We describe case studies in wildlife biology and new urbanism that introduce students to nonparametric tools and multiple regression. The goal of these studies is to drive a search for appropriate techniques, as opposed to introducing techniques and then searching for suitable applications. These case studies, which are developed from student and faculty research projects in the local community, help students make connections between the sciences and statistics, as well as strengthen college alliances with community partners. The hands-on approach provides opportunities for students to engage in the full process of designing and carrying out a research project as happens in practice, rather than in a text book, including sampling, data organization and entry, statistical analysis, and oral and written presentation of conclusions. (Received September 21, 2009)