

iFAST: The International Forum on Advanced Environmental Sciences and Technology

A series of distinguished seminars by eminent scientists

7 p.m. CST; 8 p.m. EST; 1 a.m. GMT (Feb. 4); 9 a.m. Beijing (Feb. 4)

Wednesday, Feb. 3, 2021



James Estes

University of California, Santa Cruz

https://werc.ucsc.edu/Estes/Estes_dk.html

Professor James A. Estes is an emeritus faculty member in the Department of Ecology and Evolutionary Biology at the University of California at Santa Cruz. He is primarily a field ecologist and natural historian, with particular interests in the influence of large predators on food web dynamics. Estes is best known for his geographically far-reaching and long-term studies of sea otters and kelp forest ecosystems. He has published numerous scientific articles and several books and monographs, including a co-edited volume ([Trophic Cascades: Predators, Prey and the Changing Dynamics of Nature](#), Island Press) and his memoir ([Serendipity: An Ecologist's Quest to Understand Nature](#)). His work is featured in *The Serengeti Rules*, a recent award-winning documentary film. Estes has served on the editorial boards of a variety of professional societies. He is a Pew Fellow in marine conservation, a Fellow of the California Academy of Sciences, and a member of the National Academy of Sciences. He received the Western Society of Naturalist's Lifetime Achievement Award in 2011 and the American Society of Mammalogists' C. Hart Merriam Award for excellence in research in 2012.

The historical ecology of an iconic keystone predator

The goal of ecology as a scientific discipline is to understand the distribution and abundance of species. This endeavor has been enriched by a variety of approaches and paradigms, most of which involve consumer-prey interactions. Arguments for consumer effects on communities and ecosystems began gaining traction in the early 1960s with Hairston et al.'s Green World Hypothesis, a simple proposal that the inordinate abundance of plants across much of our world was due in significant part to limitation of herbivores by predators. This view of nature led to the now widely known concepts of keystone species and trophic cascades. The influence of sea otters on kelp forests is one of the better-known empirical examples of these concepts. In this lecture I will lead you through the highpoints of that story, from a chance encounter with R.T. Paine in 1971, through myriad species and ecological processes, to still unpublished discoveries in plant evolutionary genetics.



INSTITUTE FOR ENVIRONMENTAL GENOMICS
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Organizing Committee Chair: Jizhong Zhou (University of Oklahoma, USA; <https://www.ou.edu/ieg>)
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