

Center for Community-Based Resource Management (CBRM)

Natural Resources Institute, University of Manitoba

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Case Study Name:	Tracking Signals of Change in Mediterranean Fish Diversity Based on Local Ecological Knowledge		
Authors:	Ernesto Azzurro, Paula Moschella, Francesc Maynou		
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Region:	Europe		
Country:	Italy		
Ecosystem Type:	Oceanic region		
Social Characteristics:	Coastal communities		
Scale of Study:	National/regional		
Resource Type:	Biodiversity and conservation		
Type of Initiative:	NGO initiative		
Community-Based Work:	Conservation		

Keywords:	Mediterranean Sea, fish diversity, Local Ecological Knowledge, variability, fish species, distribution, abundance, local fishermen, recreational fishermen, interviews, Linosa, Lampedusa, Milazzo, Porto San Giorgio
Summary:	<p>One of the expected effects of global change is increased variability in the abundance and distribution of living organisms, but information at the appropriate temporal and geographical scales is often lacking to observe these patterns. Here we use local knowledge as an alternative information source to study some emerging changes in Mediterranean fish diversity. A pilot study of thirty-two fishermen was conducted in 2009 from four Mediterranean locations along a south-north gradient. Semi-quantitative survey information on changes in species abundance was recorded by year and suggests that 59 fish species belonging to 35 families have experienced changes in their abundance. We distinguished species that increased from species that decreased or fluctuated. Multivariate analysis revealed significant differences between these three groups of species, as well as significant variation between the study locations. A trend for thermophilic taxa to increase was recorded at all the study locations. The Carangidae and the Sphyraenidae families typically were found to increase over time, while Scombridae and Clupeidae were generally identified as decreasing and Fistularidae and Scaridae appeared to fluctuate in abundance. Our initial findings strongly suggest the northward expansion of thermophilic species whose occurrence in the northern Mediterranean has only been noted previously by occasional records in the scientific literature.</p>