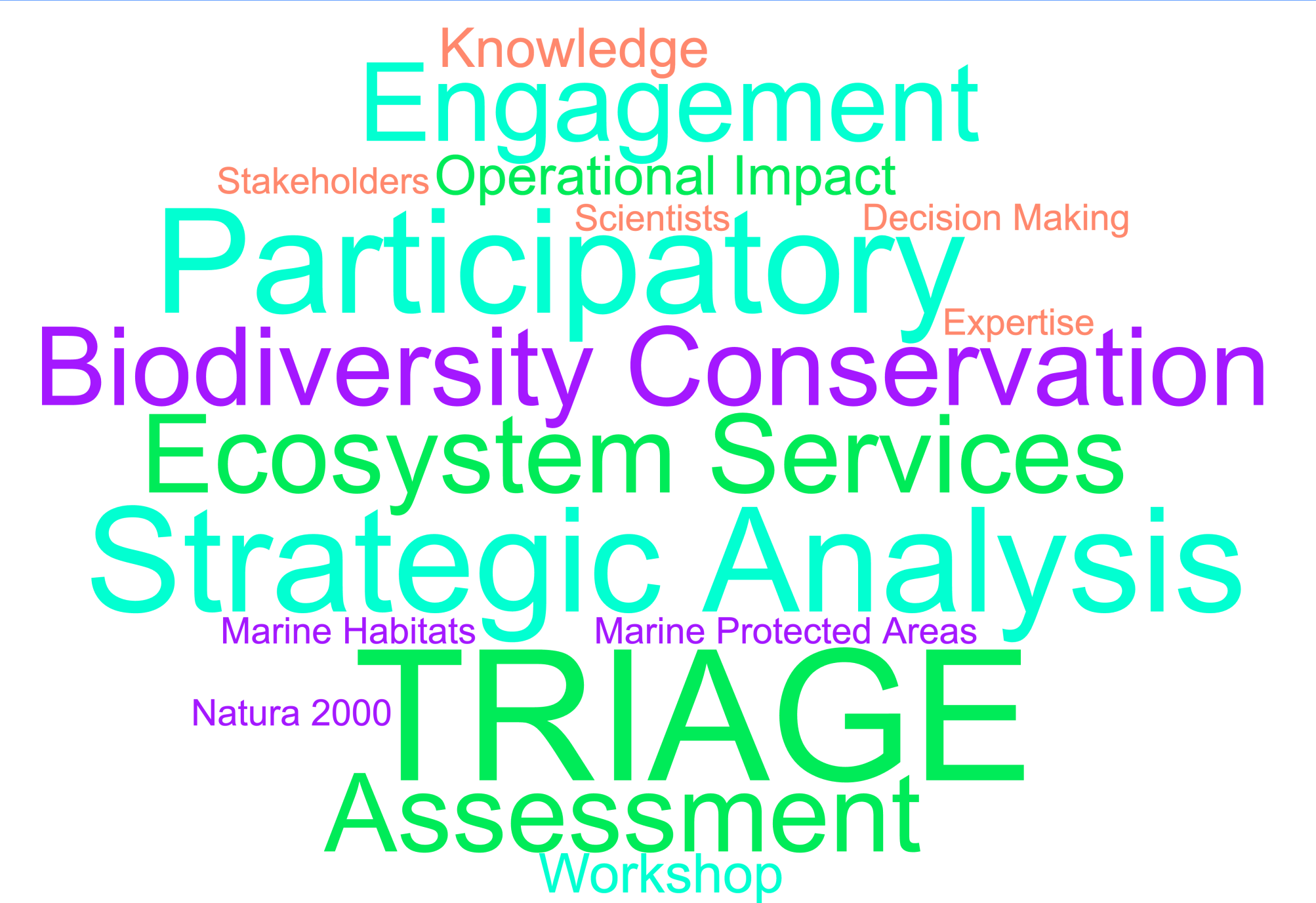


A strategic approach to assess marine and coastal ecosystem services in French Natura 2000 sites

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INTRODUCTION

Ecosystem services assessment (ESA) is common in environmental policies, but diverse practices often clash. We advocate for a **strategic approach**, driven by stakeholder concerns, **to tailor ESA to the specific needs of Natura 2000 managers.**



METHOD

The TRIAGE method is implemented through **participatory workshops**, involving scientists and managers from marine protected areas (MPAs). Operating through three main stages, TRIAGE guides ESA by prioritizing management issues. Participants engage throughout, fostering **knowledge appropriation** and **enhancing the operational impact of ESA.**



Fig.1 - The TRIAGE approach

Step 1: Delineating ESA scope & objective

1. Why an ESA?
2. What are the issues?
3. What is the scope?

Step 2: Refining ESA scope via ES hierarchization

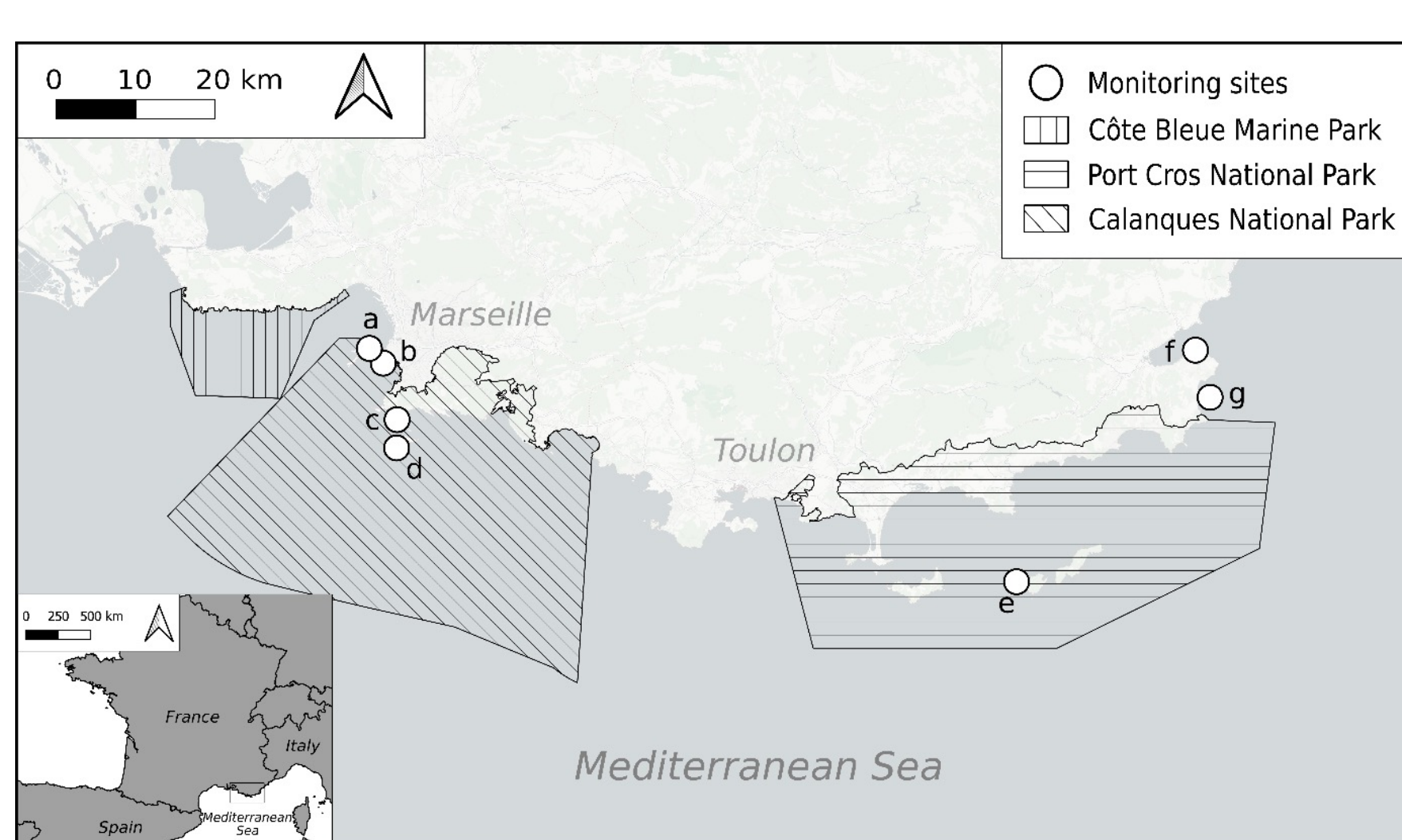
4. Importance for society
5. Exposure to factor of change
6. Possibility of action

Step 3: Selecting tools & methods for ESA implementation

7. Choice of indicators
8. Choice of method
9. Feasibility of the ESA

RESULT

Fig.2 – Application to the bay of Marseille



Step 1

Management issues at stake:

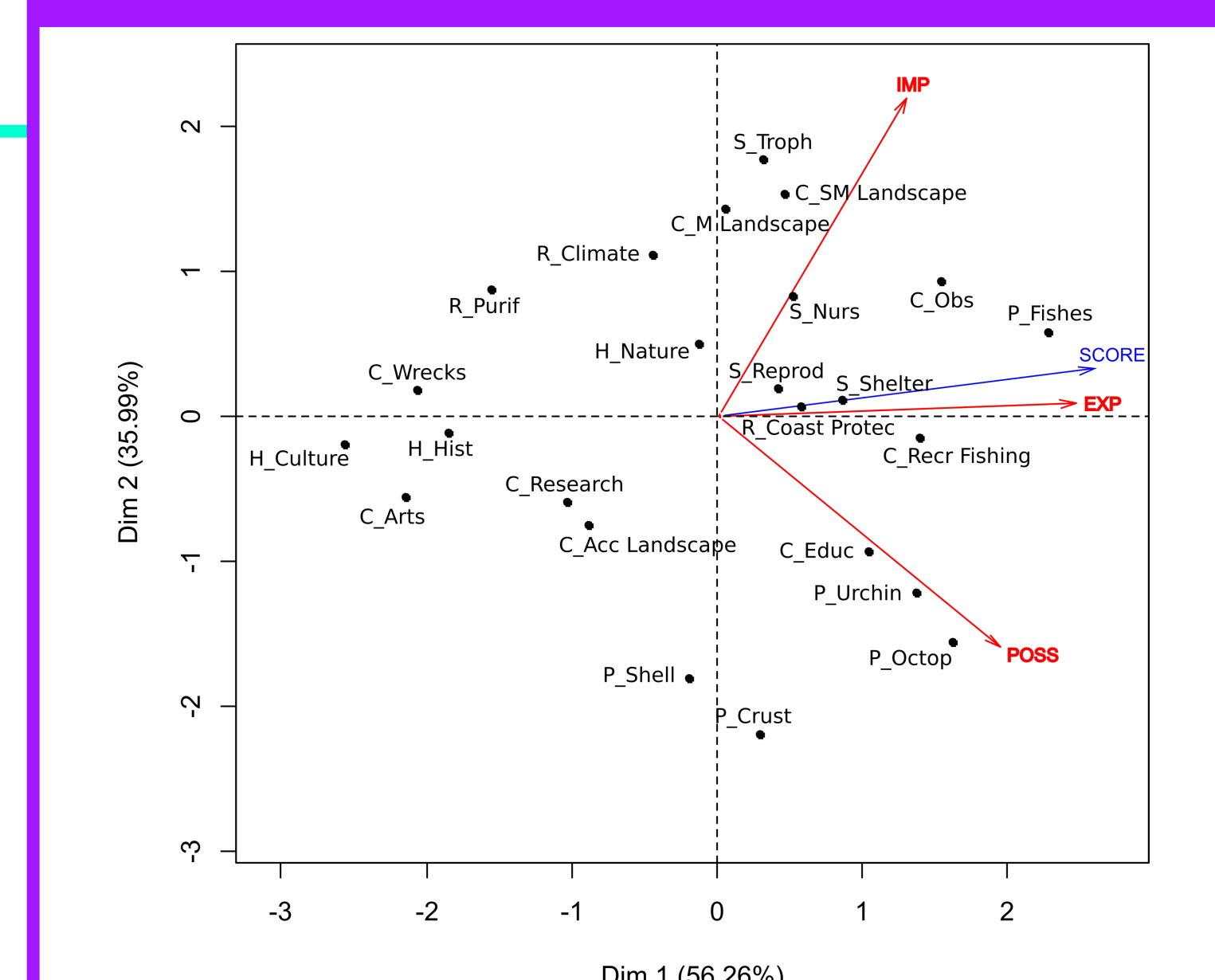
- 1- Intensification of recreational activities
- 2- Conservation of *Posidonia oceanica* meadows

Hierarchization of ecosystem services (Fig.3):

Top-right square: ES important and exposed but with a low possibility of action. Bottom right square: ES exposed and easily manageable but less important.

Step 2

Fig.3 – Hierarchization of ES



Step 3

Selection of assessment:

- 1- Assessment of the ES capacity of *P. oceanica* meadows under different factors of change using **state and transition model.**
- 2- Assessment of the social demand for ES associated to the evolution of recreational and touristic practices using **institutional approach.**

Further information

About the TRIAGE approach:

Pendleton, L., Mongrue R., Beaumont, N., Hooper, T., & Charles, M. (2015). A triage approach to improve the relevance of marine ecosystem services assessments. *Marine Ecology Progress Series*, 530, 183-193.

Scemama, P., Mongrue R., Kermagoret, C., Bailly, D., Carlier, A., & Le Mao, P. (2022). Guidance for stakeholder consultation to support national ecosystem services assessment: A case study from French marine assessment. *Ecosystem Services*, 54, 101408.

Further application in the project

Application of TRIAGE: Scemama P., Kermagoret C. et al. (...) (2020). A strategic approach to assess the bundle of ecosystem services provided by *Posidonia oceanica* meadows in the Bay of Marseille. *Vie Et Milieu-life And Environment*, 70(3-4), 197-207

State and transition model: Scemama P., Kermagoret C. et al. (...) (in revision). Impact assessment of multiple pressures on ecosystem services with state and transition model: application to *Posidonia oceanica* seagrass meadows. *Journal of Environmental Management*.

Assessment of social demand: Scemama P., Kermagoret C., Mongrue R., Alban F., (2024). Three different methods to assess cultural services in French marine protected areas. *MSEAS 2024*, Yokohama.



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