"Community Management of Natural Resources at UMass Dartmouth"

Robert Darst, Political Science and Honors

Tara Rajaniemi, Biology

UMass Dartmouth recently launched a new effort to map natural resources on campus, and to develop a plan for sustainable natural resource management. We incorporated undergraduate field research related to this effort into two courses. Each course brings an interdisciplinary perspective to bear on issues of natural resource management.

Spring 2010: Political Science 251, "Sustainability on Campus" (Darst)

Fall 2010: Biology 103, "Campus Biodiversity" (Rajaniemi)

In each course, the students participated in mapping the ecosystem in areas of the campus that are slated for land use changes, or which have recently undergone land use changes. This information is critical to successful natural resource management, and participation in gathering it will provide our students with practical research experience, a greater appreciation for the interaction among academic and professional disciplines, and a more holistic understanding of the UMass Dartmouth campus community.

Specifically, students in PSC 251 counted shrubs, identified them by species, and measured their size in the field that is part of the Cedar Dell Vista and the adjoining North Atlantic Cedar Swamp. Trees and most shrubs were cleared from this area in Fall 2010 to reopen the vista to Cedar Dell Pond. Thus, these students provided baseline data for plant growth in the area before cutting, which will be useful as a comparison for future growth.

Students in BIO 103 worked in the Cedar Swamp after clearing to measure its existing size and document the dominant wetland species in the area. The swamp may expand now that the trees bordering it have been removed, so this information will be vital to understanding any changes that take place.

In November and December, BIO 103 students will establish long-term plots for yearly monitoring in the forest. There will be one plot in an area that is slated for selective thinning, and one in an area that has been designated for never being cut. Each tree in the plots will be identified and measured, allowing for tree growth and changes in the forest to be observed in the future.

This project demonstrates that the natural resources on campus provide valuable opportunities for undergraduate research, in scientific and non-scientific fields. Our expectation is that related undergraduate research will be incorporated by other instructors in other classes in future semesters. Towards that end, we look forward to publicly sharing our experience and lesson plans.