



BREN SEMINAR

TIPPING POINTS, RECOVERY POTENTIAL, AND BASELINES IN MARINE SYSTEMS



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Monday, October 30, 2017 11:00 – 12:00
Bren Hall 1414

“Dr. Blenckner’s research on regime shifts in marine ecosystems uses both economic and ecological frameworks, and is broadly relevant to anyone interested in managing species in the context of food webs and non-linear responses.”

— Alexa Fredston-Hermann, Bren PhD Candidate

ABSTRACT Large-scale changes in marine ecosystems with significant environmental and economic consequences are being observed in increasing numbers worldwide. Alterations in structure and functioning of marine ecosystems have been increasingly reported through the world in relation to overfishing, climate change, and, for example, eutrophication. These pronounced and abrupt multi-trophic level reorganizations of large-scale ecosystems are usually termed “ecosystem regime shifts”. In my talk, I will provide an overview of some of the main reported regime shifts in marine ecosystems in relation to potential underlying mechanisms. To exemplify the existence of several potential ecosystem states, I will present the Baltic Sea as a case study, as it offers long-term monitoring data. My presentation will include results from state-of-the-art statistical analysis allowing the detection of non-linearity and thresholds in food web interactions, and their potential to recover. The results suggest that shifts in ecological and economic baselines can lead to higher economic uncertainty and costs for exploited ecosystems, particularly under climate change. Several research needs in the field of regime shifts, recovery, and baselines will be discussed.

BIO Thorsten Blenckner is an Associate Professor and leader of the Marine Theme at the Stockholm Resilience Centre, Stockholm University, Sweden. He has a background in aquatic ecology, climate change, and ecosystem processes and function. He is currently a visiting fellow at NCEAS.

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