



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



<b>Scientific Advisory Committee (SAC)</b>
<b>Workshop on the Regional Management Plan on Red Coral in the Mediterranean</b>
<b>Brussels, Belgium, 21–22 January 2014</b>
<b>SUMMARY OF MAIN ELEMENTS OF THE DRAFT REGIONAL MANAGEMENT PLAN ON RED CORAL AS BASIS FOR DISCUSSION DURING THE WORKSHOP</b>
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## **1. Background and Scope of this proposal**

At the request of member countries GFCM has organized several technical meetings (1988, 2010 and 2011) to analyze the situation of red coral population in the Mediterranean and to promote the consensus on management measures to be applied to avoid over exploitation in the area of competence. In 2011, the Secretariat was mandated to produce a Regional Management Plan for Red Coral (RMP-RC) no later than 2012. The document which is available in three parts as meeting [document](#) was produced by the team of University of Cagliari (Dr Cau and his collaborators) under the supervision of the GFCM Secretariat. The first draft was presented at the Subcommittee on Marine Environment and Ecosystems in 2013 whereby it was welcome and also passed the approval of SAC in 2013. The meeting of the Commission in May 2013 advised to review in detail some operational aspects of this Draft Plan and to assess its feasibility in all areas of the Mediterranean in order to refine it and to further use it as basis for a more formal document that could be adopted at the next Session of the Commission. The mentioned document is the object of discussion during this Workshop in Brussels 21-22 January 2014.

The proposed Draft Regional plan is **precautionary, provisional and adaptive**: precautionary in the sense that it has been thought of as a means to maintain the *status quo* of the resource in the absence of data for formal assessments of the stocks at regional scale. This is due the lack of data about the coral stocks in many areas. In order to reliably predict the response of stocks to fishing data on fishing yield, size of fished corals and *in situ* population structure (size distribution) are needed. However, lack of data does not imply that the stocks are unmanageable: A cautious approach has been used in the framework of adaptive

management. It is provisional in the sense that it has been conceived as adaptive meaning that it can be modified according to new information made available to the SAC and also adaptive in the sense of being able to accommodate existing management measures already in place by countries, provided that they are stricter.

Geographically, the area of application of this management plan is the whole Mediterranean basin. Stock units and limits must be defined by the countries that currently develop harvesting activity of red coral. Occurrence is reported in all Mediterranean coasts. In Albania, Algeria, Malta and Monaco, there is the prohibition of harvesting red coral; Croatia, France, Greece, Italy, Montenegro, Morocco, Spain and Tunisia exploit red coral under different national regulation frameworks; for Cyprus, Egypt, Lebanon, Libya, Slovenia, Syria, and Turkey harvesting has never been reported.

## 2. Objectives

Following the GFCM guidelines on management plans (GFCM/36/2012), the RMP-RC is aimed at counteracting overfishing (reported to occur in many areas, especially for shallow populations) and at preventing it in areas where the resource is not fully exploited while ensuring long-term yields.

The overall objective of the plan is to maintain stocks size at levels that can produce the optimum sustainable yield while minimizing the risk of collapsing stocks due to unsustainable fishing.

### Operational objectives::

As proposed in the current draft, the provisional operational objectives (Oob) that are based on the existing binding recommendations of the GFCM (Rec. 35/2011/2 and Rec. 35/2012/1) are the following:

- **RMP-RC Oob1:** To control that the legal size limit for harvesting red coral colonies is enforced at the GFCM level;
- **RMP-RC Oob2:** To maintain the same catch level as that of the three previous years in order to keep the fishery working while waiting for a consistent assessment of red coral populations based on sound scientific information.

## 3. Reference points and decision rules

In order to measure the management performance in the achievement of objectives, reference points (RP) have been defined for each Oob.

Each RP has three values associated:

- **Target reference point (TRP)**, corresponding to a situation considered as desirable and to be achieved on average;
- **Limit reference point (LRP)**, indicating a situation that is undesirable and to be avoided at all costs;
- **Threshold or Precautionary reference point (PRP)**, i.e. a threshold to which initial actions can be taken to reduce the risk of breaking the limit.

In line with point 9 of the GFCM Guidelines, targets, thresholds and limit reference points have been defined along with a range of management actions based on available scientific and socio-economic data on the resource. However, considering the peculiarity of the red coral

resource and the structural lack of reliable and up-to-date data on the actual yields and populations status in many areas of the distribution range, it is worth pointing out that the reference points that are frequently used in fisheries management (as advised at points 11-13 of the GFCM Guidelines) can hardly be applied. In any case, the proposed reference points reflect the paucity of information and should be regarded as provisional ones. A revision could be made on the basis of SAC advice and GFCM deliberations (point 13).

Each Oob is also associated to a decision control rule. The **decision control rule** defines which management actions should be taken depending on the position of the indicator that is relevant to the reference point.

The value of the TRP for **RMP-RC Oob1** has been defined on the basis of the current size limit set by GFCM Recommendations which foresee a 10% allowance in live weight for undersized colonies.

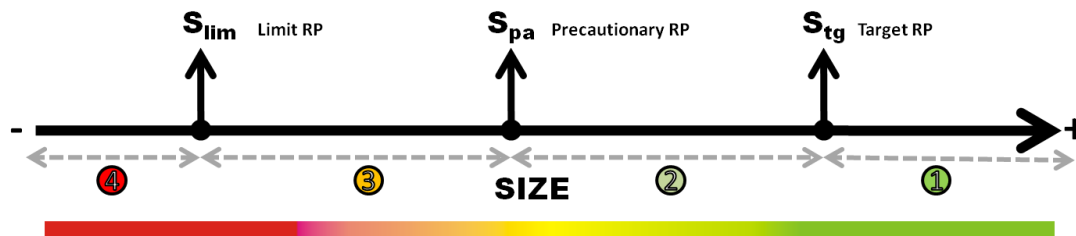
The value of the LRP for **RMP-RC Oob1** has been defined on the basis of the TRP and further increased by 10%. A 20% share of undersized coral colonies in landings, which corresponds to the double of the current value, is considered as the limit situation to be avoided at all costs.

The value of the PRP for **RMP-RC Oob1** has been defined on the basis of the LRP as an early warning indicating that the values are approaching of the limit. It is calculated according to an intermediate value between the TRP and the LRP, i.e. an allowance of 15% of undersized colonies. It provides a threshold for initial actions in order to reduce the risk of breaking the limit.

The decision control rule for **RMP-RC Oob1** is shown at Figure 1, together with the reference point, target, limit and precautionary RP. It provides that actions should be undertaken by the GFCM when the share of undersized colonies in landing data is above the currently allowed value, calling interested CPCs for a stricter implementation of this management measure through stronger enforcement at the national level.

The 10%, 15%, and 20% values have been defined according to common sense as a first approach, but modifications of these values are foreseen on the basis of scientific evidence or agreements among all stakeholders.

GOAL	OBJECTIVE	INDICATOR	REFERENCE POINTS	Precautionary RP
TO KEEP RED CORAL STOCKS AT A SUSTAINABLE LEVEL	Control that the size limits are enforced	SIZE=S (average size landing data)	Target= $S_{tg}$ (90% of landings is at average size = legal size limit LS) Limit= $S_{lim}$ (80% of landings is at average size = legal size limit LS)	Threshold= $S_{pa}$ (85% of landings is at average size = legal size limit LS)



Decision control rule		
①	( $S_{now} \geq S_{tg}$ )	No action
②	( $S_{pa} < S_{now} < S_{tg}$ )	Recommend stricter controls
③	( $S_{lim} < S_{now} < S_{pa}$ )	Recommend stricter controls Surveys to evaluate the actual size structure
④	( $S_{now} < S_{lim}$ )	Recommend stricter controls Surveys to evaluate the actual size structure Evaluate the possibility to close the fishing

Figure 1 – Decision control rule, target, limit, and precautionary RP for RMP

The value of the TRP for RMP-RC Oob2 has been defined assuming that average catches for the three previous years were at a sustainable level and that effort is also measured and kept constant. According to previous agreements within the GFCM, 1 unit of effort is defined as one dive. (2 dives by one diver equal 1 dive by 2 divers).

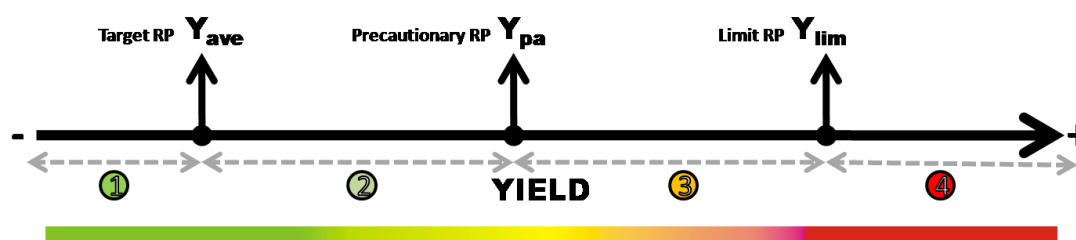
The value of the LRP for **RMP-RC Oob2** has been defined on the basis of the TRP and further increased by 20%. The 20% share of total catches in the GFCM area is considered as the limit situation to be avoided.

The value of the PRP for **RMP-RC Oob2** has been defined on the basis of the LRP as an early warning indicating that the limit is approaching. It has been calculated considering that a 10% increase of total landings provides a good threshold for initial actions in order to reduce the risk of breaking the limit.

The decision control rule for **RMP Oob2** is shown at Figure 2 together with the reference point, target, limit and precautionary RP.

It provides that actions should be undertaken by the GFCM when catches calculated from landing data represent 10% of the average catches in the three previous years, calling interested CPCs for a stricter implementation of catch control. After the initial three years of receiving landings data, the TRP for fishing yield could be adapted according to scientific modelling of the fishery stocks.

GOAL	OBJECTIVE	INDICATOR	REFERENCE POINTS	Precautionary RP
<b>TO KEEP RED CORAL HARVESTING AT A SUSTAINABLE LEVEL</b>	<b>Maintain the average catch level of three previous years</b>	<b>YIELD= Y (database FAO)</b>	<b>Target= <math>Y_{ave}</math> (Average yield past 3 years)</b> <b>Limit= <math>Y_{lim} = Y_{ave} + X</math></b>	<b>Threshold= <math>Y_{pa} = Y_{ave} + (1/2X)</math></b>



Decision control rule		
①	$(Y_{now} \leq Y_{ave})$	<b>No action</b>
②	$(Y_{ave} < Y_{now} < Y_{pa})$	<b>Recommend catch control at the national level</b>
③	$(Y_{pa} \leq Y_{now} < Y_{lim})$	<b>Recommend catch control at the national level</b> <b>Surveys to evaluate the actual biomass</b>
④	$(Y_{now} \leq Y_{lim})$	<b>Recommend stricter catch control at the national level</b> <b>Surveys to evaluate the actual biomass</b> <b>Evaluate the possibility to close the fishing</b>

Figure 2- Decision control rule, target, limit, and precautionary RP for RMP Oob2

In the second part of the document Operational objectives, target and decision rules for the **National plans**, are also proposed and differs from those regional basically on the data availability. They also have to be considered as long as more data are available.

#### 4. Fisheries management measures

According to Recommendations in force, the following technical management measures are currently applied in the whole region:

Management tools	Current measures at regional level
Depth restrictions	Prohibition to collect coral at depths shallower than 50 m
Gear restriction	The only permitted gear is manual hammer by scuba diving  ROV for prospection is permitted until the end of 2015. At that point the SAC will decide if in some area under request of the competent authority and after the due provision of data as stated in Rec. GFCM 35/11/2 it might be allowed based on scientific studies of its potential impact.
Minimum landing size	7 mm basal diameter $\pm$ 10%

These are proposals within the draft plan as well as other potential measures to be discussed and assessed in terms of effectiveness and feasibility by the participants.

Management tools	At Regional level	At National level	Rank effectiveness	Rank feasibility	Comments
Limits to fishing capacity	Licensing systems	Tunisia			
		Italy			
		Spain			
		France			
Limits to catches	Individual annual quota				
	Individual daily quota				
Spatial restrictions	License restricted to certain area				
	Refugia, permanently closed zones				
Temporal restrictions	Rotation periods in different banks				
	Seasonal harvest restriction				
	Validity period of license				

## 5. Fisheries Monitoring, Control and Surveillance

To ensure compliance with the measures to be adopted in the management plan, Concerned Parties are responsible for implementing the adopted management measures in their jurisdictional waters.

Control and surveillance must be provided by the national authorities, these are examples of measures in the draft plan as well as others potentially to be discussed

MCS measures	Already in force at Reg Level by the two Rec. 2001/2 and 2012/1	Proposal at National level	Rank effectiveness	Rank feasibility	Comments
Logbook	Authorised fishermen record and report daily catches (weight, size and number of colonies) and effort by area and depth	Logbook			
Designation of ports	Red coral must be landed in a selected number of ports communicated to GFCM	Provide the designated ports with the necessary facilities and personnel			

Observers on board		To control size, transshipment and sales prior to landing			
Patrolling unit		To control depth, licenses, gear, size			
Certification of logbook at landing sites		Logbook must be certified at landing to verify its contents with the actual landed catches.			
Tracking device on board		To control that harvest takes place only on appropriate sites			
Traceability mechanisms		Sales note with the details of the seller and the buyer			
		DNA bar coding			
Penalties		fine			
		Confiscation of gear			
		Withdrawal of license			
		Imprisonment			

## 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 the fishery at national level should be ensured so that SAC is in a position to provide scientific advice. To this end an *ad hoc* Entry Tool has been created in excel format to facilitate the transmission of the collected data on an annual basis. As stated in Rec. 36/2012/1 CPCs shall compile data collection forms provided by the Secretariat. CPCs shall return the filled forms by **31 January** of each year starting with the 2013 harvesting season.

## 7. Research priorities (to be enlarged during the meeting)

Description of population structure (size distribution) of the stocks

Recovery rates of corals in different areas/depths

Resilience of reduced stocks in relation to coral size, abundance, and isolation from each other

## 8. Review of the management plan

According to the GFCM guidelines on management plans (GFCM/36/2012), the contents of the management plan 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 period for them.

According to these indications the SAC should provide **possibly each year**, – or at a longer time scale depending on the surveyed stocks and the availability of data – advice on the status of exploited stocks and on the pressure exerted by fishing activities. It should also monitor the achievement of the RMP-RC objective in order to propose, if necessary, adjustments or revisions (point 15 of the GFCM Guidelines). The review of the RMP should take place **every 3–5 years**, or at shorter intervals if new data and/or urgent matters require a more timely intervention.

Furthermore, on the basis of SAC advice, should the GFCM, find out that some relevant indicator is no longer appropriate to achieve the objective(s) of the RMP-RC, the reference levels should be revised in line with point 17 of the GFCM Guidelines.

Should SAC advice indicate that the specific RMP-RC targets are not being met, the GFCM should decide to revise management measures in order to ensure a sustainable exploitation of the resource (point 18). This review should be based on all information gathered in the annual reports prepared by the CPCs and on the compilation of all available data on red coral provided by different sources (scientific community, society, industry, fishers).

CPCs should report annually to GFCM on the implementation, enforcement, and results of the RMP-RC as well as on their national management plans, if existing, on red coral. Any problem and emerging issue, proposals for amendment of the established management measures, should be also reported.

Such reports should be transmitted to the GFCM concurrently with the red coral data forms compiled within the data collection framework.

Upon receipt of the reports, the GFCM Secretariat will take action and inform the SAC in order to timely address the questions raised in the working agenda of the competent subcommittees and working groups.

Furthermore, the GFCM Secretariat should timely communicate relevant information to all interested CPCs, partners, and organizations and solicit them to invite, under the terms they have chosen, all relevant stakeholders to provide advice and recommendations.

The final decision whether to accept such modifications relies upon the Commission (based on SAC advice).



## **9. 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