

A Pilot Study of Groundwater Quality Education Curriculum Using Private Well Water Testing

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Abstract

Although the United States Environmental Protection Agency (USEPA) regulates public water systems, private drinking water wells are monitored by the landowner. Approximately 20% of New Englanders use private wells for drinking water (USEPA 2008). Without state and federal regulations, maintenance and testing does not always occur. It is thought that essential information on testing could be delivered through groundwater quality education programs. Particularly, curriculum that include a citizen science component is integral to water quality monitoring efforts and contributes to the overall goal of increasing citizen involvement in solving water quality problems (NCSU Water Quality Group 2008). Both the USEPA and the United Nations Environment Program (UNEP) support citizens in becoming knowledgeable of and active in their water resources (USEPA 2007, UNEP 2009). The current project will broaden citizen science research by investigating environmental education outcomes after implementing a groundwater quality curriculum, Groundwater Education Through Water Evaluation & Testing (GET WET!). Results from a pilot study, which measured a variety of post-education outcomes, will be presented. Our pilot study examined the role of science learner identity, life skills, and classroom climate on outcomes in formal learning environments. Additionally, our pilot study investigated intergenerational knowledge transfer -- the study of how parents and children influence each others' environmental knowledge, attitudes, and behaviors. The pilot study will guide future efforts to expand our understanding of intergenerational learning by creating a predictive model of parental behavior. Pilot studies are essential to assure sound data. We will share how the pilot study helped prepare for future data collection based on quantitative social science survey methodology. The poster presentation will discuss the findings from the pilot study and also any changes that will be made before further research is done.