

SCALING UP THE USE OF LOCAL ECOLOGICAL KNOWLEDGE TO THE REGIONAL LEVEL: A MEDITERRANEAN EXPERIENCE

E. Azzurro ^{1*}, C. Antoniadou ², M. Bariche ³, G. Donato ⁴, L. Guglielmo ⁴, B. Ozturk ⁵, F. Pannacciulli ⁶, J. Ben Souissi ⁷, G. Busoni ⁸, G. Vargiu ⁹ and .. the LEK team ¹⁰

¹ ISPRA - eazzurr@gmail.com

² University of Thessaloniki, Greece

³ American University of Beirut

⁴ University of Messina

⁵ Istanbul University

⁶ ENEA, La Spezia, Italy

⁷ INAT, Tunisia

⁸ University of Pisa

⁹ Parco Nazionale dell'Asinara, Italy

¹⁰ Authors and affiliations of the LEK Team are written at the bottom

Abstract

Information gained through Local Ecological Knowledge (LEK) was used to tackle some emerging changes in Mediterranean fish diversity. A transnational team of scientists from six Mediterranean countries cooperated to build a collective dataset, providing new perspectives in the use of LEK for large-scale studies and periodical monitoring.

Keywords: Fisheries, Mediterranean Sea

Introduction

Local Ecological Knowledge acquired every day during a lifetime, is increasingly explored and scientifically analysed to track the distribution and the abundance of marine species, yet with very limited research costs. Specific LEK protocols, originally conceived by the 'CIESM Tropical Signals Programme' [1] were used at the transnational scale, facing the challenge of cultural diversities.

Materials and Methods

Between 2011 and 2016, 15 associates to the CIESM Tropical Signals Programme, and 3 collaborators of the BALMAS project carried out interviews with local fishermen across 19 different locations and 6 Mediterranean countries. A semi-structured questionnaire [1] was used and the central question: 'What fish showed the greatest variation in abundance in the last decades?' Semi-quantitative data on species abundances were collected by year, discriminating species that have increased, decreased or fluctuated over the respondent experience period.

Results and discussion

Overall, 506 fishermen were interviewed, accounting for a total of 15,954 yrs of experience at sea. Results included 1322 perceptions on 111 fish taxa. Thermophilic species were confirmed to have increased over large areas of the central Mediterranean, but patterns of change varied much across distant geographical sectors. This large amount of low-cost data, allow investigating patterns of change at different levels: from single to multiple species and from single locations up to the basin scale. Based on these promising results, we promote the use of LEK at the transnational level. The LEK thematic session and the LEK roundtable organized by the CIESM congress are precious opportunities to discuss further potentialities of this approach and to set an international taskforce for Local Ecological Knowledge. Thinking beyond our need of scientific data, we must also consider that LEK builds trust and promotes awareness among its participants, ultimately enhancing the social capacity to adapt to the current environmental challenges.

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The LEK team: P. Moschella – CIESM, France; W. Boughedir and R. Ghanem – INAT Tunis, Tunisia; S. Alian – AUB, Beirut, Lebanon; Eda Topcu – Istanbul University, Turkey; M. Despalatovic and Ivan Cvitkovic, IOF, Croatia; L. Bolognini and F. Grati, ISMAR Ancona, Italy; Y. Samuel-Rhoads - University of Cyprus; E. Shakman - Rostock University, Germany.

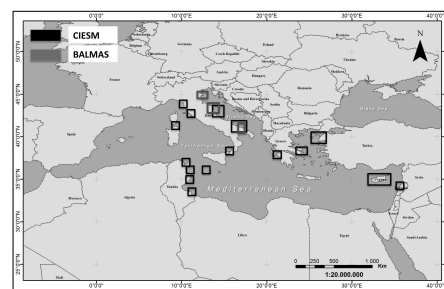


Fig. 1. Study locations in the Mediterranean Sea according to the research projects 'CIESM Tropical Signals' and 'BALMAS' - Adriatic IPA.

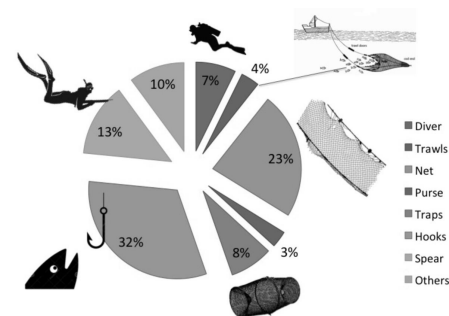


Fig. 2. Percent distribution of fish gears used by the 506 respondents.

References

1 - Azzurro E., Moschella P., Maynou F, 2011. Tracking signals of change in Mediterranean fish diversity based on Local Ecological Knowledge. *PLoS One*, 6(9), p.e24885.