GENERAL FISHERIES COMMISSION
FOR THE MEDITERRANEAN
COMMISSION GÉNÉRALE DES PÊCHES
POUR LA MÉDITERRANÉE

GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN

Thirty-fifth Session

Rome, Italy, 9-14 May 2011

MANAGEMENT OF MEDITERRANEAN FISHERIES

INTRODUCTION

1. This document reproduces the main conclusions and management advices emanating from the Scientific Advisory Committee (SAC) as included in the report of its thirteenth session (document GFCM:XXXV/2011/Inf.6). The document also refers to the draft recommendations of the International Commission for the Conservation of Atlantic Tunas (ICCAT) which full text is presented in the document GFCM:XXXV/2011/10.

SUGGESTIONS AND ADVICE OF THE SCIENTIFIC ADVISORY COMMITTEE

2. On the basis of the main conclusions and suggestions of its subsidiary bodies, the SAC has approved the following recommendations :

Aspects relating to environment and marine ecosystems

3. The SAC noted the progress made in the protection of red coral, and on the Mid Term Working Program on elasmobranchs and endorsed the proposals of the Subcommittee on Marine Environment and Ecosystems (SCMEE) on adopting specific technical measures to reduce by-catch of, seabirds, turtles and monk seals. In particular, it formulated the following management advices:

- Management of **Red Coral**
    - Prohibit the harvesting of the shallow water populations in the depth less than 50 m. Stricter measures already in place should be maintained and adaptive approach should be considered.
    - Establish a daily and/or seasonal quota system based on number of licenses. It would include: a reporting system according to Task 1 scheme for which a specific Operational Unit should be defined, and an appropriate monitoring system for landings.
    - Prohibit the use of ROV (Remotely Operated Vehicles) as a means of harvesting red coral. The SAC, as a precautionary approach suggested to carry out regional pilot studies to assess the potential biological, environmental and economical impact of the use of such type of devices.

- Elaborate a long term Adaptive Regional Management Plan taking into consideration the outcomes of the two experts meetings convened for that end: the first one held in 2010 and the second one foreseen for 2011 in the present work program.
- On the proposal of the Subcommittee on Marine Environment and Ecosystems to set up a minimum size of 10 mm of basal diameter with 20% tolerance for branches of red coral, the SAC noted that that this proposal was premature and that it may require further research and discussion to decide on a minimum size

- Reduction of By-catch[1]

  - Fulfillment of by-catch data submission should be provided under the Task 1 scheme of GFCM for elasmobranchs, monk seals, turtles, and seabirds, by Operational Unit and by gear and period.
  - The following technical measures to reduce by-catch were proposed
    i. For elasmobranchs, the use of circular hook and nylon snoods in longliners is recommended for protecting pelagic species and the grid and separator for demersals .The protection of nursery areas is recommended as a general tool to protect both pelagic and demersal elasmobranches
    ii. For the monk seal: Restrict setting static nets (gill nets, trammels, etc.) at a minimum distance of 5 nm radius around the location of monk seal caves during autumn and winter. The radius will be extended to 10 nm around breeding caves.
    iii. For sea turtles: use of unhooking devices to release animals which are incidentally caught by long-lines.
    iv. For seabirds:
      - In longline fishing: only night-setting of gears should be authorized, use of bird-scaring devices, fast sinking extra weighted lines and conditioning of bait (thawed, blue dyed).
      - In trawl fishing: use of scaring devices to be fixed on the trawl warps.

    For both type of fishing practices, it is advised to decrease the offal/discards availability to birds by freezing it into blocks or fluidizing it for later disposal when seabirds are not present.

  - For monk seals, the sites should be previously identified. To this goal, the Secretariat was invited to gather this information by requesting the parties. (A circular message was sent on March 2011 to request this information to the members, the Secretariat will provide this information when available).

4. On the improvement of gear selectivity, the SAC agreed to endorse the proposals of the transversal workshop which aimed at the continuation of pilot studies with different mesh sizes and different protection devices, and always including the analysis of the pertinent socio-economic indicators.

5. On the proposal for the establishment of a new Fishing Restricted Area (FRA) in the Balearic Islands, the Committee noted that it was not in a position of endorsing it until a more complete study of the area, focusing mainly on the mapping of the different habitats, fleet description and effort distribution, together with the potential socio-economic impact of the proposed protection measures be provided.

6. The SAC reiterated the urgent need for member countries to provide information, from vessel monitoring systems, (VMS) if possible, on the number of vessels engaged in fishing activities and

[1] According to SAC Glossary, By-catch is defined as: The total catch of unwanted animals including vulnerable and endangered species. By-catch of commercial species should be reported as associated species

their respective number of fishing days in 2008 in the area delineated as a fisheries restricted area in the Gulf of Lions including also vessels smaller than 15 m LOA.

7. The SAC also accepted to analyse the promotion of the marketing of catches with more selective gears through eco-labelling, for what more pilot studies should be devoted.

8. It also agreed on the continuation of research studies on the interaction between jellyfish and algal blooms and fisheries and to deepen on the knowledge of submarine canyons and sea mounts.

Collection of information and statistics

9. The Scientific Advisory Committee endorsed the advice received from its Sub-Committees on the collection of statistical data and information and approved the following proposals:

- On the need to simplify the process of the submission of various vessel datasets the first step to an agreed solution would be that the SCSI works on a template, with the support of the GFCM Secretariat, considering the information requested by the GFCM Recommendations related to vessels lists;

- The SAC agreed to adopt a stepwise approach to set up a frame for the submission of biological data, expanding on the current Task 1.5 and its possible transformation to a new Task 2. This approach requires SCSA to precisely define their data needs for assessment purposes and in a second stage SCSI would design a data compilation format compatible with the Task 1 framework;

- On data access and confidentiality issues linked to the Task 1 datasets, the Committee agreed that the statistical bulletin and basic statistics should be available to the public without restrictions, while the access rights for the Task 1 datasets should be forwarded to CoC for further consideration;

- To set up a maximum threshold of 15 kg for the GFCM logbook, giving the possibility to member countries to define a lower threshold between 0 and 15 kg.

- The submission of data based on STATLANT 37A form should continue as long as Task 1 is not fully operational and able to replace it.

10. The proposals put forward by the workshop on **fleet capacity** for a Regional Plan of Action (RPOA) for the Management of Fishing Capacity were endorsed by the SAC. The draft is provided in Appendix 1 of this document. The options to be considered by GFCM are the following:

- Consider introducing elements of the Draft Outline GFCM RPOA-Capacity into the Recommendation GFCM/34/2010/2 whilst continuing the elaboration of the GFCM RPOA-Capacity.

- Engage a consultant to draft a GFCM RPOA-Capacity on the basis of the outline produced and other suggestions made by GFCM subsidiary bodies.

- Convene a workshop to finalize the drafting of the GFCM RPOA-Capacity on the basis of the outline produced and other suggestions made by the GFCM subsidiary bodies.

Or

- Any combination of the above

11. The SAC agreed that the statistical grid reference scheme drawn up by the SCSI at its 9th Session should accompany the statistical grid already adopted by the GFCM which is included in a revised version of the Recommendation GFCM34/2010/1 about the logbook and provided here as Appendix 3.

Other issues

12. In relation with Recreational fisheries, the SAC agreed on the following proposals of the Subcommittee on Economic and Social sciences:

- Develop a harmonized protocol for recreational fisheries monitoring.
- Design a data collection scheme for recreational fisheries indicators;
- Conduct a regional study on the possible implementation of licensing schemes for this sector.

13. Furthermore, SAC agreed on the development of a code of practice for responsible recreational fisheries.

14. Finally, the Committee encouraged the studies aimed at assessing the socio-economic impact of the implementation of the 40mm square mesh / 50mm diamond mesh in trawl codends as well as to explore the impact of ecolabelling.

Monitoring fish stocks and fisheries management measures

15. The SAC reviewed the results of assessments carried out by specialized working groups and the Sub-Committee on Stock Assessments (SCSA). 24 stocks of demersal species were assessed out of which 23 were considered overexploited and one fully exploited. 11 stocks of sardine and anchovy were analysed, out of which two were considered overexploited and the rest fully or moderately exploited. The summary with the management advice and SAC comments are shown in tables 1 and 2 below. The Commission is invited to examine the possibility of converting advice into management measure in the form of a recommendation or resolution.

16. The SAC discussed at length the adoption of Biological Reference Points and agreed on the proposal of the SCSA on adopting two different approaches for the sake of being able to provide management advice.

- For most of demersal species for which yield and biomass per recruit analyses are available the adoption of BRP based on fisheries mortality and the shape of Y/R curve was of common acceptance. F_{max} was selected as Limit Reference Point, and $F_{0.1}$ as Target Reference Point.
- In cases where classical analytical approach is not possible either due to technical reasons or to specific features of the dynamics of the stocks such as those of small pelagics, which are short lived species highly influenced by the environment, an empirical Traffic Light Approach combining stock status, biomass indices from surveys and pressure indicators (harvest ratio and/or an adequate proxy of environmental stress), was accepted by the Committee.

Table 1 Management advice for demersal species

GSA	Species	Stock status	Working Group management advice	Working Group comments	SCSA comments	SAC comments
GSA 01 & 03 (Northern and Southern Alboran Sea)	*Pagellus bogaraveo*	Over-exploited; current F (0.40) higher than $F_{0.1}$ (0.18) and F_{max} (0.37)	**Decrease the fishing effort.** Adopt the same management measure in GSA 03 and GSA 01. Improve the sampling standardisation. Maintain the joint assessment.	**Improve the biological sampling** and estimate the importance of juveniles in the catches by trawlers in shallow areas.The WG endorsed the assessment and recommendations.	No further comments. Endorsed	The SAC appreciated the effort of Morocco and Spain scientist to jointly asses the stock status. The relevant contribution of the regional project Copemed II was highlighted. Endorsed
GSA 03 (Southern Alboran Sea)	*Parapenaeus longirostris*	Over-exploited; Fcurr/ $F_{0.1}$ = 392% F curr/ F_{MSY} =353%	It was recommended to **decrease the fishing mortality by 60-80%.** The abundance indices observed during surveys indicate a decrease of this resource.	The WG recommend **extending the assessment of the *Parapenaeus* stock including the data from other adjacent areas (Spanish and Algerian areas).** The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	No further comments. Endorsed
	Boops boops	Over-exploited; current F (0.90) higher than $F_{0.1}$(0.61) and F_{max} (0.75)	**Reduce the fishing mortality and control the trawling ban in coastal waters**.	**No sign of depletion is evident**. The fishing mortality can be reduced limiting the moving of trawlers from the Atlantic to the Mediterranean. The WG endorses the assessment and the related recommendations	No further comments. Endorsed	No further comments. Endorsed
	Mullus barbatus	Over-exploited; current F (0.68) higher than $F_{0.1}$(0.55) and F_{max} (0.56)	**Reduce the fishing mortality and control the trawling ban in coastal water**.	**No sign of depletion is evident**. The fishing mortality can be reduced limiting the moving of trawlers from the Atlantic to the Mediterranean. The WG endorses the assessment and the related recommendations	No further comments. Endorsed	No further comments. Endorsed
GSA 05 (Balearic islands)	*Merluccius merluccius*	Over-exploited; current F (0.85) higher than $F_{0.1}$(0.20) and F_{max} (0.31)	**Reduce fishing mortalities by 30 to 50%** trough reducing the effort activity and improving the selection pattern of the fishery.	**Explore the parameterisation** of XSA (the contribution of each tuning fleet in the model) **and run sensitivity analysis** on its effects. The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	No further comments. Endorsed
	Mullus surmuletus	Over-exploited; current F (0.60) higher than $F_{0.1}$ (0.38) and lower than F_{max} (0.74)	**Reduce fishing mortalities by 30% to 50%** trough reducing the effort activity and improving the selection pattern of the fishery.	The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	No further comments. Endorsed

GSA	Species	Stock status	Working Group management advice	WG comments	SC comments	SAC comments
GSA 05 (Balearic islands)	*Mullus barbatus*	Over-exploited; current F (0.82) higher than $F_{0.1}$(0.33) and F_{max} (0.53)	**Reduce fishing mortalities by 40% to 60%** trough reducing the effort activity and improving the selection pattern of the fishery.	**Explore the parameterisation of XSA** (the contribution of each tuning fleet in the model). The WG group noticed that both **SSB and recruitment show a decreasing trend**. The WG suggest performing sensitivity tests to check the influence of different biological parameters values in the results. The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	No further comments. Endorsed
	Nephrops norvegicus	Over-exploited; current F (0.45) higher than $F_{0.1}$ (0.30) and lower than F_{max} (0.63)	**Decrease fishing mortality by 20-30%** by: Reducing effort, both in capacity and/or activity, improving the selection pattern of the fishery and implementing area closures.	**Perform a sensitivity analysis**. The WG endorses the assessment and the related recommendations	No further comments. Endorsed	No further comments. Endorsed
	Aristeus antennatus	Over-exploited; current F (0.62) higher than $F_{0.1}$ (0.33) and lower than F_{max} (0.76)	**Decrease fishing mortalities by 30% to 50%** trough reducing the effort activity and improving the selection pattern of the fishery. Implementing area closures for fishing in the nursery areas during the recruitment period.	Evaluate the effect of the biological parameters running XSA with sex combined data. Explore the parameterisation of XSA (the contribution of each tuning fleet in the model). The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	No further comments. Endorsed
	Parapenaeus longirostris	Over-exploited	The problems found with the residuals and the retrospective analysis **makes not possible to provide a full management advice.**	The WG agrees that the stock is overfished but **some uncertainties do not allow to suggest an available value to reduce the actual fishing mortality**. The WG endorses the assessment as a source of general information of the stock.	The assessment must be considered as a rough estimation of the stock status. To be verified.	The SAC consider this assessment as **provisional.**

GSA	Species	Stock status	Working Group management advice	WG comments	SC comments	SAC comments
GSA 06 (Northern Spain)	*Merluccius merluccius*	Over-exploited; current F (1.70) higher than $F_{0.1}$(0.60)	**To reduce the growth overfishing**: - Decrease the effort of trawl. - Improve the fishing pattern of the trawl fleets. **To avoid recruitment overfishing:** - Reduce effort in trawl 70% - Special surveillance in the use of 40 mm square mesh size in the cod end in trawl gears. - Encourage studies to allocate area closures to fishing (FRA).	The stock show dangerous signals of recruitment overexploitation due to the **decreasing trend in recruitment and very low levels of the spawning stock**. The WG endorses the assessment and the related recommendations	No further comments. Endorsed	The SAC noted that the absolute value of F, both in terms of current and target F are higher than those of the other areas of the Mediterranean. Due to the robusteness of Y/R analyses, the percentage of reduction of current F to reach the target values should not be biased. Endorsed
	Mullus barbatus	Over-exploited; current F (0.76) higher than $F_{0.1}$ (0.39)	**Decrease the fishing mortality by 70%.** More effective **control in shelf areas above 50 m** depth to reduce the catch of small individuals under the minimum legal size. The use of the **40 mm square mesh in the cod-end should improve trawl exploitation pattern and Y/R by 24%,** but a close supervision of the observance of this measure is needed.	**Co-occurrence of SSB increasing and recruitment decreasing**. The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	No further comments. Endorsed
	Parapenaeus longirostris	Over-exploited; current F (1.37) higher than $F_{0.1}$(0.30) and lower than F_{max} (2.73)	Reduce growth overfishing: **Reduce the effort of trawl by 70%** and Improve the fishing pattern of the trawl.	Since there are some evidences of synchronous oscillation of abundance of the species in the western Mediterranean, **environmental factors (e.g. water temperature) are thought to notably affect the stock dynamics**. The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	No further comments. Endorsed

GSA	Species	Stock status	Working Group management advice	WG comments	SC comments	SAC comments
GSA 07 (Gulf of Lions)	*Merluccius merluccius*	Over-exploited; current F (0.87) higher than $F_{0.1}$(0.20) and F_{max} (0.29)	**Reduce fishing mortality by 60% to 70%** **To reduce growth overfishing:** - Improve the fishing pattern of the trawl - close nursery areas at least temporally - Reduce the effort of trawl, from reducing time at sea, number of fishing boats, engine power, Bollard pull and/or trawl size **To avoid recruitment overfishing:** - Reduce the effort of longline and gillnets in order to increase (or at least maintain) the SSB. - Establish temporal closures for longline and gillnet during the period of maximum spawning	**The trend of the SSB does not show any risk of stock depletion or collapse**. The parameterization of the XSA model may have an impact on the results obtained. To identify the extension of such decisions, further work must be done to explore different parameterizations of the model and run sensitivity analysis on its effects. The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	No further comments. Endorsed
	Mullus barbatus	Slightly over exploited	**Current F has to be reduced by 30-40%** .	The WG endorsed the assessment and recommendations	Since the current F (0.7) is higher than $F_{0.1}$ (0.4) and F_{max} (0.5), the Sub-Committee recommends **not to use the attribute "slightly"** in identifying the stock status. Endorsed	No further comments. Endorsed
GSA 09 (Ligurian and North Tirrenian)	*Merluccius merluccius*	Over-exploited; current F (1.40) higher than $F_{0.1}$ (0.22) and F_{max} (0.35)	The stock appears to be highly overexploited with a **need of F reduction of about 40-80%.**The current SSB is estimated as 5% and 10% of the virgin SSB, nevertheless, the stock productivity does not appear to be impaired and able to still produce relatively large year classes.	The group noticed a **decreasing trend of the SSB** for both assessments performed with SURBA on 2 different surveys (MEDITS and GRUND). The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	No further comments. Endorsed

GSA	Species	Stock status	Working Group management advice	WG comments	SC comments	SAC comments
GSA 09 (Ligurian and North Tirrenian)	*Mullus barbatus*	Over-exploited; current F (0.73) higher than F_{MSY} (0.64)	**A reduction of fishing mortality by about 10%** is considered necessary in order to reach the Fmsy level.	The WG endorsed the assessment and recommendations	No further comments. Endorsed	No further comments. Endorsed
	Parapenaeus longirostris	Fully -exploited	Do not increase fishing mortality.	**This stock could be strongly driven by environmental and ecological factors** (e.g. water temperature, predatory release effect) that can make difficult to evaluate the effect of fishing on the stock. The WG endorses the assessment and the related recommendations but notes that only the reference points computed by VIT should be considered for management.	No further comments. Endorsed	No further comments. Endorsed
GSAs 12,13,14, 15&16 (Strait of Sicily)	*Parapenaeus longirostris*	Over-exploited; current F (1.13) higher than $F_{0.1}$ (0.90) and lower than F_{max} (1.23)	**A reduction of Fishing mortality by about 20%** is considered necessary. In addition the exploitation pattern of the fishery should be improved. A **protection of the stable nurseries** on the Adventure and Malta Banks in the Strait of Sicily is advised	A change in M and k has pronounced effect on Y/R when the variation was applied in opposite directions. On the other hand B/R and SSB/R are not strongly affected when the change is in the same direction. **Alternative methods such as global production methods and trawl survey based approach should be used in the future to make the assessment more robust**. The WG endorses the assessment and the related recommendations	No further comments. Endorsed	The SAC appreciated the effort done by the scientists of Italy, Malta and Tunisia to asses jointly the stock status. The relevant contribution of the regional project Copemed II and Medsudmed in pursuing the activity was highlighted. Endorsed

GSA	Species	Stock status	Working Group management advice	WG comments	SC comments	SAC comments
GSA 17 (Northern Adriatic)	*Solea solea*	Over-exploited; current F (0.61) higher than $F_{0.1}$ (0.29) and F_{max} (0.42)	**A reduction of F of 50-80%,** especially by rapido trawling, would be recommended. **A two–months closure for rapido trawling inside 11 km off-shore along the Italian coast**, after the biological fishing ban (August), would be advisable to reduce the portion of juvenile in the catches. The **safeguard of spawning area** is also advised	**Include in the future assessments biological samples data from the eastern fishery** as well as to extend the rapido trawl survey inside the 12 nm from the Croatian coast, as was performed in 2005 and 2006. Such requirements could be attained in the framework of ADRIAMED regional project.	No further comments. Endorsed	No further comments. Endorsed
GSA 18 (Southern Adriatic)	*Merluccius merluccius*	Over-exploited Fcurr(0.57-0.58) $F_{0.1}$ (0.2) F_{max}(0.3)	**Fishing mortality reduction of 30-40%** is necessary. A more sustainable exploitation in the long-term can be partly achieved following the newly enforced regulation on the **mesh size of 40 mm squared mesh on the cod end**.	The WG discuss the use of the slow or fast growth parameters to assess the hake stock and of the sensitity analyses. **Results from VIT (only one year data) are consider as indicative.**	No further comment. Endorsed.	The SAC appreciated the effort done by the scientists of Albania ,Italy and Montenegro to asses jointly the stock status. The relevant contribute of the regional project Adriamed in pursuing the activity was highlighted. Endorsed
GSA 26 (South Levant)	*Solea solea*	Over-exploited; F curr (0.66) higher than $F_{0.1}$(0.41) and lower than F_{max} (0.81)	**Reduce fishing mortality by about 40-60% .** Improve the trawl selectivity. Identify and protect the nursery grounds. Improve the fishery data collection system.	As the assessment was done at first using three years 2006-2008 and it was found that the length composition of year 2008 is greatly different from the two others, **the assessment was redone using the mean number of years 2006-2007**. The WG endorses the assessment	No further comments. Endorsed	Since the stock is exploited not only by trawlers, the SAC recommended to include catches of artisanal fisheries in next assessment. Endorsed
	Boops boops	Over-exploited; current F (1.09) higher than $F_{0.1}$ (0.59) and Fmax (0.94)	**Reduce the fishing mortality by 40-60%**	The WG endorses the assessment and the related recommendations	No further comments. Endorsed	Since the stock is exploited not only by trawlers, the SAC recommended to include catches of artisanal fisheries in next assessment. Endorsed
	Pagellus erytrinus	Over-exploited; current F (0.65) higher than $F_{0.1}$ (0.34) and F_{max} (0.57)	**Reduce the fishing mortality by 40-60%.** Identify and protect nurseries	The WG endorsed the assessment and recommendations.	No further comments. Endorsed	Since the stock is exploited not only by trawlers, the SAC recommended to include catches of artisanal fisheries. Endorsed

Table 2 Management advice for small pelagics

GSA	Species	Stock status	Working Group management advice	WG comments	SC comments	SAC comments
GSA 01 (Alboran Sea)	*Engraulis encrasicolus*	Moderately exploited. Sustainable fisheries	**Not increase the fishing effort.** The management of anchovy fisheries needs to account the multi-species effects, mainly the interaction with sardine.	**The WG considers the analytical assessment as provisional.** The WG endorsed the assessment and recommendations.	No further comments. Endorsed	Endorsed
	Sardina pilchardus	Fully exploited. Sustainable fisheries	**Not increase the fishing effort.** The management of sardine fisheries needs to account the multi-species effects, mainly the interaction with anchovy.	**The WG considers the analytical assessment as provisional**. The WG endorsed the assessment and recommendations.	No further comments. Endorsed	Endorsed
GSA 03 (Southern Alboran Sea)	*Sardina pilchardus*	Fully exploited: current F =0.6, ratio $F_{0.1}$/Fc=0.62 and F_{max}/Fc=1.86 Uncertain biomass	**Maintain the current fishing effort; Reduce the mortality of fishing on the spawning fish** Introduce seasonal closure during January which coincides with the peak of the spawning; Prohibit fishing during May near Short-nap close Kebdana to preserve the young fish.	The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	Endorsed
GSA 06 (Northern Spain)	*Engraulis encrasicolus*	**The stock abundance is considered low, while the exploitation rate is uncertain.**	**Avoid further reduction in SSB**	**The WG considers the analytical assessment as provisional**. The WG endorsed the assessment and recommendations	No further comments. Endorsed	Endorsed
	Sardina pilchardus	Overexploited The stock has declined over many years, partly due to reduced recruitment and partly to poor survival of the recruits. Most likely, the stock has been increasingly overexploited in recent years	**A substantial reduction in exploitation is advised.**	**The WG considers the analytical assessment as provisional.** The WG endorsed the assessment and recommendations.	No further comments. Endorsed	Endorsed

GSA	Species	Stock status	Working Group management advice	WG comments	SC comments	SAC comments
GSA 07 (Gulf of Lions)	*Engraulis encrasicolus*	Fully exploited moderate harvest ratio. Low biomass	**Reduce fishing effort on anchovy in the Gulf of Lion** **Respect the European regulation on minimum length size of catch (> 9 cm, UE 1976/2006)** **Consider interactions with sardine fisheries.**	The WG endorses the assessment and the related recommendations.	No further comments. Endorsed	Due to the likely effect of environmental factors on small pelagics, in case of low biomass at sea the SAC recommend to avoid assessing the stock status (fully, over-exploited), it is advisable, on the other hand, to define harvest ratio and/or biomass level. Endorsed.
	Sardina pilchardus	Moderately exploited Production capacity severely reduced	**Strongly reduce fishing effort on sardine in the Gulf of Lion;** **Formalize and establish a protocol of "sentinel" activity for fishermen, and produce monthly spatial and temporal observations to describe the evolution of the system,** **Respect the European regulation on minimum length size of catch (11cm, UE 1976/2006.** **Consider interactions with anchovy fisheries.**	The WG endorsed the assessment and recommendations	No further comments. Endorsed	Due to the likely effect on small pelagics of environmental factor, the same recommendation than for anchovy above. It also recommended to maintain the recent level of fishing effort induced by the very low abundance of adults in the stock until indication of a better status of the stock. Endorsed.
GSA 16 (Strait of Sicily)	*Engraulis encrasicoluss*	High exploitation rate (ratio between total landings and biomass estimates): high fishing mortality. Very low Stock abundance. (acoustic biomass estimate)	**Not increase the fishing effort;** **Assess the impact of fry fishery may have.** **Not extend fry sardine fishery after March to avoid additional mortality on juvenile anchovy.**	Negative effects on these populations could result from **pressure of other fishing gears** on pre-juvenile stages (locally known as "bianchetto" or "neonata"). The WG endorses the assessment and the related recommendations	Since the stock is characterised by both high exploitation rate and low biomass the SC recommends to change "not increase the fishing effort" **into "decrease the fishing effort**". Endorsed with this modification.	No further comments. Endorsed
	Sardina pilchardus	Moderate exploitation rate (ratio between total landings and biomass estimates) low/intermediate stock abundance. (acoustic biomass estimate)	**Do not increase the fishing effort; assess the impact of fry fishery. As the impact of fry fishery on this population is not known, a proper quantification of the catches in the fry fishery is mandatory.**	Over the last four years the population appears to be stable though at a relatively low level. However, taking into account the moderate exploitation rates experienced, results would suggest **the stock being able to tolerate the current level of exploitation**.	No further comments. Endorsed	No further comments. Endorsed

GSA	Species	Stock status	Working Group management advice	WG comments	SC comments	SAC comments
GSA 17 (Northern Adriatic)	*Engraulis encrasicolus*	The stock at the present level of biomass can be considered as **moderately exploited**	Do not increase the fishing effort. Consider the interactions with sardine fisheries.	Important improvements were made regarding the echo-survey data used as tuning index for VPA: in particular, for the first time, biological data from the western Adriatic were used to split into age classes only the abundance estimated by the western echo-survey, while biological data from the eastern Adriatic were applied to the eastern echo-survey abundance.	No further comments. Endorsed	No further comments. Endorsed
	Sardina pilchardus	The stock at the present level of biomass can be considered as **moderately exploited**	Do not increase the fishing effort. Consider the interactions with anchovy fisheries.	Important improvements were made regarding the echo-survey data used as tuning index for VPA: in particular, for the first time, biological data from the western Adriatic were used to split into age classes only the abundance estimated by the western echo-survey, while biological data from the eastern Adriatic were applied to the eastern echo-survey abundance	No further comments. Endorsed	No further comments. Endorsed

17. The SAC approved the following specific proposals:

- On the conservation and exploitation of **elasmobranchs** :
    - Develop catch and effort monitoring programmes at national level to ensure a close monitoring of catches, and by-catches that should be reported through the GFCM data submission scheme of Task 1.
    - Grant the maximum protection by the fishing activities to the species listed in Annex II or proper exploitation of the species included in Annex III of the SPA/BD Protocol of the Barcelona Convention (November 2009). Consider to adopt the measures of the EU for the porbeagle throughout all the Mediterranean.
    - Identify and map nursery grounds and their protection from the action of trawling activities.

18. The Committee endorsed the advice of the Workshop on **European Eel** with the main objective of gathering and analyzing the existing information scattered among the countries and agreed to give full support to the elaboration of National and/or Regional Management Plans as required by the EU.

Proposed recommendation from the work of the SAC

19. The SAC referred to the Commission's decision to reduce general fishing effort to protect demersal stocks in the Mediterranean (Resolution GFCM:XXXI/2009/1) and unanimously agreed that solid evidence existed to strengthen the measure by converting this Resolution into a Binding Recommendation under Article V of the GFCM Agreement.

Proposed recommendations of the ICCAT on Mediterranean fisheries

20. The International Commission for the Conservation of Atlantic Tunas (ICCAT) adopted the following recommendations concerning Mediterranean fisheries at its 17th Special Meeting held in Paris (France) in November 2010:

- ICCAT recommendation [10-04] amending the Recommendation by ICCAT to establish a Multi-annual recovery plan for Bluefin Tuna in the Eastern Atlantic and Mediterranean.
- ICCAT recommendation [10-06] on Atlantic Shortfin Mako sharks caught in association with fisheries managed by ICCAT.
- ICCAT recommendation [10-08] on Hammerhead sharks (family Sphyrnidae) caught in association with fisheries managed by ICCAT.
- ICCAT recommendation [10-09] on the By-catch of sea turtles in ICCAT fisheries.

21. The text of these proposals is reproduced in document GFCM: XXXV/2011/10.

SUGGESTED ACTIONS FOR THE COMMISSION

22. The Commission is invited to examine and, as appropriate, endorse the conclusions and advice of its Scientific Advisory Committee.

23. The Commission is also invited to examine, for possible adoption, the recommendations concerning the Mediterranean adopted by the ICCAT in 2010.

APPENDIX 1

DRAFT OUTLINE FOR A REGIONAL PLAN OF ACTION (RPOA) FOR THE MANAGEMENT OF FISHING CAPACITY IN THE GFCM AREA

1. Introduction

It is widely recognised that overcapacity is a problem, along with environmental concerns, in many national and international fisheries that may foster destructive fishing operations, aggravates overfishing and by-catch of unwanted or protected species, creates chronic management problems, and weakens the long-term economic performance of the fishing sector.

There are existing commitments including those of the Johannesburg Declaration on Sustainable Development (2002), the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity), and the actions and obligations already adopted by the GFCM.

Modernisation is important, especially in the GFCM convention area where many boats in the fleets are old. In the existing and upcoming programmes for modernisation, it is critical to specify the purpose and objectives of such programs and, in particular, their potential contribution or ability to increase capacity.

It is necessary for the GFCM to be able to develop an Regional Plan of Action for the Management of Fishing Capacity (RPOA-Capacity), including actions to monitor and manage fishing capacity and, where appropriate, measures to tackle overcapacity and its effects based on scientific advice.

2. History

The General Fisheries Commission for the Mediterranean (GFCM) in its Recommendation GFCM/34/2010/2:

RECALLED that the objectives of the Agreement establishing the General Fisheries Commission for the Mediterranean are to promote the development, conservation, rational management and best utilization of living marine resources;

RECALLED the Declaration of the Third Ministerial Conference on the Sustainable Development of the Fisheries in the Mediterranean held in Venice, Italy, on 25 and 26 November 2003;

RECALLED Recommendation GFCM/27/2002/1 which urges the control of fishing effort and the improvement of the exploitation pattern of demersal fisheries, as well as limiting catches of juveniles of small pelagic species;

CONSIDERED that in the advice for 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008 and 2009 the GFCM Scientific Advisory Committee (SAC) considered that several demersal and small pelagic stocks are overexploited, some with high risk of recruitment overfishing, and that sustainable management requires measures aimed at controlling or reducing the fishing effort from 10 percent up to 40 percent and more;

NOTED that the stock assessment conducted by the SAC only concerns specific geographical subareas corresponding to the data supplied by certain Members and that the assessed stocks may be shared with adjacent GFCM geographical sub-areas;

RECALLED that in cases where no scientific information on the status of fisheries and of the exploited resources is available a more cautious approach is needed in the development plans of fishing fleets and that suitable information coming from adjacent areas could be used for proper and precautionary management of fisheries until sound scientific evidence becomes available;

NOTED that the Scientific Advisory Committee (SAC) advises to apply the precautionary principle;

RECALLED that any possible global limitation of the fleet capacity at regional level shall not prevent or hinder transferability of fishing fleet capacity from one Member to another and from one GSA to another provided that the targeted fisheries are exploited sustainably and that the overall capacity does not increase;

RECALLED the International Plan of Action (IPOA) for the management of fishing capacity elaborated within the framework of the FAO Code of Conduct for Responsible Fisheries which calls upon States to cooperate, where appropriate, through regional fisheries management organizations or arrangements and other forms of co-operation, with a view to ensuring the effective management of fishing capacity, as specified in article 27 of the IPOA.

RECALLED Recommendation GFCM/34/2009/3 on the implementation of the GFCM Task 1 Statistical Matrix including in particular mandatory submission of the components Tasks 1.1, 1.2 and 1.4 by February 2010 for the first time while Task 1.3 and Task 1.5 by January 2011 and noting that the SAC calls for a mandatory submission by the Members as from 2009 of several components of TASK 1 statistical matrix including in particular Tasks 1.1, 1.2, and 1.4;

NOTED that GFCM, at its thirty-second session, requested the SAC to carry out an evaluation of consequences of a possible freezing of the fleet capacity and the proposals and results of the workshop on the assessment, management and monitoring of fishing fleet capacity held in February 2010;

RECALLED Recommendation GFCM/34/2009/6 on the establishment of a GFCM record of vessels over 15 metres authorized to operate in the GFCM area;

RECALLED Recommendation GFCM/34/2009/5 on the establishment of the GFCM Regional Fleet Register by June 2010 to contain information on all vessels, boats, ships or other crafts that are equipped and used for commercial fishing activity and as from 2011 Contracting Parties shall submit a full data base at least at the beginning of each calendar year followed by updates as appropriate;

3. Definitions

Capacity may be defined both as an input-based estimate (vessels numbers, size (GT, LOA), engine power (kW)) or an output-based estimate, i.e. the maximum potential harvest or output that could be realized if only the fixed factors limited production. As a minimum common standard GT and/or kW must be used.

'Fishing capacity' means a fishing vessel's tonnage in GT and/or GRT and its engine power in kW. The fishing capacity level per GFCM Member shall be the sum of its vessels expressed in tonnage (GT and/or GRT) and engine power (kW).

Overcapacity can be defined in two ways: (1) in input terms, "overcapacity" means there is more than the minimum fleet and effort required to produce a given TAC or given output (harvested catch) level; and (2) in output terms, overcapacity means that the

maximum harvest level that a fisher could produce with given levels of inputs, such as fuel, amount of fishing gear, ice, bait, engine horsepower and vessel size would exceed the desired level of harvesting or TAC.

Excess capacity is the difference between what a production facility could produce if fully utilized and what is produced by the owners, given the prices of inputs and outputs. It is a common, short run, self-correcting phenomenon in all types of industries at different points in time.

4. Nature and Scope of the RPOA-Capacity

As the long term aim is to achieve sustainability, there is an ongoing need for complete information regarding:

- the status of fish stocks throughout the entire GFCM area, and

- fishing capacity throughout the entire GFCM area, and especially the spatial distribution of this capacity by groups of species and geographical sub-areas.

5. Objectives and Principles

5.1 Principles

It is recognised that open access to fisheries is not an option compatible with the sustainable fisheries development and the RPOA-Capacity.

The levels of the overall fishing capacity in the GFCM area shall be determined based on a Regional Plan of Action considering the national and regional fishing capacity management plans and scientific advice.

Members shall work to ensure that efforts to address the management of fishing capacity are complementary, coherent and consistent to current activities and actions and international commitments, including the ecosystem approach to fisheries.

Responsible management for sustainable exploitation – Noting that there is a need to balance social concerns and issues with those of conservation, it is important to take into account and address the social and economic impacts of measures address overcapacity, including those that stop fishing activities.

Because there is a link between fleet capacity and sustainable stocks, there is a need to find the optimal capacity in each fishery which reflects the balance between economic and biologically sustainable exploitation.

The management of fishing capacity should not preclude consideration of issues such as safety including issues of vessel design, size and ability to catch fish as well as best practices in fish handling, hygiene and quality whilst ensuring that overall fishing capacity is not increased.

Precautionary Approach - Noting that the fishing capacity of the fleet will vary according to the resources being targeted, the implementation of precautionary approach to fisheries is of importance for sustainable exploitation of fisheries in GFCM area and should be applied strictly by the GFCM Members.

It is important that short term profitability does not lead to investments that undermine long-term economic efficiency.

Results-based management approach – the Members of the GFCM should endeavour to apply a results based management approach in relation to the management of fishing capacity.

Flexibility, adaptability, transparency and accountability - The principles of flexibility, adaptability, transparency and accountability are fundamental elements of the RPOA-Capacity.

5.2 The objective of the RPOA-Capacity is to:

- lay the foundation on which regional management plans and other related initiatives should be formulated, developed and implemented;

- provide guidance in the development and implementation of national plans of action for the management of fishing capacity in coherence with the RPOA-Capacity;

- enable the GFCM to promote the development, conservation and rational management and proper utilisation of living marine resources.

6. Mechanisms to Promote Implementation

6.1 Levels of actions

Regional and sub-regional Actions – There is need to recognize the role of regional and sub-regional cooperation projects and initiatives and the importance of taking into account the specifics of sub-zones.

National Actions – Formulation of national plans of action for management of the fishing capacity should take into account management strategies of the different fisheries in neighbouring countries in the GFCM area, in accordance with the guidance provided by the RPOA-Capacity.

Local Actions – Local actions should be based as a minimum on the RPOA-Capacity and may serve as a example for larger management initiatives.

6.2 Tools and Instruments

Action must be accompanied with clear timeframes for achieving results which recognize the different financial, administrative, legislative and reporting changes that may be needed to do this.

6.2.1 Financial instruments

Financial instruments for the management of the fleet capacity shall avoid having a negative impact on exploited fishery resources, on marine environment and on long-term profitability of fishing activities.

Financial assistance with public funds shall not in any circumstance lead to an increase in the catch capacity or the power of fishing vessel's engine. Nonetheless, public financial assistance may contribute to improving safety on board, working conditions, hygiene and quality of products, energy saving and improve catch selectivity provided that it does not increase the ability of the vessels to catch fish. No public aid should be granted for the construction of fishing vessels or for the increase of vessel fish holds.

Financial mechanisms and subsidies[2] designed to help fleets shrink, such as 'vessel buy-back' or decommissioning schemes, may have been successful in addressing the reduction of nominal capacity but they have often failed to counteract the contemporary increase in the fishing power of the remained capacity (technological creep).

Financial investments/assistance with private funds shall be allowed to operate only within an organized fisheries management framework designed and monitored to deliver sustainable exploitation on the basis of scientific advice and rationale management.

Financial instruments should be used with caution knowing that even so-called "good" subsidies can create incentives to increase, rather than reduce fishing capacity.

6.2.2 Economic instruments

It is important to take into account the socio-economic impacts when introducing measures to reduce fishing capacity.

Members of the GFCM should consider the use and impacts of the different management tools reported in Table 1.

Efforts towards investment in disinvestment in the fisheries of the GFCM Members should be encouraged where overcapacity and sustainable exploitation may be a concern.

6.2.3 Technical instruments

There is need to address scientific and biological issues including, but not limited to:

- the issue of the efficiency of fishing gear and electronic equipment such as used for detecting fish;

- the collection of data at the national level regarding the status of various stocks, fishing activities and ecosystems – and particularly for shared stocks – in a manner that is consistent and harmonized with other countries;

- the use of one or more indicators of fishing capacity to evaluate the balance between fleet capacity and fishing opportunities – both qualitatively and quantitatively.

Capacity measurement - GFCM Members should ensure the successful and complete implementation of the regional fleet register and use the agreed regional fishing capacity measure unit as established in the Recommendations GFCM 33/2009/5 and GFCM 34/2010/2, respectively.

[2] Further detail could be found in the document: *Westlund, Lena. Guide for identifying, assessing and reporting on subsidies in the fisheries sector. FAO Fisheries Technical Paper N° 438. 29 pp.* http://www.fao.org/docrep/007/y5424e/y5424e00.HTM

6.2.4 Administrative and legal instruments

Members are encouraged to recall and implement GFCM decisions regarding the management of fishing capacity and related issues.

Entry/exit Regime - There is need for a simple and transparent entry/exit regime that applies to all members of the GFCM with the view to avoid any future increases of overall fishing capacity.

Capacity ceiling - Fishing capacity should be frozen within the soonest possible period based on scientific evidence, best practices and lessons learned.

Harmonization - There is a necessity to harmonize fisheries policies, legal and regulatory frameworks as well as specific fisheries regulations, particularly for shared stocks.

6.2.5 Management instruments

Regional and national measures such as temporary closures or fisheries management for other effort limitations shall be taken into account when establishing actions and measures.

7. Human resources development for management of fishing capacity

Communication and sensitization programmes related to fishing capacity should be created to increase general awareness amongst stakeholders and the general public about the problems of overcapacity.

Stakeholder participation – Effective participation of stakeholders, including fisheries organizations, should be supported by access to information and education.

Countries are encouraged to seek assistance in the monitoring of fishing capacity and for the development and implementation of national plans of action for the management of fishing capacity.

The diversification by fishers into of non-fishing activities should be encouraged.

8. Monitoring, control and surveillance of fishing capacity of fleets operating in the GFCM Convention area

Monitoring of fishing activity - As part of monitoring fishing activity there should be standardised logbook and catch documentation systems and include the use of VMS and other electronic reporting systems where appropriate.

8.1 Regulation of new constructions and imports of vessels

In exceptional cases where scientific evidence shows that there are sustainable new fishing opportunities, keeping in mind best practices and lessons learned as well as socio-economic concerns for local communities, new constructions and/or imports of vessels may be allowed, but all new constructions should be certified as in compliance with the RPOA-Capacity by the competent authorities.

In situations where there may not be new fishing opportunities but there is a desire for new constructions or import of vessels, then there should be a system of control as follows:

- All new constructions should have official authorization;
- To authorize a new construction or import, it should be necessary the destruction or exit from the register of at least the same tonnage and power that the one intended to be built. Priority consideration should be given to situations which enable the transfer of capacity from fleet segments in which there is overcapacity.

- To ensure that the tonnage and power of a new vessel be equal to or less than the tonnage and power of vessel(s) removed from the register of active vessels (i.e. registered and currently fishing vessels).

Fishing Licenses of withdrawn vessels should be transferred to the replacement vessel, taking into account that the indivisible "vessel unit" to transfer is composed of tonnage + power + fishing license.

9. Actions

Members of the GFCM shall undertake the following actions:

- Freeze fishing capacity within the soonest possible period based on scientific evidence, best practices and lessons learned in line with recommendation GFCM 34/2010/2.

- A part of such scientific advice will include analyses in order to reveal the existence of overcapacity per fishing area/sub-region, fleet segmentation, fishing type, species and fishing gears.

- Implement the precautionary approach to fisheries as an important element of the sustainable exploitation of fisheries in GFCM area. This approach needs to be followed strictly by the GFCM Members.

- Further work by GFCM Members to ensure the successful and complete implementation of the regional fleet register.

- Use an agreed regional fishing capacity measure unit as established in the Recommendation GFCM 33/2009/5.

- Implement Recommendation GFCM 34/2010/2.

- The levels of fishing capacity of vessels larger than 15 metres LOA shall be without prejudice to the transferability of fishing capacity from the one Member to another Member provided that overall fishing capacity of Members or Cooperating non-members concerned and authorized and licensed to fish in the GFCM area does not increase.

- Consider the use of some limitations or other mechanisms in order to prevent negative impacts of the transfer of fishing capacity from one operational unit to another and thereby endanger the stability of biodiversity.

- Collect and share data about national technical measures (length of net, period of fishing, restricted areas, forbidden gears, etc.).

10. Review and evaluation of the RPOA-Capacity

The GFCM shall develop mechanisms to monitor fishing capacity levels through, inter alia, the regional fishing fleet register and other data collection schemes.

The Commission shall monitor the implementation of the RPOA-Capacity through annual reports submitted by its Members and shall review the programs and impacts of the RPOA-Capacity every five years.

The RPOA will be reviewed and updated by the Commission every 5 years on the basis of the above and considering any additional management measures adopted by the GFCM during the preceding period.

Members of the GFCM should ensure the evaluation of the effects of modernization, new fishing practices, and technology creep on fishing capacity.

Table 1 - Fisheries Management Tools: Duration and Effect(s) on Overcapacity

Management Approach	*Management Tool*	*Duration*	*Effects*	
			Direct Effect(s)	*Longer-Term Effect(s)*
Incentive Blocking Approaches	Limited-entry programmes	Temporary	• Limits participation	• Capital-stuffing—where a vessel's horsepower, length, breadth and tonnage are increased—typically occurs • Drives changes (technological innovations) in gear, in fishing periods or areas • Creates motives for IUU fishing • Capacity will increase
	Buy-back programmes	Temporary	• Purchase of vessel(s), licence(s) and/or gear(s) • Capacity *may* be temporarily reduced in the fishery	• Any improvements in stock abundance will attract additional capacity • Creates motives for IUU fishing • Capacity will increase
	Gear restrictions, vessel restrictions	Temporary	• Initial reduction in harvests	• Substitution of unregulated inputs or new gear types to replace restricted inputs • Regulations lose effectiveness and additional regulations required • Creates motives for IUU fishing • Capacity will increase
	Aggregate quotas, total allowable catches (TACs)	Temporary	• Likely to accelerate the growth of fishing capacity rather than reduce it	• Capacity and effort increase if effort and entry unrestricted • Race for fish ("fishing derby") develops • Creates motives for IUU fishing: additional regulations required, particularly to limit discarding and false reporting, ensure traceability and to control transhipment • Potential for frequent overruns of the TAC resulting in over-exploitation • Frequently results in excess processing capacity and processing plant downtime during closed season(s) • Capacity will increase
	Non-transferable vessel catch limits (individual quotas/IQs)	Temporary	• Overcapacity not addressed • May limit additional growth of capacity	• Requires regulations to ensure traceability and to control transhipment • Additional regulations required • Creates motives for IUU fishing • Capacity will increase

Management Approach	*Management Tool*	*Duration*	*Effects*	
			Direct Effect(s)	*Longer-Term Effect(s)*
Incentive Adjusting Approaches	Group fishing rights: community development quotas (CDQs), community-based management systems collaborative- or cooperative-based systems	Potentially enduring	• Reallocation of the fishery to the recipient community	• Requires group understanding of asset value of user rights, capability to manage • Reduction of overcapacity or capacity containment depends on subsequent management
	Designated / Limited Access Privilege Programs (DAPPs, LAPPs) Catch Share Programs	Potentially enduring	• Reallocation of the fishery to the recipient community	• Requires group understanding of asset value of user rights, capability to manage • Capacity managed automatically, overcapacity does not occur/recur • Compliance concerns internalised by fishers to protect asset (rally against IUU fishing) • Supplementary regulations helpful to reinforce conservation
	Territorial use rights (TURFs)	Potentially enduring	• Reallocation of the fishery to the recipient community	• Requires group understanding of asset value of user rights, capability to manage • Reduction of overcapacity or containment of capacity linked to subsequent management
	Individual effort quotas (IEQs) denominated in trawl time, gear use, time away from port, fishing days, etc.	Mid-term	• Enforcement difficult • Additional regulations required to control input substitution	• Capital-stuffing—where a vessel's horsepower, length, breadth and tonnage are increased—frequently occurs • Requires regulations to ensure traceability and to control transhipment • Creates motives for IUU fishing • Capacity will increase
	Individual transferable quotas (ITQs), individual fishing rights (IFQs)	Enduring	• Market forces drive out overcapacity • Consolidation occurs if overcapitalised	• Capacity managed automatically, overcapacity does not occur/recur • Compliance concerns internalised by fishers to protect asset (rally against IUU fishing) • Supplementary regulations helpful to reinforce conservation
	Taxes and royalties	Indefinite duration	• Market forces drive out overcapacity • Consolidation if overcapitalised	• Administratively intensive: requires constant adjustment of tax levels to maintain capacity at desired level • Politically difficult to impose, easier to rescind

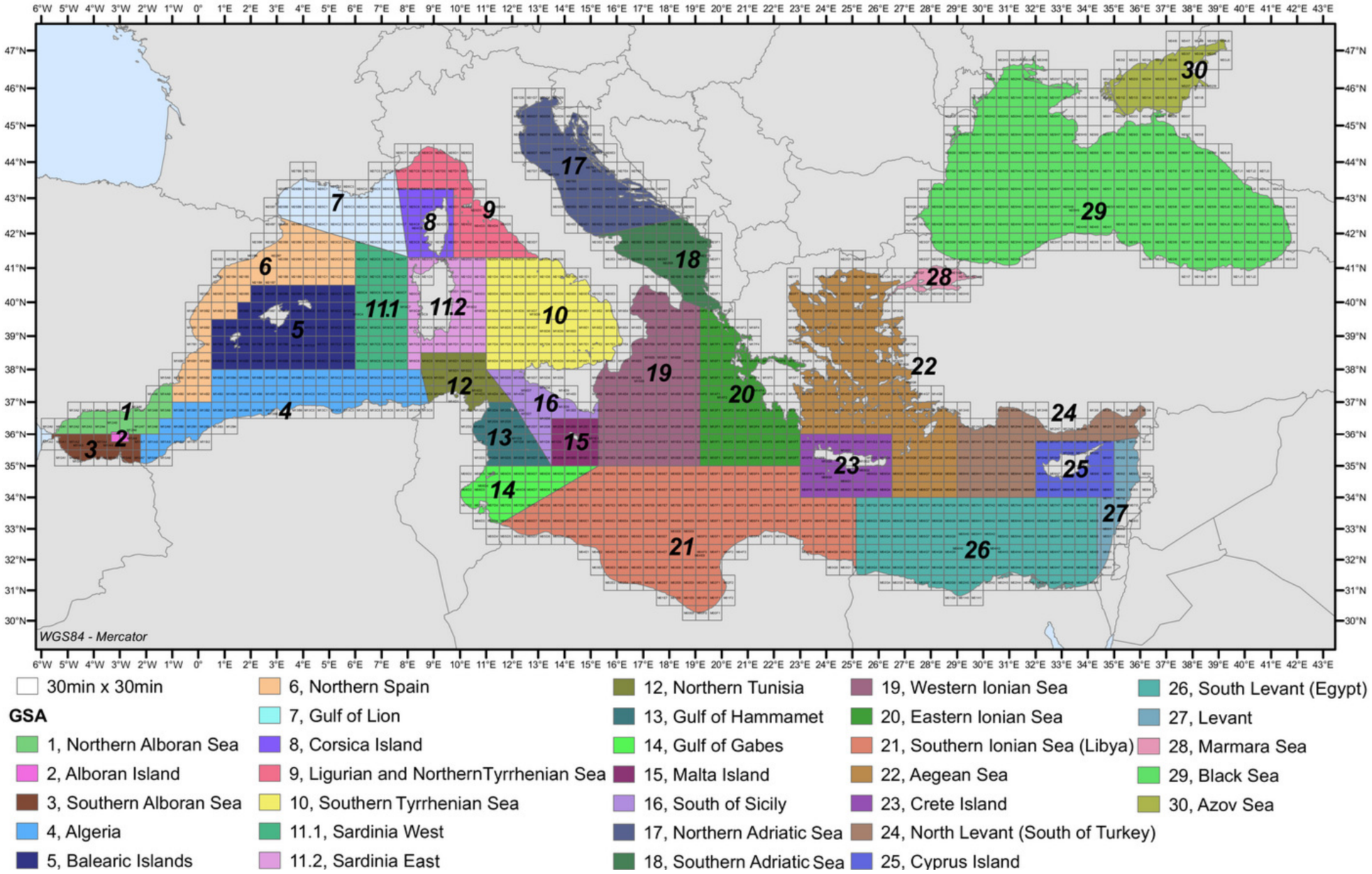
Annex A - Actions & Activities & Timeframes & Responsibilities

The following template should be used to provide a summary of the specific sections of the RPOA-Capacity, strategic interventions, specific actions, as well as indicative timeframes and responsibilities for carrying out these actions.

Specific Objectives	Strategic Interventions	Specific Action(s)	Responsible Parties

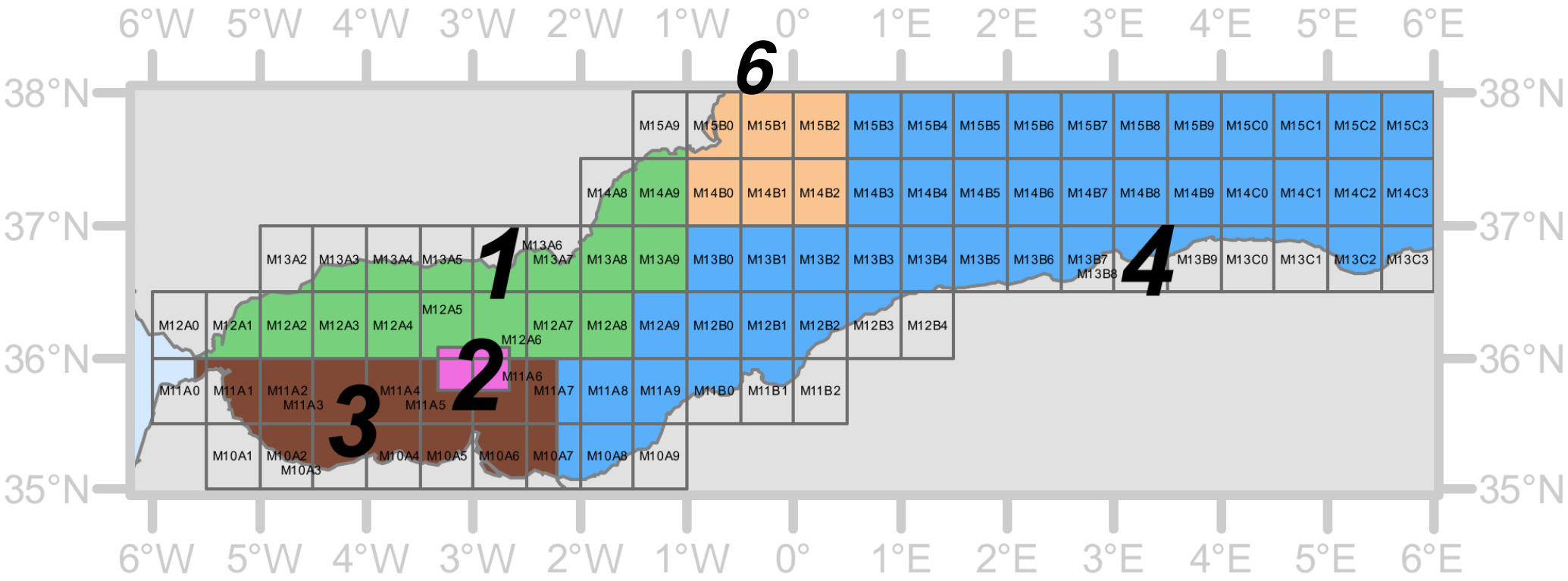
APPENDIX 2

Mediterranean and Black Sea Geographical Sub-Areas (FAO area 37)

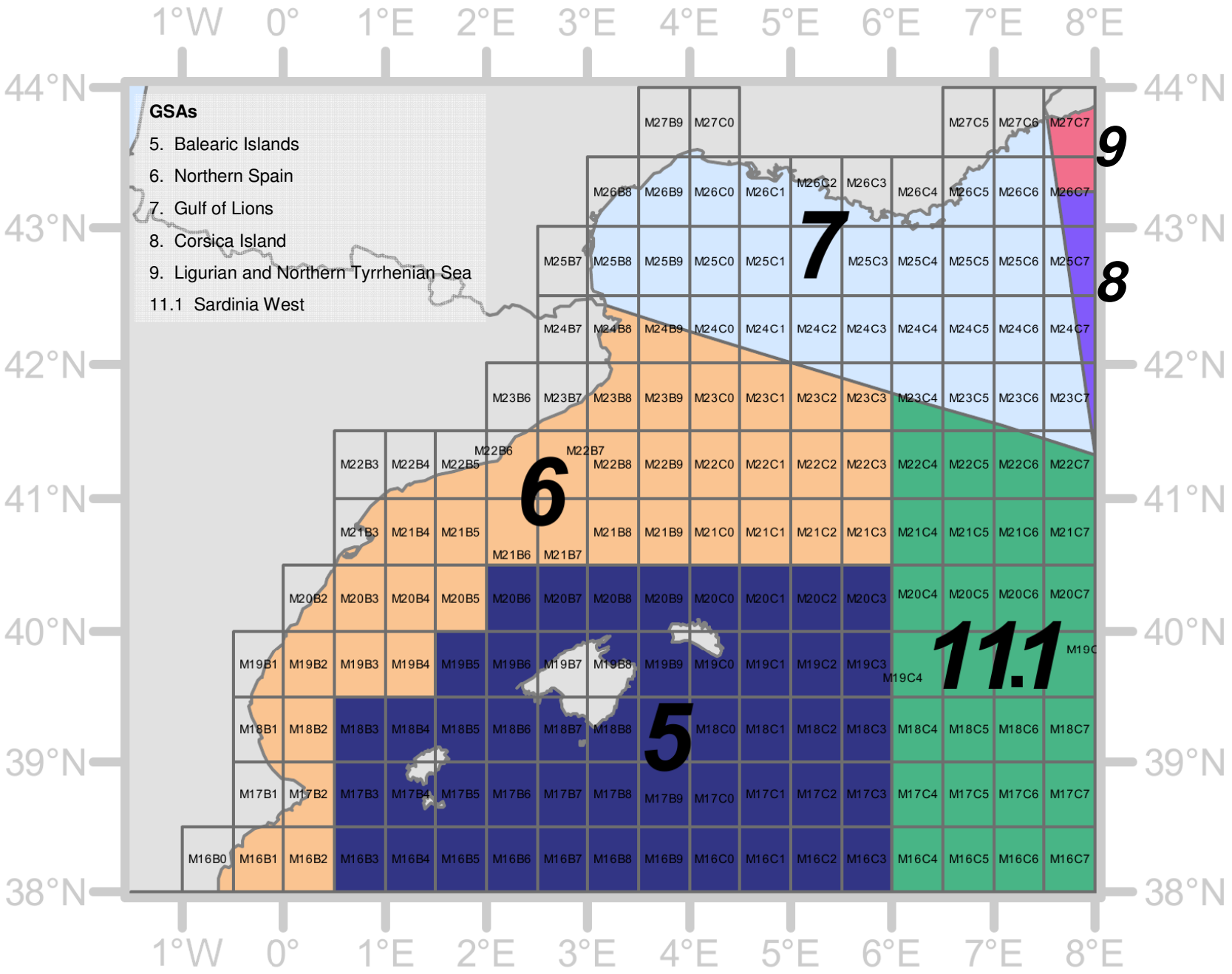


GSAs

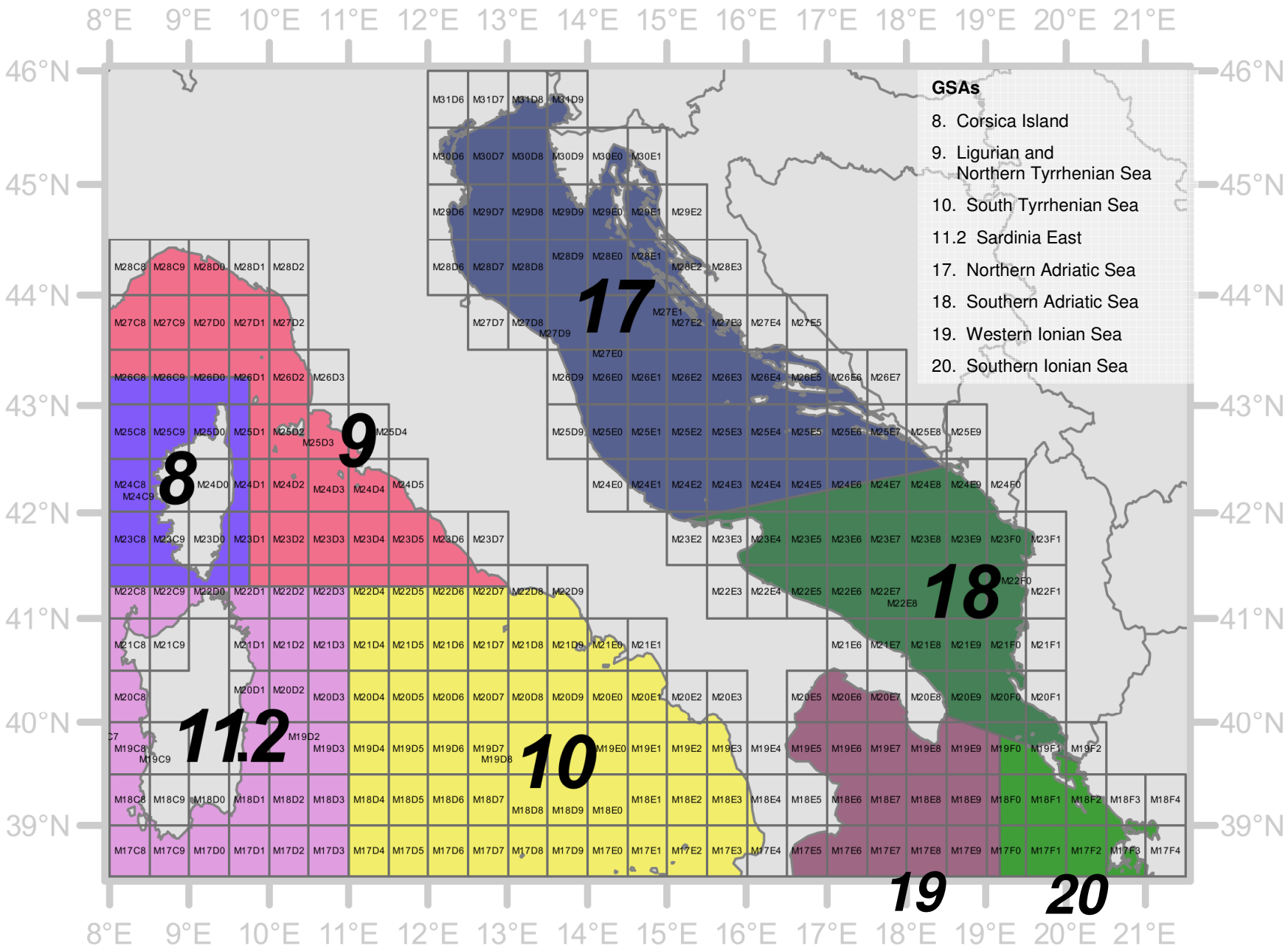
1. Northern Alboran Sea
2. Alboran Sea
3. Southern Alboran Sea
4. Algeria
6. Northern Spain



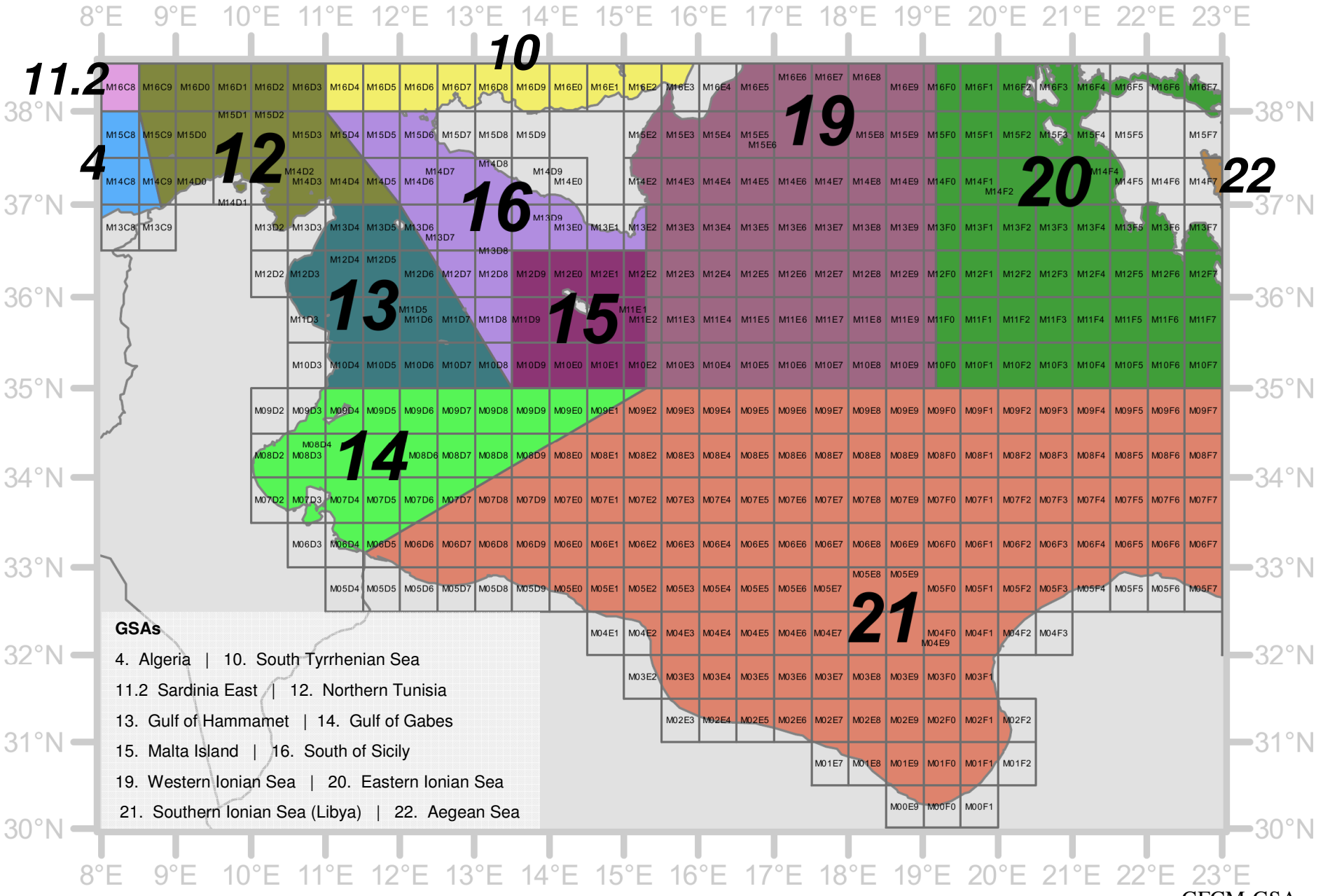
GFCM-GSA map (1/8)



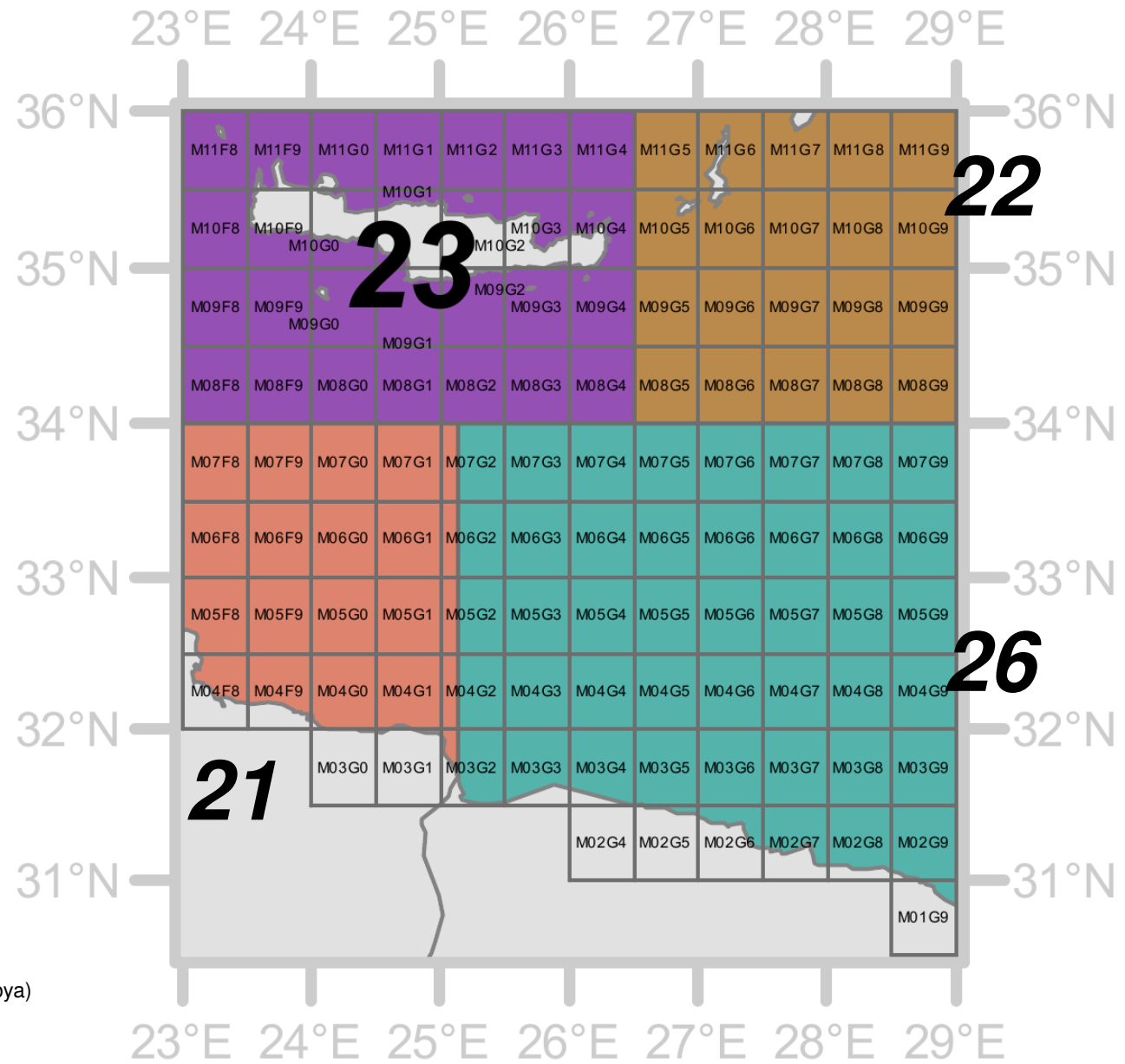
GFCM-GSA map (2/8)



GFCM-GSA map (3/8)



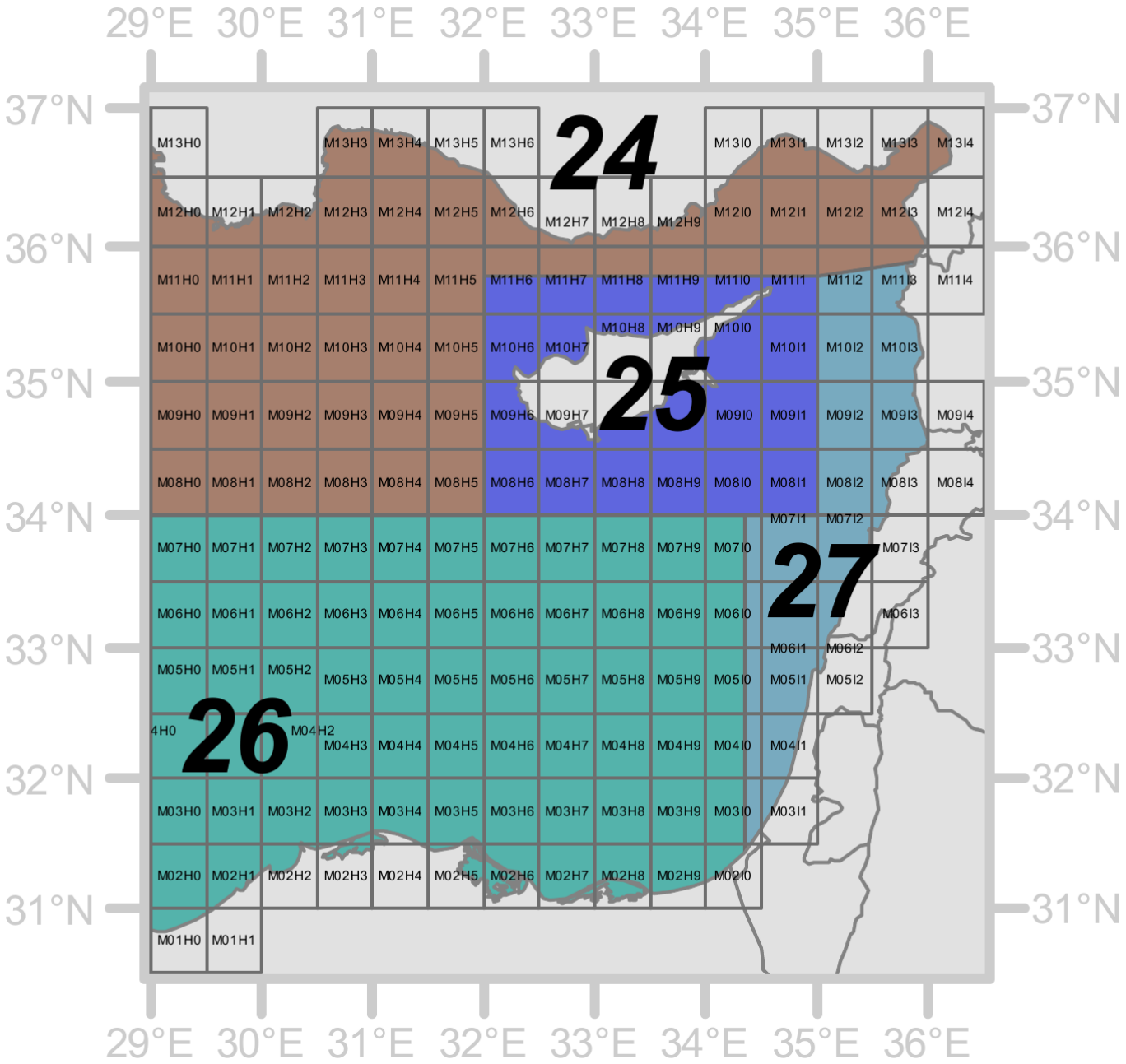
GFCM-GSA map (4/8)



GSAs

21. Southern Ionian Sea (Libya)
22. Aegean Sea
23. Crete Island
26. South Levant (Egypt)

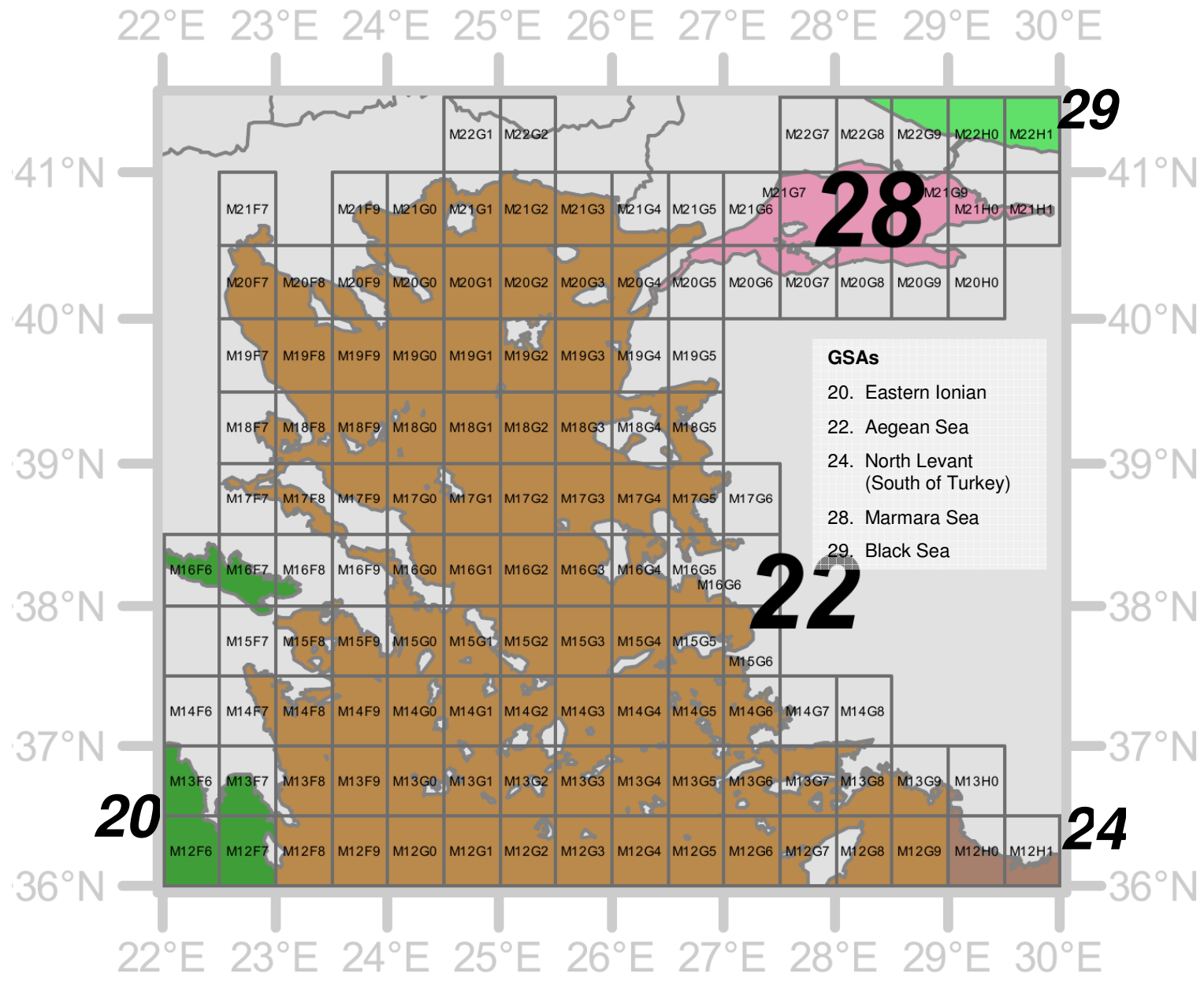
GFCM-GSA map (5/8)



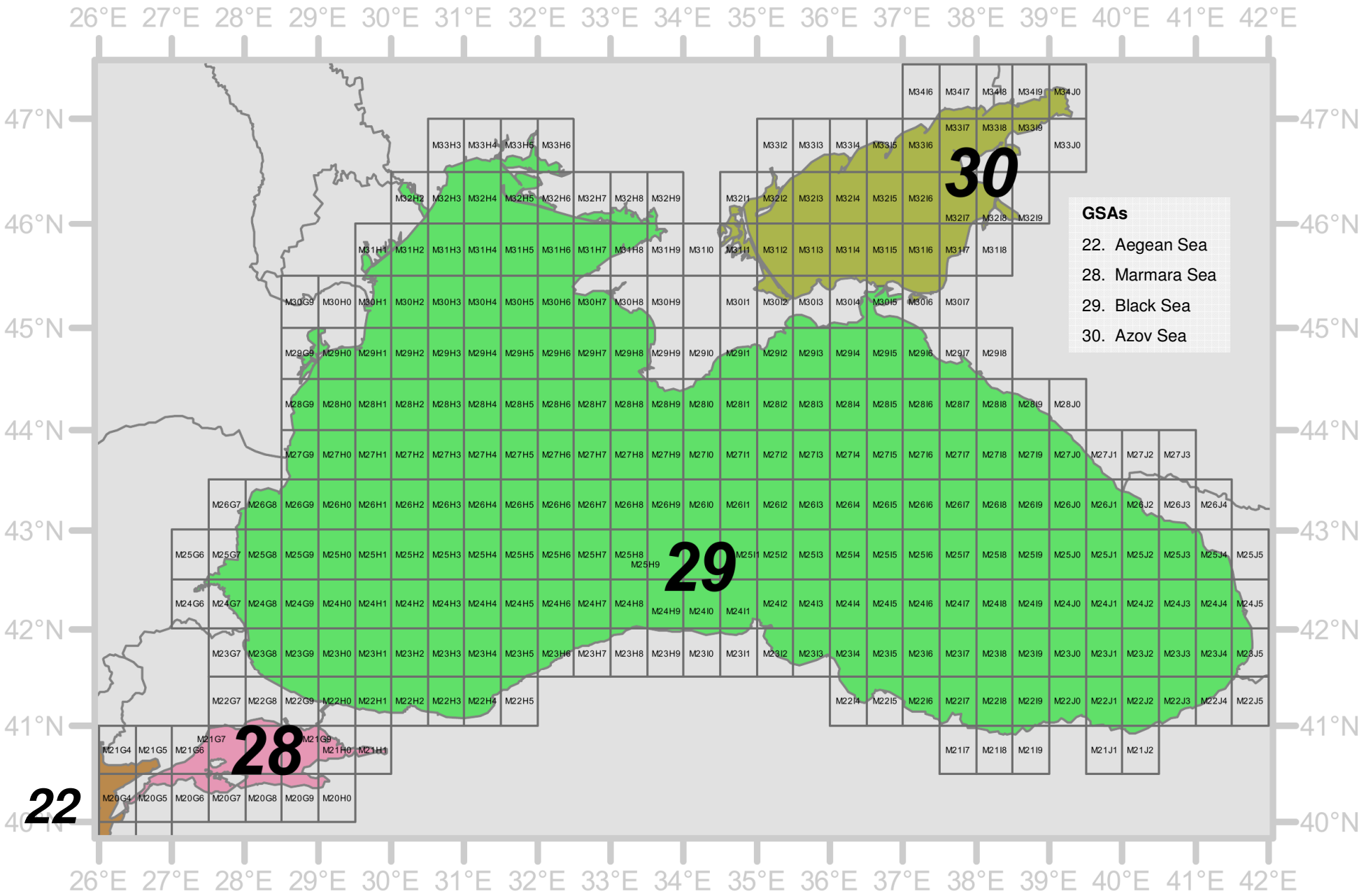
GSAs

24. North Levant (South of Turkey)
25. Cyprus Island
26. South Levant (Egypt)
27. Levant

GFCM-GSA map (6/8)



GFCM-GSA map (7/8)



GFCM-GSA map (8/8)