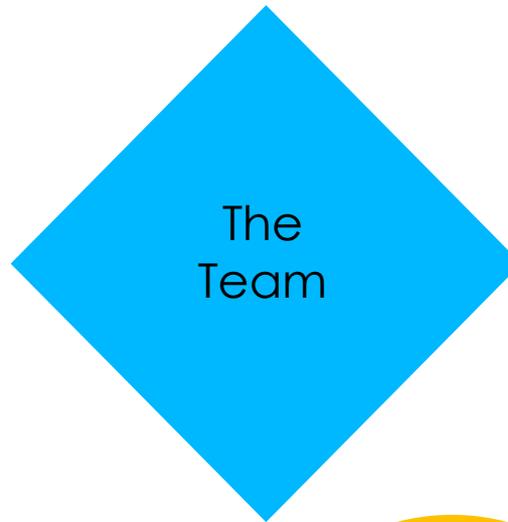
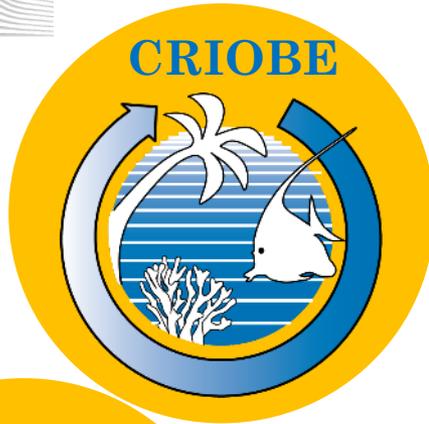


**SUSTAINABLE FISHERIES IN  
EU MEDITERRANEAN WATERS  
THROUGH NETWORK OF MPAS**



**MEDAC, AJACCIO 11/10/2016  
GIULIA PRATO, WWF ITALY**



# CUMULATIVE IMPACTS ON THE MEDITERRANEAN



95 % Mediterranean assessed fish stocks over- exploited  
(beyond MSY) (Colloca et al. 2011)



Ecosystem  
approach to  
fisheries  
management

- Balanced fishing exploitation rates MSY
  - Biological communities preserved, **including essential fish habitats of commercial species**
- 

# MARINE PROTECTED AREAS:

## A TOOL FOR ECOSYSTEM BASED MANAGEMENT

Increases inside European MPAs:

**Biomass** → 251 %

**Density** → 121%

**Size** → 13%

**Species diversity** → 19%



PISCO 2011. The Science of Marine Reserves

**Fisheries benefits:** CPUE, mean size of catch, diversity of catch (Stobart et al 2009, Goñi et al 2008)

**Socio-economic benefits:** income and jobs (Roncin et al. 2008)

Age and design

Co-management

Governance

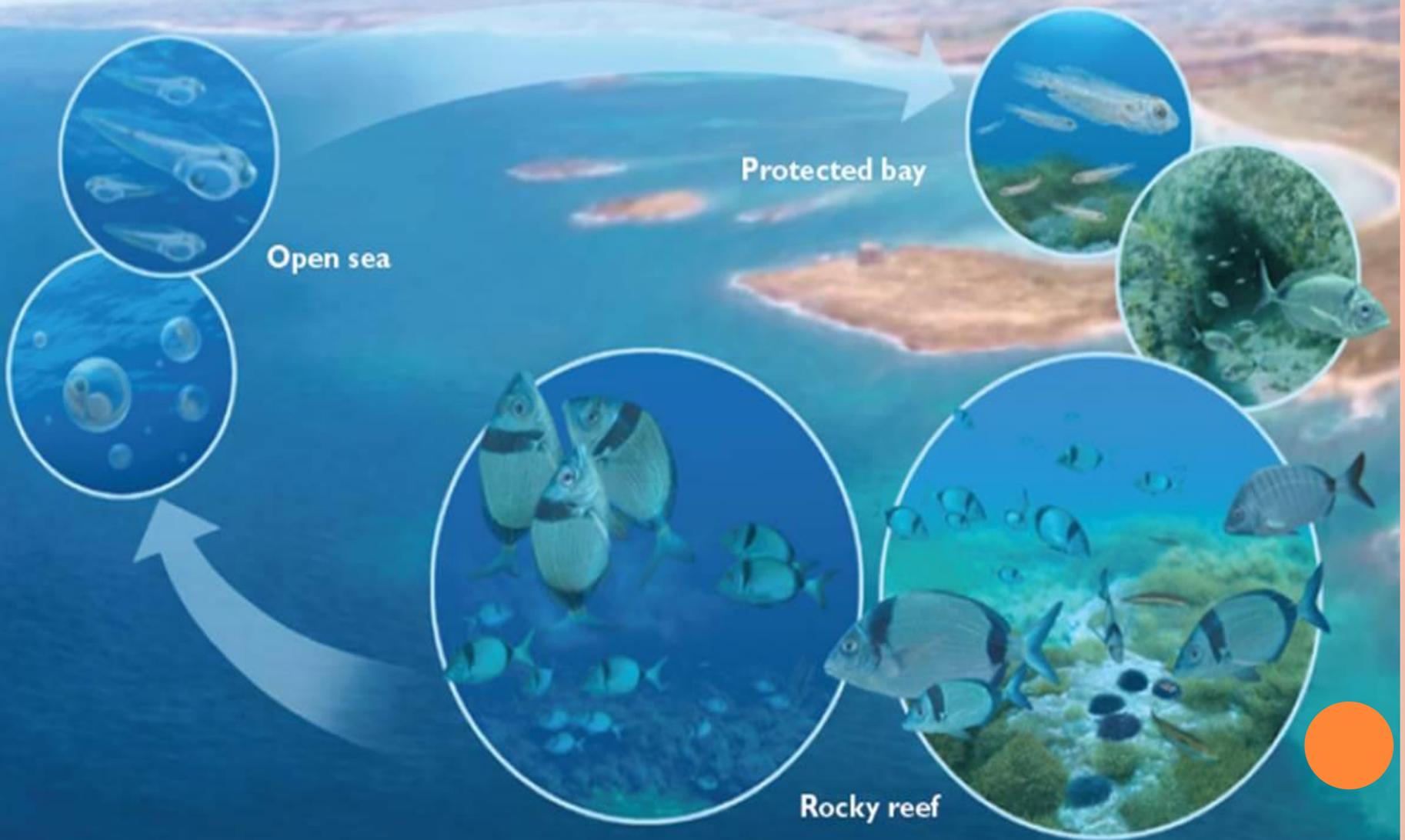
# Life Cycle of Two-Banded Seabream

Eggs: 2–4 days

Juveniles: months

Larvae: up to 9 weeks

Adults: over 30 years

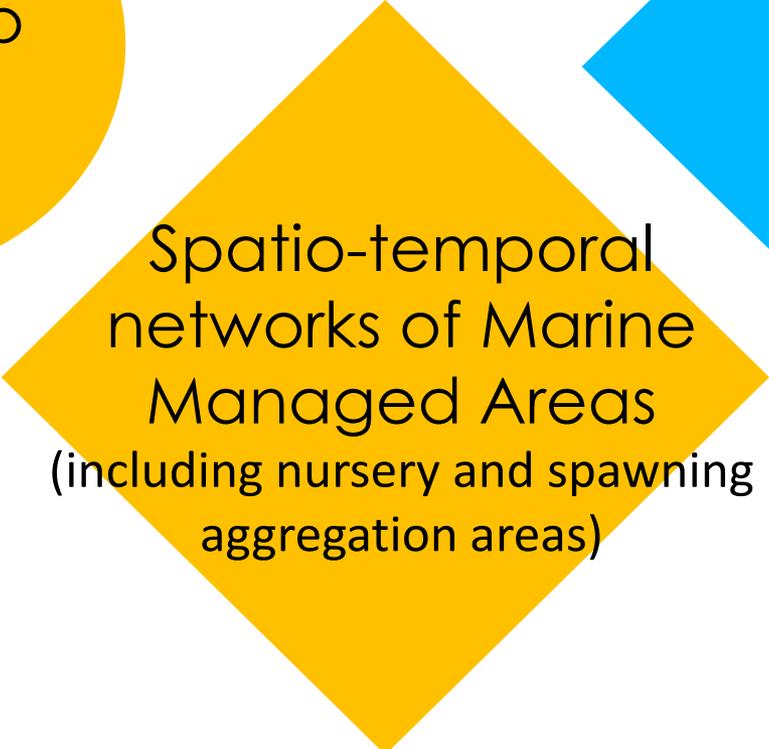


# NEW COMMON FISHERIES POLICY

## SPATIAL MANAGEMENT OF FISHING EFFORT



Scaling up  
MPAs



Spatio-temporal  
networks of Marine  
Managed Areas  
(including nursery and spawning  
aggregation areas)



MSY for fisheries



# OVERALL GOAL

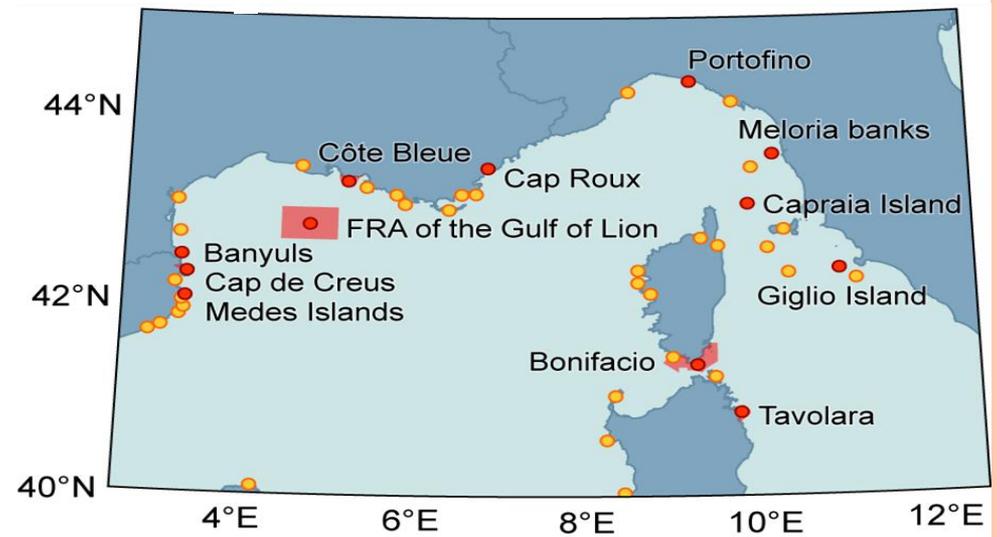
Identify **coherent networks** of existing and new Marine Managed Areas Areas...

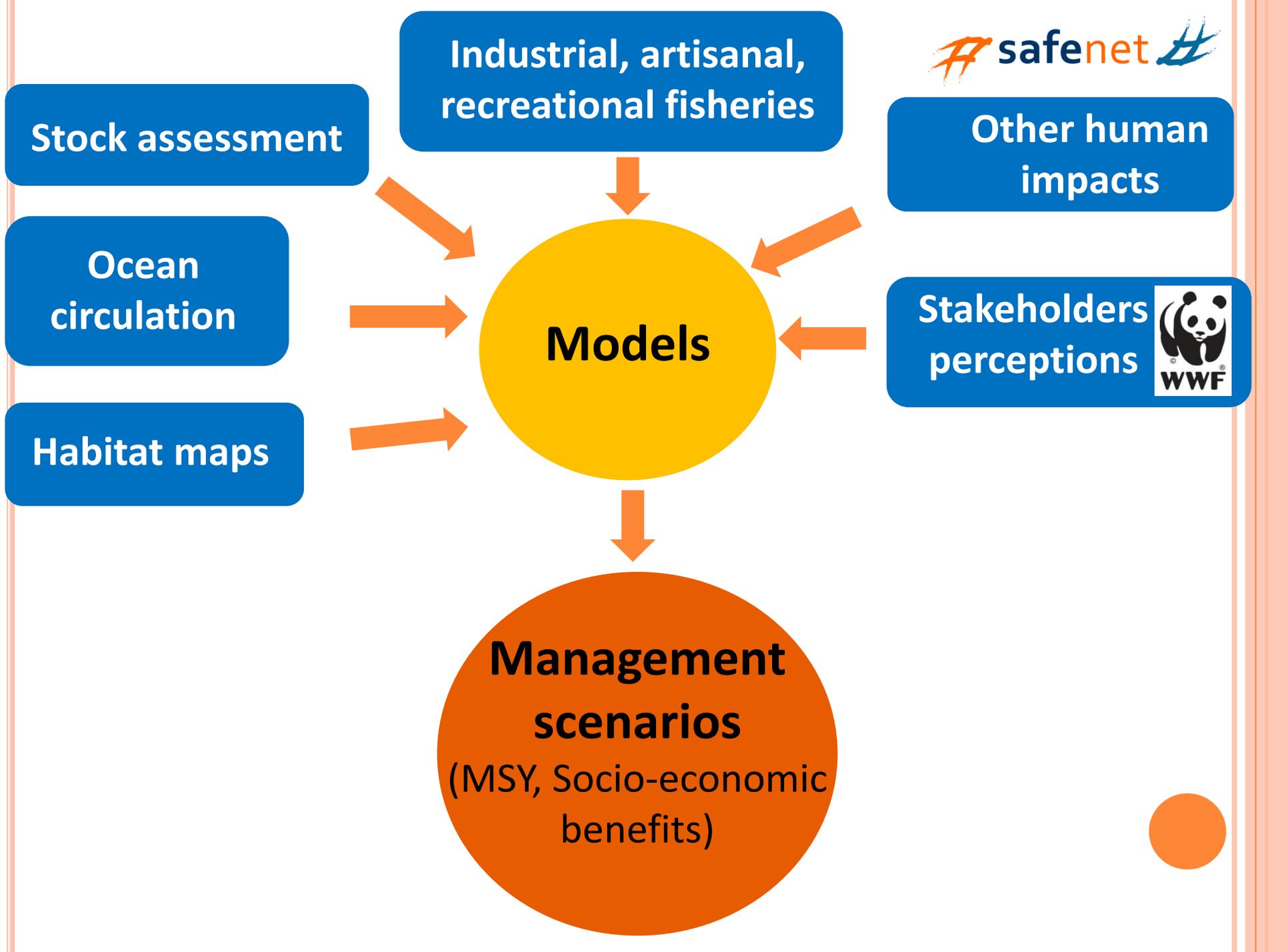
whose **emergent properties** (namely the interactive effect of scaling-up MPAs)...

can help **achieve fisheries MSY**...

and maximize over the **long-term socio-economic benefits**...

for the **stakeholders** in the north-western Mediterranean Sea.





Industrial, artisanal, recreational fisheries

Stock assessment

Other human impacts

Ocean circulation

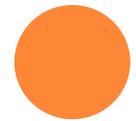
Stakeholders perceptions

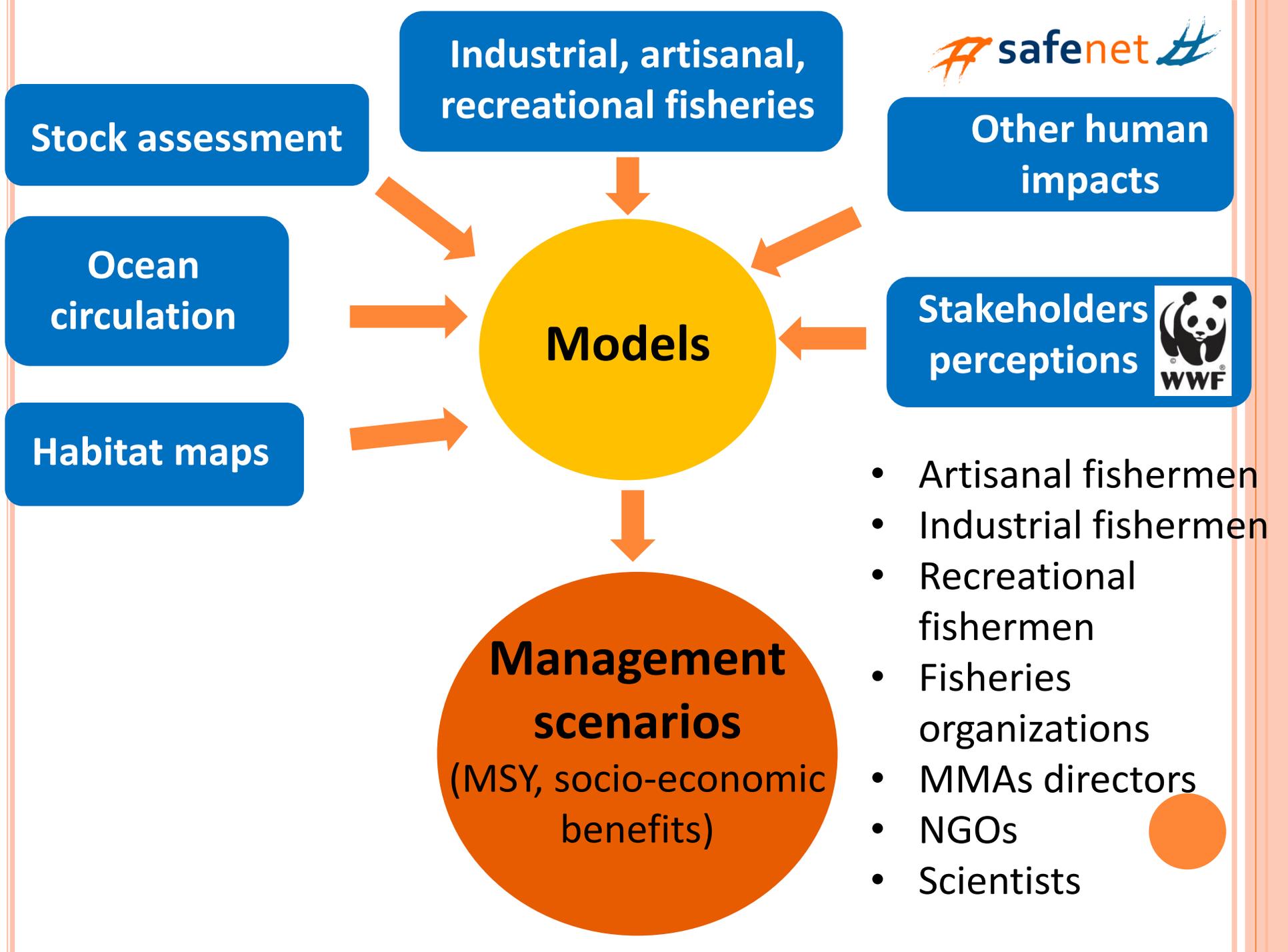


Habitat maps

Models

Management scenarios  
(MSY, Socio-economic benefits)





Industrial, artisanal, recreational fisheries

Stock assessment

Other human impacts

Ocean circulation

Models

Stakeholders perceptions



Habitat maps

Management scenarios

(MSY, socio-economic benefits)

- Artisanal fishermen
- Industrial fishermen
- Recreational fishermen
- Fisheries organizations
- MMAs directors
- NGOs
- Scientists

# STAKEHOLDER ENGAGEMENT

stakeholders' opinion about...

## state of fisheries

- ▶ current status
- ▶ recent trend (last 10 years)
- ▶ major threats

## fishing & other marine uses

- ▶ impacts
- ▶ conflicts with other marine uses

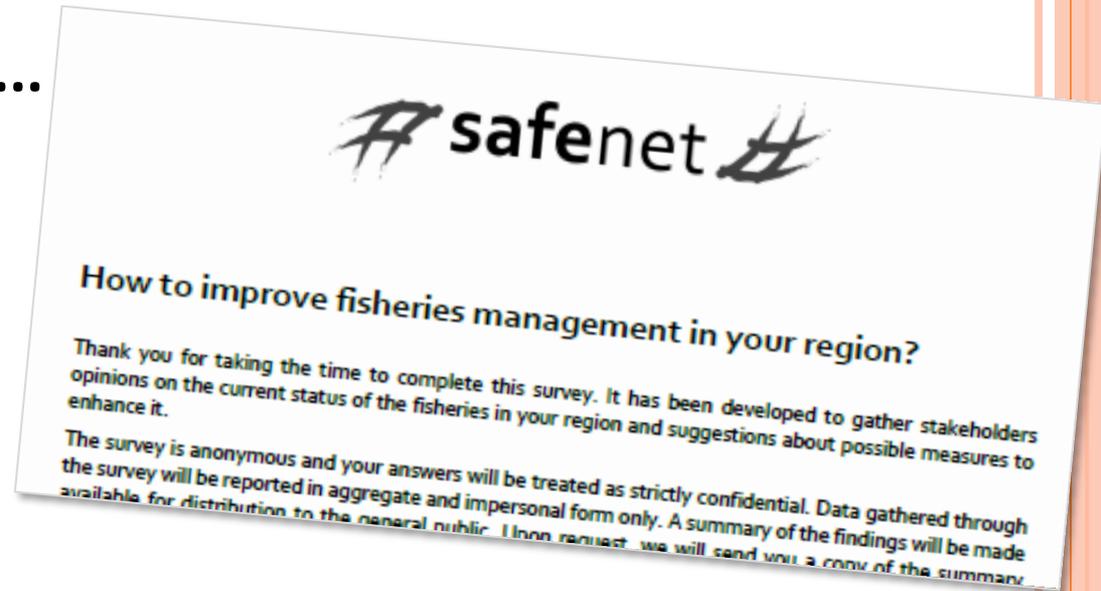
## protected areas

- ▶ impacts on fishing

## fisheries management suggestions

## languages:

- ▶ ENG
- ▶ ESP
- ▶ FRA
- ▶ ITA
- ▶ CAT



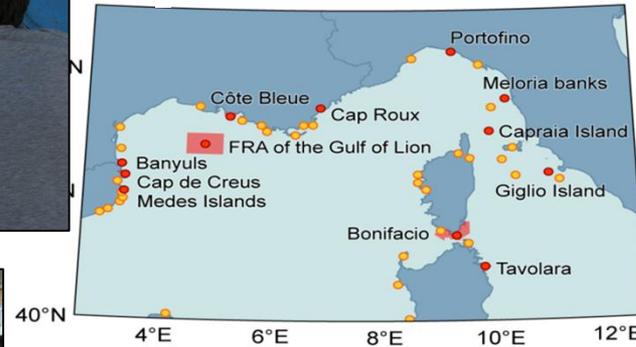
# ARTISANAL AND INDUSTRIAL FISHERIES SURVEYS



## How to improve fisheries management in your region?

Thank you for taking the time to complete this survey. It has been developed to gather stakeholders opinions on the current status of the fisheries in your region and suggestions about possible measures to enhance it.

The survey is anonymous and your answers will be treated as strictly confidential. Data gathered through the survey will be reported in aggregate and impersonal form only. A summary of the findings will be made available for distribution to the general public. I hope you will find this a copy of the summary.



## 60 interviews:

- Gulf of Lyons
- St. Raphael
- Sardinia
- Tuscany



# RECREATIONAL FISHERIES SURVEYS



## Recreational fisheries in your organization and in your region

Thank you for taking the time to complete this survey. It has been developed to collect information from the representatives of recreational fishing associations/federations/clubs regarding some general aspects of these organizations, and to gather perceptions on the current status of the fisheries in your region and suggestions about possible measures to enhance it.

The survey is anonymous and your answers will be treated as strictly confidential. Data gathered through the survey will be reported in aggregate and impersonal form only. A summary of the findings will be made available for distribution to the general public.

Addressed to  
representatives of  
recreational fishing  
associations



Sondaggio on line sulla  
pesca ricreativa  
SafeNet

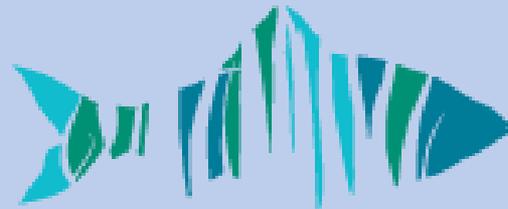
Online survey to be  
distributed by the  
representatives among  
members

Please, *spread the word* as much as possible!



# FISHERIES ORGANIZATIONS REPRESENTATIVES

WE NEED YOUR  
SUGGESTIONS



MEDAC

MEDITERRANEAN  
A D V I S O R Y  
C O U N C I L

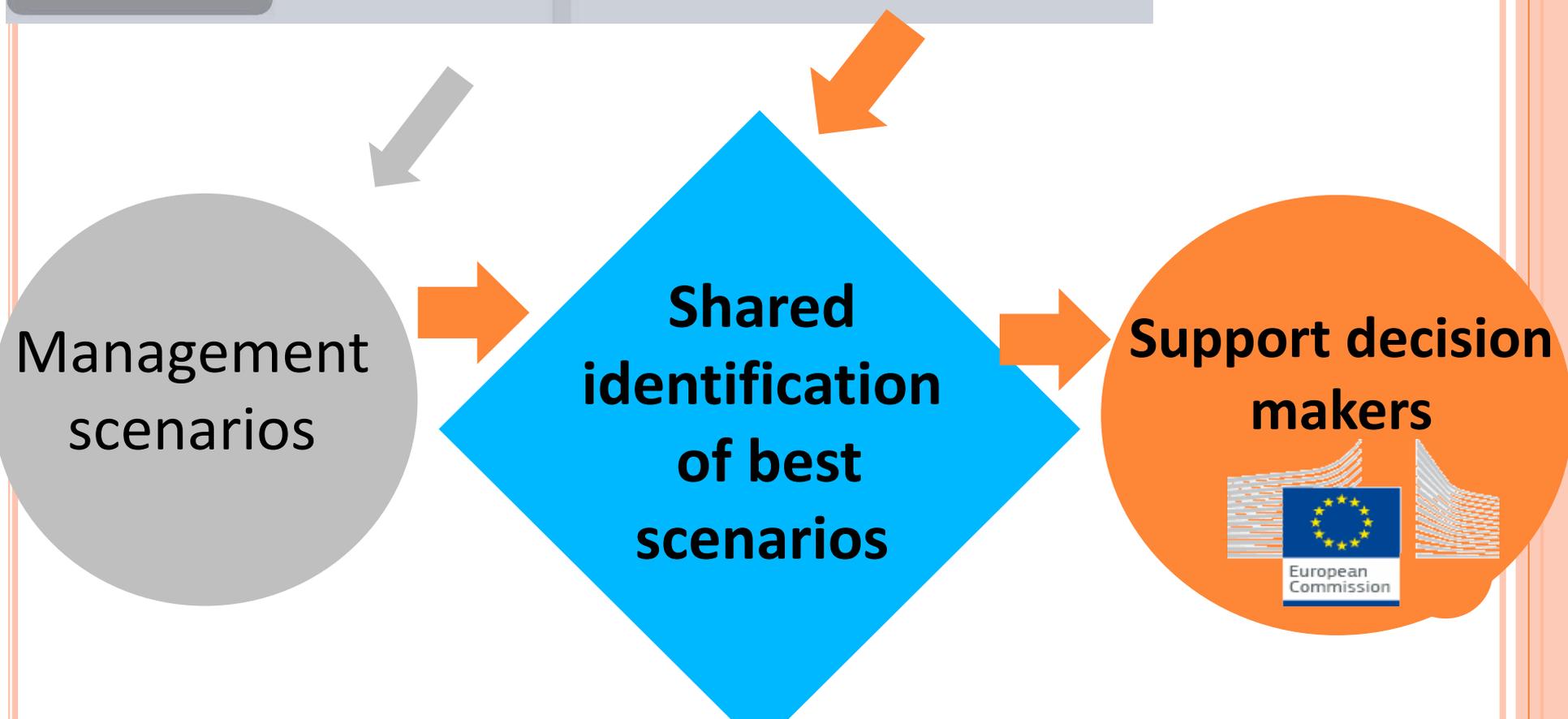
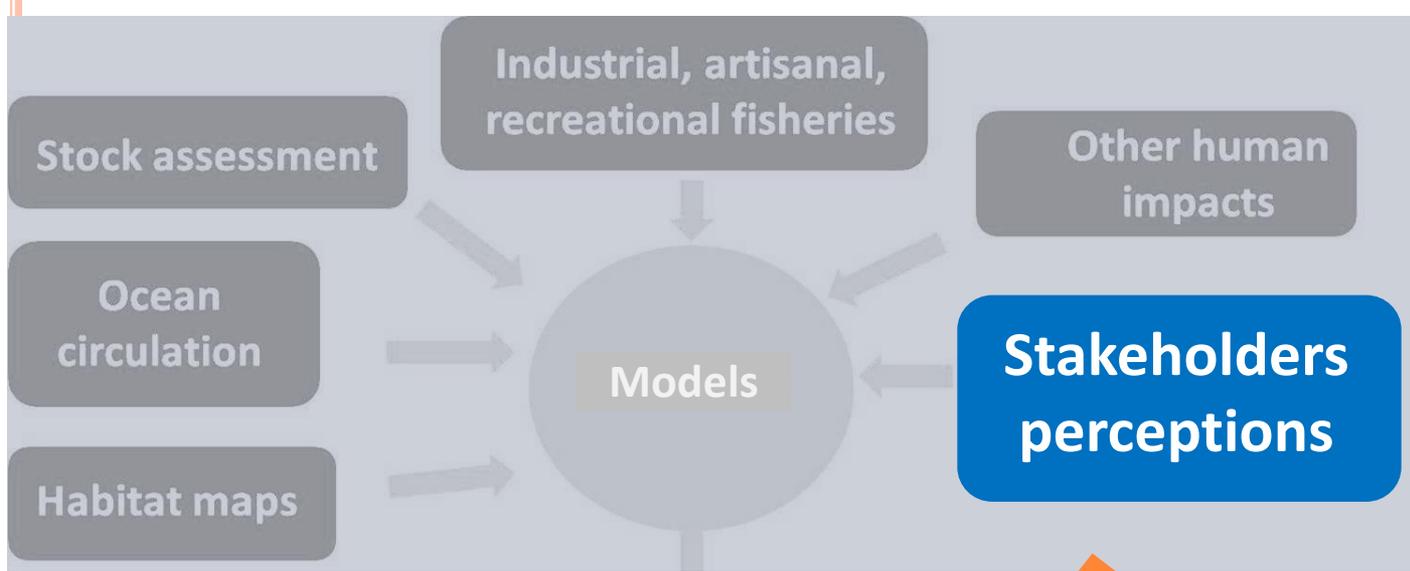


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**PLEASE DELIVER THE QUESTIONNAIRE TO  
THE ORGANIZERS  
OR EMAIL TO**

[gprato@wwfmedpo.org](mailto:gprato@wwfmedpo.org)

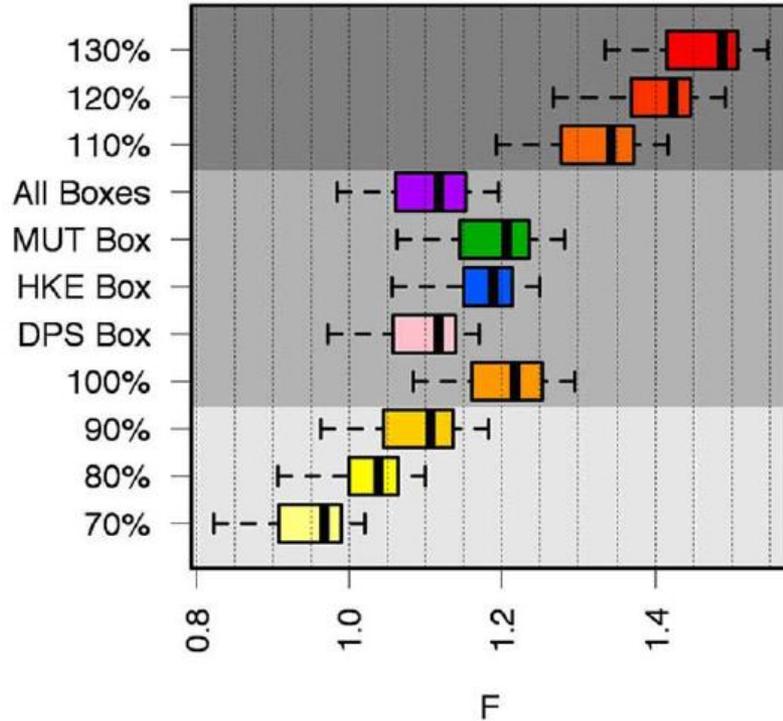
[abuzzi@wwfmedpo.org](mailto:abuzzi@wwfmedpo.org)

**MERCI GRACIAS GRAZIE!**

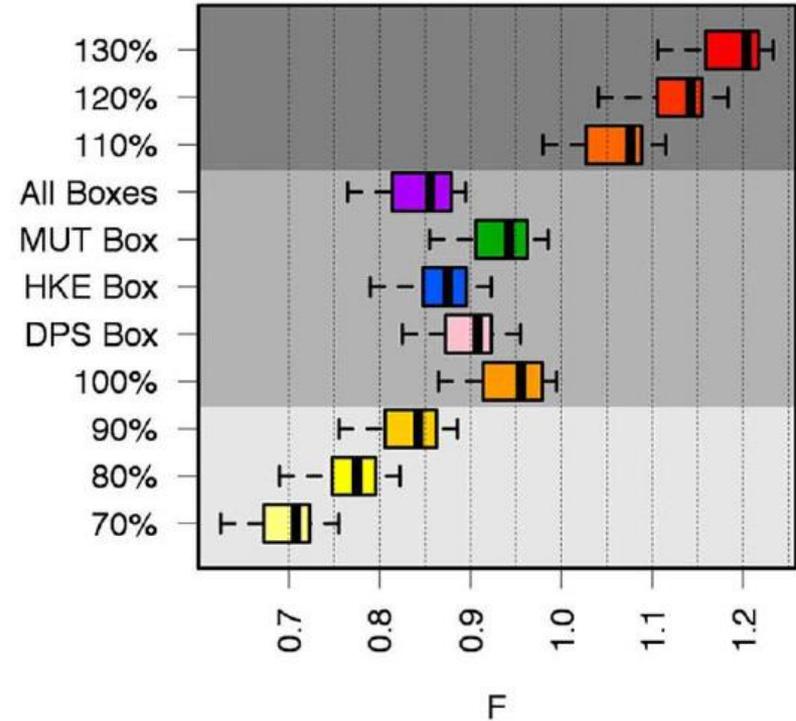


a)

Fishing mortality DPS



Fishing mortality HKE



Simulated values of F (2010 fishing effort) by species according to different management scenarios (variation of fishing effort with no spatial constraints or closures of nurseries with no fishing effort variation).