



Bowling Green State University Bowling Green, Ohio Buildings

SCHOOL

Bowling Green State University, public, 4-year, 18,000 students, Bowling Green, Ohio.

ABSTRACT

When Bowling Green State University (BGSU) underwent major construction, there were two new LEED standard dining centers constructed. A group of BGSU students thought it would be a good idea to use the BGSU Student Initiative Green Fund to pay for live green roofs to be built upon the roofs of the dining centers. Currently, one green roof has been constructed and is operating. It is located on top of the Oak's Dining Center, which is where the BGSU Dining Services offices are located. It features live green roof panels made of sedum, a wooden deck made from repurposed Douglas fir, siding from reclaimed Ohio barn siding, composting bin, solar powered water fountain, planters used for herbs, produce, and perennials, and much more. This green roof helps offset the Urban Heat Island effect and excessive storm water run-off, creates wildlife habitats, extends the life of the roof, while conserving energy used for heating and cooling. The green roof is used for educational purposes for environmental classes, field trips, and tours.



GOALS AND OUTCOMES

Goals

When starting this project, BGSU Dining Services wanted to make their new dining facility more environmentally-friendly. However, building a green roof is very expensive. Students had the plan of using the Student Initiative Green Fund to help pay for the project. The Student Initiative Green Fund is an opt-out \$5.00 "green fee" that is applied to each BGSU student each semester. This money gets pooled together to form the Student Initiative Green Fund, which exclusively allows BGSU students to ask for funding for "green" projects on campus. Students hoped to tap this resource and also to work with BGSU Dining Services to help pay for the roof. Also, students wanted the green roof to be open to the public so that there could be passive, along with active, education regarding the benefits of a green roof and other sustainability topics.

Accomplishments and Outcomes

BGSU students successfully obtained funding from the Green Fund and from Dining Services, each splitting the cost in half. However, the original estimates were lower than expected, which resulted in a smaller green roof being constructed than originally desired.

Also, the roof is not currently open to the public. Students will be working in the fall of 2012 to collaborate with BGSU Dining Services to allow for it to be open to the public. The only way for students to visit the green roof is by scheduling a tour with a class or student organization via the Office of Campus Sustainability. In the future, students want the green roof to be open to all BGSU students to continue educating the general student body.



This project allows for more wildlife habitats to exist even in the developed parts of BGSU's campus. There is a hummingbird feeder and honeysuckle vines that attract hummingbirds to the roof. The plants and vegetation invite countless types of wildlife to increase BGSU's biodiversity. The storm water reclamation and grey water system uses rainwater to irrigate all the plants on the roof as well as in the restroom fixtures.

Overall, the green roof helps with urban heat island mitigation and reduces BGSU's carbon

footprint by adding insulation to the roof, which cuts down on energy bills for heating and cooling.

Challenges and Responses

The biggest issue was deciding upon the size of the roof. The Office of Campus Sustainability and the students working on the project wanted the roof to be bigger. However, due to budget concerns, the roof had to be scaled down and be only partially covered by live green roof panels.

Another challenge was that once the major construction of the roof was completed, the live roof panels, soil, planters, etc. had to be installed by student volunteers. The students worked with the Office of Campus Sustainability to ask student organizations and classes to volunteer their time with the project. Volunteers have been working from the summer of 2011 to the summer of 2012 planting flowers, herbs, and vegetables, installing live roof panels, planting dwarf fruit trees, and beautifying the space with reclaimed wooden fencing.

Since there is another green roof to be installed on the other dining center, students will be working hard to completely fund the project using the Student Initiative Green Fund. This will hopefully allow the roof to be the desired size since there is no limit as to how much BGSU Dining Services would be funding. Therefore, the roof should be the desired size and layout as planned.

Campus Climate Action: Your School's Carbon Footprint

The Oak's Green Roof directly reduced global warming by reducing BGSU's GHG emissions. The live roof panels absorb carbon dioxide and expel oxygen into the atmosphere. Also, it reduces the urban heat island effect, cooling the urban temperatures of BGSU. The insulation provided by the green roof also cuts down on the energy used for heating and cooling. BGSU obtains its electricity from a natural gas electricity plant, so it reduces the amount of gas used to heat/cool the dining center.

Commentary and Reflection

This is the very first Green Roof built at Bowling Green State University. It has been a learning experience and now we know what it takes to implement such an idea. In the future it will help us better plan for and carryout the objectives of the project. While it is has not exactly met our hopes of being open to the public so that the student body can enjoy the beautiful space, the fact that we have a roof is one step closer to spreading the word about sustainability. Perhaps in the future, it will be a normal thing for students to grab their lunch and spend an afternoon reading their favorite book in the serenity of a BGSU Green Roof.

ENGAGEMENT AND SUPPORT

Leaders and Supporters

BGSU Dining Services, the BGSU Office of Campus Sustainability, BGSU Undergraduate Chapter of Net Impact, various environmental study classes, and countless individual volunteers assisted in this project.



Funding and Resources

This project cost about \$18,000. BGSU Dining Services paid \$9,000 while the Student Initiative Green Fund paid \$9,000. The director of Dining Services and the Sustainability Coordinator supported the project, which allowed for its completion.

Education and Community Outreach

The local news came to the Green Roof during the dining center's opening day. BGSU President, Dr. Mary Ellen Mazey, was interviewed on the top of the green roof during the opening ceremony.

National Wildlife Federation's Campus Ecology Program

The Campus Ecology Program did not have a direct line of support, however a National Wildlife Federation staff member communicated with the students and supplied various resources. The NWF Campus Ecology online case study database was also consulted.

CONTACT INFORMATION

Contacts

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MORE ABOUT YOUR SCHOOL

Campus Sustainability History

BGSU has a rich sustainability history. While the Office of Campus Sustainability was only created 5 years ago, it has achieved tremendous goals in its time. It hosts a variety of student-oriented programs and initiatives, such as: Green Tailgating, Friday Night Lights, reStore, When You Move Out Don't Throw it Out (WYMO), and Orange Bikeshare Program. It also works on many larger scale projects such as the

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implementation of this green roof, the installation of three EV charging stations on campus, being an active member on a committee to discuss the implementation of the American Colleges and University's Presidents' Climate Commitment, and managing several service projects for camps, programs, and organizations. The Office of Campus Sustainability also has a large internship program that has two paid internship positions and numerous academic credit internships available for students of any major. The website for the Office of Campus Sustainability is www.bgsu.edu/sustainability.

Image Credit: BGSU Office of Campus Sustainability