



**GENERAL FISHERIES COMMISSION FOR
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POUR LA MÉDITERRANÉE**



SCIENTIFIC ADVISORY COMMITTEE (SAC)

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**Proposal for a minimum structure of management plans for selected case studies in the Mediterranean
(Alboran Sea, Strait of Sicily, Central-Eastern Mediterranean)**

Proposed minimum structure, criteria and measures for the management of small pelagic fisheries in the Alboran Sea

1. Scope of this proposal

A definition of the area covered by this proposal (the *Alborán Sea*) as well as the fisheries included in this proposal (*small pelagic fisheries in the Alborán sea*) and species concerned (*target and associated species*) will be needed.

A definition of the stock units and limits in the area is not currently clear; therefore it will not become part of the scope, but else become a key research priority within this proposal.

2. Objectives

Following the GFCM guidelines on management plans (GFCM/36/2012), management plans should consider inter alia the following objectives:

- To prevent overfishing of small pelagics in the Alboran Sea area with a view to ensure the sustainable economic viability of fisheries;
- To maintain the stock of sardine in the area at levels that can produce the maximum sustainable yield and to facilitate the restoration of anchovy stocks to historical levels;
- To guarantee a low risk of sardine and anchovy stocks in the area falling outside safe biological limits;
- To ensure protection of biodiversity in the Alborán Sea to avoid undermining ecosystems' structure and functioning;

Operational objectives

- To maintain the biomass of sardine and anchovy above agreed precautionary biological reference points ($B > B_{pa}$ and $F < F_{pa}$)

- To minimize the risk that small pelagic fisheries in Alboran Sea put the population of other accompanying and non-target species at risk of falling below its safe biological limits (if exist) or in risk of collapse.
- To minimize bycatch of endangered or protected species
- To minimize any potential effect of small pelagic fisheries in Alboran Sea in the Alboran Sea habitat

3. Indicators and reference points

Both biomass and fishing mortality indicators should be used in order to incorporate natural fluctuations and minimize risk of collapse. Current stock assessment methods should be improved following the recommendations of SAC and reference points should be based on these models, once validated. Also, reference points should take into account the role of small pelagics in the trophic web. For biomass, the following reference points should be attempted:

- B_{lim} : a biomass level which is considered undesirable and which management actions should avoid with high probability.
- B_{pa} : a threshold level of biomass established to reduce the probability that the limit reference point will be exceeded.

The possibility to use generic reference points (e.g. $E < 0.4$ or $F_{0.1}$ for fishing mortality) while specific points of reference are designed for the stock should be evaluated.

Pending the availability of stock biomass and fishing mortality estimates and the identification of appropriate reference points, the following indicators and reference points could be used.

Indicator of stock abundance*	Reference point
Standardized catch-per-unit-of-effort (CPUE) data from the fishery	- Historical level - Trend (e.g. increase by x% per year)
As secondary indicator: Catch or trade data without information on effort	- Historical level - Trend (e.g. increase by x% per year)
Indicator of stock status	Reference point
Mean body size in the catch (Lt)	$L_t > L_m$; L_m = minimum conservation size.
Indicator of fishing pressure	Reference point
Fleet size	- Historical level - Trend (e.g. decrease by x% per year)
Fishing effort	- Historical level - Trend (e.g. decrease by x% per year)

The following indicator could be used for non-target species, and some reference points could be established:

- Landings of main non-target species defined in each fishery

The following indicators could be used for ecosystem status, and some reference points could be established:

- Presence and volume of catches of alien species
- Composition of the catch
- Mean length of the catches
- Any information on cetaceans and sea birds abundance and distribution

4. Fisheries management measures

In order to reach the objectives of this proposal, and without prejudice to stricter measures adopted nationally, the following tools can be used and the following potential measures are provided as options:

Management tools	Potential measures
Spatial restrictions	<ul style="list-style-type: none"> - (low impact on the plan) Seagrass beds, - (low impact on the plan) Coralligenous habitats and mäerl beds. - Nursery areas - Minimum distance to the coast - Minimum bottom depth - Protected areas
Gear restriction	<p>Specific for the different operational units. Minimum mesh size and the way to be measures.</p> <ul style="list-style-type: none"> - Purse seiners: <ul style="list-style-type: none"> o Minimum mesh size (potentially easily to be harmonized) o Maximum dimensions (length and depth) - Trawl nets: <ul style="list-style-type: none"> o Minimum mesh size o Cod-end o Dimensions - Accessories: characteristics of the light,
Minimum landing size	<p>Minimum size – current measures are similar. To be checked on a technical forum. Use length weight conversions from each area</p> <p><u>Minimal proposal:</u></p> <p><i>E. encrasicolus</i>: 9 cm.</p> <p><i>S. pilchardus</i>: 11 cm</p> <p><i>Trachurus</i> spp: 15 cm to be checked against ind./kg</p> <p><i>Scomber</i> spp: 18 cm to be checked against ind./kg</p> <p><i>Sardinella</i> spp: 15 cm to be evaluated</p> <p>Minimum sizes should be converted to ind./kg</p>

Management tools	Potential measures
Limits to fishing capacity	Pending the availability of sound scientific evidence indicating the existence of unutilized fishing opportunities, Countries shall not increase the number of vessels authorized to operate in this fishery. The allowance of changes in fishing capacity for existing vessels should be revised at national level.
MCS measures	<p>Vessel information submitted to GFCM Regional Fleet Register.</p> <p>Record of fishing vessels larger than 15 metres authorized to fish in the GFCM Area.</p> <p>Satellite-based VMS required for vessels >15 meters authorized to fish in the GFCM area.</p> <p>The submission of information from smaller vessels in this fishery could be evaluated</p> <p>Required submission of data on vessels engaged in IUU fishing (IUU Vessel List).</p> <p>Required logbook for vessels exceeding 15 meters authorized to fish in GFCM area. Logbook shall register quantities of each species caught and kept on board, above 50kg in live weight.</p> <p>Adoption of Port State measures to prevent, deter and eliminate IUU fishing.</p>

5. Decision rules

Management plans will include decision rules with pre-agreed measures to be adopted under different conditions of the stock and other indicators such as fisheries activity, revenues, etc. in relation to agreed reference points. The specific technical measures to be adopted under each scenario for each indicator (stock status, economic indicator) are to be defined in appropriate national and sub-regional working groups.

6. Scientific monitoring

The Scientific Advisory Committee (SAC) of the GFCM should be responsible for advice on status of stocks and economic indicators of the fishery.

Adequate annual scientific monitoring of fisheries and exploited stocks at national level should be ensured so that SAC is in a position to provide scientific advice.

7. Research priorities

1. Definition of stock structure (stock identification, existence of metapopulations, stock boundaries, migration flows) with a view of determining if fisheries are sharing the same stock in the sub-region and the interconnectivity between areas.
2. Research towards improvement of the assessment of stock status, including:
 - a. Improve biological information of target species (sardine and anchovy)
 - b. Identify main accessory species for the fishery object of the plan in relation to the volume of catches and obtain a minimum of information on them (e.g. catches)
 - c. Improve the assessment model used, including:
 - i. Identification of the most adequate assessment model given the information foreseen

- ii. Definition of minimum information on biological parameters, catches and effort required to perform an assessment of the status of the stock using the preferred model
 - iii. Investigation of the possibility to have a minimum set of data harmonized between countries in the region to compile a common dataset and apply a common assessment model
 - iv. Recover data on direct surveys in the area, continue with the national survey that combined cover all the area, make the indicators compatible (single coordinated survey, calibrated surveys, etc.)
 - d. Improve the knowledge of natural fluctuations of small pelagics in the Alboran Sea, including range of fluctuations, periodicity and causes.
3. Socioeconomic impacts of the implementation of management measures and plans, including:
 - a. Socioeconomic impacts of the plan: short and long term potential negative effects, medium and long term potential positive impacts.
 - b. Improvement of value chain, and conditions of the people working in the fisheries (security on board, etc.)
 - c. Requirements for the preparation of the plan: technical meetings, meetings with stakeholders, studies needed (socioeconomic indicators)
 - d. Requirements for the implementation of the plan, including;
 - i. Analysis of the expected impact of the implementation of the measures proposed
 - ii. Capacity building to implement the management measures proposed (control, etc.)
 - iii. Requirements to implement research lines

8. Fisheries Monitoring, Control and Surveillance

To ensure compliance with the measures to be adopted in the management plan, the following actions are to be implemented:

- Concerned Parties should make efforts to implement GFCM recommendations related to MCS, including those listed under the section on management measures.
- Concerned Parties are responsible for implementing the adopted management measures in their jurisdictional waters and by vessels flying their flag beyond national jurisdiction.
- Development of a specific mechanism for MCS in areas beyond national jurisdictions covered by the management plan.

9. Review of the management plan

The contents of the management plans should be periodically reviewed in order to accommodate changes in the fisheries system. The review should be carried out as follows:

To be done by SAC:

- Status of stocks assessed yearly.
- Status of the fishery (e.g. economic indicators)
- Reference points should be proposed by the SAC once indicators are available.
- Once reference points are established, the SAC should propose a review term for them.

To be done by Concerned Parties:

Management action taken based on stock status and fishery conditions (socioeconomic indicators) and according to the decision rules and management tools described.

10. Compliance with the plan

Management actions, modifications of the plan and compliance with the plan should be reported to the GFCM within the National Report submitted yearly to the GFCM. The Compliance Committee of the GFCM shall review this report and take necessary actions.

Proposed minimum structure, criteria and measures to be used in a regional management plan for bottom trawling fisheries for deep-water rose shrimp (*P. longirostris*) and associated species in the Strait of Sicily (GSA12 – 16)

1. Scope of the management plan

Need to define the species, the fleets and the areas that will be covered by the management plan.

2. Objectives

Following the GFCM guidelines on management plans (GFCM/36/2012), the regional plan should consider inter alia the following options:

To counteract and/or to prevent overfishing with a view to ensure the sustainable economic viability of fisheries;

To maintain and/or to restore, to the extent possible, the stock size of harvested species at least at levels which can produce the maximum sustainable yield;

To guarantee a low risk of stocks falling outside safe biological limits;

To ensure protection of biodiversity to avoid undermining ecosystems' structure and functioning.

Operational objectives

The plan should define, for each agreed objective, specific operational objectives that have practical interpretation, can clearly describe expected outcomes and can be measured with indicators. For example, in relation to the objective of “guarantee a low risk of stocks falling outside safe biological limits” the following operational objective could be applied:

- To maintain the biomass of target species above agreed precautionary biological reference points ($B > B_{pa}$ and $F < F_{0.1}$).
- To maintain indicators of stock status and fishing pressure (according to the Table on alternative indicators and reference points) at levels which ensure the sustainability of the fishery.

In relation to the objective of “ensure protection of biodiversity to avoid undermining ecosystem's structure and functioning”, the following operational objective could be applied:

- To decrease discards of commercial and non-commercial species by (x)% in (y) years.
- To decrease the incidental catch of protected and endangered species.
- To prevent significant adverse impacts of bottom trawling fisheries on sensitive habitats by increasing the protection of areas where these habitats are known or are likely to occur.

3. Indicators and reference points

In situations where stock biomass is used as indicator of status of the stock, the following reference points could be used:

B_{lim} : a biomass level which is considered undesirable and which management actions should avoid with high probability.

B_{pa} : a threshold level of biomass established to reduce the probability that the limit reference point will be exceeded.

B_{msy} : as a possible target reference point.

In situations where fishing mortality is used as an indicator of fishing pressure, the following reference point could be used:

$F_{0.1}$: The fishing mortality rate at which the slope of the yield-per-recruit curve is only one-tenth the slope of the curve at its origin.

Pending the availability of stock biomass and fishing mortality estimates and the identification of appropriate reference points, the following indicators and reference points could be used.

Indicator of stock abundance*	Reference point
Standardized index from scientific surveys (3)	- Historical level - Trend (e.g. increase by x% per year)
Standardized catch-per-unit-of-effort (CPUE) data from the fishery (2), assuming fishing pattern remained constant.	- Historical level - Trend (e.g. increase by x% per year)
Unstandardized CPUE data from the fishery (1), assuming fishing pattern remained constant.	- Historical level - Trend (e.g. increase by x% per year)
Indicator of stock status	Reference point
Mean body size in the catch (L_t), assuming that selectivity pattern is kept constant.	$L_t > L_m$; L_m = minimum conservation size.
Indicator of fishing pressure	Reference point
Fleet size (by operational units as defined by GFCM Task 1)	- Historical level - Trend (e.g. decrease by x% per year)
Fishing effort (accounting for capacity and activity, including vessel tonnage, power and days at sea)	- Optimal Effort to reach MSY - Historical level - Trend (e.g. decrease by x% per year)

*In brackets the relative level of reliability of the indicators of stock abundance (1 lower level, 3 higher level).

Concerning the objective of ensure protection of biodiversity to avoid undermining ecosystem's structure and functioning, the following indicators and references points could be used:

Indicator	Reference point
Discard rate (%)	- Historical - Trend (% over time)
Bycatch of protected/endangered species	- Historical - Trend (% over time)
Area of sensitive habitats under protection	- Historical - Trend (% over time)

4. Fisheries management measures

In order to reach the objectives of the regional management plan, and without prejudice to stricter measures adopted nationally, countries should consider the adoption of the following minimum conservation measures for the bottom trawling fisheries targeting deep water rose shrimp.

Rank (effectiveness)	Management measures	Examples
High	Spatial restrictions	Prohibited fishing above coralligenous habitats and m�erl beds. Protection of nursery areas.
Low	Temporal restrictions	Adopting common closed seasons by GSAs.
High	Gear restrictions	Minimum 40 mm square mesh or a diamond mesh size of at least 50 mm in the codend (according to Recommendation GFCM/ /33/2009/2). Improve the selectivity of the gear to reduce the capture of immature individuals and bycatch (e.g. through the implementation of Bycatch Reduction Devices)
High	Minimum size	Minimum conservation sizes should be defined and harmonized in the sub-region, based on the best scientific knowledge about maturity. Obs: Minimum conservation sizes should be used as reference points on the monitoring of the efficiency of the management plan.
High	Habitat protection	Establishment of provisions to minimize the encounter of bottom trawlers with unmapped sensitive habitats (e.g. through “move-on” rules).
Medium	Participatory restrictions	Consider mechanisms to control access in order to adapt the fishing effort and fishing capacity according to the status of the resource.

5. Decision rules

Management plans will include decision rules with pre-agreed measures to be adopted under different conditions of the stock in relation to agreed biological reference points. The specific technical measures to be adopted under each stock status scenarios are to be defined in appropriate national and sub-regional working groups, taking into account the socio-economic impacts of the proposed measures.

6. Scientific monitoring

The Scientific Advisory Committee (SAC) of the GFCM should be responsible for advice on status of stocks and economic indicators of fisheries.

Adequate and periodic scientific monitoring of fisheries (including socioeconomic indicators) and exploited stocks at national level should be ensured so that SAC is in a position to provide scientific advice.

7. Research priorities to improve the assessment and management of fisheries

- Assessment of socioeconomic impacts of the management plan

(the assessment of socioeconomic impact of the proposed management measures should be carried out prior to and during the implementation of the management plan)

- Research on the valorisation of fish products.
- Research to improve the selectivity of fishing gear.
- Assessment of bycatch and discards.
- Improvement of the knowledge on stock boundaries
- Advance in the application of ecosystem/multispecies approaches.
- Improvement of the assessment of the status of associated species taking into account the multi-species characteristics of the fisheries.
- Advance in the application of bioeconomic analysis of fisheries.

8. Fisheries Monitoring, Control and Surveillance

To ensure compliance with the measures to be adopted in the management plan, the following actions are to be implemented:

- Concerned Parties should make efforts to implement GFCM recommendations related to MCS, including those listed below:
 - Vessel information submitted to GFCM Regional Fleet Register.
 - Record of fishing vessels larger than 15 metres authorized to fish in the GFCM Area.
 - Satellite-based VMS required for vessels >15 meters authorized to fish in the GFCM area.
 - Required submission of data on vessels engaged in IUU fishing (IUU Vessel List).
 - Required logbook for vessels exceeding 15 meters authorized to fish in GFCM area. Logbook shall register quantities of each species caught and kept on board, above 50 kg in live weight.
 - Adoption of Port State measures to prevent, deter and eliminate IUU fishing.
- Strengthen national capacities for fisheries monitoring, control and surveillance.
- Concerned Parties are responsible for implementing the adopted management measures in their jurisdictional waters and by vessels flying their flag beyond national jurisdiction.
- Development of a specific mechanism for MCS in areas beyond national jurisdictions covered by the management plan.
- Improve the collection of fisheries statistical data, including social and economic data.

9. Review of the management plan

The contents of the management plans should be periodically reviewed in order to accommodate changes in the fisheries system. The review should be carried out as follows:

To be done by SAC:

- Status of stocks assessed yearly.
- Status of the fishery (e.g., economic indicators)

- Reference points should be proposed by the SAC once indicators are available.
- Once reference points are established, the SAC should propose a review term for them.

To be done by Concerned Parties:

Management action taken based on stock status and fishery conditions (socioeconomic indicators) and according to the decision rules and management tools described.

Proposed minimum structure, criteria and measures to be used in a regional management plan for bottom trawling fisheries for deep-water red shrimps (*A. foliacea* and *A. antennatus*) in the Central-Eastern Mediterranean (GSA12 – 16; 19 -27)

1. Scope of the management plan

Need to define the species, the fleets and the areas that will be covered by the management plan.

2. Objectives

Following the GFCM guidelines on management plans (GFCM/36/2012), the regional plan should consider inter alia the following options:

To counteract and/or to prevent overfishing with a view to ensure the sustainable economic viability of fisheries;

To maintain and/or to restore, to the extent possible, the stock size of harvested species at least at levels which can produce the maximum sustainable yield;

To guarantee a low risk of stocks falling outside safe biological limits;

To ensure protection of biodiversity to avoid undermining ecosystems' structure and functioning;

Operational objectives

The plan should define, for each agreed objective, specific operational objectives that have practical interpretation, can clearly describe expected outcomes and can be measured with indicators. For example, in relation to the objective of “guarantee a low risk of stocks falling outside safe biological limits” the following operational objectives could be applied:

- To maintain the biomass of target species above agreed precautionary biological reference points ($B > B_{pa}$ and $F < F_{0.1}$).
- To maintain indicators of stock status and fishing pressure (according to the Table on alternative indicators and reference points) at levels which ensure the sustainability of the fishery.

In relation to the objective of “ensure protection of biodiversity to avoid undermining ecosystem’s structure and functioning”, the following operational objectives could be applied:

- To decrease discards of commercial and non-commercial species by (x)% in (y) years.
- To decrease the incidental catch of protected and endangered species.
- To prevent significant adverse impacts of bottom trawling fisheries on sensitive habitats by increasing the protection of areas where these habitats are known or are likely to occur.

3. Indicators and reference points

In situations where stock biomass is used as indicator of status of the stock, the following reference points could be used:

B_{lim} : a biomass level which is considered undesirable and which management actions should avoid with high probability.

B_{pa} : a threshold level of biomass established to reduce the probability that the limit reference point will be exceeded.

B_{msy} : as a possible target reference point.

In situations where fishing mortality is used as an indicator of fishing pressure, the following reference points could be used:

$F_{0.1}$: The fishing mortality rate at which the slope of the yield-per-recruit curve is only one-tenth the slope of the curve at its origin.

Pending the availability of stock biomass and fishing mortality estimates and the identification of appropriate reference points, the following indicators and reference points could be used.

Indicator of stock abundance*	Reference point
Standardized index from scientific surveys (3)	- Historical level - Trend (e.g. increase by x% per year)
Standardized catch-per-unit-of-effort (CPUE) data from the fishery (2), assuming fishing pattern remained constant.	- Historical level - Trend (e.g. increase by x% per year)
Unstandardized CPUE data from the fishery (1), assuming fishing pattern remained constant.	- Historical level - Trend (e.g. increase by x% per year)
Indicator of stock status	Reference point
Mean body size in the catch (L_t), assuming that selectivity pattern is kept constant.	$L_t > L_m$; L_m = minimum conservation size.
Indicator of fishing pressure	Reference point
Fleet size (by operational units as defined by GFCM Task 1)	- Historical level - Trend (e.g. decrease by x% per year)
Fishing effort (accounting for capacity and activity, including vessel tonnage, power and days at sea)	- Optimal Effort to reach MSY - Historical level - Trend (e.g. decrease by x% per year)

*In brackets the relative level of reliability of the indicators of stock abundance (1 lower level, 3 higher level).

Concerning the objective of ensure protection of biodiversity to avoid undermining ecosystem's structure and functioning, the following indicators and references points could be used:

Indicator	Reference point
Discard rate (%)	- Historical - Trend (% over time)
Bycatch of protected/endangered species	- Historical - Trend (% over time)
Area of sensitive habitats under protection	- Historical - Trend (% over time)

4. Fisheries management measures

In order to reach the objectives of the regional management plan, and without prejudice to stricter measures adopted nationally, countries should consider the adoption of the following minimum conservation measures for the bottom trawling fisheries targeting deep water red shrimp.

Rank (effectiveness)	Management measures	Examples
High	Spatial restrictions	<p>Prohibited fishing above coralligenous habitats.</p> <p>Protection of nursery areas (likely lower effectiveness for the species).</p> <p>Consider additional measures, such as depth limits to the fishing operation.</p> <p>Trawling is forbidden below 1000m depth (recommendation GFCM 29/2005/01)</p>
Higher for <i>A. foliacea</i>	Temporal restrictions	Adopting common closed seasons for red shrimp and associated species by GSAs.
High	Gear restrictions	<p>Minimum 40 mm square mesh or a diamond mesh size of at least 50 mm in the codend (according to Recommendation GFCM/ /33/2009/2).</p> <p>(Measure is expected to have a high economic impact on some segments of the fleet – multipurpose. An assessment of the impact should be carried out and measures to counteract it should be sought – see research priorities)</p> <p>Improve the selectivity of the gear to reduce the capture of immature individuals and bycatch (e.g. through the implementation of Bycatch Reduction Devices).</p>
High	Minimum size	<p>Minimum conservation sizes should be defined and harmonized in the sub-region, based on the best scientific knowledge about maturity**.</p> <p>Obs: Minimum conservation sizes should be used as reference points on the monitoring of the efficiency of the management plan.</p>
High	Habitat protection	Establishment of provisions to minimize the encounter of bottom trawlers with unmapped sensitive habitats (e.g. through the implementation of “move-on” rules).
Medium	Participatory restrictions	<p>Consider mechanisms to control access in order to adapt the fishing effort and fishing capacity according to the status of the resource.</p> <p>In view of the limited information about the stock and habitats in many GSAs, consider additional mechanisms that condition the development of fishing capacity to the acquisition of new knowledge.</p>

**See for instance: AAVV (2008). Status of deep-sea Red Shrimps in the Central and Eastern Mediterranean Sea, Final Report. Project Ref FISH/2004/03-32; Deval, M. C. (unpublished). Some useful information for the stock assessment of giant red shrimp (*Aristaomorpha foliacea*, Risso 1827) in the Gulf of Antalya, eastern Mediterranean; INTERREG II GREECE-ITALY project: New perspectives for the investigation and management of shared deep-water resources in the Ionian Sea.

5. Decision rules

The management plan will include decision rules with pre-agreed measures to be adopted under different conditions of the stock in relation to agreed biological reference points. The specific technical measures to be adopted under each stock status scenarios are to be defined in appropriate national and sub-regional working groups, taking into account the socioeconomic impacts of the proposed measures.

6. Scientific monitoring

The Scientific Advisory Committee (SAC) of the GFCM should be responsible for advice on status of stocks and economic indicators of fisheries.

Adequate and periodic scientific monitoring of fisheries (including socioeconomic indicators) and exploited stocks at national level should be ensured so that SAC is in a position to provide scientific advice.

7. Research priorities to improve the assessment and management of fisheries

- Assessment of socioeconomic impact of the management plan.
(the assessment of socioeconomic impact of the proposed management measures should be carried out prior to and during the implementation of the management plan)
- Research on the valorisation of fish products through improvement in product quality (e.g. preservation techniques) and ecolabelling.
- Research to improve the selectivity of fishing gear.
- Assessment of bycatch and discards.
- Improvement of the knowledge on stock boundaries .
- Advance in the application of ecosystem/multispecies approaches.
- Improvement of the assessment of the status of associated species taking into account the multi-species characteristics of the fisheries.
- Advance in the application of bioeconomic analysis of fisheries.
- Identification of sensitive areas (VMEs) that will need to be protected from the impact of bottom trawl gears. Use of fishers knowledge complementary to scientific knowledge.
- Research aimed at understanding the relationship between deep water corals and red shrimps.
- Research to improve knowledge on the relationship between habitat characteristics (depth, sea bottom morphology and other environmental factors) on resource availability.
- Studies on the effect of horsepower on trawling operation and selectivity.

8. Fisheries Monitoring, Control and Surveillance

To ensure compliance with the measures to be adopted in the management plan, the following actions are to be implemented:

- Concerned Parties should make efforts to implement GFCM recommendations related to MCS, including those listed below:
 - Vessel information submitted to GFCM Regional Fleet Register.
 - Record of fishing vessels larger than 15 metres authorized to fish in the GFCM Area.

- Satellite-based VMS required for vessels >15 meters authorized to fish in the GFCM area.
 - Required submission of data on vessels engaged in IUU fishing (IUU Vessel List).
 - Required logbook for vessels exceeding 15 meters authorized to fish in GFCM area. Logbook shall register quantities of each species caught and kept on board, above 50 kg in live weight.
 - Adoption of Port State measures to prevent, deter and eliminate IUU fishing.
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- Strengthen national capacities for fisheries monitoring, control and surveillance.
 - Concerned Parties are responsible for implementing the adopted management measures in their jurisdictional waters and by vessels flying their flag beyond national jurisdiction.
 - Development of a specific mechanism for MCS in areas beyond national jurisdictions covered by the management plan.
 - Improve the collection of fisheries statistical data, including social and economic data.

9. Review of the management plan

The contents of the management plans should be periodically reviewed in order to accommodate changes in the fisheries system. The review should be carried out as follows:

To be done by SAC:

- Status of stocks assessed yearly.
- Status of the fishery (e.g. economic indicators)
- Reference points should be proposed by the SAC once indicators are available.
- Once reference points are established, the SAC should propose a review term for them.

To be done by Concerned Parties:

Management action taken based on stock status and fishery conditions (socioeconomic indicators) and according to the decision rules and management tools described.