

# Rivers Institute at the University of Dayton

## A History

The Rivers Institute at the University of Dayton began as an initiative of students, faculty and staff challenged by the concept of engaging the University of Dayton with the Great Miami River which runs through the city and the campus. The University, a major Catholic institution, has a legacy of connecting with the surrounding community dating back to the disastrous flood of the Great Miami River in 1913 and has received recent recognition for its extraordinary contribution to the Dayton area from the *Saviors of Our Cities* ranking in 2006 and 2009.

Housed in the Fitz Center for Leadership in Community, the Rivers Institute involves interdisciplinary cooperation among faculty, staff, students and community partner organizations focused on the Great Miami River Watershed and its connections to the Dayton area. It weaves together themes of civic engagement, environmental education, experiential learning, community building and leadership.

From its beginning, the Institute has focused on the environment. In August of 2004, a group of honors students at the University embarked on a 17-mile paddling trip on the Great Miami River. The trip began north of the City of Dayton and ended near the University, which is south of the City. Emphasizing environmental justice and service learning, trip planners encouraged students to absorb information from the presentations they heard and changes in the ecological landscape they observed along the river and reflect on ways they, as individuals and as a group, could protect, preserve or promote water resources in the Great Miami River Watershed. They began by addressing issues of water quality and public awareness.

The trip was repeated in August of 2005. At the conclusion of the program, its coordinators challenged students to extend the program into a larger project, carrying forward the time, talent and resources dedicated to the weeklong trip. Students responded to the challenge to engage with the community and the Rivers Institute was born from this energy.

Community partnerships were essential in the creation of these programs. From the beginning, the Miami Conservancy District provided guidance to the development of the river programs. Leaders of the Conservancy District helped to design the trip and encouraged the University to continue its commitment to the river. Five Rivers MetroParks provided support to the trip programmers and introduced students to their parks. The City of Dayton Water Department educated students about water delivery in urban settings.

The Rivers Institute was officially convened by a

Aerial view of the campus and its proximity to the river.



River Stewards "circle up" on the river.

group of students in the Fall of 2005. Initial members of the Institute included a handful of students from varying majors, several environmental biology and education faculty, the Dean of the College of Arts and Sciences, members of the Fitz Center for Leadership in Community, a graduate assistant from the School of Business Administration and two community partners. They grappled with the challenges of building a comprehensive approach to water resources management and river stewardship based on the principles of community building and experiential learning. Their first action was to establish a student cohort aspect of the initiative, the River Stewards program, in the Spring of 2006.

### **Student-Led River Leadership Curriculum**

In May of 2009, the McGregor Foundation of Detroit, Michigan awarded the Rivers Institute at the University of Dayton a substantial grant to develop a River Leadership Curriculum, consisting of a two-course sequence followed by a community dialogue. The curriculum design process is being spearheaded by students, under the leadership of Sarah Peterson (Junior River Steward and Sociology major) and Dr. Don Pair, Associate Dean of the College of Arts and Sciences.

With the support of the McGregor Foundation, the Institute hopes to create a replicable model for a new style of general education at the university level. Based on the success of the River Stewards program, the interdisciplinary course sequence will intertwine environmental science

techniques with economic development principles and a civic engagement mindset. It will develop leadership among students through experiential education, using the resources of the Great Miami River Watershed and the buried valley aquifer beneath it.

Though only in its beginning stages, two pilot modules have been successfully tested. The students, faculty, staff and community partners involved are working to develop a set of essential learning outcomes to be followed by the selection of course content. Following the curricular development, the committee will begin designing a Dayton River Dialogue, the community-focused culmination of the sequence. Scheduled to be launched in the Fall of 2010, the team is on track to begin recruiting registrants in the spring.



Faculty, staff, students and community partners plan the student learning outcomes for the River Leadership Curriculum.

The first cohort of River Stewards consisted of eight students whose majors varied from engineering and biology to pre-medicine and political science to English and communications. The inaugural class of River Stewards met informally monthly, sponsored several river cleanups and put on the first annual River Awareness Week.

Responding to the experiences of this first cohort of students and to the rapid growth of the Institute, interdisciplinary faculty and staff from departments across the University and the Fitz Center for Leadership in Community proposed a year-long Rivers Institute Planning Seminar and Learning Community in the Institute's second year. The 30 participants—University of Dayton students, faculty, staff, and community partners—represented four different community partner agencies and all academic units in the University including humanities, social sciences, arts, natural sciences, engineering, education and business. The purpose of this effort was to bring together a diverse group of interested parties to create a shared strategic vision for the Rivers Institute and implementation plan for that vision over the next five years. A collection of initiatives developed from that initial planning process. It clarified the mission of the Rivers Institute “to build opportunities for the Dayton community to see its rivers as the strategic natural resource

central to the communal, economic, aesthetic and ecological vitality of the region.” Over the past two years, the Institute established an executive committee and hired a coordinator, developed community outreach partnerships within and outside the University including a watershed-wide River Summit, received significant national foundation grant money to develop a cohesive, two semester long River Leadership Curriculum, and expanded the three-year commitment of the River Stewards program to over 35 members.

For the past year and a half and continuing into the future, a key objective of the Rivers Institute has been to connect places along the river system. The Miami Conservancy District annually partners with the University of Dayton and the Rivers Institute to host a regional River Summit, bringing together stakeholders from across the watershed. Almost two hundred elected officials, community leaders, conservationists and river enthusiasts attended the 2009 Summit. All focused on the Great Miami River Watershed, Summit attendees have begun the dialogue of creating Ohio’s Great (Miami River) Corridor. Representatives of the Institute continue to serve the community in this movement of river stewardship by supporting Dayton’s Water Roundtable discussions and by sitting on the Dayton City Commission’s Environmental Advisory Board.

The expansion of the River Stewards program to two and now three cohorts offers the students a host of new opportunities. The 35 students in the program meet weekly for mini-course credit each of the semesters they are involved in the program. As part of their mini-course experiences, they

### **River Stewards Educational Outreach:**

The Rivers Institute envisions a rivermobile in its future. Like the bookmobile we all knew as children, the rivermobile would be a traveling watershed education laboratory. The idea began with a partnership between the University and Dayton Early College Academy (DECA), a nontraditional school in the Dayton Public School system that is supported by the University. The Institute and DECA created a river curriculum for its first-year students that culminated in a daylong water quality monitoring workshop led by the River Stewards on the bank of the Great Miami River.

Inspired by that workshop, River Steward Tracey Horan (Senior, Middle Childhood Education major) led the effort to begin partnering with other schools to begin watershed education programs.



Tracey leads an aquifer activity with local elementary students.

After two successful Water Day programs at a local Catholic elementary school, word of the River Stewards’ work spread. Last summer, Tracey worked as an Education Outreach Intern with the Rivers Institute developing curricular models for elementary and high school students.

Tracey’s final product is a six-week River Explorations series that chronologically examines the history of the Great Miami River, from the formation of the aquifer in the glacial period to early Native American settlements along the river to the development of the canal system to today’s groundwater levels and water quality. Her lessons have been matched to state educational standards and the series encourages students to responsibly consider the impacts of their actions on the collective watershed and on water resources around the world by introducing the human impact the problem of hypoxia (large, oxygenless zones) in the Gulf of Mexico.

The River Stewards, supported by Tracey’s work, plan to continue to expand their outreach initiatives. For the second year in a row, they have taught inner-city high school students to kayak as part of their physical education course. This summer they taught children at a YMCA camp about the structure of the buried valley aquifer below the Great Miami River. A local charitable foundation, the Greater Dayton Conservation Fund of the Dayton Foundation, has recently awarded them with funding to further develop their outreach activities.

have begun an educational outreach to local elementary and high school students, visited water treatment facilities, met with community leaders, led river cleanups and recreated along the region's river systems (biking, hiking and kayaking). The River Stewards program, as the flagship endeavor of the Rivers Institute, has come to define the Institute. Consisting of students from majors as diverse as the University's offerings, the program motivates and drives every action of the Institute.

Last spring, the first full class of River Stewards was completing its junior year in the program and was tasked with choosing a senior capstone project. The Stewards elected to paddle a portion of the Great Miami River from its headwaters to the University, a distance totaling over 60 miles. Their trip lasted a week in August of 2009. Along the way, they tied together everything they had learned throughout their tenure in the program: they monitored the river's water quality from Quincy, Ohio to Dayton, Ohio; they met with civic leaders in cities along the way; they continued the conversation started at the River Summit regarding the development of a 75-mile interconnected river corridor including economic development; they expanded their understanding of the history of the Great Miami River in the southwestern Ohio region; and they experienced the spiritual power of the river. The landmark trip, both for the Institute and for the region, has been chronicled in a student-designed documentary reflecting their passion for holistic environmental concern about the Great Miami Watershed.



River Stewards examining river life during the annual orientation program.

The value of community partnerships has expanded as the Rivers Institute itself has grown. The Miami Conservancy District, Five Rivers MetroParks and the City of Dayton are still involved in the work of the Institute. New organizations and programs have joined its work. Additional partners include Adventure Central, an urban outdoor education afterschool program; the Dayton Early College Academy, now a charter school in Dayton; the Art Series at the University of Dayton; the Sustainability, Energy and Environment initiative at the University of Dayton; and the City of Troy. Their contributions have helped and continue to help to shape the direction of the Rivers Institute.

A spirit of collaboration clearly has been the hallmark to date of the Rivers Institute in achieving its vision of reuniting Dayton and its rivers. The out-of-the-box educational and working environment created supports collaboration, nurtures creative thought, provides valuable experience and goes beyond what is learned and taught in the traditional classroom setting. By partnering with community organizations in mutually beneficial relationships, the Rivers Institute and River Stewards program have been able to make significant contributions to the Dayton community. Students and their mentors have had the opportunity to learn by engaging with real community issues such as economic vitality, recreation, public education, artistic expression and environmental quality. Co-curricular and community-based experiential learning are the keys to the Rivers Institute's educational model.



Members of the 2009 Great Miami River floatilla.