Abstract #196

High School Student Success in Perennial Stream Classification

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Biographical Sketches of Authors

Mike Meyer received his master's degree from Indiana University-Bloomington in Science Education. His field experience includes surveying Great Grays and Spotted owls in Oregon, surveying Mexican Spotted owls in California, and participating in a study comparing habitat preferences of various bat species in old-growth redwood forests versus younger forest ecosystems in Northern California. He currently teaches AP Biology and chemistry at Herndon High School in Herndon, Virginia and has been at the school for five years. His academic interests include working with student-scientist partnerships and bringing hands-on science into his classrooms.

Ryan Albert is a PhD student in Environmental Science and Policy at George Mason University and a student of Dr. R. Chris Jones. His research examines urbanization and water quality in the rapidly developing Northern Virginia area. His field experience includes monitoring water quality in the tidal portions of the Potomac River, biomonitoring in freshwater streams, and a study examining the applicability of North Carolina's perennial stream protocol in the Northern Virginia area. He also has experience with both George Mason and part-time with Tetra Tech Inc. working on TMDL development.

Abstract

Qualified instructors can teach high school students the necessary skills for stream monitoring while furthering the students' education. This study examines whether data collected by high school students examining perennial and intermittent streams is valid for both research and analysis and use by policy makers. The paper also examines if students can learn from the data collection process.

The study was designed using Fairfax County's Perennial Stream Protocol. Fairfax County recently designed this protocol to map perennial streams, and to serve as a basis for reclassifying them in order to extend Resource Protection Area (RPA) protections to additional riparian habitat. Utilizing this protocol to assess two streams in Herndon Virginia, students took part in an authentic scientific project. The study has spanned two years with a modified methodology in the second year based on experiences from the first. Lesson plans were designed to teach students the basic theory and skills needed for data collection. The second year's study also included the EPA's Rapid bioassessment protocol habitat sheet; however, this was used primarily as a teaching tool. Results indicate that students do gain traditional 'academic' knowledge from the field component ($p < .01$) and that the data collected may be usable under certain circumstances.