

Best Education Practices (BEPs) for Water Outreach Professionals
Defining BEPs, Refining New Resources and Recommending Future Actions

RESEARCH PAPER PRESENTATION

Presenter(s): Patrick Edwards, Portland State University

Title: Improving Aquatic Insect Identifications Made by Students and Volunteers

Abstract: Educators and volunteer groups are increasingly using aquatic macroinvertebrate biomonitoring, not only as a way to engage the community in environmental stewardship, but also as a strategy for generating valuable water quality data. While the efforts of these groups have certainly increased understanding and concern for the health of our streams and rivers, the quality of the data collected through these programs is being called into question. To be useful in both the research and policy arenas, biomonitoring data must be accurate and conducted at a level of precision that will determine water quality within an appropriate level of certainty. Research, recently conducted at several Portland, Oregon high schools and a university, shows that student-collected data is not of sufficient quality. This paper reviews the literature on student and volunteer collected biomonitoring data, and presents results from a study on two strategies for improving students' field identifications of aquatic insects. Results from this research show that two interventions: *describing and showing Key Identification features, and using live reference specimens*, drastically improve the accuracy of aquatic insect identifications made by students.

Target Audience(s): Local decision makers and policy makers, neighborhood organizations

Educational purpose(s): Education
(formalized process with a goal), capacity
building

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