

WRI

water resources initiative

The Skidmore College Water Resources Initiative

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<http://www.skidmore.edu/academics/wri>



The Water Resources Initiative (WRI) at Skidmore College is administered by our interdepartmental Environmental Studies (ES) Program. WRI integrates coursework, team-based research, and engagement with local and international concerns for water resources. Interdisciplinary, community-based research is a major emphasis of the initiative, and the research focus is currently our local Saratoga Lake watershed. The Saratoga Lake watershed is large and encompasses many land use patterns and ecologies, and Saratoga Lake is a controversial, potential new drinking water source for our growing community. WRI research brings together our diverse students, faculty, and community partners to explore the natural, social, and cultural influences that shape our interactions with local water resources. Field trips to water-stressed regions of the world help students place our local water



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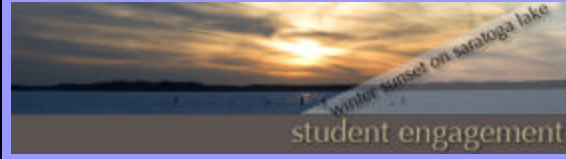


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Student engagement with local water issues is the heart of WRI. We aim for the courses, research, and field trips associated with WRI to immerse students in their academic lives as well as their surrounding community. WRI couples knowledge and skill development with civic engagement, preparing students for their roles as local and global citizens.



Courses:

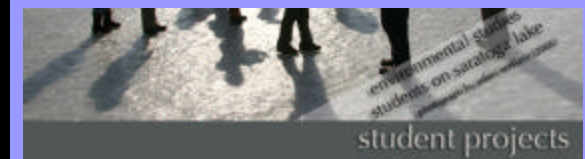
WRI builds on existing water-related courses at Skidmore College, including one of the foundational Environmental Studies Program courses, ES 105 *Field Studies in Environmental Science*. Community-based water research is the focus of our Environmental Studies capstone course, ES 375 *Case Studies in Environmental Sustainability*, and is used as a catalyst for understanding the complex and interdisciplinary nature of water issues on a local and global scale.

Student Research:

The research component of WRI helps students develop stronger analytical and oral and written communication skills and helps students better understand the complex and interdisciplinary nature of environmental issues. The community-based research emphasis of WRI helps establish stronger connections between Skidmore and the surrounding community and highlights the importance of civic engagement. Student research is conducted as part of courses and through independent studies and summer collaborative research, and students present their research findings in academic and community forums. Findings from the completed research projects are available to community groups through our web page, and projects are also leading to student co-authored papers in reputable academic journals.

Field Trips:

The WRI field trips immerse students in the human-water interactions that shape water discussions on both a local and global scale. Field trips within the Saratoga Lake watershed help students better understand the social, cultural, and natural influences contributing to the controversies associated with a search for a new drinking water source. The first-hand visualization of the watershed is also critical to helping students develop creative and practical community-based research questions. Field trips to the Valley of Mexico and Southern California place our local water issues in a more global context for students and help emphasize the challenges facing many communities in water-stressed regions of the world.



Politics and Planning in Saratoga County

Ryan Bailey '09 and Bob Turner, Government
The continuing economic growth of Saratoga County raises the important question of whether the region is condemned to end up as yet another case of unchecked suburban sprawl. To assess the prospects for the region to successfully balance growth with preserving open space and enhancing the quality of life, we analyzed the political, economic, and institutional factors affecting planning in Malta, Stillwater, and Saratoga County. Through a content analysis of their comprehensive plans and semi-structured elite interviews with county and local elected officials, planners, and other involved citizens, we found there are significant challenges to the adoption of smart growth and regional level strategies for managing growth.

Crooked Waters: A History of Riparian Conflict in the Kayaderosseras Watershed

Nadine Dodge '10, Brad Nesbitt '09, Karen Kellogg, Environmental Studies, and Michael Ennis-McMillan, Anthropology
As industry and population burgeoned within the Kayaderosseras Creek watershed throughout the 19th century, tensions among the stakeholders of this shared resource also heightened. Manufacturers began to use the creek as a secondary resource (e.g., erecting dams for hydropower, discharging industrial byproducts). Those who still relied on the water as a primary resource (e.g., fishermen, farmers, tourists) suffered from the water's altered flow and diminished quality. These stakeholders responded through lawsuits and direct petitions to government. Enforcement of official orders, however, was not guaranteed; polluters frequently appealed or simply ignored orders. Common law proved an often unreliable means of enforcing pollution control.

Water Quality Monitoring in the Kayaderosseras Creek Subwatershed

Alicea Cock-Esteb '09, Alexandra Furman '09, Judy Halstead, Chemistry, and Kim Marsella, Environmental Studies
Water quality and discharge measurements were determined for various tributaries throughout the Kayaderosseras Creek subwatershed in Saratoga County, NY. Water quality measurements included dissolved oxygen, temperature, conductivity, and pH. Samples were collected and subsequently analyzed for total phosphorous, phosphate, total nitrogen, nitrate, dissolved organic compounds, and total suspended solids. Data were then used to calculate nutrient loading from different portions of the subwatershed. This project is part of the ongoing water monitoring effort associated with WRI.

Assessment:

Both in written comments and during interviews, students indicate that the community-based research of WRI is extremely helpful in achieving all of the ES Program's learning objectives. In particular, WRI helps students develop research skills, helps improve oral and written communication skills, and helps students connect with the surrounding community. Faculty members think it is evident through the research presentations that students achieve a depth of understanding in their particular research areas and also come to better understand the interdisciplinarity of environmental issues by exploring the inter-relatedness of their projects.