

Endangered Mussel Surveys



Enviroscience Mussel Divers on Kanawha River

Native freshwater mussels are an integral part of river and stream ecosystems. Mussels remove particulate matter from streams as they siphon the water column to obtain food. Rejected particles and feces provide a food source for invertebrate communities that subsequently support fish populations. Freshwater mussels also serve as excellent indicators of water quality. Anthropogenic sources, especially non-point source pollution, threaten native populations of mussels. Other influences, such as sediment loading, dredging, and clearing riparian vegetation can also alter mussel populations. Mussel habitat can be lost through channelization and dam construction. Invasive species, including non-native mussels such as the zebra mussel, can also threaten native species.

Today, many bridge, pipeline, and road rehabilitation projects require freshwater mussel surveys as specified by the Federal Endangered Species Act. These projects typically involve:

- Mussel habitat delineations
- Qualitative surveys to determine the presence or absence of native mussels
- Quantitative surveys to determine mussel diversity and density

- Mussel translocations and subsequent monitoring programs



Freshwater Mussels
Translocation Grid

EnviroScience has extensive experience performing mussel surveys for federal, state, and local transportation projects. In addition, EnviroScience has conducted surveys associated with National Pollution Discharge Elimination System (NPDES) permit modifications and dredging operations. Our experience with regional regulations and regulators ensures compliance with all project specifications.

Why use EnviroScience to monitor mussel populations?

- We have an experienced team of published malacologists and certified divers
- Our biologists are U.S. Fish and Wildlife approved mussel surveyors
- EnviroScience's [underwater diving experience](#) facilitates accurate freshwater mussel density estimates
- We can provide customized project designs for each client
- We utilize [GPS/GIS](#) and ArcPad technology for accurate mapping and monitoring
- Our scientists have provided expert witness testimony on mussel related issues
- Our biologists use the latest technology in mussel tagging techniques

In Action



Diver with mussel bag



Bridge demolition_mussel survey in Meadville, PA



ES Endangered Mussel Survey Team on the Kanawha River, WV



Freshwater Mussel Survey



ES mussel divers on the Kanawha River, WV



Live Tagged Mussels_Mussel Survey



Endangered mussel diving on the Kanawha River, WV



Quantitative Mussel Surveys



Bridge
demolition_m
ussel survey



Invasive
Zebra
mussels
attached to
a Pink
Heelsplitter
mussel



Freshwater
mussel
translocatio
n



Wavy-rayed
Lampmussel –
*Lampsilis
fasciola* –
displaying
its lure
during a
mussel
survey



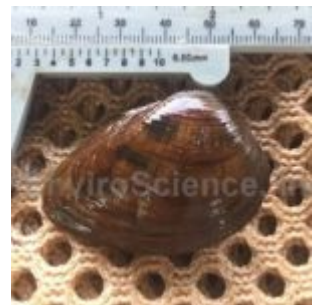
Freshwater
mussel
processing
on
Apalachicola
River Basin



Great Smoky
Mountain
National
Park
Freshwater
Mussel
Survey on
Abrams
Creek, TN



Threehorn
wartyback
(*Obliquaria
reflexa*)_fre
shwater
mussel
survey_threa
tened in OH



Clubshell –
*Pleurobema
clava*



Fanshell
–*Cyprogenia stegaria*



Northern Riffleshell
–*Epioblasma torulosa rangiana*–
(federally endangered)



Pink Mucket
–*Lampsilis abrupta*



Rabbitsfoot
– *Quadrula c. cylindrica* –
(federally threatened)



Rayed Bean –
Villosa fabalis –
(federally endangered)



Salamander Mussel
–*Simpsoniias ambigua*
(extremely rare)



Sheepnose
–*Plethobasus cyphus*
(juvenile)



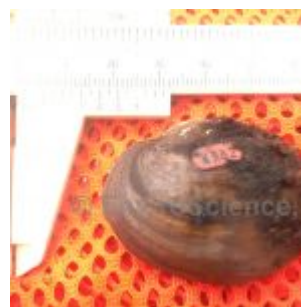
Snuffbox
–*Epioblasma triquetra*
(federally endangered)



Snuffbox
–*Epioblasma triquetra*



Spectaclecase



Pink Mucket
–*Lampsilis*



Lampsilis

(federally
endangered)

-Cumberlandi
a monodonta

abrupta
(tagged
juvenile)

cardium



Rainbow
Mussel –
Villosa iris
in the
Collins
River, TN



Texas
Hornshell by
Charles
Randklev,
Texas A&M
University

Need help with your project?

Our experts are here to discuss your needs and how we can help you move your project forward. Fill out the form below for more information on our services or to request a quote and we'll get back to you within 24 hours. If you need a response within an hour or less, please call us at 800-940-4025.

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