

Non-indigenous species (NIS): Ecosystem-based implications for fisheries and adaptive management



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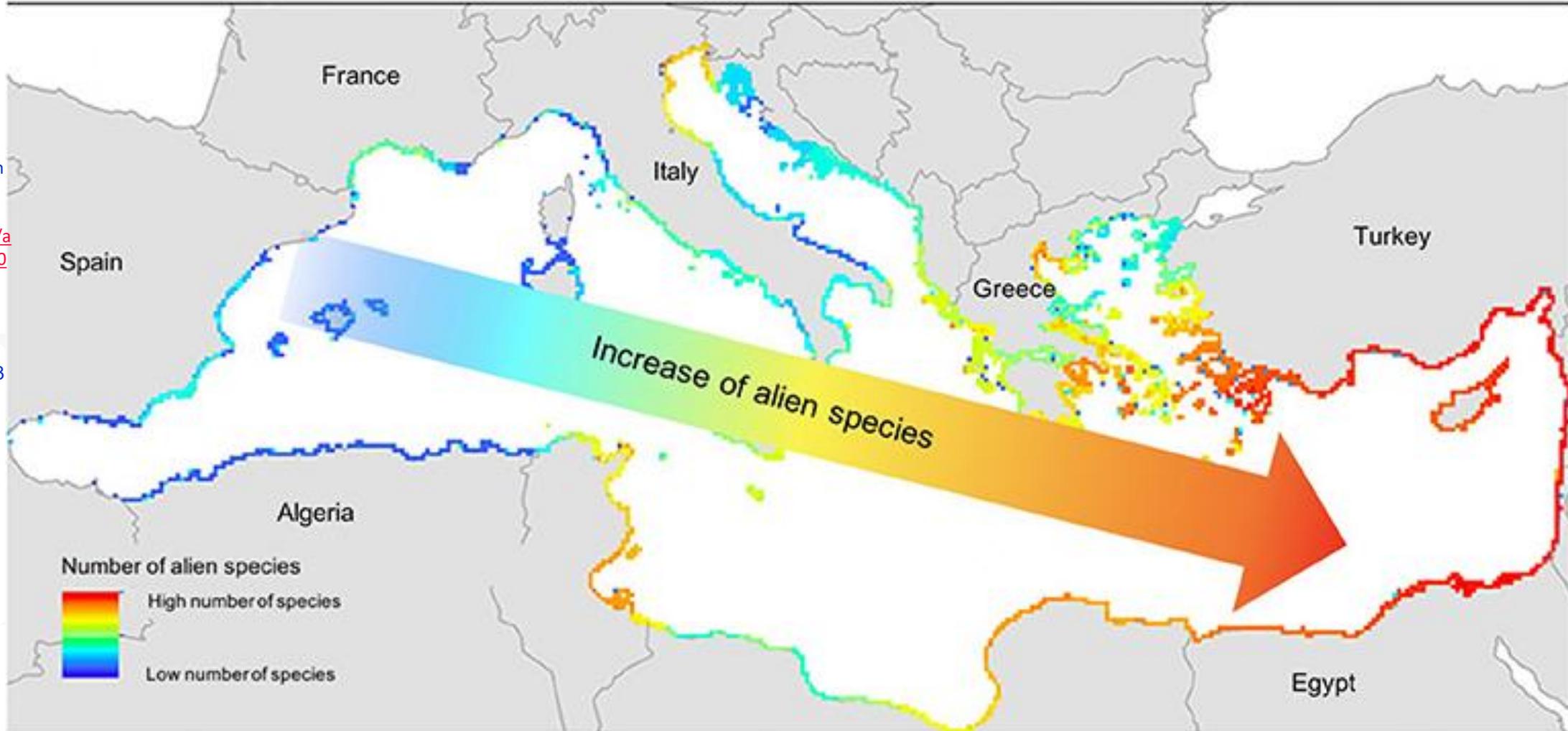
Presentation by G. Triantaphyllidis



Non-Indigenous Species (NIS) in the Mediterranean Sea

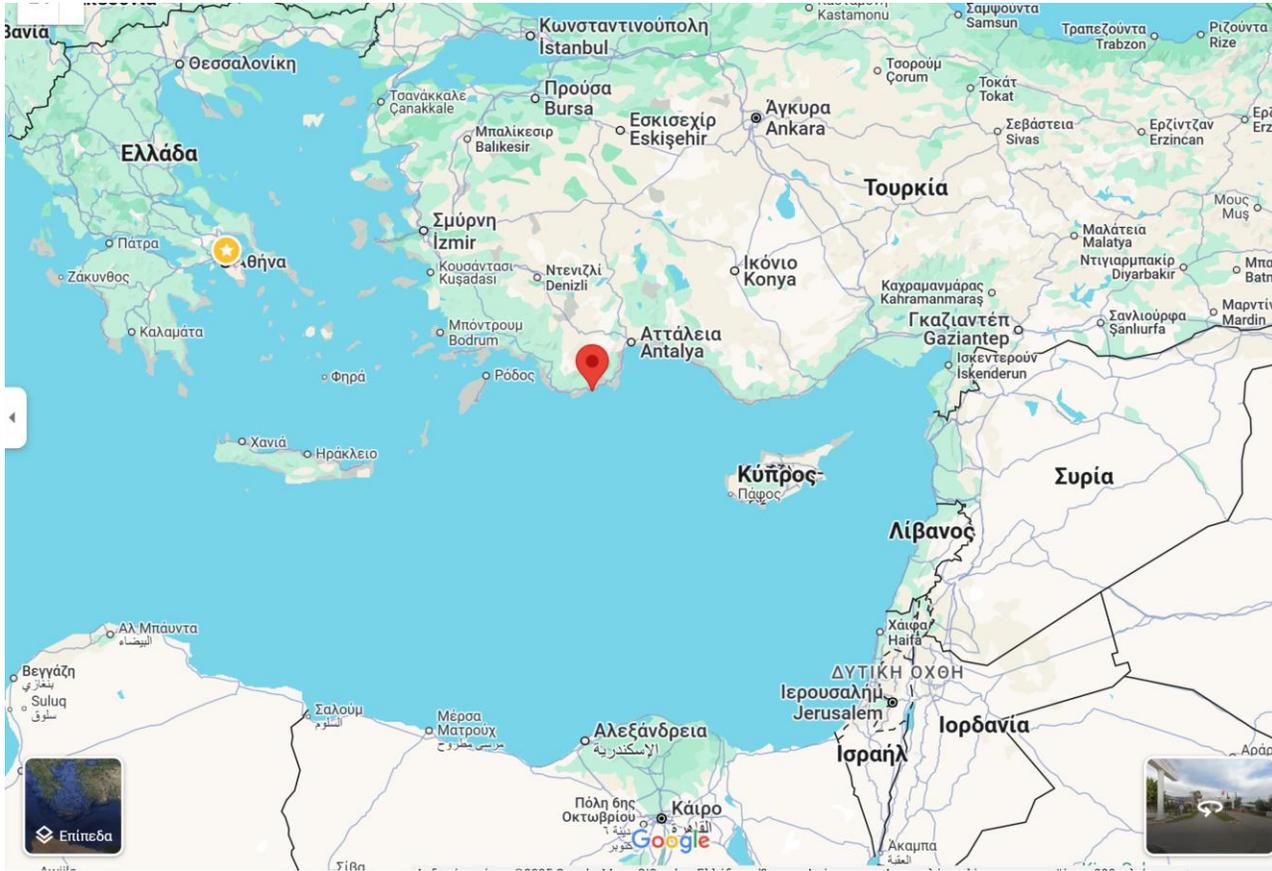
Number of alien species found in the Mediterranean Sea. Source: Giovos et al., 2019, <https://kids.frontiersin.org/articles/10.3389/frym.2019.00097>

Original Source Article: Katsanevakis et al., 2014 Front. Mar. Sci. 1:32. doi: 10.3389/fmars.2014.00032



Regional Observatory of nonindigenous species

The Observatory is located on the campus of the Mediterranean Fisheries Research, Production, and Training Institute (MEDFRI), affiliated with the Ministry of Agriculture and Forestry, in the district of Demre, Antalya, Türkiye.



MEDFRI
Demre Unit



New R&D building

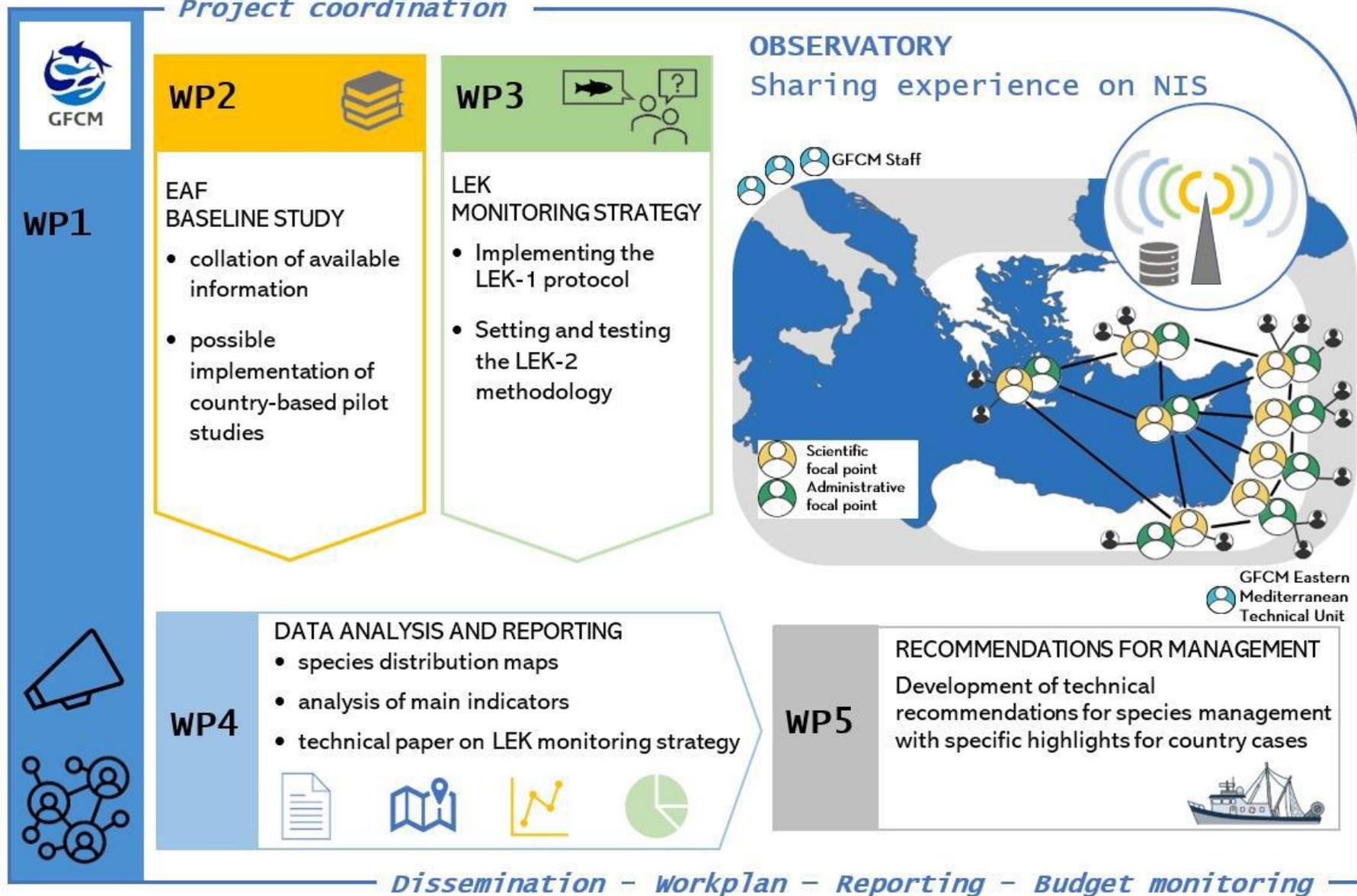


Office

Main actions of the pilot study

- The main actions of the PS-NIS-EM can be summarised in three points:
1. Continue the work initiated towards the establishment of an integrated monitoring platform and monitoring plan for non-indigenous species (NIS) in the eastern Mediterranean and expand it to other GFCM subregions.
 2. Collect data on NIS (including those coming from literature and GFCM monitoring activities, through Local Ecological Knowledge studies, participatory mapping, etc.), compile and analyse data, and agree on common indicators.
 3. Starting from the eastern Mediterranean, identify potential fisheries management actions.

Main actions of the pilot study



MEDAC Advice relevant for the GFCM SRC-Eastern Mediterranean (Ref.: 113/2025 Rome, 15 April 2025)

- a) Reaffirms the urgent need to operationalise the NIS Observatory in the Eastern Mediterranean, in close collaboration with EU Member States and regional stakeholders, including small-scale and recreational fishers.
- b) Welcomes the initiation of WP2 and WP3 of the PS-NIS-EM, including baseline reporting and Local Ecological Knowledge (LEK) collection. MEDAC recommends accelerating the implementation of these components without further delay, as agreed during SRC-EM 2024.
- c) Suggests that focus species and LEK survey design be tailored per country, considering national priorities and fishing community insights. Coordination and harmonization should be ensured to allow regional synthesis.
- d) Supports a flexible and adaptive approach to NIS management, acknowledging the dual role of certain NIS species as both ecological threats and socio-economic resources (e.g., *Siganus* spp., *Pterois miles* as commercial species and *Lagocephalus sceleratus* as a species which needs a special management scheme since it cannot be commercialised). Management options should prioritize selective fishing, sustainable market development and eco-tourism potential.
- e) Emphasises the need for the NIS Observatory to act as a regional Competence Centre, enabling early detection, data coordination, communication and impact assessment related to NIS and climate-induced ecological shifts. Moreover, highlights the importance of early management actions to attempt the population control.



Ref.: 113/2025

Rome, 15 April 2025

MEDAC Advice relevant for the GFCM SRC-Eastern Mediterranean

MAPs and NIS

Background and Context

In accordance with the MEDAC Workplan 2025 and building on discussions held at the 2024 GFCM Subregional Committee for the Eastern Mediterranean (SRC-EM) and the Scientific Advisory Committee on Fisheries (SAC25), the MEDAC FG for the Eastern Mediterranean provides the following advice on strategic topics of high importance for the region:

Forty-eighth session of the Commission

Malaga, Spain, 4–9 November 2025



Management of eastern Mediterranean fisheries

27. The Commission acknowledged that round sardinella (*Sardinella aurita*) stocks were found to be either sustainably exploited in GSAs 24 and 27-Lebanon, or at increased risk of being overexploited in GSAs 26 and 27-Palestine, and agreed to continue implementing the roadmap for future work on round sardinella assessment and management in the eastern Mediterranean. It nevertheless encouraged completing the market study in Lebanon to advance understanding of consumer behaviour, while improving monitoring, and enhancing data quality before progressing towards the development of subregional management measures for this fishery.

28. In light of the overall poor status of European hake stocks across the Mediterranean, and acknowledging its importance for eastern Mediterranean SSF, the Commission endorsed the roadmap to steer future, effective data collection towards filling existing gaps (Appendix 8/D in SAC26 Report).

29. Recalling the importance of non-indigenous species (NIS) in the subregion, the Commission encouraged partners participating in the NIS pilot study in the eastern Mediterranean to continue towards its full implementation and finalization in support of NIS management. It further agreed to advance on the operationalization of the NIS observatory in Türkiye according to the guidelines endorsed by the forty-seventh session of the GFCM. Furthermore, the Commission acknowledged the potential of NIS to modify catch composition, also prompting shifts in fisher behaviour. It emphasized the importance of assessing these changes within an ecosystem-based framework, with the dual objective of mitigating potential ecological risks and maximizing the possible opportunities of emerging fisheries through informed adaptation and resource targeting.



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THANK YOU!

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