ASTI Works to Protect Endangered Freshwater Mussels

JULY • 2020

WWW.ASTI-ENV.COM

BRIGHTON:
810-225-2800

DETROIT:
313-910-5766

GRAND RAPIDS:
616-957-5601

SERVICES:

- Asbestos, Mold & Lead Assessments
- Baseline Environmental Assessments
- Brownfield & Historic Redevelopment
- Complisnce Permitting & Assessments
- Due Care Plans
- Ecological Surveys
- Enviromental Concerns Assessments
- Environmental Due Diligence
- Habitat Restoration
- Indoor Air Quality
- NEPA Reports
- Phase I ESAs
- Reclamation Plans
- Redevelopment Incentives
- Remediation
- Restoration
- SHPO Assessments
- Soils/ Groundwater Investigations
- Stormwater Management
- Transaction Screens
- UST Closures
- Wetland Mitigation & Banking

The Clinton River has a diverse fauna of freshwater mussels

We often think of endangered species as charismatic large animals with fur or feathers, but one of the most imperiled faunas is a group of bottom dwelling aquatic organisms with no soft, cuddly outside, and no eyes.

With over 300 species in North America, native freshwater mussels (scientific family name: Unionidae) have been declining over the years due to pollution, over-harvesting (for the button industry in the 1800s to mid-1900s) and the introduction of the zebra and quagga mussels. Almost 70% of the native mussel fauna is imperiled, and 93 species are listed by the U.S. Fish and Wildlife Service as endangered or threatened. Thirty-eight species are considered extinct, and many also have state threatened or endangered status.

ASTI's Megan Salazar conducting a quantitative search for mussels using a square meter.

Often referred to as "unionids," this group of mollusks have an unusual life cycle, where the larval stage must attach to the gills or fins of a fish to metamorphose into its next stage as a juvenile mussel. Various unionid species have different "lures" to get their larvae to the fish.

ASTI Environmental

Because the mussels need healthy fish to continue their life cycle, it is unlikely that the larvae kill the fish.

Unionids are a key component in the waters where their fish hosts live. Mussel beds provide habitat for aquatic insects and other macroinvertebrates. As filter feeders, they also recycle and store nutrients, and even modify food webs. Since the native mussels don't move very far and they are sensitive to pollutants, their presence usually indicates good water quality.

The snuffbox mussel, Epioblasma triquetra; a federally endangered species found in the Upper Clinton River.

Protecting freshwater mussels includes moving them so they are out of harm's way during construction, dredging, or other projects in the water. Mitigation is rather easy, as the mussels can be relocated to an area with suitable habitat out of impact zones. ASTI has worked on over 45 mussel projects with the Michigan Department of Transportation (MDOT), various road commissions and departments, and other agencies to survey and relocate the native freshwater mussels. This has included mitigation for federally endangered and state listed species. While most of the work has been in Michigan, ASTI is permitted in Ohio and Wisconsin as well.

ASTI's Joe Ruthburn measuring mussels found in the river.

In addition to relocation projects, ASTI personnel have conducted education workshops and worked with the Michigan Department of Natural Resources to produce A Field Guide to the Freshwater Mussels of Michigan. This guide is used by biologists and the general public to help identify the 43 unionid species found in the state.

If you are interested in a mussel survey, please contact Dianne Martin at 800.395.2784 or via email at dmartin@asti-env.com.