European Parliament

Committee on Fisheries

REBUILDING FISH STOCKS IN THE MEDITERRANEAN: NEXT STEPS

Fisheries science in the Mediterranean: a present and future perspective

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27 October 2020

OUTLINE

1. **Challenges** driving current research.
    - **1.1. Short-term actions.**
    - **1.2. Long-term measures.**
2. What science is **currently** doing.
3. What science can do in the **future.**
4. **Concluding** remarks.

1. Challenges.

1.1. Short-term actions.

New multiannual plan for demersal stocks (EU 2019/1022)

All recent documents: generalized overexploitation


Food and Agriculture Organization of the United Nations

General Fisheries Commission for the Mediterranean
Commission générale des pêches pour la Méditerranée

Scientific Advisory Committee on Fisheries (SAC)
Working Group on Stock Assessment of Demersal Species (WGSAD)
FAO headquarters, Rome, Italy, 9–14 December 2019
REPORT


Food and Agriculture Organization of the United Nations

General Fisheries Commission for the Mediterranean
Commission générale des pêches pour la Méditerranée

Scientific Advisory Committee on Fisheries (SAC)
Working Group on Stock Assessment of Small Pelagic Species (WGSASP)
FAO headquarters, Rome, Italy, 9–14 December 2019
REPORT[1]

In many cases, fishing mortality is not proportional to fishing effort (STECF, 2019)

1. Challenges.

1.1. Short-term actions.

New multiannual plan for demersal stocks (EU 2019/1022)

i) **Evaluate the efficiency** spatiotemporal fishing restrictions.

- A monthly scale does not let juveniles to disperse enough to reduce catchability.

- Displacement of effort to other areas.

- Socio-economic impacts.

1. Challenges.

1.1. Short-term actions.

New multiannual plan for demersal stocks (EU 2019/1022)

i) **Evaluate the efficiency** spatiotemporal fishing restrictions.

- Future options for consideration.

+ **Redistribute** the fishing days throughout the year, at **weekly scale**, or **size** of closures.

+ Combination with **complementary measures**: permanent closures and selectivity measures.

1. Challenges.

1.1. Short-term actions.

New multiannual plan for demersal stocks (EU 2019/1022)

i) **Evaluate the efficiency** spatiotemporal fishing restrictions.

ii) Surveillance and endorsement.

iii) Stock assessment limitations:

- Spatial stock structure.

- Implementation of important ecological processes.

1. Challenges.

1.2. Long-term measures.

From 5 targets of the Mid-Term Strategy (2017-2020):

+ To minimize and mitigate unwanted interactions between fisheries and marine ecosystems and environment: **climate change impacts**.

+ To enhance **cooperation** and capacity-building among riparian countries: beyond **transnational,** also **transcontinental** cooperation.

2. Current activities to improve the scientific basis.

2.1. Spatial structure of fish stocks.

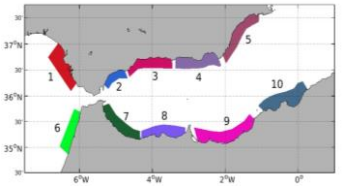
- Uncertainty in stock identification affects assessment conclusions.

- Several projects: STOCKMED, TRANSBORAN, MED-UNITS.

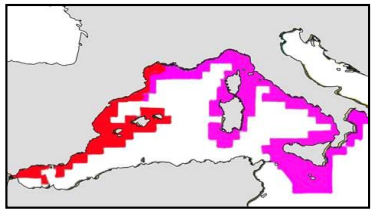
- No scientific basis to separate, **no scientific basis to join**.

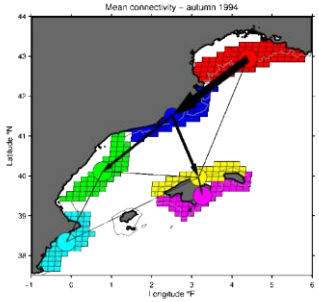
- Research shows that stock-dependent ecological processes occurs at **sub- regional scale** (spawning, settlement or survival).

- It is risky to take 'uncertainty' as an argument to no take an action.



TRANSBORAN


STOCKMED



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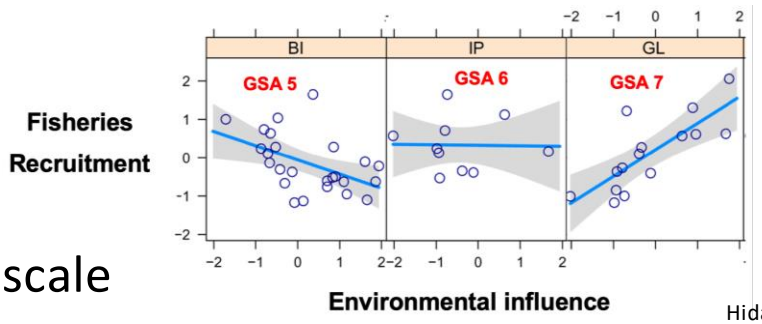
2. Current activities to improve the scientific basis.

2.2. Implementation of ecological processes in stock assessment.

- Standardize **catches (CPUEs)** with habitat (environmental) information.

- **Stock-recruitment** (SR) relationships:

Environmental influence at sub-regional scale



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- **Natural mortality**: species characteristics and environmental influence.

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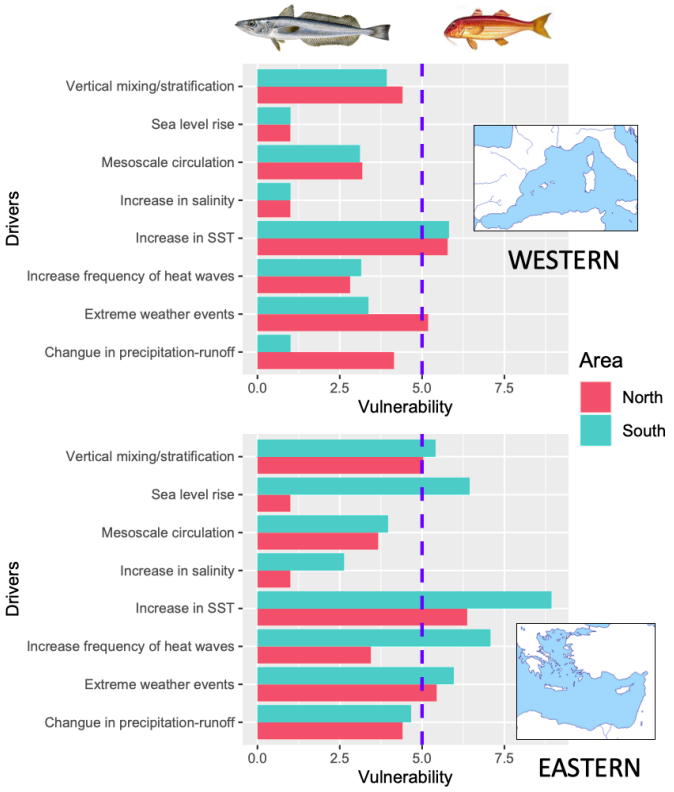
2. Current activities to improve the scientific basis.

2.3. Risk of Mediterranean fisheries to climate change.

- A climate change **adaptation strategy of the Mediterranean fisheries** is necessary to prepare and effectively respond to these expected changes.

- Identify and prioritize **adaptation options** to reduce vulnerabilities and **increase resilience**.



Hidalgo et al. in prep.

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3. Future lines in Mediterranean fisheries science.

Link temporal assessment to spatial management.

Acknowledge and face the ecological and socioeconomic complexity in the Mediterranean.

- Beyond stock boundaries: acknowledge intra-stock (sub-regional) structure.

- Adaptive co-management at regional scale.

- Additional ecosystems value of protecting these areas.

4. Concluding remarks

1. Historically, and nowadays, fishing effort is not directly linked to fishing mortality.

2. Given the current situation, reductions in effort will unlikely trigger a stock rebuilding at short-term.

3. Several complementary measures could be explored: weekly and permanent closures, selectivity measures and other technical developments.

4. It is risky to take 'uncertainty' in stock assessment boundaries as an argument to no take an action.

5. No scientific basis to join stock boundaries in large areas: current evidence shows that important ecological processes for stock-assessment occurs at sub-regional scale.

4. Concluding remarks

6. There is sufficient knowledge, information and methods for improving the ecological scientific basis of stock assessment methods in the Mediterranean.

7. Importance of regional co-management to account for the socio-economic context and to maximize endorsement.

8. A climate change adaptation strategy within Mediterranean fisheries management is necessary to prepare and effectively respond to the expected impacts.

9. Science will help to improve the link between temporal fisheries assessment and spatial management.

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