

## SAC 19<sup>th</sup> Session – Ljubljana May 2017 (Minutes)

18 contracting parties out of 22 were present

After the opening speech by the hosting country and the GFCM and the adoption of the agenda, the meeting starts addressing the Intersessional activities.

### Intersessional activities:

The GFCM Executive Secretary makes a review of the relevant decisions taken in the 14<sup>th</sup> session of the Commission. He mainly recalls the adoption of the mid-term strategy 2017-2020, the MAP for hake and shrimps, IUU, elasmobranchs and the use of ROV only for scientific purposes in the red coral fisheries. In addition, he explains that there is a project of recommendation to identify main species and impact of recreational fisheries to be discussed at the end of this year in a SSF meeting in Montenegro.

After that, he presents the intersessional activities.

He introduces first the activities carried out at a **regional level**:

1. Assessment of the stock status:
  - a. WG on European eel (September 2016), WG on Demersal Species (November 2016), WG Small Pelagic Species (November 2016).
  - b. Addressed priority species: hake, shrimp and red mullets.
  - c. 42 stock revised (29 demersal and 13 pelagic) providing advice on 37.
  - d. Common indicators on the status of marine living populations (Spawning stock biomass, Total landing and Fishing mortality) were presented to the meeting of the UNEP/MAP CORMON together with a description of three other fisheries indicators (fishing effort, CPUE, Bycatch).
2. Marine environment and ecosystems:
  - a. FAO Workshop on the management of deep-sea fisheries (DSF) and vulnerable marine ecosystems (VMEs) in the Mediterranean (July 2016), including related protocols for exploratory deep-sea fishing and VME encounters.
  - b. GFCM Workshop on red coral (March 2017), focusing in the compliance of the GFCM decision on red coral data collection and the use of ROV for scientific purposes.
  - c. GFCM WG on VMEs (April 2017).
3. Data collection:
  - a. The meeting on GFCM fisheries data requirements (November 2016) focused on these issues:
    - i. Challenges and identified potential solutions towards an updated recommendation for a full implementation of DCRF provisions for data submission.

- ii. Implementation of data quality checks for a preliminary analysis of the data submitted by CPCs during the transitional period of the recommendation.
- iii. Surveys on fisheries data quality launched with the aim of assessing available information of the data quality control process (internal validation mechanism) currently carried out at the national level by CPCs.

After that, the subregional activities are presented, stressing that this is the first year that all the subregional committees have been able to meet:

1. 1<sup>st</sup> meeting of the Subregional Committee for the Western Mediterranean (SRC-WM) including a dedicated session on blackspot seabream (*Pagellus bogaraveo*) and preceded by a 4-day training course on stock assessment (January 2017).
2. Workshop on assessment of management measures (February 2017), to address issues related to the management for small pelagic species in the Adriatic and demersal fisheries in the Strait of Sicily. Technical management measures to be evaluated and assumptions to be used were agreed upon and tested using a set of simulation tools, based on the assessment models proposed by the WGSAs.
3. 2<sup>nd</sup> meeting of the Subregional Committee for the Adriatic Sea (February 2017).
4. 1<sup>st</sup> meeting of the Subregional Committee for the Eastern Mediterranean (February 2017).
5. 2<sup>nd</sup> meeting of the Subregional Committee for the Central Mediterranean (March 2017), focusing on the management of demersal fisheries in the Strait of Sicily.

Following in the agenda was the presentation of national reports, that should be submitted by mean of the new e-tool. Up to 12<sup>th</sup> May 15 out of 20 Mediterranean countries' reports had been sent. National reports should include:

- Description of fisheries: catches and fleet.
- Status of stocks of priority species.
- Status of statistics and information system.
- Status of research in progress.
- Involvement in activities of FAO regional projects.
- Management measures taken in direct response to GFCM decisions.
- Environmental protection measures.
- Incidental catches of cetaceans.
- Incidental catches of sharks and rays.
- Incidental catches of turtles.
- Incidental catches of birds.
- Incidental catches of monk seal.

Regarding fleets size, in general remains constant with a few variations: Algeria and Morocco have an increasing trend (+16 and + 28% respectively since 2010) and Cyprus, Italy, Malta and Spain have a decreasing trend (-17, -5, -12 and -23%).

Regarding last 2 years catches, Albania, Italy, Lebanon and Tunisia have an increasing trend (+10, +8, +17, +4%) and Croatia, Egypt, Montenegro, Spain, Morocco and Libya (-12, -9, -15, -15, -27, -50%) a decreasing trend.

77 stock assessments of priority species have been reported (57 in 2016). 71% were presented at the GFCM WGSAs, 17% only at the STEFC and 12% in other different fora.

Regarding the status of statistics and information system, almost all countries described their national system for data-collection. Efforts are being made to implement the new web-based and electronic information systems allowing for links between different national databases.

Information on ongoing or recently closed national research projects was submitted by almost all countries. Around 60 main research activities, including on stock-assessment (17), marine environment and conservation (21), socio-economic sciences (7) and data-collection and statistics (14). Many of these studies focus on discards and on surveys of small pelagic species.

Mediterranean countries reported being involved in different activities supported by the FAO regional projects, especially in relation to data collection, stock assessment and training.

Regarding management measures taken in direct response to GFCM decisions, 9 countries (including 5 EU MS), reported very detailed information about 50 national decisions taken to address around 60 GFCM recommendations and resolutions (2008-2016). 36% of the National regulations addressed GFCM recommendations adopted in 2016.

Countries shared relevant information on the establishment of MPAs (8), nFRAs (5) and other spatial management measures (1).

Only one country submitted data on incidental catches of vulnerable species (cetaceans, birds, turtles, monk seal sharks and rays). A few countries declared zero incidental catches during the period 2015-2016.

Despite the persisting differences in the quantity and accuracy of the data submitted among countries, the overall quality of the national reports has significantly improved.

In this context, the SAC suggested the following actions to be discussed:

- Recommend all countries to submit (in time) a complete and accurate national report, to better support the work of SAC and contribute to the creation of a growing multidisciplinary knowledge base at the disposal of countries.
- Discuss possible technical measures for which data on incidental catches of vulnerable species are systematically not made available to the SAC.
- Consider how to handle the information included in the national reports in accordance with data confidentiality policies.

Croatia stated that the 77 datasets presented cannot be considered assessments, but reports. The assessments will be obtained out of the reports analysis.

Morocco asks why only one country presented data on accidental catches. Egypt considers that as landings of these species are banned, fishers do not declare them. Argelia asks how should

this be carried out. MEDREACT asks to the countries whether or not they considered the possibility to study the control reports to get that information.

The Secretariat answers that they are aware of the difficulties of the declaration of these species. Until now, only Cyprus presented the data. The strategy is to create a monitoring program that is already being launched and that should help CPCs. Also fishermen training and on board observers is being considered.

### Mid-Term Strategy

Regarding the mid-term strategy (MTS), the Secretariat explained that some activities are already providing results. He recalled participants that MTS has 5 targets:

1. Strengthen scientific advice.
  - a. Scientific surveys at the sea.
    - i. A coordination meeting for the implementation of scientific surveys in the Mediterranean took place on May 15<sup>th</sup> in Ljubljana. Common protocols towards harmonized surveys were agreed. Areas for conducting coordinated surveys and a potential timeframe for their execution were identified, as well as needed resources (gear, equipment, vessels...) and GFCM support for the implementation. The use of data obtained and joint analysis was discussed and a chronogram for the execution of the surveys was agreed (Morocco, Algeria and Tunisia – 2018 and Egypt, Turkey and Lebanon – 2019-2020).
    - ii. Surveys should follow dedicated GFCM protocols, based on the following principles:
      - Target species and sampling should be in line with the requirements expressed in the DCRF as well as with priority species set by the Commission. For all the other sample species, at minimum the total number and total weight should be reported.
      - For demersal surveys, the sampling gear should correspond to the MEDITS bottom trawl. For acoustic surveys, an echosounder of at least 38 Khz transducer should be used.
      - The surveys should be conducted during spring and summer.
  - b. GFCM Forum on Fisheries Science (end 2018).
    - i. With the objective of bringing together the wider community of scientists in order to build a lasting network, discuss advances in research, integrate scientific knowledge in support of decision-making and identify research priorities for the coming decade.
  - c. Socio-economic survey, including SSF (June 2017 – 2019).

2. Sustainable small-scale and recreational fisheries.
  - a. Mapping of existing SSF organizations, capacity needs assessment and roadmap to build and reinforce capacity for participation of SSF in management.
  - b. Support implementation of SSF guidelines with the collaboration of FAO Fisheries Department.
  - c. State of recreational fisheries.
    - i. Questionnaire on national marine recreational fisheries to be circulated shortly to national focal points, with the objective to gather available information on impact, main species, gears, existing regulations, methodologies for data collection. The results should contribute to a common methodology for assessing recreational fishing at the regional level (first draft expected to be presented at the next WGSSF).
  
3. Assessment of IUU fishing (quantity, magnitude and characteristics).
  
4. Minimize interaction between fisheries and marine ecosystems.
  - a. Monitoring program of discards (summer 2017-2019 in 3 subregions).
    - i. Review of existing information on discards.
    - ii. Activity to be carried out on different gears over 3 years (starting with trawlers), with observers on board, self-sampling and port-based questionnaires.
    - iii. Regional methodology for the collection of discard information.
  - b. Monitoring program of incidental catches of vulnerable species (end 2017-2019).
    - i. Trawlers, demersal long-lines, and gillnets.
    - ii. Data collection on board and at port/market/landing place.
    - iii. Test of mitigation measures.
  
5. Enhance capacity building and cooperation.

The implementation of the MTS should take place between 2017-2020, and counts on the cooperation and coordination with relevant partners (MEDAC is one among many of them). The work plan and the funds are secured for the first 2 years.

The EU takes the floor and regrets that current SAC assessments are very slow, requesting to take into account results previous to the assessments in cases of special urgency.

MEDAC announced the next meeting of the WG on Socio-economy (June, Rome) and expressed our worries for the decreasing trends of the fleet. We also presented the two reports on recreational fisheries produced last year.

Morocco expressed that the definition of recreational fisheries in their country is not the same as for other CPCs. Requested clarification.

OCEANA asked whether or not the themes of the GFCM Forum on Fisheries Science are closed.

The Secretariat answered that the Forum themes were already decided by the SAC and the Committee. Regarding RF and SSF definitions, they will be addressed in the WGSSF meeting. Finally, stated that they will take into account the MEDAC RF documents when facing the issue.

Formulation of advice in the field of fishery management and research:

## REGIONAL ISSUES

Coverage of assessment for priority species on the different GSAs (2013-2015):

- Hake - 56% GSAs on which is considered priority species.
- Deepwater rose shrimp and red mullet – both 40%.
- Sardine – 24%
- Anchovy – 20%
- *Pagellus bogaraveo* and *Sardinella aurita* haven't been recently assessed in required subregions.

Coverage by subregion in terms of combination of priority species and GSAs:

- Adriatic: 90% priority stocks assessed.
- Central Mediterranean: 36%
- Western Mediterranean: 32%
- Eastern Mediterranean: 3%

Work towards monitoring GES

- SAC agreed on a common set of indicators to define the good status of exploited populations. For the first three (Spawning stock biomass, Total landings, Fishing mortality), description was already approved by the SAC, while for the last three (Fishing effort, CPUE, Bycatch) a draft based on the DCRF is presented.
  - Fishing effort should be reduced by means of a MAP until there is evidence for stock recovery.
  - Declines in CPUE may mean that the fish population cannot support the level of harvesting. Increases in CPUE may mean that a fish stock is recovering and more fishing effort can be applied.
  - Incidental catch of vulnerable species should be minimized.

The EU has serious doubts about the validity of Effort and CPUE as indicators. Tunisia agrees with the EU but sees no other alternative, when only that data is available. Egypt suggests recruitment as an indicator.

EU considers that the SAC made the mistake to consider bycatch always as unwanted vulnerable species, while sometimes some of them are wanted.

The SAC chair states that the 3 indicators cannot be changed and only suggestions to improve them should be considered. He suggested the spawning biomass as an alternative. On the other hand, these indicators shouldn't be used alone, but always together and for general assessments.

France and Spain suggest the inclusion of biologic indicators.

## ADVICE ON THE STATUS STOCKS IN THE MEDITERRANEAN SEA

The Secretariat explains that 42 stocks were discussed, and assessment provided for 35 of them:

- 7 sustainably exploited.
- 1 ecologically unbalanced with low fishing mortality.
- 27 stocks were outside of safe biological limits.
- European eel: critical

Overall, 80% outside biologically safe limits.

### Demersal

- All stocks of hake are considered in overexploitation (increasing).
  - Current national and regional management measures not sufficient: immediate management actions recommended to reduce fishing mortality. MAPs should be adopted in areas other than GSAs 12-16.
  - Identification of nursery areas is needed.
  - Simulation of different management scenarios through WGSAD.
  - Hake tagging project based on 4 case studies (one per subregion) recommended by WGSAD in order to obtain essential data on growth, natural mortality, migration patterns and connectivity.
- 75% of red mullet are in overexploitation compared to 100% in 2016. Uncertainties still exist on growth parameters: training in otolith reading is needed. Work to be done in the intersessional period towards a joint assessment of GSAs 17-18.
- 80% of shrimps assessed stocks are in overexploitation compared to 83% in 2015. Advice: Reduce F.
- Common sole is also overexploited.

### Pelagic

- Low coverage of sardine stock assessments, lacking in Central and Eastern Mediterranean. Bad condition of sardine across the Mediterranean.
- Low coverage of anchovy stock assessments, lacking in Central and Eastern Mediterranean. Methodological difficulties to provide precise advice. Low biomass for both stocks assessed, indications of bad condition of anchovy across the Mediterranean.
- *Sardinella aurita* and *Coryphaena hippurus* have no advice, though preliminary assessments were carried out.
- The number of pelagic stocks assessed should increase, particularly in Southern and Eastern Mediterranean.
- Methodological problems linked to surveys should be dealt with in detail in a technical group on acoustic surveys.

- Agreement should be reached on a common methodology to harmonize otolith reading for sardine and anchovy across the Mediterranean.

### **General advice related to stock status**

For all priority demersal species, proposed measures to reduce fishing effort included the improvement of exploitation patterns and the protection of the most vulnerable life stages of the population through closure areas and additional FRAs. This implies the identification of nursery areas.

Investigate the use of more complex assessment models.

### **European Eel**

Reduce to, or maintain as close to zero as possible, anthropogenic mortality affecting production and escapement of silver eels.

Ensure that GFCM countries collect and provide accurate data.

Development of a Mediterranean adaptive regional management plan.

### **ADVICE ON MARINE ENVIRONMENT AND ECOSYSTEMS**

The Secretariat explains that this advice has been made in cooperation with IUCN and environmental organizations.

### **Advice on management of DSF and the protection of VMEs in the Mediterranean Sea**

A VME Encounter Protocol by which Mediterranean DSF report to GFCM all incidental catches of VME indicator taxa should be adopted. Areas where DSF have historically occurred should be defined and maps of the existing deep-sea bottom fishing area should be adopted. Finally, an exploratory deep-sea fishing protocol to allow for the controlled development of new DSF should be adopted, when these operate:

- On VME indicator features
- Outside the mapped existing deep-sea fishing area
- Within the existing fishing area when significant changes in the fishing pattern or in the technology used in the fishery occurred.

### VME Encounter Protocol

Technical elements:

- Fisheries: All fishing vessels above 15m LOA operating with bottom contact gears (bottom trawls, longlines, gillnets and pots and traps) at depth deeper than 300m.
- Main measure: Fill the encounter protocol to report GFCM any catch of the VME indicator taxa and the best estimates by taxa of their live weight (kg).
- Main VME indicator taxa: Corals, Sponges, Briozoa.

### Mapping of the DSF footprint

Technical elements:

- Fisheries: All fishing vessels above 15m LOA operating with bottom contact gears (bottom trawls, longlines, gillnets and pots and traps) at depth deeper than 300m.
- Main measure: Concerned CPCs send by 2019 raw VMS data to GFCM for the mapping of deep-sea fishing grounds and footprints.

### Exploratory deep-sea bottom fishing protocol

Technical elements:

- Fisheries: All fishing vessels above 15m LOA operating with bottom contact gears (bottom trawls, longlines, gillnets and pots and traps) when operating on:
  - At any depth on VME indicator features (seamounts, canyons...)
  - Outside of the deep-sea bottom fishing areas.
  - Inside the existing bottom fishing areas with bottom contact fishing gears not previously used or when significant increases of effort are planned.
- Main measure: Fill the Exploratory deep-sea bottom fishing protocol providing detailed information on catch and bycatch and send it to GFCM.

### ADVICE ON MANAGEMENT OF RED CORAL FISHERY

Comprehensive and complete datasets should be submitted by CPCs, as foreseen by relevant GFCM recommendations and Guidelines in force.

Permit the use the ROV for scientific purposes after the current deadline of 31 December 2017.

Implement additional management measures and strengthen Monitoring Control and Surveillance (MCS), including those proposed in the Guidelines in force.

Urgently implement a regional research programme on red coral based on the revised concept note outlined by the WKREDCORAL.

At this point the EU remarks that it should be guaranteed that ROV can be used for research, but avoiding an ulterior exploitation of the area. In addition, several countries express their disagreement on the limit of 300m for defining deep-sea fisheries.

The Secretariat answers that the limit of 300m shouldn't be confused with a definition of deep-sea fisheries. It is just a pragmatic measure to reach an agreement, an equilibrium between limits used in different protocols (200-400m).

The EU replies that scientific advice shouldn't be mixed with chosen measures (politics). Thus, the SAC should focus on defining the limits on deep-sea waters. In the Mediterranean they are established at 200m.

The SAC President states that the limits have been adopted in the experts' meetings. The arguments for establishing those limits are in the reports. In any case, the SAC will request to the WG on deep-sea waters, to check and reconsider this advice.

#### ADVICE ON DATA COLLECTION

##### **DCRF: Selection of fleet segments and species**

In accordance with the decision taken by the Commission at its 40th session, CPCs of the GFCM should comply this year either with:

- Recommendation GFCM/40/2016/2 (on the progressive implementation of data submission in line with the DCRF Data Collection Reference Framework) or
- Recommendation GFCM/33/2009/3 (on the implementation of the GFCM Task 1 statistical matrix).

For those CPCs which are ready to submit data to the GFCM Secretariat following the provisions set in Recommendation GFCM/40/2016/2, information on fleet segments and species should be brought to the attention of the SAC before starting the official submission of national data through the DCRF online platform.

Information was successfully sent by the following 9 CPCs: Cyprus, Italy, Lebanon, Malta, Montenegro, Slovenia, Spain, Tunisia and Turkey.

Italy, Spain and Slovenia presented proposals for aggregations of fleet segments.

The Secretariat suggests that as we are in a transition period the aggregations could be accepted for one year and, after that, study the results to see whether or not, this is a feasible measure.

The SAC President accepts the suggestion and decides that a specific technical committee will review the measure next year.

##### **Advice on the submission of data from CPCs**

Adopt a Recommendation for the full implementation of data submission in line with the DCRF.

Implement conformity, stability and coherency data quality checks (with preliminary thresholds) on the DCRF online platform, in order to provide a preliminary analysis of the quality of data submitted by CPCs during the transitional period of the Recommendation GFCM/40/2016/2.

##### **GFCM survey on fisheries data quality**

Preliminary results:

- Limited number of replies but from all Mediterranean subregions.
- Data quality controls are generally in place at national level, and are in line with the DCRF.
- Validity and crosschecks are the most cited methods for data quality control, and in some cases a manual validation by national experts is also implemented.
- Some countries include data accuracy evaluation routines in their database.

Available documentation from CPCs on existing data quality controls should be compiled in order to facilitate the development of a quality control framework in the GFCM area of application.

The EU considers that this is an important step ahead for the GFCM regarding data collection. They are aware that indicators are currently on a trial period but they hope soon they will be regularly adopted.

The Secretariat adds that the technical WG didn't receive any proposal of modification, so they consider that there won't be problems to adopt them.

## SUBREGIONAL ISSUES

The Secretariat explains now the common issues on the provision of advice on management measures at subregional level.

There is an agreement on the need to use quantitative approaches for the assessment of potential effects of alternative management scenarios, in addition to qualitative assessments carried out in previous intersessions.

The construction of simulation models to test alternative management scenarios is at an initial stage of development and the following shortcomings have been identified:

- Need to increase expertise at regional and subregional levels.
- Need to incorporate socio-economic models and provide a direct estimation of socioeconomic effects.
- Current stock assessment models make it difficult to provide advice by fleet segment.

Nevertheless, the results obtained are coherent with the outcomes of the assessment and short time simulations provided by the WGs on stock assessment and the outcomes of the simulations are therefore considered a valid advice useful for decision-makers.

ADRIATIC SEA – GSAs 17 and 18

### Management plan for small pelagic species (Anchovy and Sardine)

The technical advice on the management of the small pelagic fishery in the Adriatic Sea, as requested by the Commission, is provided based on the outcomes of these technical activities:

WGSASP: assessed the status of stocks of small pelagics in the Adriatic Sea.

WKMSE: identified operational models to comparatively evaluate the efficacy of different management scenarios. Simulations were finalized after the meeting and were sent to experts before submitting to the SAC.

SRC-AS: integrated all results obtained during the SAC intersessional period relevant to the subregion, with special attention to the requests of the Commission in relation to the management plans.

### **Status of small pelagic stocks and reference point**

Anchovy and sardine stocks in GSA 17 and 18 were considered outside safe biological limits, using the revised reference points estimated during the benchmark assessments carried out by WGSASP in 2015.

### **Assessment of alternative management scenarios**

Status quo: Under status quo, both sardine and anchovy stocks collapsed.

Combination of all management measures adopted by countries: All scenarios simulating management measures as implemented by countries from 2015 resulted in a continuous decrease of biomass and catches and led the stocks to collapse.

Measures requested by recommendations: Implementing progressive measures consistent with Rec. GFCM/37/2013/1 but setting the target to achieve Bpa by 2018 and FMSY by 2020 also yielded final SSB above Blim and predicted average catches to recover for sardine, but not for anchovy.

Measures requested by recommendations: Under the application of a catch limit of 2014, stocks on average continue to be outside biological safe limits and collapse.

Contrast scenarios: Under the application of a catch limit and a minimum catch, stocks on average recover above the biomass reference points.

### **Revision of the management plan:**

Under fisheries status quo (including emergency measures taken up to 2015) will continue to decline.

The management plan should be revised taking into account the updated reference points and applying a temporal framework for achieving BPA (by 2018) and FMSY (by 2020).

The implementation of management measures in line with the objectives above should take into consideration the characteristics of the different fleet segments, including their share in fishing mortality.

### Demersal resources

The technical advice on the management of demersal resources in the Adriatic Sea is provided based on the outcomes of these technical activities:

- WGSAD: assessed the status of stocks of demersal resources in the Adriatic Sea.

- SRC-AS: integrated all results obtained during the SAC intersessional period relevant to the subregion, with special attention to the requests of the Commission.

### **Status of stocks and technical advice on the management of Adriatic demersal resources**

Of 5 demersal stocks assessed, 1 is sustainably exploited all others are in overexploitation.

Urgent management measures should be taken for Adriatic demersal stocks (European hake, in particular, but also Deepwater Rose shrimp and Common sole).

A Fisheries Restricted Area (FRA) was proposed for the Pomo/Jabuka pit (GSA 17).

- Built upon a recommendation to improve the status of several stocks (notably European hake).
- Covers a key area in terms of essential fish habitats for valuable species as well as vulnerable species and VMEs, also recognized by the WGSAD.
- Proposed measures include:
  - Permanent closure of the core area to any demersal fisheries.
  - Demersal fishing in the buffer area subject to special fishing authorization and restricted to a maximum of two days per week.

The EU considers that new models should be added to the advice, in order to assess the effort of the different fleet segments. In addition, and regarding to the FRA, they suggest to investigate its effect in the mortality reduction and in the stock dynamics. They consider that all of this is missing in the report.

The Secretariat suggests that a new workshop will be organized to discuss the issue of the new models.

Italy explains how, after one year of closure, significant results have been obtained.

MEDAC backs the proposal but recalls to take into account what this will mean for fishermen.

## **CENTRAL MEDITERRANEAN – GSAs 12-16 and 19-21**

### **Status of stocks**

All demersal stocks assessed in the subregion were found to be in overexploitation, with differing levels of relative biomass (hake: intermediate biomass, rose shrimp: low biomass, red mullet: high biomass).

The protection of juveniles was recommended for all three species through additional measures such as the establishment of new FRAs.

### **Management Plan demersal fisheries in the Strait of Sicily (GSAs 12 – 16)**

The technical advice on the management of the demersal fisheries in the Strait of Sicily, as requested by the Commission, is provided based on the outcomes of these technical activities:

- WGSASP: assessed the status of demersal stocks in the Strait of Sicily.
- WKMSE: identified operational models to comparatively evaluate the efficacy of different management scenarios.

- SRC-AS: integrated all results obtained during the SAC intersessional period relevant to the subregion, with special attention to the requests of the Commission in relation to the management plan.

### **WKMSE outcomes**

Under current fishing mortality (status quo), hake biomass and catches continue to decrease and fishing mortality continues to be larger than FMSY for both hake and rose shrimps.

When a 30% reduction of fishing mortality was simulated, the biomass of rose shrimp increased by 2020, while hake biomass recovered or decreased depending on the model used.

Deepwater rose shrimp catches initially decreased but then recovered while Hake catches showed different outcomes depending on the model used.

When an 80% reduction of fishing mortality was simulated, hake and rose shrimp showed a strong increase in biomass. Catches of both species showed a large reduction in the short term (2020) which recovered in the long term for hake but not for shrimp.

A reduction in the mortality of juveniles accelerated the improvement of stocks in all cases.

### **Revision of the management plan**

The use of fleet-based assessment models as operational models for the assessment of management scenarios as well as a move towards a more comprehensive MSE framework, by including uncertainty, were recommended. This should be accompanied by training on Management Strategy Evaluation.

The incorporation into the management plan of demersal fisheries in the Strait of Sicily of aspects of the FAO Guidelines for Deep Sea Fisheries, in particular those included in the recommendations of the WGVME, was recommended.

Scientific evidence for the presence of nurseries in the southern portion of the Strait of Sicily was provided and it was recommended this evidence be validated through direct observations.

The EU backs this assessment, but in the report should be included what we to mean with long-term.

The SAC President says that in the models selectivity has been taken into account, but no the socio-economics. It is suggested to improve this in the future.

## **WESTERN MEDITERRANEAN – GSAs 1-11**

### **Status of stocks**

12 out of 14 demersal assessed stocks were outside safe biological limits, hake in particular.

Anchovy in GSA 7 was considered depleted and the advice was to implement a recovery plan immediately.

### **Blackspot seabream in the Strait of Gibraltar**

Past attempts at assessing blackspot seabream in GSAs 1 and/or 3 (2007 and 2011) highlighted the resource was in overexploitation with a low biomass

Critical needs identified towards the management of this fishery include:

- Standardization of biological sampling and fishing effort.
- Ensuring minimum sampling coverage of key parameters of the fishery.
- Identification and application of adequate stock assessment models.
- Investigation of stock identification/stock boundaries (e.g. through genetics).
- Investigation of environmental effects on the stock/fishery.

The EU opens the discussion asking why so much effort is needed to reach standardization when is something that has been in the agenda for so many years. Regarding the blackspot seabream, it is a species very sensitive to exploitation. If it is not very selective we can end with all the females. They invite the Secretariat to investigate more on this issue.

The Secretariat answers that the Blackspot seabream has been included as a priority species in Western Mediterranean. Regarding the EU recommendation, they suggest to include extra TOR for the assessment of this species.

The EU suggests to collect additional information on maturity size, growth and sex change, because fish science is not only stocks assessments.

## EASTERN MEDITERRANEAN – GSAs 22-27

### **Status of stocks**

The short time series of data available was highlighted and the need to ensure the continuation of data collection was stressed.

The application of Data Limited Stock (DLS) assessment methods through a dedicated pilot study was recommended to assess Eastern Mediterranean stocks.

Compilation of best available information and continuation of data analysis towards a revision of the list of priority species was recommended.

### **Management of bottom trawling fisheries for deep water red shrimps in the eastern-central Mediterranean**

Considering the relevance of the deep water red shrimp fishery and in line with previous work done towards their management, it was advised to:

- Assess the status of giant red shrimp (*Aristeomorpha foliacea*) and blue and red shrimp (*Aristeus antennatus*) stocks in the future, taking into account the peculiarities of the different fleets.
- Advance towards a management plan for this fishery, incorporating inter alia aspects of the FAO Guidelines for Deep Sea Fisheries, in particular those included in the recommendations of the WGVME.

### **Non-indigenous species**

The proposal for a GFCM-UNEP/MAP joint monitoring program on Non Indigenous Species (NIS) in the Eastern Mediterranean, organized by UN Environment/MAP and GFCM was

considered important for compiling information on the socioeconomic impact of NIS on subregional fisheries, towards their appropriate management.

The key aims of the joint pilot program are to:

- Develop and test the NIS common indicator at the subregional level;
- Identify monitoring needs to assess this indicator (developing a subregional monitoring programme);
- Strengthen cooperation of experts at a subregional level;
- Strengthen regional ocean governance in a practical manner;
- Develop a subregional Integrated Monitoring and Assessment Programme (IMAP) and a GFCM monitoring programme.

Egypt opens the discussion saying that most of non-indigenous species have been included in fisheries, so they shouldn't be considered NIS anymore. Indeed, they should be included in stock assessments. Egypt and Turkey say that they have provided data that has not been taken into account.

## IMPLEMENTATION OF THE SAC SUBREGIONAL APPROACH

The Secretariat opened this issue of the agenda recalling the concept of subregional approach imbedded in GFCM Agreement (Article 5, General principles, adopted in 2014):

“Foster, as appropriate, a subregional approach to fisheries management and aquaculture development in order to better address the specificities of the Mediterranean and the Black Sea”

### **Feasibility study (2015 – 2017)**

Shift from a thematic to a subregional structure:

- 4 subregional committees (SRC-WM, SRC-CM, SRC-AS, SRC-EM).
- ad-hoc thematic/technical workshops of either subregional or regional nature organized on a case-by-case basis to deal with specific aspects identified by the SAC.

SRCs are multidisciplinary technical fora with experts from both scientific institutes and fisheries administrations.

Main mandate is to provide sound technical advice to support the implementation of subregional management plans and better identify subregional priorities.

Implementation:

Year 1: four subregional moderators hired (approximately 2 days a month) to coordinate work.

Year 2: dedicated staff in the Secretariat + each SRC discussed alternative moderating options.

### **SAC work during feasibility study**

All SRCs contributed to identification of priority species at subregional level.

SRC-AS and SRC-CM met in 2016 and 2017:

- Provided technical advice in reply to Commission's requests, which was then integrated in relevant recommendations (management plans in Adriatic Sea and Strait of Sicily).
- Tested management scenarios, providing advice for the management plans in place.
- Promoted new initiatives (e.g. FRA proposal).

SRC-WM and SRC-EM met in 2017 and agreed on needs and priorities towards management plans for selected fisheries.

Ad-hoc technical workshops allow to continue/improve the advice on thematic issues:

- Technical issues for management of DSF and protection of VMEs.
- Red coral research and management.
- Marine protected areas.
- Data collection and data quality.

### **Outcomes of the Subregional approach**

The shift from subcommittees to subregional committees has allowed:

- Participation improved in terms of expertise, country representation and partners.
- Issues initially overlooked now are discussed
- Better alignment with work of FAO regional projects

The presence of scientists, administrators and relevant partners enhanced the integration of all stakeholders' inputs.

The discussion among those directly concerned by implementation allows that specificities of subregions are better taken into account.

Since management plans are more systematically addressed the quality of technical advice produced has improved.

The integration of recommendations from ad-hoc workshops made advice more comprehensive.

### **Next steps of subregional approach**

The SRC-WM and SRC-EM could need more time to evaluate the experience of subregional approach.

The SAC will propose way-forward to Commission:

- Updated terms of reference for the SRCs
  - Generic terms of reference developed
  - Each SRC will also provide specific ad-hoc ToRs for next meeting
- A moderating scheme will be proposed.

The SAC President starts the discussion saying that after two years of test, the improvements have been assessed. Gives the chair to the participants.

The EU says that time is needed to assess the results, although it seems that CPCs have XXXX. But a permanent regional vision for certain issues is needed (habitats mapping, socio-economy). This could be used to feed the subregional committees.

The Secretariat answers that the SAC has the right to create permanent WGs without damaging the subregional approach.

#### SAC WORK PLAN 2017-2019

Regarding the work plan, the 2018 SAC meeting was announced to be held in Morocco.

Spain requested to include Marine Spatial Planning in the Work Plan. The Secretariat replied that it is included in the Fisheries Science Forum. The agenda of this activity will be updated with the suggestions made by participants.

Several activities related with small-scale fisheries were announced, being one of them the WGSSF, that will have recreational fisheries issues in its agenda.

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