

Main results of the latest STECF stock assessments on demersal species

Reporting Year 2019



Scarcella G.

¹Institute for Biological Resources and Marine Biotechnologies – IRBIM, National Research Council, Largo Fiera della Pesca 2, Ancona, Italy

Metrics to evaluate the status of a stock

STECF 2020 meeting

- STECF-20-09 - Stock Assessments: demersal stocks in the western Mediterranean Sea
- STECF-20-15 - Stock Assessments in the Mediterranean Sea – Adriatic, Ionian and Aegean Seas

Indicator	Diagnosis
$F_{current}$ (2019)	Stock in overexploitation
F_{MSY}	
$F_{current}/F_{MSY}$	
Current Biomass (2019)	Stock overexploited
B_{MSY}	
Current biomass/ B_{MSY}	

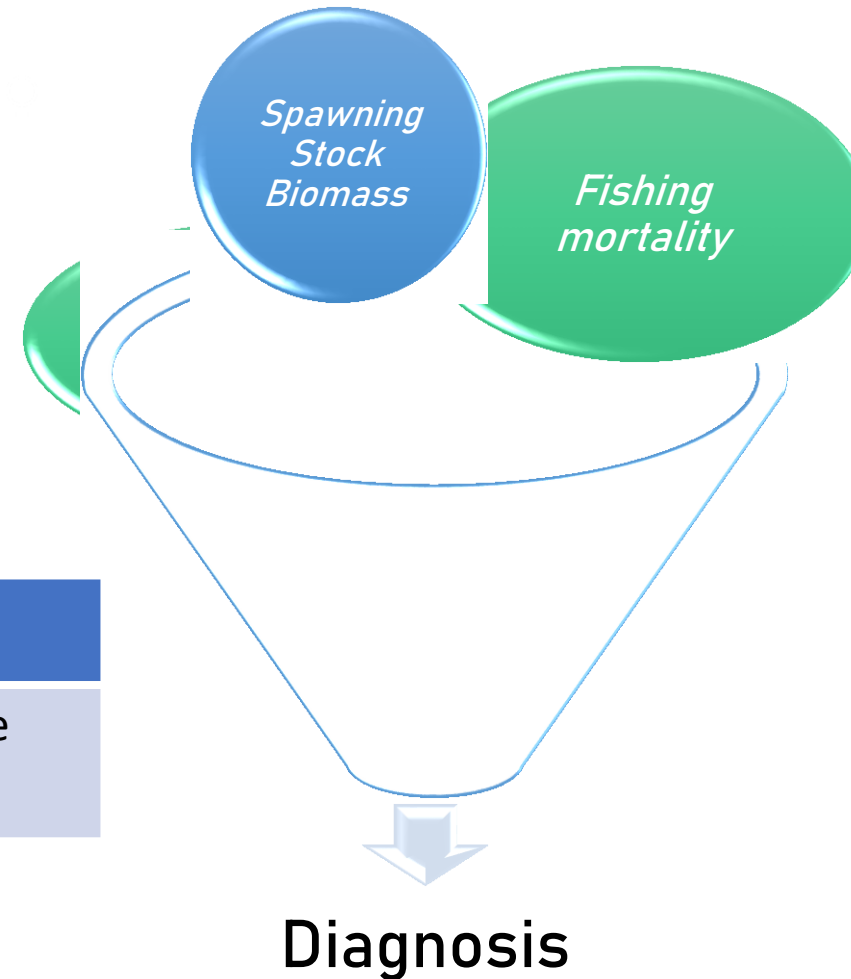
...2017	2018	2019	2020	2021
F/ F_{MSY}	F/ F_{MSY}	F/ F_{MSY}	Stock assessment meeting	Advice
B/ B_{MSY}	B/ B_{MSY}	B/ B_{MSY}		

Historical state (trend based)

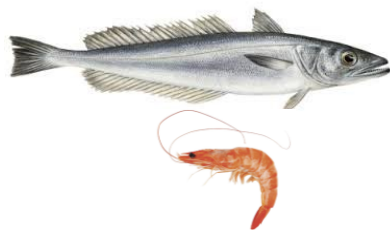
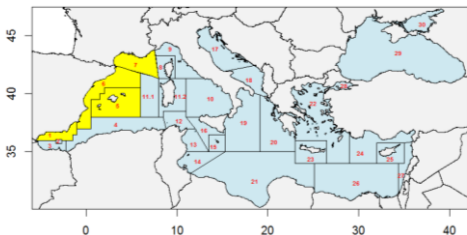
Current state

Stock assessment methodologies:

Mix of age-based, production models, survey based, etc.



19 stocks evaluated: 13 are in overexploitation, 5 are being fished close to FMSY and 1 is under-exploited.

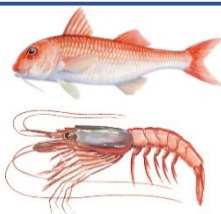
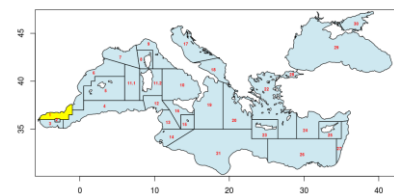


F > F_{MSY} - Biomass

- Hake in GSA 1_5_6_7: the biomass is increasing. Catches should be reduced by at least 77% to reach F_{MSY} in 2021.

F > F_{MSY} - Biomass

- Deep-water rose shrimp in GSA 1_5_6_7: the biomass is decreasing. Catches should be reduced by at least 41% to conform to precautionary consideration in 2021.

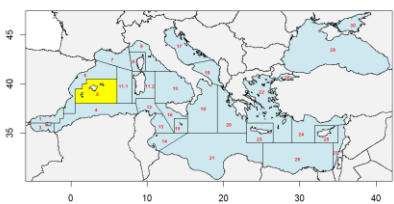


F ≈ F_{MSY} - Biomass

- Red Mullet in GSA 1: the biomass is declining. Catches should not be increased in order to reach F_{MSY} in 2021.

F > F_{MSY} - Biomass

- Blue and red shrimp in GSA 1: the biomass is declining. Catches should be reduced by at least 73% to reach F_{MSY} in 2021.



F > F_{MSY} - Biomass

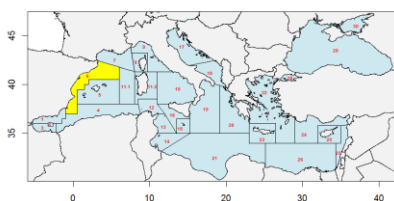
- Blue and red shrimp in GSA 5: the biomass is declining. Catches should be reduced by at least 33% to conform to precautionary consideration in 2021.

F < F_{MSY} - Biomass

- Striped Red Mullet in GSA 5: the biomass is increasing. Catches may be increased by no more than 61% to reach F_{MSY} in 2021.

F > F_{MSY} - Biomass

- Norway lobster in GSA 5: the biomass is fluctuating. Catches should be reduced by at least 55% to conform to precautionary consideration in 2021.



F > F_{MSY} - Biomass

- Red Mullet in GSA 6: the biomass is declining. Catches should be reduced by at least 80% to reach F_{MSY} in 2021.

F > F_{MSY} - Biomass

- Norway lobster in GSA 6: the biomass is increasing. Catches should be reduced by at least 72% to reach F_{MSY} in 2021.

19 stocks evaluated: 13 are in overexploitation, 5 are being fished close to FMSY and 1 is under-exploited.



F > F_{MSY} - Biomass

- Hake in GSA 8_9_10_11: the biomass is increasing. Catches should be reduced by at least 54% to reach F_{MSY} in 2021.
- Deep-water rose shrimp in GSA 9_10_11: the biomass is increasing. Catches may be increased by no more than 8% to reach F_{MSY} in 2021.



F ≈ F_{MSY} - Biomass

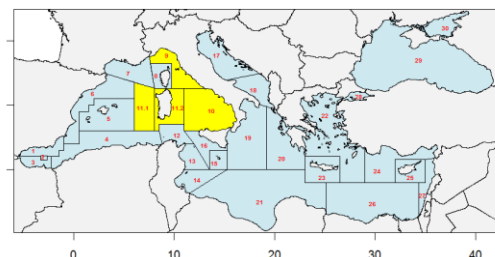


F > F_{MSY} - Biomass

- Blue and red shrimp in GSA 9_10_11: the biomass is declining. Catches should be reduced by at least 83% to reach F_{MSY} in 2021.
- Giant red shrimp in GSA 9_10_11: the biomass is declining. Catches should be reduced by at least 43% to reach F_{MSY} in 2021.



F > F_{MSY} - Biomass



F > F_{MSY} - Biomass

- Red Mullet in GSA 9: the biomass is increasing. Catches should be reduced by at least 34% to reach F_{MSY} in 2021.
- Norway lobster in GSA 9: the biomass is stable. Catches should be reduced by at least 6% to reach F_{MSY} in 2021.

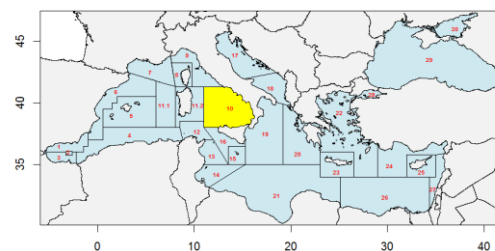


F ≈ F_{MSY} - Biomass



F ≈ F_{MSY} - Biomass

- Red Mullet in GSA 10: the biomass is declining. Catches should be reduced by at least 6% to reach F_{MSY} in 2021.

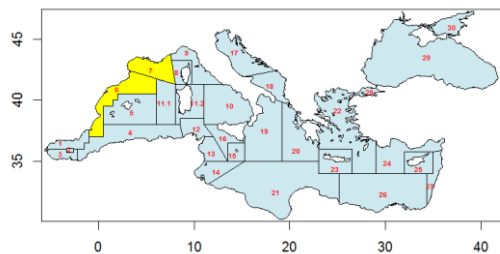


19 stocks evaluated: 13 are in overexploitation, 5 are being fished close to FMSY and 1 is under-exploited.



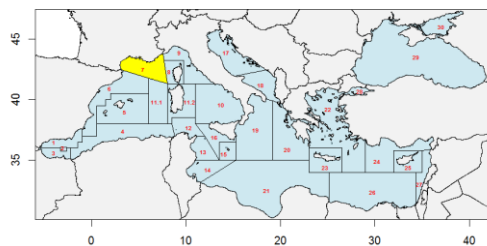
F > FMSY - Biomass

- Norway lobster in GSA 11: the biomass is fluctuating. Catches should be reduced by at least 67% to conform to precautionary consideration in 2021.



F > FMSY - Biomass

- Blue and red shrimp in GSA 6_7: the biomass is declining. Catches should be reduced by at least 67% to reach F_{MSY} in 2021.



F ≈ FMSY - Biomass

- Red Mullet in GSA 7: the biomass is increasing. Catches should be reduced by at least 21% to reach F_{MSY} in 2021.

STECF-20-15 - Stock Assessments in the Mediterranean Sea – Adriatic, Ionian and Aegean Seas

12 stocks evaluated: 5 in overexploitation, 1 is being fished close to FMSY, 4 are under-exploited, 2 are index based*



F > FMSY - Biomass

- Hake in GSA 17-18: the biomass is increasing. Catches should be reduced by at least 48% to reach FMSY in 2021.



F ≈ FMSY - Biomass

- Norway lobster in GSA 17-18: the biomass is increasing. Catches should be reduced by at least 8% to reach FMSY in 2021.



F > FMSY - Biomass

- Spottail mantis shrimp in GSA 17-18: the biomass is increasing. Catches may be increased by no more than 14% to reach FMSY in 2021.



F > FMSY - Biomass

- Red mullet in GSA 17-18: the biomass is increasing. Catches should be reduced by at least 29% to reach FMSY in 2021.



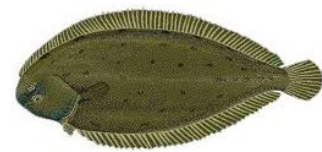
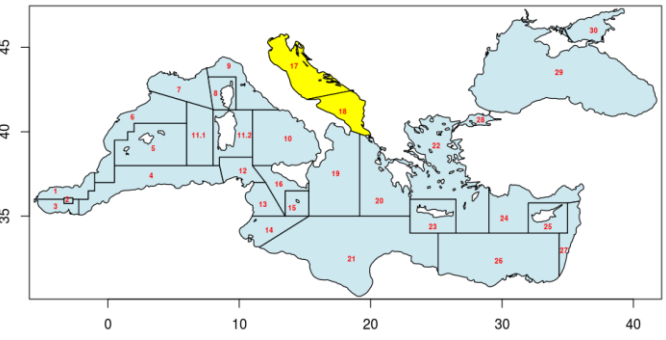
F < FMSY - Biomass

- Common cuttlefish in GSA 17-18: the biomass is increasing. Catches may be increased by no more than 56% to reach FMSY in equilibrium.



F < FMSY* - Biomass

- Caramote prawn in GSA 17-18: the biomass is fluctuating. Catches may be increased by no more than 11% to conform to precautionary consideration in 2021.



F < FMSY* - Biomass

- Sole in GSA 17: the biomass is stable. Catches may be increased more than 1% to conform to precautionary consideration in 2021.



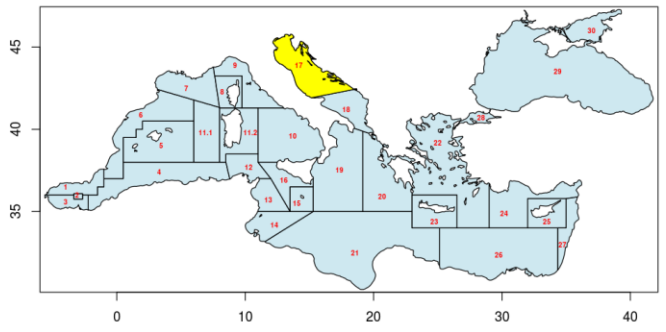
F < FMSY - Biomass

- Common cuttlefish in GSA 17: the biomass is increasing. Catches may be increased by no more than 49% to reach FMSY in equilibrium.

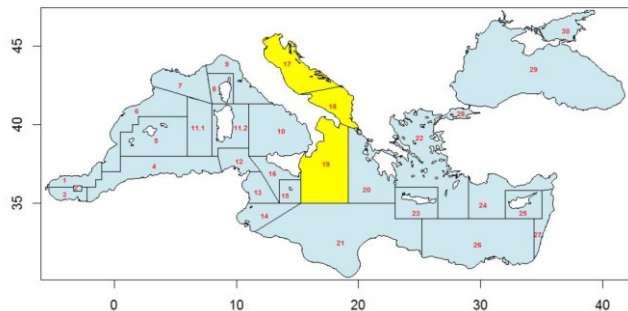


F < FMSY - Biomass

- Spottail mantis shrimp in GSA 17: the biomass is increasing. Catches may be increased by no more than 41% to reach FMSY in 2021.

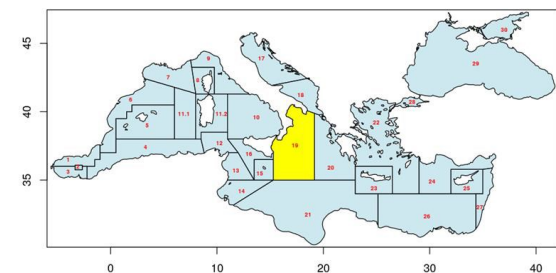


12 stocks evaluated: 5 in overexploitation, 1 is being fished close to FMSY, 4 are under-exploited, 2 are index based*



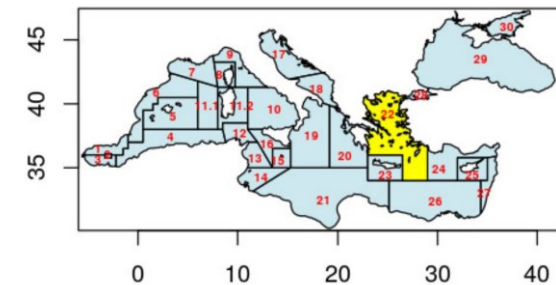
$F > F_{MSY}$ - Biomass

- Deep-water rose shrimp in GSA 17-18-19: the biomass is increasing. Catches should be reduced by at least 51% to reach FMSY in 2021.



$F > F_{MSY}$ - Biomass

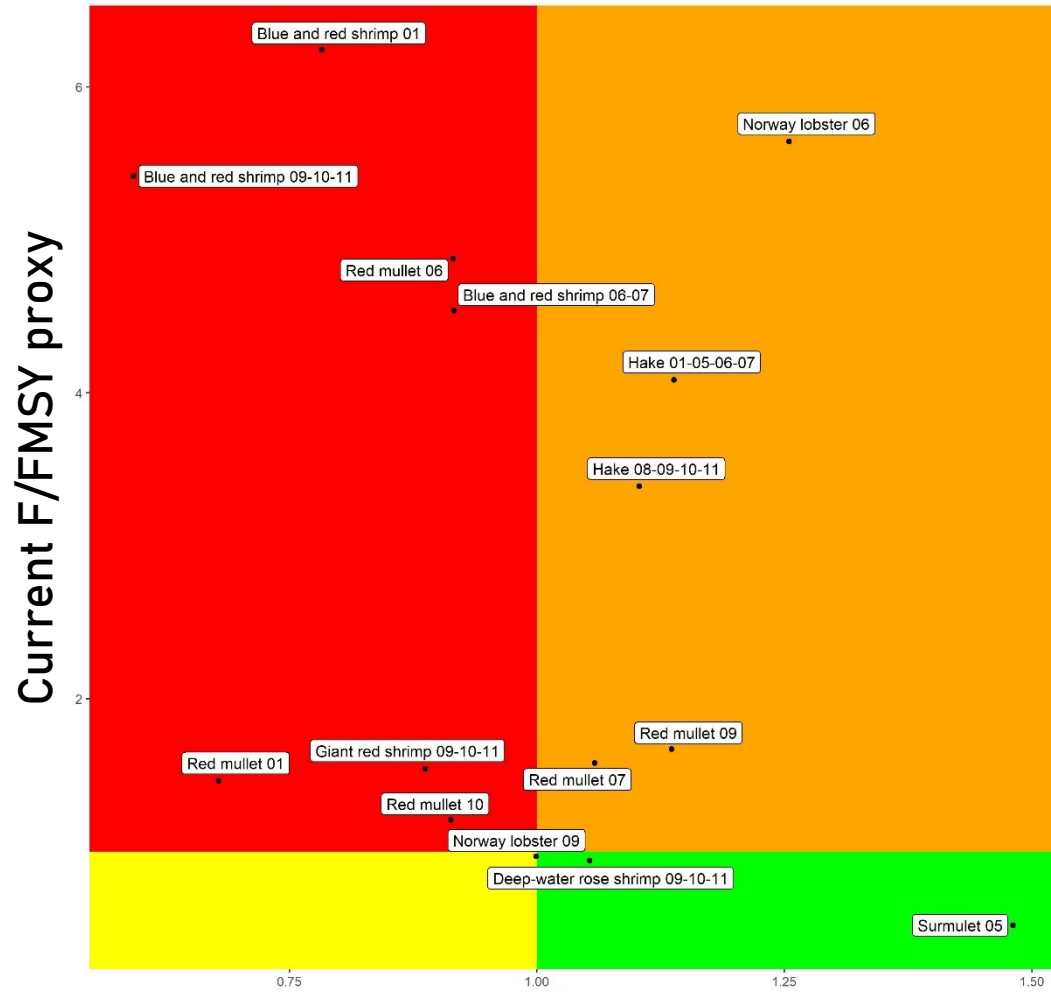
- Hake in GSA 19: the biomass is increasing. Catches should be reduced by at least 36% to reach FMSY in 2021.



$F < F_{MSY}$ - Biomass

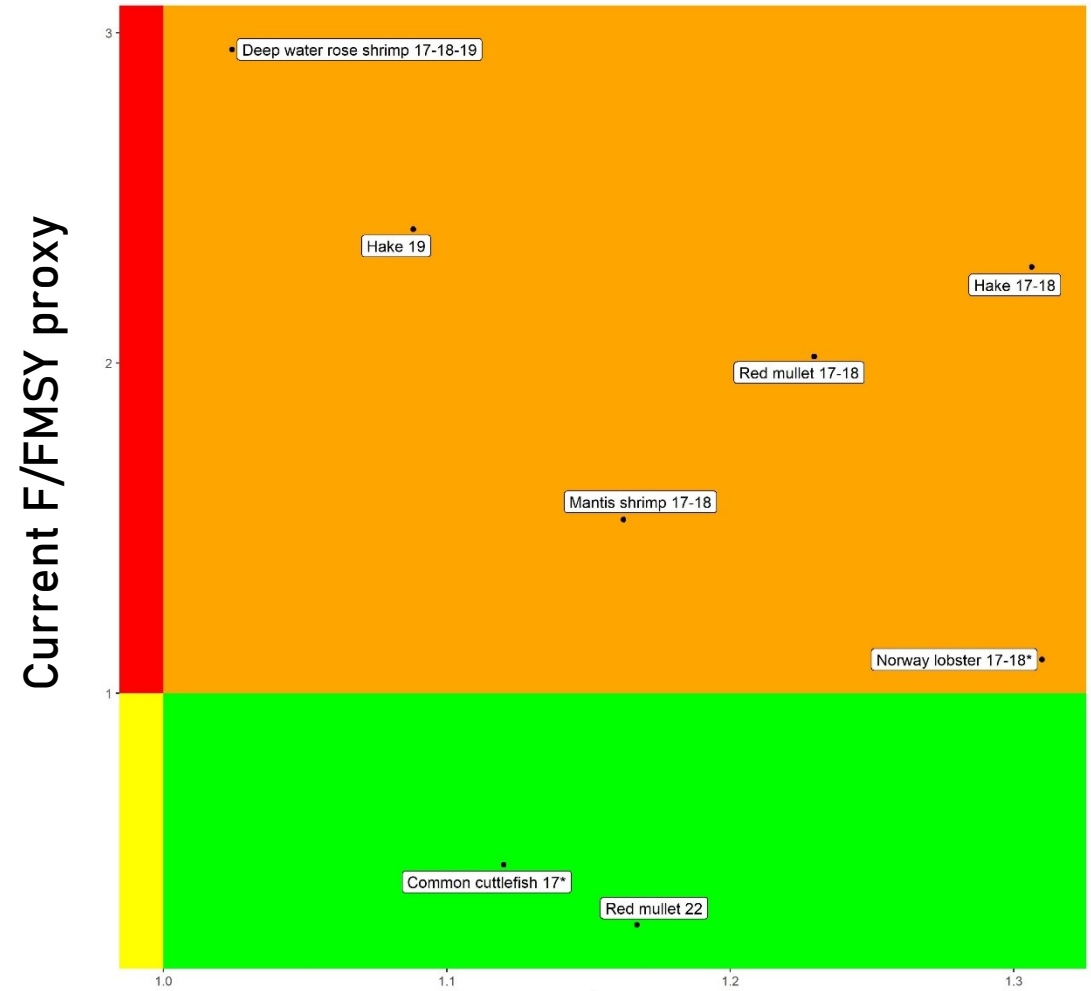
- Red mullet in GSA 22: the biomass is increasing. Catches may be increased by no more than 207% to reach FMSY in 2021.

West Mediterranean (EWG 20-09)



2019 SSB/ Mean SSB(2017-2019)

Adriatic – Ionian – Aegean(EWG 20-15)



2019 SSB/ Mean SSB(2017-2019)

West Mediterranean:

13 stocks are in overexploitation, 5 are being fished close to FMSY and 1 is under-exploited.


Adriatic, Ionian and Aegean:

5 stock in overexploitation, 1 is being fished close to FMSY, 4 are under-exploited, 2 are index based*

The status of the stocks is in general improving, if compared with stock assessment carried out 4-5 years ago, especially in the Adriatic Sea.

The models employed improved in term of accuracy and precision (use of statistical catch at age and integrated models)

The 2020 STECF assessment were presented at the last GFCM-SAC WGs on demersals. Most of them were accepted for advice, other were rejected (e.g.: Norway lobster in 17-18, Hake in 19)

A scenic view from a boat on the sea. The sky is a clear, light blue, and the water is a deep, dark blue. Numerous seagulls are flying in various directions across the sky. In the foreground, the boat's railing and ropes are visible, extending from the left side towards the center. In the background, a range of low mountains or hills is visible on the horizon under a soft, golden light, suggesting either sunrise or sunset.

Thank you for your attention

Grazie per l'attenzione