

# a river runs through it

ENVIRONMENTAL STUDIES STUDENTS JOIN FORCES WITH SOUTH ORANGE RESIDENTS TO RESTORE THE LOCAL RIVER TO A MORE NATURAL STATE.

When political-science professor Michael Taylor started planning the curriculum for Seton Hall's environmental studies program in the fall of 2004, his goal was "to find a nearby 'living laboratory,' where we could run all sorts of projects." He found the Rahway River.

Within a year, Taylor and his students began collaborating with a group of indefatigable locals who want to revamp the Rahway's urbanized watershed. So far, about 75 students have contributed to the river's reconstruction, taking on ecological, political and educational projects. All the while, they've cultivated amicable relationships with the Village of South Orange's businesses and residents — leaving the lasting impression of a committed, ambitious student body in the eyes of its neighbors.

The east branch of the 24-mile river flows south between Seton Hall's campus and the South Mountain Reservation before joining the west branch in Springfield. The river widens there and then continues south to Rahway — where about 26,500 people use it for drinking water — before it finally empties into the Atlantic Ocean.

Beginning in the early 1970s, the land surrounding the

river went under rapid development. The subsequent increase in impervious driveways, parking lots and roads meant that rainwater, instead of seeping into the ground, ran off into the river. And when summer storms hit, the river overflowed onto the surrounding property.

In 1974, the U.S. Army Corps of Engineers came in with a utilitarian fix: straighten the meandering river so that it would move downstream faster during a storm. They dredged the bottom to reduce silt deposits, installed drainage systems and put up steep cement retaining walls. "That took care of the flooding problem," Taylor says, "but unfortunately changed the entire habitat surrounding the river."

Local citizens soon complained about the ecological and aesthetic damage done by the Army Corps. Seton Hall ecology professor Marian Glenn, a longtime resident of Summit and a member of the Rahway River Association, says the river area — heavy on cement structures and metal drains, and short on flora — no longer had the scenic or recreational aspects of a natural park. Yet everyone agreed that the flooding had to be controlled. The community's general feeling, she explains, was one of "Hey, we'd

like our river back — but not in our backyard."

Then about eight years ago, a few concerned citizens of South Orange obtained federal and local funds to turn the river back to a more natural state. The Greenway River Project, now with its own committee within the village government, has weighty goals: relaxing the slope of the banks, replacing invasive species with native ones and building an off-road path for cyclists and pedestrians. Its proponents say the path will not only spur walking traffic for downtown businesses, but will also give commuters a safe route to get to the train station without having to park.

From the start, the Greenway Project's organizers knew that Seton Hall students could be a valuable resource. In the summer



**WHAT'S IN THE WATER?**

Analyses done by students (shown here and on previous page with professors Taylor and Glenn) will help pinpoint areas for future clean-up efforts.

Photos by Michael Paras

of 2005, one of Taylor's students introduced him to a founder of the Greenway Project, Janine Bauer. "She and I sat down and sketched out three to four years' worth of student projects that could help the village with this huge project," Taylor recalls. "It was all part of our commitment to service-learning, where student research has a practical use for the community."

That fall, the six students in Taylor's *Introduction to Environmental Studies* course began the first of these initiatives: designing a river gateway in downtown South Orange that was both aestheti-

cally pleasing and ecologically smart. Their design included a raised brick-and-glass platform that would provide open space over a small part of the river. They also suggested replacing a paved seating area with grass, tree and bush land cover. "We met with business owners to ask how they'd be willing to modify their business to fit in with the river project," remembers Katie Clements '07, now a teacher in Brooklyn. "We talked to them about putting up more natural siding, moving where they parked their cars — little things that would make the area more attractive."

**"They were definitely receptive to changing the unused plot of cement into something that could be an attractive gathering place."**

The team also informally surveyed people found walking near the river to ask them for suggestions. "They were definitely receptive to changing the unused plot of cement into something that could be an attractive gathering place," says Paul Bryant '07, who worked closely with Clements on the project and is now a nonprofit management consultant in Manhattan. "They wanted something that would be a real town centerpiece."

At the end of the semester, the students presented a sketch of their gateway plan at an official meeting of the village's Greenway Project committee. "The students approached it with a lot of creativity," Bauer recalls. For instance, they recommended using eco-friendly materials, like "hycrete" — waterproof concrete with low-energy manufacturing — halogen park lights and faux wood benches made out of post-consumer plastic.

"We knew from the get-go that the work that we were doing wasn't just going to be thrown away," Bryant says. Indeed, Bauer says the committee "definitely used some of the elements that they suggested in designing that area of the river."

In subsequent semesters, Taylor's students — also at the request of the committee —

wrote an informational brochure about the history of the project and future plans. It was sent out to 5,500 village homes. This fall, they wrote another brochure specifically about how households can help reduce stormwater pollution.

Other Seton Hall professors have jumped on board, too. This past summer, thanks to a \$15,000 Environmental Protection Agency grant obtained by Taylor and biology department chair Carolyn Bentivegna, a handful of students performed water-quality analyses at 15 sites along the Rahway. These measurements of the water's nutrient levels, pH and salinity will be important benchmarks for comparison a few years from now, after the renovation work is done. "It will give us an idea of where we should target site clean-ups," Bentivegna explains. In the fall, Marian Glenn's ecology class continued the analyses.

In future semesters, the environmental-studies professors hope that Seton Hall students will teach students at South Orange Middle School — which sits next to one of the testing sites — how to measure water quality themselves. Taylor is also committed to completing any other research projects suggested by the Greenway committee. Though a cleaner and more popular waterfront is probably still a couple of years away, "it's actually amazing how much progress we're making so far," Bauer says. "And one reason is because we've found a great partner in Seton Hall."

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