



STECF EWG 19-02*

Management Strategy Evaluation for demersal species in the Adriatic Sea

* The contents of this presentation include notes of the observer attending at the EWG. The aim is mainly to inform stakeholders on scientific evidences and observations raised during the experts meeting. Nevertheless the contents are not yet approved by STECF plenary. The results and observations reported in the presentation can be modified in the final report of STECF. Notes are not official and MEDAC is not responsible for the use which might be made of this presentation.

The Adriatic Sea is the most important FAO fishing area in the Mediterranean Sea both in terms of landings and size of the fleets.

Demersals
(i.e. 35000 tons in 2016)
Make up 25% of landings in Adriatic

90%
Italy
Croatia
Slovenia

10%
Albania
Montenegro

- ✓ NO GFCM MANAGEMENT IN PLACE in the Adriatic to control fishing mortality on yearly basis and in line with scientific advice
- ✓ Limited spatio-temporal measures are implemented both in Italy and Croatia and
- ✓ since 2017 the Pomo/Jabuka Pit FRA was established to protect juveniles of Hake and Norway lobster.

TASK OF THE GFCM SAC in 2018

Development of scientific elements for an Adriatic demersal management plan to be adopted at GFCM level in 2019



TORs of STECF EWG 19-02

Contribution to the SAC to facilitate the identification of the best possible management strategies



Management Strategy Evaluation
of performance indicators of different management
options

Key commercial stocks for a demersal MAP

- ✓ Previously identified by STECF EWGs
- ✓ Listed under GFCM SAC key priority stocks

Area	Common name	Scientific name
GSA 17-18	Hake	<i>Merluccius merluccius</i>
GSA 17-18	Red mullet	<i>Mullus barbatus</i>
GSA 17-18	Norway lobster	<i>Nephrops norvegicus</i>
GSA 17-18-19	Deep-water rose shrimp	<i>Parapenaeus longirostris</i>
GSA 17	Sole	<i>Solea vulgaris</i>
GSA 17-18	Spottail mantis shrimp	<i>Squilla mantis</i>

Assess the likely biological and socio-economic benefits, against a baseline status quo scenario of implementing the management options



Forecast models -> Indicators of the fisheries up to 2035 of:

- ✓ Fisheries (F/F_{msy})
- ✓ Biological (Abundance, Recruitment, etc)

– Preliminary results

- ✓ Socio-economic (Salary, Employment, etc.)

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TOR 1. OBSERVATIONS

➤ Socio-economic

✓ Main issues related to evaluations of economic impact of management options



✓ Economic models estimating consequences of F reductions – not enough robustness for quantification of related profit reduction

Dynamics too complex

✓ Spatial modelling based on SOLEMON survey – yearly frequency of collected data (1 month)

See ToR 4

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Biological operating model (OM) for the MSE



- ✓ Stocks assessment by GFCM WGSAD and (where necessary) STECF EWG
- ✓ Evaluation of alternative recruitment models (SR)
- ✓ Reference points from the stock assessments

ToR 3 Management Procedure A

Management Procedure (MP) test:

- a) Reach the maximum sustainable yield (F_{msy}) by:
- i. 2020 ($F_{msy2020}$) – **not done**
 - ii. 2024 ($F_{msy2024}$),
 - iii. Reduction of fishing mortality by
10% in 2020,
8% in 2021,
and then linear reduction in F to achieve F_{msy} by
2024 (FIXREDUX).

ToR 3 Management Procedure A

- b) Simulation of management mechanism of the advisory process of GFCM SAC (n+2 basis)
 - c) Management controlling F:
 - ✓ fishing effort regime (EFFORT),
- ✓ A catch limit scenario to be applied exclusively for the stock of Common sole and Norway lobster (CATCHLIM)

TOR 4. Management Procedure B

Evaluation of effect of theoretical additional protection of nursery and spawning areas as follows:

- “Sole Sanctuary” – **updated area**
- FRA protecting 20% of the area of high persistence of spawners Norway lobster or European hake – **persistence definition**
- Closure of coastal zone up to 6 nautical miles to all active towed gear (OTB and TBB) - **Trieste Gulf issues**

TOR 4. OBSERVATIONS

➤ “Sole Sanctuary”



- ✓ Updated map between Italy and Croatia (gillnets area)
- ✓ Core area closed to trawls and gillnets
 - ✓ Hypothetical Buffer area:

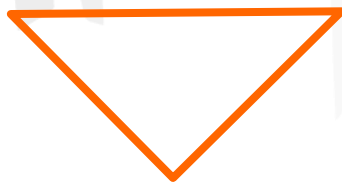
trawls ban and temporal closures of gillnets

TOR 4. OBSERVATIONS

- FRA protecting 20% of the area of high persistence of spawners



- ✓ Difficulties in the threshold of high persistence (50% or 75%) and hotspot of juveniles and spawners



- ✓ Methodological details in the final report

TOR 4. OBSERVATIONS

- Closure of coastal zone up to 6 nautical miles to all active towed gear (OTB and TBB) in GSA17
 - ✓ Not enforceable in Slovenia
 - ✓ Difficult implementation in the Croatian side – Islands
 - ✓ Spatio-temporal closures already in force in the Croatian side



Modelling evaluation only in the Italian side

- Risk of consequences on Italian fleet <15 m (about 250 fishing vessels for safety reasons)

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ToR 5. Areas high spatial persistence

Detailed maps for GSA 17-18 of:

- a) The high persistence areas of 1st year juveniles;
- b) The recurrent spawning aggregations areas;
- c) Analyse the percentage of overlapping of juveniles and adults persistent areas.

MEDITS AND SOLEMON DATA

- ✓ Surveys frequency
- ✓ High persistence percentage

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