

eDNA UMBC ICARE Project

U.S. Geological Survey Eastern Ecological Science Center and partnered with the University of MD-Baltimore County (UMBC) as part of their Interdisciplinary Consortium for Applied Research in the Environment (ICARE) program.

This project contributes to the DEIJ objectives of the Chesapeake Bay Program

- The ICARE program is an NSF-funded cross-sector network of environmental scientists and engineers who are committed to increasing the diversity of the environmental workforce and engaging the community in local environmental research.
- USGS scientists Than Hitt (brook trout), Cheryl Morrison and Aaron Aunins (conservation genetics) are working with Dr. Tamra Mendelson and her graduate student, Aiman Raza, evaluating eDNA approaches for detecting brook trout.
- Objectives:
 - How do changes in temperature affect brook trout shed rate and eDNA concentration/detection?
 - How do changes in season influence brook trout eDNA dynamics in natural streams, specifically distance and/or biomass effects?

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Both Field and Laboratory Studies

- The laboratory experiment involves collecting eDNA water samples with known brook trout numbers at 2 temperature levels: 10 °C and 20 °C
- The field component of the study involves introducing brook trout into cages in Hopewell Run (a karst stream located near the USGS EESC in Leetown, WV) and sampling water downstream from the cage at multiple distances. Sampling during cooler (April) and warmer (June) periods.

