
UNDERSTANDING SIGNALS OF ECOSYSTEM DEGRADATION - HOW TO RESTORE MARINE FOOD WEBS?

Sala Enric

National Council for Scientific Research (CSIC), Spain; Scripps Institution of Oceanography (SIO), La Jolla, California, USA - esala@ucsd.edu

Abstract

Mediterranean marine ecosystems are on an ongoing trajectory of degradation that equals a reverse ecological succession. Local and global disturbances interact at different temporal and spatial scales, creating positive feedback loops that enhance biodiversity loss, simplify the structure of food webs, diminish resilience, inhibit the recovery of biodiversity, and homogenize marine communities. Human activities can homogenize marine biodiversity via three main processes: (a) by accelerating food webs (increasing the turnover of communities via fishing down food webs and enhancing microbial activity), (b) by causing pollution- or warming-mediated mass mortalities of marine organisms, and (c) by facilitating the dominance of invasive species. To restore ecosystem structure and all the services we are losing along this trajectory of degradation we need to understand, among other things, how to restore food webs and enhance ecological succession.

Keywords : Food Webs, Coastal Systems, Bio-indicators, Biodiversity.