

UCSB Geography Colloquium

3/8; 3:30 – 4:45; 1930 Buchanan

MPA Network Design and the Value of Spatial Fisheries Management

Presented by

Dr. Andrew Rassweiler

Abstract:

In the last two decades, networks of marine protected areas (MPAs) have been created at a rapid rate around the world. Because MPA locations are often difficult to change once established, the design process is a crucial step for achieving successful networks. Here I use a bioeconomic model of seven nearshore fisheries in Southern California to estimate the value of MPAs relative to other management approaches. I also explore how the choice of MPA locations determines their effectiveness as a conservation tool and their impact on adjacent fisheries. I find that while strategically placed MPAs have great potential as a management tool, haphazardly placed MPAs have much narrower utility. Surprisingly, rules of thumb intended to guide MPA placement do little to improve expected outcomes. I propose an alternative approach that will consistently outperform a guidelines-based process, while preserving stakeholder involvement in MPA network design.

Bio:

Andrew Rassweiler is a project scientist at UCSB's Marine Science Institute. Andrew earned a BA in Ecology and Evolutionary Biology from Princeton University. He earned a PhD from UCSB in marine ecology in 2008; his dissertation focused on distinct alternate community states occurring in California subtidal reef ecosystems. He used both empirical and theoretical tools to explore the mechanisms maintaining community states and the environmental factors capable of triggering state changes. He also worked as a researcher for the Santa Barbara Coastal LTER project, studying kelp forest primary production and giant kelp population dynamics. Since earning his PhD, Andrew has been a postdoctoral researcher with SFG. His research has focused on spatial fisheries management, strategic design of MPA networks to meet fisheries and conservation goals, how to quantify the effect of MPAs in achieving fishery sustainability, the value of information in spatial management plans, and the value of environment forecasts for managing fisheries in dynamic systems. He has also worked on a number of important applied projects, such as developing spatial models of fish population dynamics to evaluate stakeholder proposals for MPA networks in California state waters.