



National Wildlife Federation®
CAMPUS
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**Waynesburg University
Waynesburg, Pennsylvania
Spring 2008, Environmental Education and Outreach**

BACKGROUND

Campus Profile

Waynesburg University is a private Christian university founded in 1849 on a 70-acre campus in Waynesburg, Pennsylvania. It is affiliated with the Presbyterian Church and a member of the Council for Christian Colleges. The school has an enrollment of 1300 undergraduate and 700 graduate and professional adults with more than 70 degree options and a student-faculty ratio of 13:1. The top five degree areas of study are business, communications, nursing, education, law and forensic science. The most distinguishing aspect of a Waynesburg education is the commitment to service learning, which strives to connect high-quality academic programs in all fields of study to the service of others. The Department of Service Learning includes a growing program in Environmental Stewardship, with numerous ongoing projects to educate university students and the community at large about the importance of caring for God's Creation. The Environmental Stewardship program extends beyond the confines of the classroom and the campus, providing service to local schools and to regional, state and national environmental programs, as well as nonprofit organizations.

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GOALS AND ACCOMPLISHMENTS

Goals

The goals of the Environmental Stewardship program at Waynesburg are to create a student community of "Green Samaritans," whose mission is to provide environmental service at the local and global levels, to apply the knowledge that they have gained in the science classroom to care for God's Creation and all of its creatures, and to educate the campus and regional communities regarding the importance of developing practices of sustainability. These goals have been accomplished in a variety of service-learning projects that fall into the categories of community outreach and campus sustainability. Our university is located in the heart of southwestern Pennsylvania coal mining country, where for more than two centuries the importance of preserving natural habitats has largely been superseded by the economic benefits of coal mining. Educating the student population and the community at large regarding the role of fossil fuels in climate change and destruction of the environment has been at the forefront of our current goals.

Accomplishments

Community Outreach Programs: This past year focused on the environmental education of local middle school students in ecology, botany and climate change. Environmental service-learning projects were incorporated into several courses taught in biology and environmental sciences at Waynesburg University. The objectives of these projects were to provide Waynesburg students the opportunity to use the knowledge gained in their current coursework to educate the youth of the community about their local environments. The college-level science curriculum is often complex and difficult to comprehend without interactive approaches to learning. Developing lesson plans to teach science concepts to children reinforces an understanding of the college students' coursework, while providing a valuable learning experience for middle school students. Our fall 2007 projects included the development and presentation of middle school lesson plans to teach students the vital role of trees and aquatic ecology in the sustainability of the earth. A total of 60 middle school youth from two local schools benefited from these projects.

An additional community outreach project was implemented in the spring of 2008 by students taking a course in Global Issues in Environmental Science. The goal of this project was to educate the local community about climate change; the project involved the interaction of community partners at both the national and local levels. Waynesburg students attended a national meeting addressing Global Climate Change presented by the National Council for Science and the Environment (NCSE), a nonprofit organization dedicated to improving the scientific basis for environmental decision making. NCSE works closely with the many professional sectors creating and using environmental knowledge, including research, education, environmental and business organizations, as well as governmental bodies at all levels. At this meeting, students served as official note-takers in breakout sessions addressing climate change issues. They developed an understanding of the importance of their involvement in discussions to address solutions to global environmental issues for future generations and of the need to "think globally and act locally." Waynesburg students have gained an invaluable real-world experience by attending and working at this conference for the past three years. It has provided them with an understanding of how their field of study is related to environmental issues and how national environmental policies are initiated. The experience has also served to develop a strong sense of environmental stewardship among the student attendees. They've gathered a wealth of current information from experts in the field, and used this information to develop a program to educate the community on the impacts of climate change and America's carbon footprint. They first presented the program on campus to the Waynesburg science faculty and students and then to an audience of 80 students at Margaret Bell Middle School in Waynesburg.

The partnership developed with Margaret Bell Middle School has provided a future avenue for sustainability projects in the community. Plans are now being formulated to create a nature trail along a local stream to help children develop a sense of place and a connection with Creation. These efforts will address a national issue concerning the lack of appreciation for the natural world among our children, who are growing up in an advanced technological society without a connection to nature. This is particularly important for many of the economically disadvantaged children of Greene County, where the benefits of coal mining have prevailed at the expense of the preservation of natural environments. It is important that we educate the next generation regarding the sustainability and care of the watersheds in this region. The students of Waynesburg University will have direct involvement in trail construction and the development of learning centers along the trail.

Other accomplishments of the Waynesburg Environmental Stewardship at the local level were the development of a community water quality monitoring program and the establishment of an environmental field station located at Tally Hollow Farm, a property that was previously long-wall mined. Water quality data collected by our environmental science majors will support the efforts of Greene

County and the U.S. Environmental Protection Agency to restore the valuable resources of the Dunkard Creek watershed. The development of the Talley Hollow Field Station has been initiated with the assistance of a local nonprofit organization, Sustaining Greene County, which leases the property from Consol Energy, Inc. The goal of this project is to educate students in the process of land-use reclamation and habitat restoration. One of the principal challenges facing property owners living in local coal fields is determining the effects of underground mining on the surface land, and whether the land can be restored for wildlife and useable for agriculture after long walling has occurred. Waynesburg students have been involved in various sustainability projects conducted at the site, including the development of a maple sugaring stand, stream-bed stabilization, habitat restoration, free-range chicken farming and stream habitat evaluation. Future projects include the construction of a wetlands for wastewater treatment at the farm.

Waynesburg also participated in a national environmental stewardship project at Mammoth Caves National Park during spring breaks in 2007 and 2008. The goal of these trips was to provide students with the opportunity to develop an understanding of the vital need to care for and preserve our precious public lands. This was accomplished by experiencing the longest cave system in the world, located in Mammoth Caves, Kentucky, and providing service to the National Park Service to preserve this treasure. Both science majors and non-majors developed a new appreciation for natural beauty, reconnected with the earth and were provided with a reason to care for Creation. Individuals in our society are often too hooked into technology and activities that keep them away from the natural world. This was not a virtual tour of caves! We all got down and dirty, belly crawling and creeping carefully along rock ledges of underground rivers. Students were able to observe the contrast between caves that were protected by the National Park Service and those that were impacted by human activities. Students provided service to the national park through the construction and renovation of trails along areas subject to erosion and by conducting deer surveys within the park in an effort to control overpopulation.

Campus Sustainability Projects: Waynesburg University consists of an active and concerned student body which initiates programs to promote campus sustainability. The campus recycling program which is entirely implemented and funded by student organizations recycles paper, aluminum cans, plastics and ink cartridges. To promote environmental literacy, students have initiated a campus-wide student survey to address climate change, energy usage, transportation issues and food wastage on campus. Plans are currently being made to compare the results of energy usage compiled in the survey to a quantitative energy audit of campus dormitories. Students in the campus environmental club are also obtaining additional ideas on how to implement campus sustainability programs by participating in the National Wildlife Federation Campus Ecology tele-conferences on climate change.

Challenges and Responses

The service-learning projects that developed lesson plans for middle school students provided Waynesburg University students the opportunity to develop teaching and communication skills and strategies to relay scientific information to the general public. The current state of global environmental affairs presents an urgent need to train science graduates who possess the ability to relay complex scientific principles in a manner that is understandable to the general public. Middle school students responded enthusiastically to presentations, and actively participated in the generation of ideas to protect, restore and preserve their local environments.

Students who participated in the project concerning climate change developed an understanding of the serious impact of this issue and the vital need to approach solutions through mitigation and adaptation. They gained knowledge and tools from the NCSE conference for developing a college and community forum to address the issue of global climate change. Ideas for addressing global climate change and to

encourage greener living that were compiled by this project are promoting cooperative efforts to address the environmental problems of this region related to the reliance on coal as an energy source. Waynesburg students in the disciplines of environmental science, political science, international studies and communications have said that attendance at the conference provided an invaluable experience in understanding their professional role in global environmental issues.

Additional funding for the Environmental Stewardship program is needed for travel, scientific research projects and the community nature trail. Additional recognition and support from the faculty, administration and alumni of Waynesburg University is needed for successful projects in environmental literacy and campus sustainability to move forward.

ENGAGEMENT AND SUPPORT

Leaders and Supporters

Successful relationships have been developed with a variety of local and national partners to implement these projects. The community partners include:

- Dunkard Creek Watershed Alliance/Terri Davin
- Margaret Bell Middle School Department of Science Education, Waynesburg, PA
- National Council for Science and the Environment, Washington, D.C.
- National Park Service, Mammoth Caves, Kentucky
- Spring Service-Learning Network, Pittsburgh, PA
- St. Francis Central Catholic Middle School, Morgantown WV
- Sustaining Greene County, Greene County PA
- Waynesburg University Center for Service Learning, Center for Research and Economic Development, Department of Biology, and Environmental Club

Funding and Resources

The Environmental Stewardship program at Waynesburg has been funded by the Waynesburg University Office of Service Learning and the Office of the Dean of Academic Affairs. Funding for the student recycling program was through funds appropriated by the student government. A \$2000 mini-grant was awarded to the program by the Spring Service-Learning Network (Pittsburgh PA), for the implementation of environmental lesson plans presented to local middle school students. An additional \$2000 mini-grant has been awarded of the 2007-2008 school year for the development of the community nature trail. The Waynesburg University Center for Research and Economic Development provided a \$2500 mini-grant to develop a community water quality monitoring program

CLOSING COMMENT

Waynesburg University has made great progress over the last three years in the development of programs in Environmental Stewardship that involve community outreach and campus sustainability. The students have come to recognize their role as vital members God's Creation and their moral responsibility to become Green Samaritans in His service.