



National Wildlife Federation®
CAMPUS
ecology®

Daemen College
Amherst, New York
Environmental Education and Outreach

SCHOOL

Daemen College, a private liberal arts college, enrolls 2200 students and awards baccalaureate degrees in 47 majors as well as graduate degrees in six professional programs. The college is located in a suburb of western New York near Buffalo on a 39 acre campus with limited green space. Daemen students and faculty have an extensive record of service activities, most of which are community-based rather than campus-centered.

ABSTRACT

Daemen College faculty and students have developed a campus Ecotrail to create a place for environmental education, reflection, and observation in the outdoor environment. The ongoing project uses sustainable practices in trail design and construction, including reused materials for benches and a display kiosk. Demonstration projects on the trail include a green roof and rain garden to educate the campus community on storm water management and sustainable design options. This project aims to foster an appreciation for maintaining habitat and reducing human impact on the environment.

GOALS AND OUTCOMES

Goals

The Ecotrail project arose from a shared vision of faculty from different professional disciplines, art and biology, who wanted to increase the campus community's awareness of the environment while involving students in hands-on learning opportunities. Our goals included developing a service-learning course around trail design and implementation and creating a place on campus where the community could observe nature, learn about sustainable practices and reflect on the impact of humans on the environment. Our goals for the next few years include extending the Ecotrail into the built environment on campus as well as developing a project website and online educational materials that can enhance formal education with trail use.

Accomplishments and Outcomes

Over 90 students have been involved in the creation of the Ecotrail. The trail is located along a creek in a forested area along the campus boundary. This area was previously overgrown, so the trail has opened up new green space for everyone to enjoy. Our tool storage shed also serves as the display kiosk and was built with donated salvaged lumber, painted with low VOC stain and topped with a living roof. "Stepping stones" across the stream are made from concrete parking barriers that were left on site as hardfill. Benches have been made to surround trees and utilize discarded sewer pipe. Signage provides information on the importance of brush-piles, rain gardens and green roofs, as well as displaying reflective nature-related passages. Students were involved in the design of all materials and implementation of the trail and the continued maintenance. Invasive species (Japanese knotweed and garlic mustard) are a continual problem and require frequent weeding. Turkey, woodchucks, numerous songbirds and white-tailed deer are often seen along the Ecotrail and the wildlife is benefiting from the native species plantings and established brush-piles.

Challenges and Responses

We have experienced the challenges of working outdoors across the seasons in upstate New York. After celebrating our initial clearing for our trail, we had an unusual October snowstorm that broke limbs off virtually every tree. It took several weeks to remove debris before we could see the trail again, but the damage provided a free source of wood chips for the trail!

The project has received some internal funding as well as a grant for native plants; however, there is no dedicated budget for the project so design choices reflect budget constraints. The greatest challenge is maintaining the trail. Students are available during the academic semesters, but there is currently no regular trail work during the summer. We hope to find funding to have a paid student worker dedicated to the trail for the summer months. Through good intentions, by our campus maintenance crew, their student workers accidentally mowed over our planted rain garden, so it is time to plant again.

Campus Climate Action: Your School's Carbon Footprint

This project hopes to increase environmental awareness, though not specifically focused on the causes of climate change. Indirectly, the project has possibly slowed global warming through habitat improvement, improved storm water management and reduced soil erosion. As the Ecotrail extends into the built environment, future displays will indicate energy consumption and waste generation for the campus and how this relates to our carbon footprint.

Commentary and Reflection

A project like this requires flexibility and an open mind. This has been a rewarding project for the faculty, but not without its challenges. Not everyone enjoys working outside, so we need to find aspects of the project that appeal to individual students and allow them to work in their comfort zone. This course has also reminded us of how disconnected our students have become with their environment. For one student from New York City, it was the first time he had ever seen and touched a live earthworm. Teaching moments can't be planned, but they appear frequently. "Why is the compost pile hot?" led to a discussion of the chemical reactions associated with decay. Our need to move concrete barriers that weighed 450 lbs led to a "physics" lesson of using levers and distributing weight across lumber and multiple people.

ENGAGEMENT AND SUPPORT

Leaders and Supporters

Kevin Kegler, an artist and graphic designer, and Brenda Young, an ecologist and environmental biologist started the project in conjunction with an environmental science course for non-majors. These students generated plans for a campus trail that would help educate the campus community about environmental issues. Using these plans, over 90 students in four semesters of an environmental service learning course have helped to build the trail and its demonstration projects. The classes have brainstormed ways to incorporate art, literature and environmental education into the outdoor space, while minimizing environmental impact in trail construction.

Funding and Resources

Trail expenses have included gardening tools (\$110), building supplies for the tool storage shed/display kiosk (\$175), green roof materials (\$320), native plants (\$650), weather station (\$600) and signage (\$1000). We sought donations of used tools, salvaged lumber and mulch, which have kept costs low. The materials for the green roof and low volatile organic content paints were purchased using funds for a Daemen College Think Tank Faculty-Student project. Funds for native plants and seeds were provided by a grant from the Lorrie Otto Seeds for Education Program (\$490). The Ecotrail space has used an area of campus that was not previously accessible due to overgrowth, so there was no resistance to its creation in its present site. Faculty received a stipend for one summer to work with students on the green roof and

trail development, but have subsequently donated time to the project beyond the normal time allocated for a traditional course.

Education and Community Outreach

Ecotrail project photos have been displayed at local environmental events, such as the Annual Environmental Summit hosted by Daemen College, and tabling opportunities at local festivals. Local environmental groups have taken tours of the trail, which is also used for recreation by neighbors of the campus. Our future plans include website development which will increase outreach.

National Wildlife Federation's Campus Ecology Program

Students, staff and faculty have participated in NWF Webcasts and Chill Out, which has increased interest in improving the campus. The Ecotrail has been designated a NWF Certified Wildlife Habitat. We have also referenced the following Campus Ecology resources: Case Study Database, Web Conferences, *ClimateEdu* and *Campus Environment 2008*.

CONTACT INFORMATION

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MORE ABOUT YOUR SCHOOL

Campus Sustainability History

Daemen College has recently completed its first campus "green" building, which we hope will receive Leadership in Energy and Environmental Design (LEED) silver certification. The college is exploring using geothermal technology as part of a retrofitting effort to improve energy efficiency in two older campus buildings. Campus-wide recycling efforts began in 2005 along with a successful campaign to reduce paper use. Class projects have resulted in some campus building energy audits and brochures to reduce energy use on campus. We do not currently have a campus sustainability office or college committee, but the latter is planned for the future.