

Promoting Water Sustainability Literacy

Problem and Research Objectives

Hawaii faces immediate challenges in meeting water demands and implementing wastewater and stormwater reuse programs. Despite our location in the middle of the Pacific Ocean, our water resources are very limited and Hawaii's ecosystems and environments are increasingly threatened by drought and the impacts of environmental degradation and climate change. The purpose of this water literacy project is to address complex human-environment interactions associated with water resource management, as mediated by the diverse cultural, political, and economic conditions in the State of Hawaii. In particular, we focus on educating the University of Hawaii at Manoa (UHM) campus community to raise literacy about water-related issues at the campus, neighborhood, watershed, and island scales.

Methodology

This project provides opportunities for students to learn about water resource management challenges through the process of planning, organizing, and attending campus events that focus on promoting water sustainability literacy. Each semester, we recruit undergraduate students from two UHM interdisciplinary programs—Environmental Studies and Honors—to collaborate on project activities with faculty and staff of the UHM Environmental Center and the UHM Manoa Sustainability Council. These activities—including research seminars, panel discussions, and showcases of student work—provide opportunities for individuals from across disciplines to engage with fellow members of the campus community and further the objectives of campus stewardship as identified in the UHM Strategic Plan.

Although there are numerous events to attend on campus in any given semester, the water forums focus the attention of the campus community on a specific aspect of sustainability literacy. Students address water resource management challenges by developing, articulating, and disseminating knowledge through collaboration with faculty, fellow students, businesses, and government agencies. Student involvement includes event planning and promotion; independent research, and the preparation of conference posters and exhibit materials in collaboration with Water Resources Research Center (WRRC) faculty and affiliates. The project budget also includes funding for the completion of rainfall catchment demonstration structures at WRRC's Krauss Annex facility.

Principal Findings and Significance

Our review of event content and participation indicates that the goal of sustainability literacy, in general, is a welcome addition to the campus conversation. Among the principal findings is a need to improve coordination among members of the campus community who are already engaged with the topics of environmental education, sustainability literacy, and water resource management. Nonetheless, attendance at water sustainability literacy events totaled over two hundred people, averaging about 20 people per event.

The events were planned and organized by several dozen students and faculty. One of the major considerations in the planning process was when and where to stage these events in order to maximize future learning outcomes and increase the audience for water sustainability literacy.

Of particular significance is the timeliness of the topics and events in relation to the current development of on-campus and off-campus academic programs, course proposals, and research and service projects. The water literacy events conducted during this project contribute to the achievement of sustainability education and awareness training that is promoted in the current campus strategic plan (University of Hawaii at Manoa, 2011). The topics covered are linked with specific objectives established in the UHM Chancellor's "Sustainability Policy Statement" such as maximizing water conservation, water efficiency, and best management practices for stormwater storage, recharge, and reuse (University of Hawaii at Manoa, 2012).

In Fall 2012, the water sustainability literacy project culminated in a Sustainability Open House that showcased seven off-campus student internships and fifteen on-campus projects initiated by students (December 5–6, 2012). The UHM Chancellor endorsed one of these projects in a letter of support for a student led proposal to the U.S. Environmental Protection Agency (Cusick, 2012). Student learning outcomes also included expanded professional networks and the development of research and communication skills of interest to employers.

The sustainability literacy events conducted during this project provided a focus for student preparation and presentation of web-based resources, including YouTube videos, PowerPoint slides, conference posters, and project base maps that can be used for future reference by the campus community. These work products will be further developed and archived during the coming project year, led by students in the Fall 2013 Environmental Studies Practicum course. The original design of the rainfall catchment demonstration structures will be augmented through the additional financial support generated from a successful, student-driven proposal to the UHM Student Athletic Fee Committee (Krauss Neighborhood Makeover Project).

Publications Cited in Synopsis

Cusick, J., 2012, Modified rain garden to increase sustainability literacy on the University of Hawaii at Manoa Campus, proposal to the *10th Annual P3 Awards: A National Student Design Competition for Sustainability Focusing on People, Prosperity, and the Planet*, U.S. Environmental Protection Agency, Extramural Research.

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