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One of the greatest challenges in undergraduate teaching today is the development of truly interdisciplinary experiences for students. In the environmental field, interdisciplinary thinking is mandatory for successful solutions to difficult problems. The study of watersheds provides an excellent vehicle for showing the important interactions between biological, chemical, and geological parameters. It also is an excellent way of demonstrating the difficulty in teasing apart human impact from natural change and why it is often important to study and analyze several variables simultaneously. At Furman University we have embarked on a focused interdisciplinary study of the water quality of the Enoree River basin in South Carolina. A closely knit faculty team of two geologists, two chemists, and three biologists have generated funds from the university, the NSF, and the EPA to study the watershed using inorganic and organic chemistry, total and fecal coliform bacterial counts, fish diversity, and aquatic insect diversity. Students are divided into interdisciplinary teams to study a tributary watershed from all aspects, including land use. The most important aspect of this project is the interdisciplinary nature of the work, which results in students and faculty gaining an appreciation of research challenges in the other disciplines.