

# Assessing the Impact of Fisheries on Demersal Resources using Ecosystem-based Indicators.



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## The problem(s)

- (Over)Fishing results to the reduction of target resources and generates discards due to high-grading (**ecosystem**).
- Major economic costs, loss of income and jobs (**society**).
- Fisheries mismanagement and the need to move from the conventional single species management to an ecosystem-based approach (**policy**).
- Fisheries policy is most effective when adaptive management processes are adopted, considering stakeholders' perspectives which ensures higher compliance (**governance**).

## Aim

To support fisheries management in EU waters by using ecosystem-based indicators.

## Study areas: Two Marine ecosystems – Two Fishery systems:

1. North Sea (ICES IVb & IVc)
2. Eastern Mediterranean/Aegean Sea (GFCM GSA 22)



BeamTrawler (© KVG)



Discards (© KVG)



Bottom Trawler

## Side - Tasks

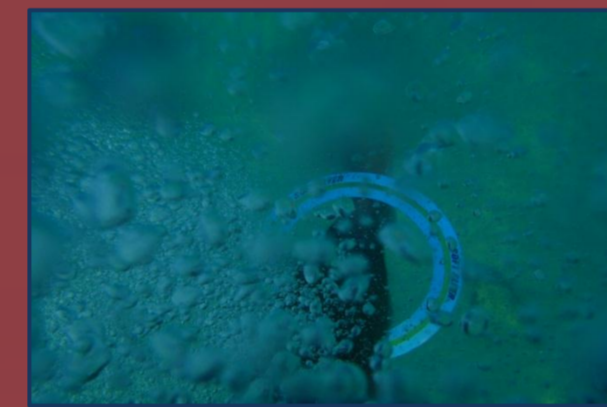
Description of ecosystems



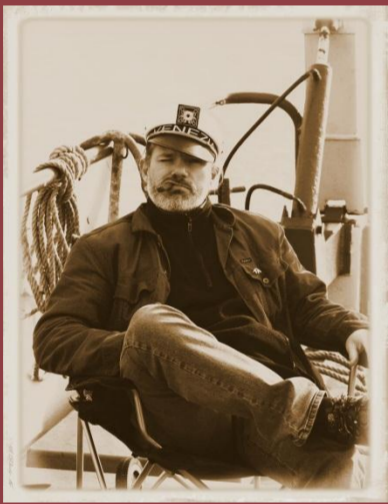
Description of fishery per ecosystem



Description of conservation aspects

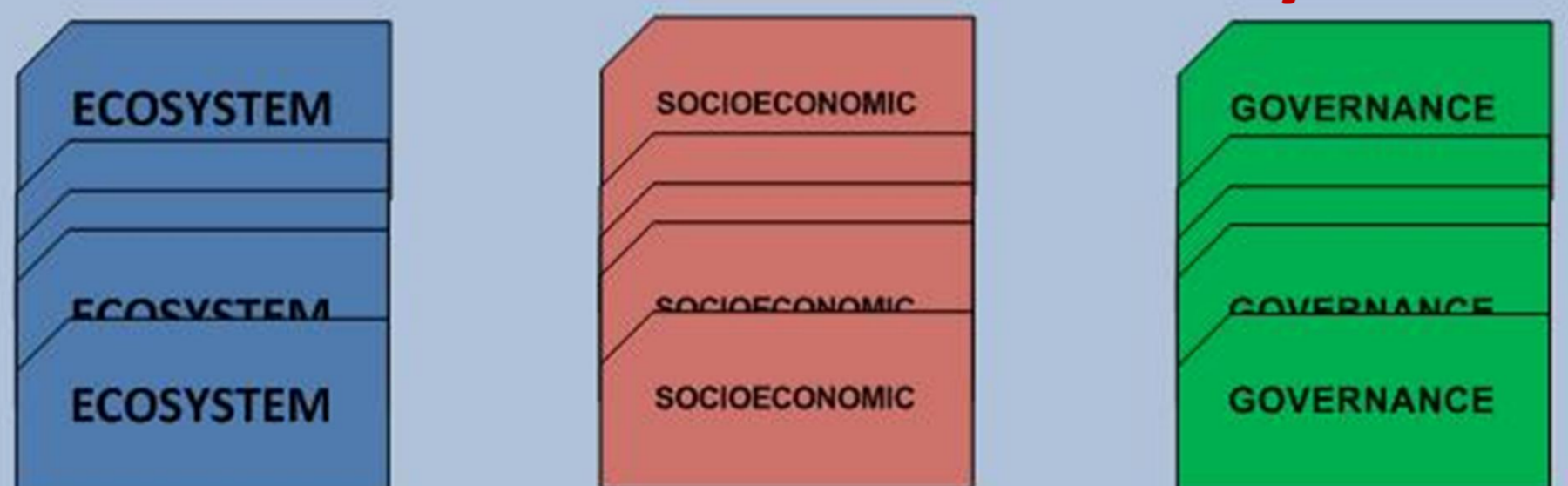


Identification of groups of fishery-related stakeholders



## Selection of Indicators

Using Pressure, State and Response Indicators to explore Ecosystem, Socio-Economic and Governance issues related to demersal fisheries in two study areas



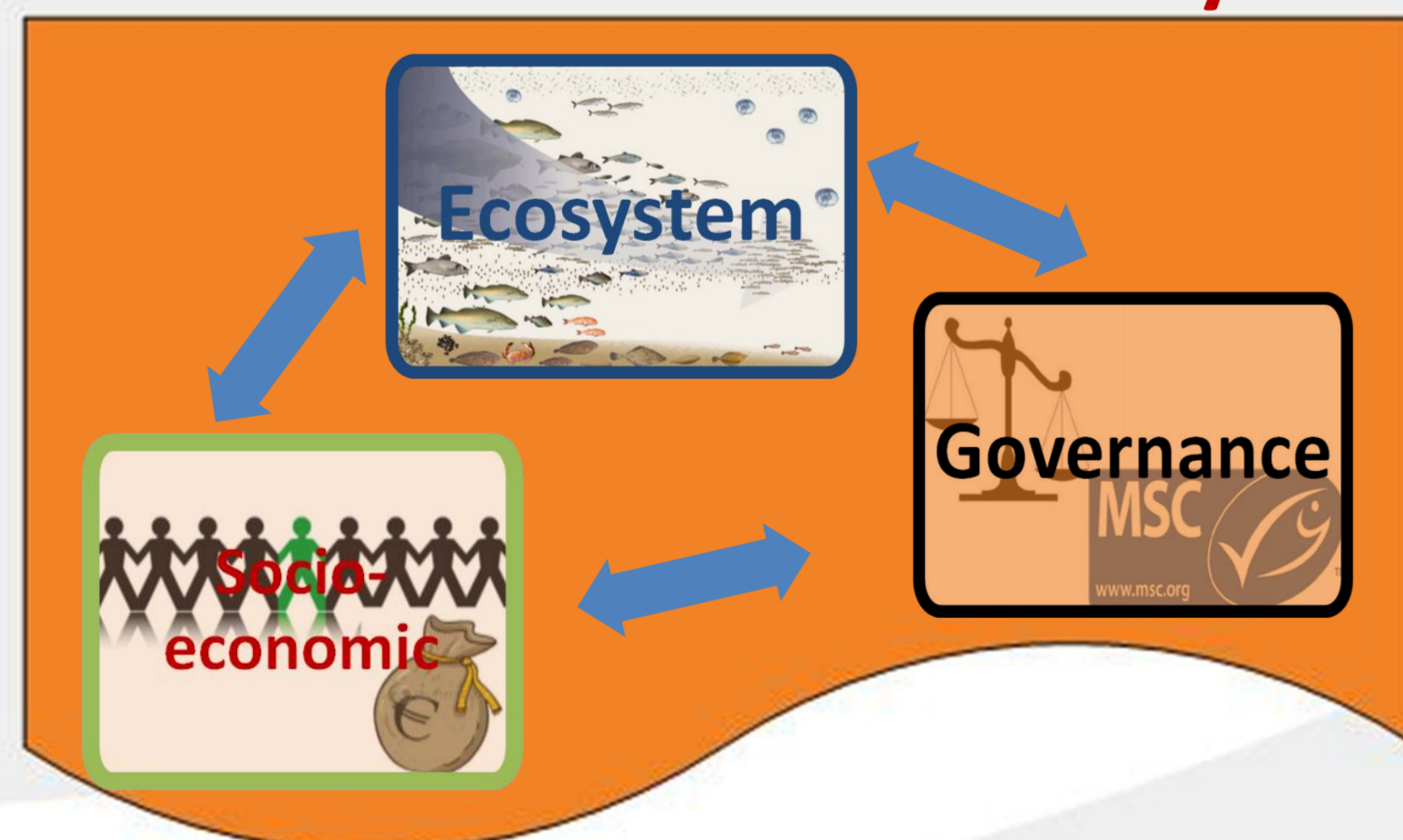
### Criteria

- Data availability
- Relevancy, robustness
- Sensitivity, responsiveness

YES

NO

Final Product: a suite of indicators for both ecosystems

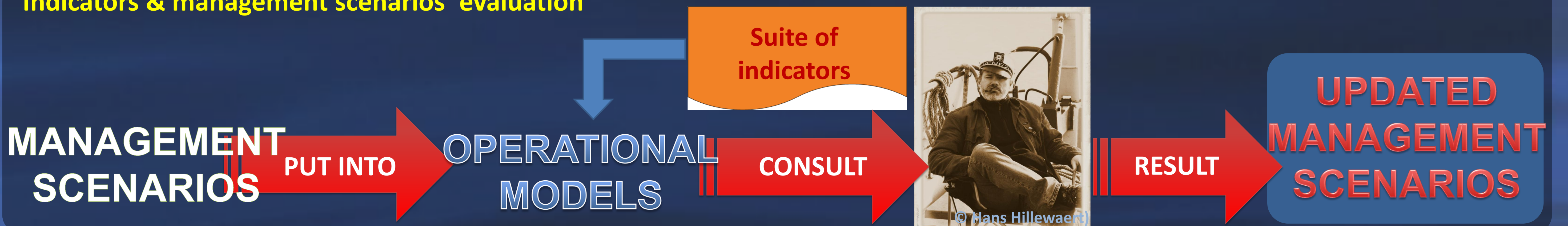


## What about Indicators?

- Indicators are tools that assist management.
- They can be single numerical metrics or combination of metrics, based on data collected and processed for a clearly defined analytical or policy purpose.
- Suites of selected indicators will be applied to the two areas.
- Power analysis will help identifying indicators needing shorter time series to respond.

- A formal analysis framework will test which indicators catch real tradeoffs between ecological, socioeconomic and governance issues.
- Selected groups of stakeholders will score giving a higher weight to those considered as more relevant and meaningful according to their needs.

## Indicators & management scenarios' evaluation



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