Fishing impacts on food webs: Multiple working hypotheses

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The method of multiple working hypotheses explains how we should lay out all plausible hypotheses, examine the evidence for each, and decide which working hypotheses can be discarded and which remain.

In this light, this seminar examines the evidence for and against fishing down the food web, and how it matches up against a few of the many competing hypotheses: fishing through marine food webs, fishing up marine food webs, balanced exploitation, and fishing for profits not predators.

Plots of trends in catches or biomass at different trophic levels (termed the “trophic fingerprint”), provide simple visual diagnostic that can be used to select among theses hypotheses, and is proposed as a way forward.

About Trevor A. Branch
Trevor A. Branch is Associate Professor, School of Aquatic and Fishery Sciences, University of Washington, USA. He focuses on solving biological problems through data synthesis and mathematical models and work on a variety of research projects, including: assessments of the global status and future directions of marine fisheries; how fisheries affect marine food webs; fishing behavior and fleet dynamics, large whales, especially blue whales; the effects of ocean acidification on marine seafood; and how overlooking opportunistic depletion can lead to extinction in multispecies systems.