Ref.44/2024 **Rome 29 February 2024**

MEDAC contribution on the "GFCM Management Strategy Evaluation (MSE) for Stakeholders"

Question 1: Stakeholder proposal for options of alternative candidate harvest control rules: Please provide comments on presented HCR examples or propose any other examples of HCR that could be tested, if any. Considering the limited time available for performing the MSE, examples should be well explained or based on existing practices from other fisheries.

The MEDAC recommends learning the engagement process of stakeholders from other successful experiences: the process of stakeholder consultation in the Bay of Biscay on the best HCR was done on the basis of important information related to the socio-economic aspects. In particular, the availability of the following results assured a complete information to the Stakeholders[1] (SWWAC) for their advice:
- the results of the performance of the tested HCRs;
- the comparison of the performance resulting by the tested HCRs;
- the economic analysis of the different management alternatives considering the relevant indicators: • Prices by year • Discounted gross revenue obtained from anchovy and overall by year. • Discounted Cash flow by fleet and overall by year. • Probability of negative cash flow for each fleet by year. • Comparison between the mean wage by country and the estimated wage by FTE by year.

The MEDAC deems appropriate that the same steps for stakeholder's consultation already made in Bay of Biscay are done in Adriatic. So, the same kind of results and information shared during the decisional process in the Bay of Biscay should be provided to the stakeholders in the Adriatic as a key basis of knowledge to provide comments on the HCR examples reported in this GFCM document. Therefore, the results obtained by testing the HCRs should be further elaborated by a bioeconomic model to provide a complete information on the different scenarios.

[1] Scientific, Technical and Economic Committee for Fisheries (STECF) LONG-TERM MANAGEMENT OF BAY OF BISCAY ANCHOVY (SGBRE-08-01) Edited by Beatriz Roel & Tiit Raid

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Question 2: Stakeholder input on ranges for tuning parameters with options of proposing alternative ranges and settings to be tested, and proposing alternative candidate harvest control rules.

The MEDAC recalls that the Recommendation GFCM/44/2021/20 sets yield variation to a maximum of 10% for the first three years (starting from 2024), and to a maximum of 20% for the remaining years.

HCR	Parameter	Candidate tuning range	MEDAC input
Fixed F_{MSY}	F_{adv}	0.6-1 X F_{tgt}	It is not clear how 0.6 has been chosen TAC_{min} has to be determined by stakeholders also on the basis of socioeconomic considerations
Hockey-stick	F_{adv} $B_{trigger}$	0.6-1 X F_{tgt} B_{pa}; 0.5-1 X B_{tgt}	It is not clear how 0.6 and 0.5 have been chosen TAC_{min} has to be determined by stakeholders also on the basis of socioeconomic considerations
Besc	F_{cap} B_{esc} biomass	0.8-1.2 X F_{tgt} B_{pa};	It is not clear how 0.8 and 1.2 have been chosen TAC_{min} has to be determined by stakeholders also on the basis of socioeconomic considerations
Bob	TAC_{min} TAC_{max} Btrigger1 Btrigger2 Btrigger3	To be determined 0.8-1.2 X MSY B_{lim} B_{pa} Slope d**=0.6-1; Or 1.2 X B_{tgt}	TAC_{min} has to be determined by stakeholders also on the basis of socioeconomic considerations It is not clear how 0.8 and 1.2 have been chosen
Candidate 1:	…		
Candidate 2:	…		

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Question 3. Stakeholder input for the catch quota implementation system controls, with the option to propose alternative specifications or additional candidate catch controls to be tested.

The MEDAC recalls that the Recommendation GFCM/44/2021/20 sets yield variation to a maximum of 10% for the first three years (starting from 2024), and to a maximum of 20% for the remaining years.

Catch advice	Control	MEDAC input	Comment
Catch stability 2024-2027	+/-10% interannual variation	According Rec. GFCM/44/2021/20	
Catch stability 2027+	+/-20% interannual variation	According Rec. GFCM/44/2021/20	
Upper overall catch limit	None, except for BoB HCR, example could be MSY	According Rec. GFCM/44/2021/20	
Minimum catch limit ($B_{cur} > B_{lim}$)	None, except for BoB HRC	According Rec. GFCM/44/2021/20	
Excess catch limit above advice ($B_{cur} > B_{lim}$)	Up to 9 percent as a bycatch	According Rec. GFCM/44/2021/20	
Bycatch allowance under closure ($B_{cur} < B_{lim}$)	Not determined	Up to 9 percent as a bycatch	
Candidate 1:			
Candidate 2:			
Candidate 3:			

Question 4: Stakeholder input for performance metrics, with the option to propose modifications of specifications and additional candidate performance metrics

MEDAC deems appropriate that the performance measure should consider also the related SOCIO ECONOMIC scenarios made by bio-economic models, or at least the related trends of the following INDICATORS, such as: • Prices by year • Discounted gross revenue obtained from anchovy and overall by year. • Discounted Cash flow by fleet and overall by year. • Probability of negative cash flow for each fleet by year. • Comparison between the mean wage by country and the estimated wage by FTE by year.

Performance measure	Description	Comment
Evaluation period	Short-term 5 years	
	Medium-term 10 years	
	Long-term 15 years	
P95(SSB>B_{lim})	Probability that spawning biomass remains above B_{lim} with 95% probability tuning target	
P80(SSB>B_{pa})	Probability that spawning biomass remains above B_{lim} with 80 percent probability as a candidate tuning target	
P50(SSB >B_{tgt})	Probability that spawning biomass remains above B_{lim} with 50 percent probability as a candidate tuning target	
mean(Catch)	Average catch over the evaluation period	
mean(F/F_{tgt})	Average ratio of F/F_{tgt} over the evaluation period	
mean(SSB/SSB_{tgt})	Average ratio of B/B_{tgt} over the evaluation period	
AAV	Average annual variation in year-to-year catch advice	
P(Closure)	Probability of fisheries closure if SBB < B_{lim}	
Candidate 1:	...	
Candidate 2:	...	
Candidate 3:	...	