

FG West Med



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Results of the stock assessment in the Western Mediterranean WG of the General Fisheries Commission for the Mediterranean – GFCM 12-17 December 2022

*WGSASP - report not available yet for
pelagic species*

*WGSAD - report not available yet for
demersal species*

Conclusions and recommendations of a joint session of West and East WGSASP

- Importance of coupling the time series of catches with events related to the fishery and the environment & need for historical information on the fishery
- Tested and compared methodologies of stock assessments:
 - similar trends in fishing pressure, the “backward approach may give a more realistic trend on F/FMSY

<https://www.fao.org/gfcm/technical-meetings/en/>

Conclusions and recommendations of a joint session of these two West and East WGSASP



Species	Areas	Stock status	Management advice (FM = fishing mortality)
Anchovy	1	Overexploitation	Reduce FM
Sardine	1	Overexploitation	Reduce FM

Anchovy	6	Sustainably exploited	Do not increase FM
Sardine	6	Overexploitation	Reduce FM

Anchovy	7	Sustainably exploited	Do not increase FM
Sardine	7	Sustainably exploited and ecologically unbalanced	Do not increase FM

Anchovy	9	Sustainably exploited	Evaluate potential fishing opportunities
Sardine	9	Sustainably exploited	Evaluate potential fishing opportunities

environmental effects of diminished food in the area on growth (trends in fish length and condition)

△ Common dolphinfish	5-10-12-13-14-15-16-19	Sustainably exploited	Do not increase FM
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Conclusions and recommendations of a joint session of these two West and East WGSASP



Species	Areas	Stock status	Management advice (FM = fishing mortality)
Anchovy	1	Overexploitation	Reduce FM
Sardine	1	Overexploitation	Reduce FM
Sardine	3	Overexploitation	Reduce FM
Sardine	4	Sustainably exploited (western part)	Do not increase FM
		Overexploited (eastern part)	
Anchovy	6	Sustainably exploited	Do not increase FM
Sardine	6	Overexploitation	Reduce FM
Anchovy	7	Sustainably exploited	Do not increase FM
Sardine	7	Sustainably exploited and ecologically unbalanced	Do not increase FM
Anchovy	9	Sustainably exploited	Evaluate potential fishing opportunities
Sardine	9	Sustainably exploited	Evaluate potential fishing opportunities
Anchovy	16	Sustainably exploited	Do not increase FM
Sardine	16	Overexploitation	Reduce FM
Anchovy	20	Sustainably exploited	Do not increase FM
Sardine	20	Overexploitation	Reduce FM
Anchovy	22	Sustainably exploited	Do not increase FM
Sardine	22	Overexploitation	Reduce FM
Sardine	12-13	Sustainably exploited	Do not increase FM
△ Common dolphinfish	5-10-12-13-14-15-16-19	Sustainably exploited	Do not increase FM

environmental effects of diminished food in the area on growth (trends in fish length and condition)

Conclusions and recommendations of a joint session of these two WGSAs (focus on West Med)

- MED - 23 stocks were analysed, **validated advice for 18 of these stocks** (9 quantitative advice and 9 qualitative advice).
- Importance of thoroughly **understanding the implications and biological meaning of the assumptions** at the basis of the assessment models. Sensitivity testing was suggested.
- **Assessment of the common dolphinfish**, *Coryphaena hippurus*, in the western and central Mediterranean. Efforts made towards data collection, collation, analysis and modelling, estimate reference points for this species.
- Importance of **using more than one methodology** and evaluating consistency in the results of all models for data-poor/limited/uncertain situations.
- Need of the evaluation and improvement of the **growth parameters and life-history characteristics for all stocks**.
- Continuing the effort of **increasing the number of stocks assessed**.
- **Need for surveys** used as tuning indices in assessment models to be adjusted in order to adequately capture the spatial and temporal dynamics. **Need to avoid gaps in the time series** of surveys.
- Need to **explore the contribution of undersized specimens** in the catch and determine length at first maturity in the different areas.
- Need to retrieve information on **CPUE that scaled based on biomass indices could be used** to assist modelling.
- Need to assure the **best quality data, landings and surveys**, with adequate spatial and temporal coverage.

Next session of the WGSAs in December 2023 in Rome

Results of the STECF WG on the Western Mediterranean, in particular the socio-economic aspects



JRC SCIENCE FOR POLICY REPORT

Scientific, Technical and Economic
Committee for Fisheries (STECF)

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Evaluation of the fishing effort
and catch regime for demersal
fisheries in the western
Mediterranean Sea – PART IX
(STECF-22-11)

Pinto & Kupschus, 2022

<https://stecf.jrc.ec.europa.eu/ewg2211>

This report is the ninth of a suite of STECF EWG reports dedicated to the evaluation of the implementation of the Western Mediterranean Sea Multi-Annual management Plan (MAP).

1st report: EWG, June 2018 : catchability estimates (relationship between fishing effort and fishing mortality) are imprecise and vary systematically since fishers will tend to increase their efficiency in order to maintain their historical catch and revenue levels in spite of effort reduction

Gaps in datasets. Improving methods ...

- **9th EWG, Sept 2022 models were updated** with the most recent assessment data and FDI effort data and extended to run scenarios accounting for **effort reductions of trawlers, longliners and netters at the same time**.
 - **Vessel number reduction** was considered.
 - No additional closure areas were considered and **MCLs were accounted** for ARA and ARS stocks.
 - An **increase in selectivity** was accounted.
- All management scenarios were run twice under **two different economic regimes** : the first with fuel price fixed as the average price estimated for 2022, the second one with fuel price increased by 120% from 2023 onwards.
 - The EWG updated the F-E relationships and estimated **F by GSA and by gear for all stocks**.
- In 2022, the **third year of the West Med MAP has been implemented** since January 1st, through Regulation (EU) 2022/110, setting fishing opportunities in terms of maximum allowable fishing effort in fishing days and in 22 terms of the maximum catch limits (MCLs) for 2022.
 - This year as well the EWG compared the reference levels used for fishing effort quotas and found large discrepancies between scientific and policy data, the implications were discussed during the EWG.

Comparison of fishing days : total fishing days by year/gear (upper light-orange rows) and GSA/fishing technique (left light red column) combinations. In green total by GSA.

ITALY	2015		2016		2017		2018			2019			2020			2021		
	OTB	OTM	OTB	OTB	OTM	OTB	OTM	TBB	OTB	OTM	TBB	OTB	OTM	TBB	OTB	OTM	TBB	
GSA10	30756	3790	35619	36293	457	33487	365		29526	535	8	23665	222		22630	353		
DTS	28506	3790	33192	34572	457	32315	358		29159	535	8	23265	222		20895	353		
HOK	606		385	142		210			206			312			103			
PGP	1046		1319	1565		719	7		77			38			1602			
PMP	598		725															
PS				14		243			84			50			30			
GSA11	15277		16925	16286		21240			18878	49	2	13677			14228	1		
DTS	15277		16925	16176		19082			18435	47	2	13569			14031	1		
PGP				110		2153			443	2		106			197			
PS						4						2						
GSA9	52936		51301	47459	658	44251	422	194	42227	497	519	33550	315	532	36566	315	694	
DTS	51166		49114	47297	658	43069	410	189	41540	497	394	33422	315	532	36458	313	336	
PGP	1771		2187	142		1106	12		684		3	128			67			
PS				19		76		5	3		2				41			
TBB												120			2		358	

CODE	DEFINITION
FISHING TECHNIQUE	
DFN	Drift and/or fixed netters
DRB	Dredgers
DTS	Demersal trawlers and/or demersal seiners
FPO	Vessels using pots and/or traps
HOK	Vessels using hooks
MGO	Vessel using other active gears
MGP	Vessels using polyvalent active gears only
PGP	Vessels using polyvalent passive gears only
PMP	Vessels using active and passive gears
PS	Purse seiners
TBB	Beam trawlers
GEAR TYPE	
OTB	Bottom otter trawl
OTT	Midwater otter trawl
OTM	Otter twin trawl
PTB	Bottom pair trawl
TBB	Beam trawl

Comparison of fishing days : total fishing days by year/gear (upper light-orange rows) and GSA/fishing technique (left light red column) combinations. In green total by GSA.

GSA7 the **French OTB fleet >18m showed a decrease in fishing days (-56%)** counteracted by an **increase of the French OTT (+729%)** which could be potentially due to a **shift in gear use**. Experts did not suggest specific causes that would drive this shift.

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ITALY	2015			2016			2017			2018			2019			2020			2021			
	OTB	OTM	TBB	OTB	OTM	TBB	OTB	OTM	TBB	OTB	OTM	TBB	OTB	OTM	TBB	OTB	OTM	TBB	OTB	OTM	TBB	
GSA10	30756	3790	35619	36293	457	33487	365	29526	535	8	23665	222	22630	353								
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FRANCE	2015				2016				2017				2018				2019				2020				2021			
	OTB	OTM	OTT	TBB	OTB	OTM	OTT	TBB	OTB	OTM	OTT	TBB	OTB	OTM	OTT	TBB	OTB	OTM	OTT	TBB	OTB	OTM	OTT	TBB	OTB	OTM	OTT	TBB
GSA11.1																												
DTS																												
GSA11.2																												
DTS																												
GSA5																												
DTS																												
GSA6																												
DTS																												
GSA7	11144	397	593	517	10004	360	1597	280	8304	352	3121	245	7623	411	3316	219	7446	300	3917	170	6170	316	4462	44	6208	249	4324	55
DFN				52									82															
DTS	9786	233	593		8922	314	1597		7004	223	3121		6199	287	3316		5978	160	3917		4997	157	4459		4995	152	4303	
FPO																												
MGO	1177			465	1045			216	1240			109	1395		103	1411		170		1145		44		1150			55	
MGP	124																											
PGP																												
PMP								24				54																
TM	57	163			37	45			60	129			29	124		57	140			28	159	3		62	98	21		
GSA8	866	2			923				693				589	1		464				478	5			599	2			
DTS	866	2			923				693				589	1		464				478	5			596	2			
MGO																												3



EWG 22-11 – fishing effort and stocks

- **Effort is decreasing faster than the regulation** for most fleet segments and that the **reference period 2015-2017 might not be representative anymore** of the effort dynamics of the last few years.
- *For Spain and Italy reductions by 2021 are suggested to be higher than the expected reduction by 2022, while this does not happen for France.*
- **A linear relationship consistent across GSAs and stocks was not found.** The HKE, MUT and ARA stocks showed a linear relationship with OTB in some cases. MUT showed a linear relationship in GSA 6 with OTB and OTT. ARA (stock 6-7) showed a linear relationship with OTB.
- All models are suggested to be used for **mid-term projections** but not for long-term projections as the population dynamics are led either by **stock recruitment relationships** and not accounting for potential **environmental effects**.
- Report EWG 22-09, Western Mediterranean: in 2020, 94% and, in 2021, 79% of the stocks were not at MSY.
- **In 2022, the EWG shows that 73% of the stocks are not at MSY and 53% remain severely overfished.**
- Some of the **stocks could be already responding positively to the MAP** measures: 9 out of 14 assessed stocks have decreasing fishing mortality.
- Some stocks need particular attention for their **low biomass level**. EWG 22-09 identified as below the biomass reference point (Blim): Hake in GSAs 1-5-6-7, Hake in GSAs 8-9-10-11 and Blue and red shrimp in GSAs 1-2.
- Despite progress towards MSY, **high levels of overfishing remains in particular for hake and deep-water shrimps.**

EWG 22-11 - models results

- **For EMU 1 none of the proposed scenarios (5 scenarios + status quo) achieved the objective of reaching FMSY by 2025.**
- All scenarios foresee some important negative economic impact for French and Spanish trawlers in the short and medium term with a decrease in their Gross Value Added (GVA). This is due to the fuel price used in the simulation in 2022 and beyond from AER 2022 projections, where prices increased a lot compared to their initial values
- **For EMU 2 the setting of a maximum catch limit on ARA and ARS allows to approach FMSY for ARS, but not for HKE,** even when in combination with other measures such as reduction of fishing days and number of vessels and change in selectivity.
- The total revenues and gross value added for the overall fleet are predicted to slightly increase with respect to the lowest values of the time series reached in 2020-2021.
- The financial situation which the bio-economic models present for the year 2022 and beyond depend a lot on the assumptions regarding the development of fuel prices but include **no mitigation measures for the fishing companies** (like de minimis payments to cover parts of the increase in fuel costs 2022). Therefore, the **modelling results show a lower level of gross value added compared to the real situation of the fishing companies.**

EWG 22-11 proposals

- suggests to conduct a **detailed impact assessment** (IA) for the further **implementation of the West Med MAP** to calculate possible scenarios (including possible mitigation and adaptation measures) regarding the implementation of **effort reduction and the possible economic performance of the fishing fleets**.
- concludes that the **EWG chair and the STECF bureau should discuss with DG MARE** how far such an impact assessment would be possible for the next EWG meeting in March 2023.
- suggests that all the different bioeconomic modules should report the same **harmonized economic indicators** and specific **reference points should be defined**.
- there **are no indicators on sociological characteristics** in the bio-economic models so far and the models do not actually produce detailed results on the social impact of fisheries policies.
- development of a **standardized ad hoc datacall for VMS and logbook data** for MSs involved in the West Med MAP. The aim is to ease communication with MSs on the submission of these data and obtain a standardized format for all MSs that would fasten the work of experts in future EWGs.
- **databases** with catch at age matrices, F at age matrices and LFDs by GSA and gear for HKE and MUT stocks should be **prepared in advance** of the EWGs.

EWG 22-11 conclusions

- Propose the most suitable economic indicators with respect to the objectives of the plan. This would allow the modelers to adjust their models and, if possible, homogenize the presentation of the economic indicators among the different models used by the EWG.
- The next EWG should then also investigate how to include the social impact of the management measures apart from the presentation of “social” indicators that only rely on a purely economic perspective.

Next EWG meeting in March 2023.