The Environmental Studies Department at University of California, Santa Cruz

Michael E. Loik, Associate Professor

The Environmental Studies Department at UC Santa Cruz is a leader in innovative interdisciplinary environmental problem-solving teaching and scholarship. We have historically been recognized for our contributions in conservation biology and policy, agroecology and sustainable food systems, and the political economy of the environment. More recently, we have built strengths in global change ecology and policy, ecological risk, and environmental governance. We bring to the table rigorous training in biogeochemistry, ecology, ecosystem science, politics, geography, economics, and history, recognizing that solving complex environmental problems requires open-mindedness, literacy across disciplines, and a commitment to collaboration. We produce scholarly work that is grounded in theory, built upon the best empirical evidence, critical of our own dogmas, useful, and respected. Addressing environmental challenges requires transformative ideas, and we aim to meet this challenge.

The mission of the Environmental Studies Department at UC Santa Cruz is to be a leader in innovative interdisciplinary environmental problem-solving teaching and scholarship that is both influential and effective. A testament to the success and impact of our program is that our past students, both graduate and undergraduate, hold leadership positions in government agencies, non-profit organizations, academic institutions, and industry throughout the U.S. and the world. Moreover, our faculty members are recognized leaders in the environmental field. We have been successful in obtaining grant funding, publishing in top-tier venues, and serving on advisory and regulatory boards to implement the results of our research. As we move forward, we continually strive to train environmental leaders and to achieve excellence in all that we do. Our faculty members are not only leaders. We also earnestly value collegiality and work together to achieve our mission. We listen to and respect each other, and are open to new perspectives; this makes us successful in overcoming the challenges to interdisciplinary collaboration. We have dedicated, hard-working staff who are committed to supporting us in this endeavor. Our challenge as we move forward is to continue to innovate, grow, and develop in spite of dramatically declining public funding. The drop by 22% in state support to UCSC over the last four years has cut to the core of our mission; as our research and teaching infrastructure erodes, our ability to provide competitive financial packages to graduate students decreases, and our undergraduate class sizes increase dramatically. We have undertaken extensive fundraising efforts, worked to streamline our staffing, and made changes in our pedagogy, but they cannot entirely compensate for these losses. We remain committed to continue our leadership in training the future generation of environmental problem solvers, while acknowledging the real challenges the budget situation presents.

We are dedicated to continuing and expanding collaboration within our department, across the campus, and beyond, to realize the potential for transformative environmental research, training, and problem solving at UCSC.

Faculty members in the Environmental Studies Department work across a range of scales. At the regional scale, examples include Drs. Shennan and Letourneau's on-farm research and development of sustainable food production systems with local farmers, Dr. Haddad's work on

regional water supply, and Dr. Wilmers'research involving habitat fragmentation effects on large carnivores. Many of our faculty members also contribute to the campus-wide strength in coastal science and policy in California. At the same time, our faculty work internationally to address pressing environmental issues in Latin America (Bury, Holl, Gilbert), China (Cheng), India (Rajan), and Africa (Shennan). Increasingly, the Environmental Studies faculty is involved in efforts to link across scales. For example, I developed an international network to synthesize studies investigating the impacts of climate change on precipitation patterns, ecosystem processes, and water supply. Dr. Bury is doing comparative work with colleagues at multiple sites worldwide studying the effects of glacier recession and increasing hydrological variability on household vulnerability, livelihoods, and adaptive management strategies. Dr. Zavaleta has partnered with Conservation International to identify global coastal opportunities for ecosystem-based adaptation to climate change in order to protect ecosystem services, such as coastline protection against storm surges.

When approaching contentious environmental issues, it is important to distinguish between scholarship and advocacy, a consideration that the Environmental Studies faculty members take seriously. We aim to foster innovative theoretical approaches and conduct rigorous analyses that inform both basic and applied questions. We use a range of mixed methodological approaches, including laboratory studies, field experiments, modeling, case studies, surveys, and interviews, depending on which method or combination of methods is best suited to answer the question. We conduct research that is useful to environmental problem solving, respected for its academic rigor, and well-situated within contemporary interdisciplinary discussions.

We also make extensive efforts to communicate with a broad range of audiences, including academics, students, policy makers, and land managers. We recognize that working with non-governmental organizations, government agencies, and private groups to develop viable solutions to complex environmental problems requires ongoing dialogue from the design stage of the research, not just sharing results, to ensure that our research addresses questions relevant to practitioners. Therefore, our faculty is actively involved in discussions with a wide range of groups by serving on boards of governmental and non-profit advisory committees, attending workshops with multiple stakeholders on different issues, and partnering with these organizations on research. We commonly engage with relevant stakeholders throughout the research process. We share the results of our work not only through academic publications and meetings, but also through short articles written for the general public giving talks to a wide range of audiences, and talking with the media when appropriate.