation of this macro invertebrates. While the construction was in progress, the water condition was controlled by NTE Environmental Department.

Mitigation measures consisted of the removal of the live specimens and relocation out of the construction zone to **prevent accidental burying** of specimens and potential death caused by sediment entering the waterway as a result of the construction activities.



Scientists identified and relocated **33 native freshwater mussels** and identified an additional **66 shell-only** specimens; the four species of freshwater mussels recovered during survey activities are:

- fragile papershell (*Leptodea fragilis*)
- giant floater (*Pyganodon grandis*)
- southern mapleleaf (*Quadrula apiculata*)
- yellow sandshell (*Lampsilis teres*) [shell-only]

No state-listed freshwater mussels or Species of Greatest Conservation Need were identified during the freshwater mussel survey of the West Fork of the Trinity River and an unnamed tributary of the West Fork of the Trinity River.

Bluebonnet Contractors, LLC; NTEMP; and the North Tarrant Express Project were chosen by an independent panel of environmental specialists as a recipient of the **ARTBA 2014 Globe Award** for environmental excellence. The Globe Awards are an annual competition to honor and draw attention to private-sector firms and public-sector transportation agencies that do an outstanding job in **protecting and/or enhancing the natural environment** in the planning, design and construction of U.S. transportation infrastructure projects.

Freshwater mussel relocation:

- ✓ 4 species affected
- ✓ 33 specimens relocated



In addition to avoidance and minimization, mitigation for temporary project impacts that might occur to mollusk habitat consisted of implementing **water quality measures**.

Prior to sediment disturbance in the river by bridge construction background concentration levels of Polychlorinated Biphenyl, Total Organic Carbon and Total Suspended Solids were established to provide data needed to deal with sediments that could affect the water quality, native freshwater mussels habitat and Total Maximum Daily Load concentrations in the river if disturbed.

While the construction was in progress, erosion and sedimentation control devices were installed along the river bank to control run-off, turbidity curtains deployed in the river, and real-time surface water turbidity measurements were taken to continually monitor the water conditions.



During construction, eight active **red-winged blackbird nests** were discovered in conflict with construction. All eight nests were protected and monitored, and project schedule was adjusted, until nesting was completed.

