

“Conserving freshwater biodiversity in a rapidly changing world”

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Rapid, large-scale environmental change is the new normal in the Anthropocene. To inform timely conservation actions, I use an interdisciplinary approach that combines field research with cutting-edge tools from statistics, big data analytics, and social science to examine the impact of current and emerging environmental stressors on biodiversity and to develop mitigation strategies at policy-relevant scales. In this seminar, I first consider Southeast Asia, where forest conversion to agricultural lands, in particular oil palm, is the dominant environmental change. Although the impacts of forest conversion on terrestrial biodiversity have been well studied, virtually nothing is known about impacts to freshwater biodiversity. Through fieldwork in Borneo, I show that forest conversion to oil palm is devastating to fish communities, but that retention of forested riparian reserves prevents species losses. However, getting oil palm growers to retain forested riparian buffers will require regulations and/or incentives. Using market surveys, I show that consumers are willing to pay a premium for palm oil products from companies committed to zero deforestation. I then present a global meta-analysis to test the efficacy of forested riparian reserves in conserving a wide range of taxa at both local and landscape scales across different production landscapes. Finally, I present results from ongoing work on the mechanisms driving freshwater fish community assembly across the continental USA and their implications for biological invasions.

RESEARCH TALK

**Thursday January 21; Room 27, Alumni Memorial Bldg;
4:30- 5:30 PM.**

