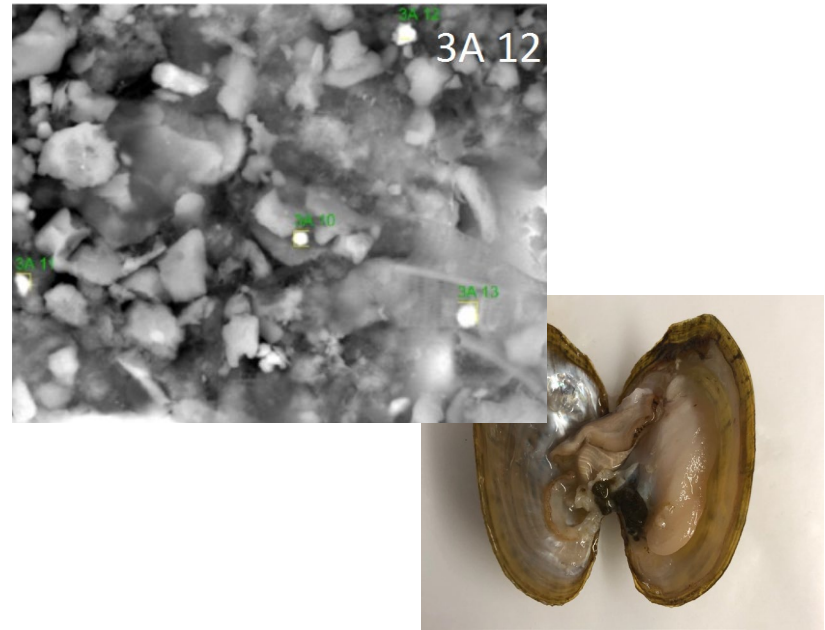


# Nano-enabled Approaches to Protect Endangered Freshwater Mussels of Appalachia

A cross-sector, interdisciplinary research team is working to better understand the nanoscale components of Total Dissolved and Suspended Solids (TDS and TSS) and how these components may potentially impact freshwater mussel fauna in select reaches of the Clinch River and similar watersheds. The project is leveraging advanced nanoscale characterization tools that are not used routinely to study aquatic ecosystems, and aims to contribute fundamental, new science and understanding regarding particulate matter in surface waters and their potential impacts on aquatic biota. Ultimately, these results may help improve the success of efforts aimed at restoring sensitive species to ecosystems degraded by anthropogenic activities.



*Photo of freshwater mussel undergoing dissection to remove the digestive gland for examination by electron microscopy. Inset shows an electron micrograph of harvested gut contents.*

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