

Yaffa Grossman
Biology Department
Beloit College

My interests in sustainability date to the late 1980s, when I worked in the Public Affairs Office of the Ecological Society of America (ESA). During that time, ESA responded to the challenges posed in the Brundtland Commission report by studying the concept of sustainability and publishing a report called the “Sustainable Biosphere Initiative.” ESA has continued to involve itself in discussions of sustainability, most recently at its 2009 annual meeting, which focused on sustainability. Since my arrival at Beloit College in 1996, I have taught three first-year orientation courses on environmental sustainability and incorporated sustainability concepts into my biology and environmental studies courses. My emphasis has been on developing the ability of students to think clearly about systems, including identifying system boundaries and examining the flows of energy and materials into, through, and out of systems.

Beloit College has had a minor in Environmental Studies for many years and developed a major in 2005, while I was chairing the program. The program relies upon departmental courses, requiring at least three courses from Environmental Biology (BIOL), Environmental Economics (ECON), Environmental Ethics (PHIL), Environmental Sociology (SOCI), Global Political Ecology (POLS), Interdisciplinary Applications of Geographic Information Systems (ENVS), and Topics in Environmental Studies (ENVS). In addition, the major asks students to study broadly, requiring a minimum of four courses in the natural sciences, four courses in the social sciences and arts and humanities, one statistics course, four electives, and a capstone seminar. Five or six students have completed the major each year since 2007. Almost all of these students have studied abroad and have also completed an environmentally-related internship or research activity. Fourteen faculty members from a variety of departments participate in the program; there are no faculty lines dedicated specifically to environmental studies. The College also has three environmental majors in the natural sciences: Environmental Biology, Environmental Chemistry, and Environmental Geology, which are administered by the departments of Biology, Chemistry, and Geology, respectively.

I have been on sabbatical during the past year and sustainability has been one major aspect of my work. I developed a sustainability map for the Beloit campus (<http://www.beloit.edu/environmental/map/>) and a Sustainability Fellows Program, which started this summer. The goals of the program include:

- Engaging students in community-based learning through interactions at their site, discussion of sustainability topics during weekly meetings of the Sustainability Seminar, and guided reflections on their activities during the Liberal Arts in Practice Workshop ,
- Involving students in the design, evaluation, and implementation of sustainability projects,
- Enhancing the ability of the placement sites to achieve their sustainability goals,
- Developing a sense of community and mutual support among the students involved in the program.
- Developing a list of specific learning goals and an academic product for their fellowship.

The program is entering its second week and the students are enthusiastic about it. Six students are participating at five sites, two on campus and three in the community. Students are modeling energy use by campus building with the Beloit College Physical Plant, examining the establishment of a native species planting next to our new LEED-certified Platinum Science Center, designing and implementing environmental education activities for children at the Welty Environmental Center, managing invasive species in restoration plantings at the Nygren Wetland Preserve, and working with local farmers to develop new products for sale in Bushel and Peck’s Local Market.

The Beloit College Physical Plant has made a number of sustainability commitments within college operations, many of which are detailed in the sustainability map. This summer, the students in the Sustainability Fellows Program are investigating the range of programs that the College might engage, such as signing the Taillores Declaration, joining the American College and University Presidents' Climate Commitment, and the Association for the Advancement of Sustainability in Higher Education.

During the FaCE workshop, I am interested in exploring curricular aspects of sustainability, identifying ways in which faculty currently engage the topic, and investigating new possibilities. I am also interested in developing activities that permit students to estimate the potential effects of various actions such as comparing the quantity of carbon dioxide emitted by a gallon of gasoline to the amount of carbon sequestered by a landscape tree. I would like to build simple modeling activities, probably using Microsoft Excel, to help students conceptualize the structure and function of natural and human-modified systems.