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**Draft Guidelines for reinforcing laws and regulations  
for the conservation and management of  
Cartilaginous Fish**

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## EXECUTIVE SUMMARY

The Guidelines aim to promote implementation of the Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean, approved by Contracting Parties to the Barcelona Convention in 2003. They provide technical guidance on designing national legislation and regulations, taking account of global and regional instruments applicable to the Mediterranean and relevant policy positions on shark conservation and management.

Technical information was obtained through direct contact with members of the IUCN Shark Specialist Group and specialists at the UN Food and Agriculture Organisation, the General Fisheries Council for the Mediterranean and the International Commission for the Conservation of Atlantic Tunas. Answers received indicated that sharks have long been a relatively low priority for regional fisheries management in the Mediterranean. Catch volumes and values (excepting fins) are considered low in the absence of adequate data and species of greater economic value have received higher management priority.

Annexes A and B summarise key provisions of international and regional instruments relevant to marine biodiversity conservation and fisheries, highlighting recent developments that support stronger protective and management action for sharks. Annex C lists the 2007 IUCN Red List assessment of the conservation status of chondrichthyans in the Mediterranean, together with the current international legal status of each species.

Information on national implementation was obtained through a questionnaire to the RAC/SPA focal points of the 22 Contracting Parties. Fourteen responses were received (i.e. 64%). The replies revealed significant differences and major gaps in all aspects of national implementation (species protection, data collation, habitat conservation, monitoring and awareness-building: see further Annex D).

The Guidelines consist of four sections:

1. Part 1 sets out general steps to review and improve legislation consistent with the ecosystem and precautionary approaches;
2. Part 2 covers strengthening of institutional and management frameworks through improved coordination, cooperation with international organisations and stakeholders, public awareness and expanding research, data collection and monitoring;
3. Part 3 provides guidance on legal measures to protect threatened species, regulate trade, manage fishing effort, control shark finning, manage recreational fisheries and enforce controls on illegal, unregulated and unreported fishing;
4. Part 4 covers legal measures to conserve critical habitats, establish marine protected areas and support the integrated management of marine and coastal ecosystems.

For the purposes of this document and in line with UN-FAO practice, the term 'shark' is taken to include all species of sharks, skates, rays and chimaeras (Class Chondrichthyes).

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## ABBREVIATIONS

Barcelona Protocol	Barcelona Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (concluded under the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, 10 June 1995)
Bern Convention	Convention on the Conservation of European Wildlife and Natural Habitats
Chondrichthyan Action Plan	Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea (UNEP-MAP RAC/SPA 2003)
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on Migratory Species (Bonn Convention)
Code	UN-FAO Code of Conduct for Responsible Fisheries (1995)
COFI	UN-FAO Committee on Fisheries
COP	Conference of the Parties
CR	Critically Endangered (IUCN Red List of Threatened Species)
DD	Data Deficient (IUCN Red List of Threatened Species)
EAF	Ecosystem Approach to Fisheries
EEZ	Exclusive Economic Zone
EN	Endangered (IUCN Red List of Threatened Species)
FSA	United Nations Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks
GFCM	General Fisheries Commission for the Mediterranean
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICZM Protocol	Protocol on Integrated Coastal Zone Management in the Mediterranean to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, signed on 21 January 2008 (not yet in force)
IPOA-Sharks	International Plan of Action for the Conservation and Management of Sharks
IUCN	World Conservation Union
IUCN Red List 2007	Red List assessment of Mediterranean chondrichthyans, published in Cavanagh, R. and Gibson, C. 2007. <i>Overview of the Conservation Status of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea</i> . IUCN 2007
LC	Least Concern (IUCN Red List of Threatened Species)
MEDITS	International bottom trawl survey in the Mediterranean
MEDLEM	Mediterranean Large Elasmobranchs Monitoring programme
MPA	Marine protected area
NGO	Non-governmental organisation
NT	Near Threatened (IUCN Red List of Threatened Species)
RAC/SPA	UNEP/MAP Regional Activity Centre for Specially Protected Areas, responsible for implementation of the Barcelona Protocol
RFMO	Regional Fisheries Management Organisation
SCRS	ICCAT Standing Committee for Research and Statistics
shark	Term used to cover all species of sharks, skates, rays and chimaeras (Class Chondrichthyes) covered by the RAC/SPA Chondrichthyan Action Plan
Shark Plan	National Plan of Action for the Conservation and Management of Sharks
TAC	Total Allowable Catch
UNCLOS	United Nations Convention on the Law of the Sea
UN-FAO	Food and Agriculture Organization of the United Nations
VU	Vulnerable (IUCN Red List of Threatened Species)





## INTRODUCTION: PURPOSE OF THESE GUIDELINES

These Guidelines were developed at the request of the RAC/SPA Secretariat to promote implementation of the *Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean*, approved at the XIII Conference of Contracting Parties to the Barcelona Convention in Catania, Sicily in November 2003.

They provide technical guidance for the design of national legislation and regulations for cartilaginous fish conservation and management and take account of global and regional instruments applicable to the Mediterranean as well as relevant international policy positions on the issue.

The Guidelines build on the 2007 IUCN Red List assessment of the conservation status of cartilaginous fishes (chondrichthyans) in the Mediterranean<sup>1</sup>. This assessment covered 71 species known to occur and breed within the Mediterranean Sea<sup>2</sup> and placed them in the following categories<sup>3</sup>:

- 42% (30 species) are considered threatened within the region. Of these, 18% (13 species) are Critically Endangered (CR), 11% (8 species) are Endangered (EN) and 13% (9 species) are Vulnerable (VU). Most of these species are considered to be more seriously threatened within the Mediterranean region than at the global level;
- 18% (13 species) are assessed as Near Threatened (NT), reflecting concern that they are close to qualifying for a threatened category or would be threatened were it not for ongoing conservation programmes;
- 14% (10 species) are assessed as Least Concern (LC) and are not considered to be under any threat of extinction now or in the foreseeable future;
- 26% (18 species) are assessed as Data Deficient (DD). This means that there is not enough information to enable accurate assessment of their extinction risk (lack of research, rarity of species, limited geographic distribution). It does not signify that these species are not threatened. As knowledge improves, such species are often found to be highly vulnerable to anthropogenic threats, in particular over-exploitation.

Several factors contribute to the decline of chondrichthyans in the Mediterranean.

The first group of factors relate to their life history. Chondrichthyans are particularly vulnerable to over-exploitation because they have low rates of potential population increase and are: slow growing; late to mature; have low fecundity; long gestation periods; high natural survivorship of all age classes; and long life.

The second group of factors are manmade and are aggravated by the semi-enclosed nature of the Mediterranean Sea (see Figure 1). They include:

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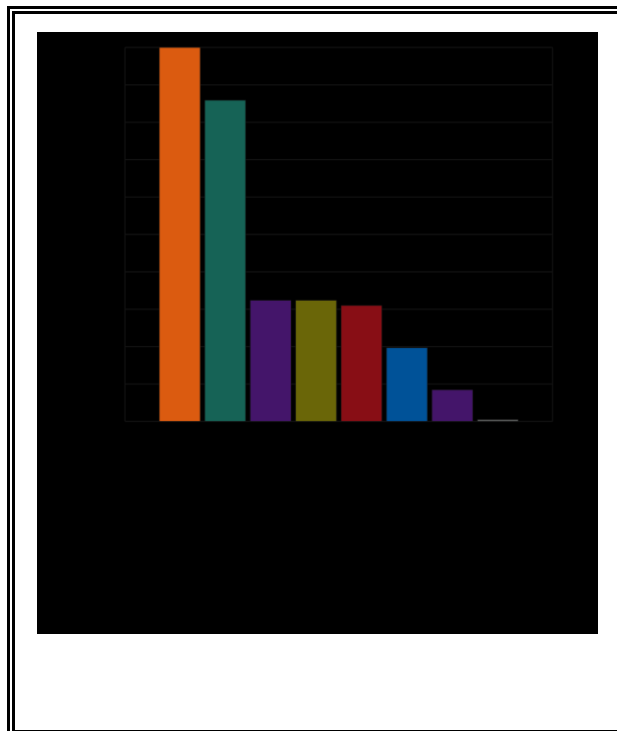
<sup>1</sup> The IUCN Red List 2007 assessment is published in Cavanagh, Rachel D. and Gibson, Claudine. 2007. *Overview of the Conservation Status of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea*. IUCN. This publication provides detailed scientific information and data that will be helpful to users of these Guidelines.

<sup>2</sup> The occurrence of a further nine species was found to be either infrequent, questionable, or could not be confirmed due to taxonomic uncertainty.

<sup>3</sup> The IUCN Red List of Threatened Species Categories and Criteria are applied to individual species assessments to determine their relative threat of extinction. Classification of species into the threatened categories (CR, EN, VU) is through a set of five quantitative criteria based on biological factors related to extinction risk, including: rate of decline, population size, area of geographic distribution, and degree of population and distribution fragmentation.

- intensification of fishing activity throughout its coastal and pelagic waters, with all shark species adversely affected by bycatch;
- changes in predator/prey abundance due to fisheries interactions;
- boat strike;
- entanglement in marine debris and fishing gear;
- habitat loss or modification, compounded to a certain extent by climate change;
- environmental degradation; and
- pollution.

**Figure 1 Percentage of chondrichthyan species susceptible to major threats in the Mediterranean**



Source: Cavanagh and Gibson, 2007

Taken together, these factors mean that some species of chondrichthyans will be very slow to recover from overfishing, pollution or habitat destruction and may not recover if even low levels of exploitation continue.

The decline in chondrichthyan populations matters for reasons that go well beyond biodiversity conservation. As top (apex) predators, they play a key role in keeping marine ecosystems in balance. Their eradication or decline can lead to associated declines in the health or abundance of prey/competitor populations. This can have negative economic impacts and adverse consequences for future food security and commercial and recreational options.

International legal frameworks were slow to respond to scientific concern over declining stocks. The earliest concrete measures for shark conservation and management were adopted in the early 1990s, under the Convention on International Trade in Endangered

Species of Wild Fauna and Flora (CITES)<sup>4</sup>. These were followed by decisions adopted by regional fisheries management organisations (RFMOs) and in 1999, by the voluntary International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks), developed by the United Nations Food and Agriculture Organization (UN-FAO) (see Appendix A and B).

Despite international efforts to protect a small number of shark species and limit negative fishery impacts, existing management programmes are still inadequate to ensure the long-term survival of many species and/or populations. Poor implementation of conservation and management measures has regularly been highlighted in UN General Assembly resolutions on sustainable fisheries, most recently in December 2008<sup>5</sup>. National and regional application of IPOA-Sharks remains poor despite vigorous encouragement from relevant international organisations.

Fisheries taking sharks (in directed catches or as bycatch) have long been a relatively low priority for fisheries management because catch volumes and values (with the exception of fins) are generally considered as low and species of greater economic value have received higher management priority. This position is gradually changing as shark conservation attracts increasing concern, but the effectiveness of action is seriously hampered by gaps in the data needed to make stock assessments. Full implementation of these Guidelines will require stronger compliance with regional data collection and reporting requirements for sharks.

Strong action at the national level on conservation, management and data collection is critical to make existing legal instruments work more effectively and to guide the development of new and stronger policies and standards. At present, however, implementation of relevant measures by Mediterranean States is extremely uneven.

These Guidelines take a broad approach that considers all sectors, stakeholders and types of activity that may affect sharks. They provide a practical framework to help Mediterranean States to strengthen their legal and institutional frameworks, improve conservation and management measures adapted to the needs of different species and promote more integrated approaches to marine ecosystem management.

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<sup>4</sup> Resolution Conf. 9.17 'The Status of International Trade in Shark Species'.

<sup>5</sup> United Nations General Assembly Resolution (63-112 of 5 December 2008).

## **1 DEVELOP APPROPRIATE LEGAL FRAMEWORKS**

An integrated approach that addresses species conservation, sustainable fisheries management and broader environmental concerns is needed to ensure the long-term survival of many shark species or populations in the Mediterranean.

International commitments for conservation and management of marine resources can only be made operational if they are transposed into national legislation and regulations. For the Mediterranean, action at the national level is required or recommended under:

- the Barcelona Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, CITES, the Convention on the Conservation of Migratory Species of Wild Animals (CMS) and the United Nations Convention on the Law of the Sea (UNCLOS);
- the Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea (Chondrichthyan Action Plan), which contributes to regional implementation of IPOA-Sharks;
- fisheries conservation and management recommendations and requirements developed by the UN-FAO, RFMOs and/or the European Community.

Existing legal frameworks in most Mediterranean countries lag behind the provisions laid down by these instruments. Progress depends on political will as well as concerted action by legislators and managers.

Shark species already listed for special protection under certain instruments are still declining without appropriate management and are now in urgent need of recovery measures. In parallel, the conservation status of several other shark species in the Mediterranean has worsened. Broad-based frameworks at national level are needed to address new as well as existing priorities.

Whether national measures should be legislative or regulatory will depend on each country's legal system. Certain matters usually have to be dealt with by primary legislation (e.g. ratification of treaties, allocation of ministerial responsibilities, establishment of offences and penalties). More detailed requirements and technical standards (e.g. changes to fisheries quotas or gear requirements, modification of protected species lists) can usually be issued through secondary or subsidiary regulations issued directly by the relevant ministry without the need to go through Parliamentary procedures.

Several Mediterranean States have decentralised systems of government where certain responsibilities are carried by subnational/local administrations. References to 'national' in these Guidelines includes subnational administrations where applicable.

### **1.1 Review existing measures to identify gaps and weaknesses**

In most countries, many sectoral laws and regulations are relevant to shark conservation and management and the wider marine and coastal environment. These instruments have often evolved in a piecemeal way. A common problem relates to inter-sectoral policy gaps or inconsistencies, especially in countries that have not developed a coordinated marine or coastal strategy.

Reviewing and streamlining national tools and institutional arrangements can thus have benefits for marine resource management going well beyond sharks.

Fisheries legislation is critical because it provides the basis to adopt technical regulations to address directed fisheries and to minimise bycatch. However, older fisheries laws may have a relatively narrow focus and not provide a legal basis for conservation of non-target species or regulation of non-fisheries activities that impact the marine environment. The competent fisheries authority will have a clear mandate to work with RFMOs but this may not explicitly cover conservation of marine biodiversity e.g. threatened species and critical habitats.

Species/habitat protection provisions may be located in nature conservation legislation which is implemented by the environment ministry or equivalent. However, this type of ministry may not have powers extending out to sea which obviously limits its capacity to implement commitments for conservation of marine species and habitats.

Modern biodiversity legislation may bridge the land-sea divide and provide a broader legal basis for key actions such as management and recovery plans for threatened species (including migratory species), protection of critical habitats and even the establishment of marine protected areas. Comprehensive laws of this kind can provide a unified framework for marine biodiversity conservation consistent with the Barcelona Protocol. However, their implementation will still need to be coordinated with fisheries regulations.

Non-fisheries activities that impact the marine environment, such as shipping, oil and gas exploitation, coastal development, industry and tourism will often be regulated by separate laws which also need to be taken into account.

- 1.1.a An inventory should be prepared of relevant laws, regulations, and institutional and funding measures. States that have already carried out national environmental or fisheries strategic planning can build on such initiatives to avoid duplication.
- 1.1.b Specific sectors to cover include fisheries, marine species and habitat conservation, species trade controls, research, monitoring and data collection programmes and other programmes and activities that affect marine environmental quality.
- 1.1.c The review team should aim to assess how far the existing national framework conforms to the rules and best practices laid down by the international instruments summarised in Annex A and Annex B, as reflected in these Guidelines.
- 1.1.d Strengths and weaknesses identified in the course of a review could include:
  - ⇒ Strengths: measures, information systems and funding already in place to implement international commitments and respond to emerging conservation priorities; clear allocation of administrative roles and responsibilities; regular communication between different departments; well-informed and motivated managers; communication in place with commercial fishery and other stakeholders; capacity and resources available for research, monitoring and enforcement;
  - ⇒ Weaknesses and inconsistencies: partial or non-existent implementation of international obligations; inadequate data to underpin management measures; poorly coordinated marine governance; inadequate training, capacity and resources to support managers; perverse incentives (e.g. subsidies, grants) that could support over-fishing or use of non-selective fishing gear; weak compliance and enforcement procedures.

1.1.e Based on this assessment, practical proposals can be developed to phase out conflicting or outdated measures and to strengthen the national framework. The most appropriate way forward will vary depending on a State's legal system, existing measures and capacity for implementation. Options include one or more of the following:

- ⇒ leaving primary legislation unchanged but improving cross-sectoral coordination, data collection and funding;
- ⇒ adjusting regulations under fisheries legislation to manage directed fisheries and bycatch on a more sustainable basis and improve compliance procedures;
- ⇒ coordinating the implementation of fisheries and environmental legislation to ensure that species and habitat conservation and non-fisheries marine activities are systematically considered, including in the development of plans, programmes and policies affecting the coastal and marine environment;
- ⇒ creating or amending primary legislation to create an integrated framework for marine biodiversity conservation (see Box 1). This may require an extension of the mandate of the competent authority.

### **Box 1 Example of fisheries legislation that integrates marine biodiversity conservation**

New South Wales (Australia): Fisheries Management Act n°38 of 1994

The Act regulates fisheries and aquaculture and also functions as a nature conservation law for marine ecosystems by establishing provisions to:

- (a) conserve biological diversity of fish and marine vegetation and promote ecologically sustainable development and activities;
- (b) prevent the extinction and promote the recovery of threatened species, populations and ecological communities of fish and marine vegetation;
- (c) protect the critical habitat of those threatened species, populations and ecological communities that are endangered;
- (d) eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities of fish and marine vegetation;
- (e) ensure that the impact of any action affecting threatened species, populations and ecological communities of fish and marine vegetation is properly assessed; and
- (f) encourage the conservation of threatened species, populations and ecological communities of fish and marine vegetation by the adoption of measures involving co-operative management (Article 220A).

Source: <http://www.dpi.nsw.gov.au/fisheries>

## 1.2 Define the purpose and scope of legislation

Whatever type of legal framework is in place, all laws and regulations should use clear and precise language to define the scope, requirements and procedures established by law. This is important to avoid ambiguity and facilitate effective implementation, monitoring and enforcement.

### 1.2.1 Objectives

Clear and broad objectives are needed to guide the development and implementation of legislation and regulations and to make it easier to set management priorities.

1.2.1.a The objective should be to ensure the conservation and management of Mediterranean sharks and their long-term sustainable use, consistent with IPOA-Sharks.

1.2.1.b Every State that contributes to fishing mortality on a Mediterranean species or stock should participate in its management and seek to align its legislation and policies with the detailed objectives laid down in the Chondrichthyan Action Plan (see Box 2).

### Box 2 Objectives of the Chondrichthyan Action Plan for the Mediterranean

- general conservation of chondrichthyan populations of the Mediterranean, by supporting and promoting national and regional programmes for sustainable fisheries of commercial stocks either as target or accessory species;
- protection of selected chondrichthyan species, whose populations are considered endangered;
- protection and restoration of critical habitats, such as mating, spawning and nursery grounds;
- improvement of scientific knowledge by research and scientific monitoring, including creation of regional standardised databases;
- recovery of depleted chondrichthyan stocks.

Source : Mediterranean Action Plan for the Conservation of Chondrichthyan Fishes (§10)

### 1.2.2 Species and fisheries coverage

1.2.2.a Legislation should apply to all Mediterranean sharks, defined to include all species of sharks, skates, rays and chimaeras belonging to the class Chondrichthyes, consistent with IPOA-Sharks and the Chondrichthyan Action Plan.

1.2.2.b National frameworks should:

- ⇒ apply to all fisheries taking sharks in the Mediterranean, whether as target species or as bycatch, to include commercial, recreational and sport fisheries;
- ⇒ support conservation and management measures adapted to the needs of transboundary, straddling, highly migratory and high seas shark stocks throughout their range (see Annex B).

### **1.2.3 Geographic coverage**

The legal framework needs to cover waters under national sovereignty or jurisdiction and also the high seas.

This is particularly important in the Mediterranean as relatively few countries have extended the limits of waters under national jurisdiction by declaring an exclusive economic zone or exclusive fisheries zone<sup>6</sup>. A significant proportion of the Mediterranean basin therefore comes under the legal regime applicable to the high sea. In these waters beyond national jurisdiction, the effectiveness of conservation and management measures depends on each State implementing its international commitments consistent with the duty of cooperation laid down by UNCLOS.

- 1.2.3.a In waters under national sovereignty or jurisdiction, the State's legal framework should cover all fisheries and all other activities affecting marine biodiversity, whether carried out by its own nationals, by vessels flying its own flag or by foreign nationals or vessels.
- 1.2.3.b In waters beyond national jurisdiction, legislation should apply to activities carried out by a State's nationals and by vessels flying its flag and provide for compliance with fisheries and conservation measures mandated by RFMOs and/or by other competent organisations.<sup>7</sup>

### **1.2.4 Content of legislation**

National frameworks need to provide for a set of shark conservation and management measures and clearly define responsibilities for their implementation and monitoring.

- 1.2.4.a Relevant legislation should establish a solid legal basis to adopt measures for:
- ⇒ collection and reporting of required data;
  - ⇒ protection of vulnerable or threatened shark stocks;
  - ⇒ sustainable management of directed shark fisheries;
  - ⇒ minimising bycatch of sharks in fisheries targeting other species;
  - ⇒ prohibiting/regulating finning and minimising discards from shark catches;
  - ⇒ effective tools for monitoring, surveillance and enforcement;
  - ⇒ regulation and management of activities and processes that may damage critical habitats and/or the coastal and marine environment.
- 1.2.4.b The legal framework should define the powers and duties of ministers/agencies responsible for implementing such measures. These should cover:
- ⇒ issuing and updating subsidiary regulations to meet the objectives of the legislation and to implement technical recommendations approved by RFMOs or other competent organisations;
  - ⇒ coordination and strengthening of inventories, surveys and reporting procedures to obtain reliable data on shark conservation status, harvesting and trade;

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<sup>6</sup> Although the situation is evolving: see Annex B.

<sup>7</sup> Under Art.117 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS), all States have the duty to take, or to co-operate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas (see Annex B).



- ⇒ development of management and recovery plans for threatened or over-exploited species;
- ⇒ training and equipment of personnel for compliance and enforcement activities;
- ⇒ stakeholder participation in coastal and marine planning processes and decision-making;
- ⇒ monitoring of implementation to identify constraints and areas for improvement.

### 1.3 Incorporate key approaches into legislation and regulations

Integrated conservation and management of fisheries resources needs to be consistent with the the ecosystem approach and precautionary principle. These are widely endorsed by relevant international instruments but their practical application in the marine environment remains complex.

#### 1.3.1 Ecosystem approach

The ecosystem approach is based on the application of scientific methodologies focused on levels of biological organisation, which encompass the essential processes, functions and interactions among organisms and their environment<sup>8</sup>. At sea, the ecosystem approach seeks to move beyond managing individual species and stocks to a more holistic approach that considers the interdependence of different components of the marine environment and makes allowance for gaps in data (see Box 3).

#### Box 3 Application of the Ecosystem Approach to Fisheries (EAF)

UN-FAO has developed detailed guidance on EAF, partly in recognition of the poor performance of many current management approaches to fisheries that have led to overfishing, economic waste and adverse impacts on habitat (UN-FAO 2003, UN-FAO 2005).

The purpose of EAF is to plan, develop and manage fisheries in a manner that addresses the multiple needs and desires of societies without jeopardising the options for future generations to benefit from the full range of goods and services provided by marine ecosystems. For this purpose it brings two different management processes together:

- ecosystem management (conserving the structure, diversity and functioning of marine ecosystems through management actions focused on biophysical components of ecosystems); and
- fisheries management (satisfying human needs for food and economic benefit through management actions focused on fishing activity and the target resource).

Source: UN-FAO 2003, available at <http://www.fao.org/DOCREP/005/Y4470E/Y4470E00.HTM>

The United Nations General Assembly has strongly endorsed this approach and encouraged States to apply EAF by 2010<sup>9</sup>. In the Mediterranean, the Strategic Partnership for the Mediterranean Large Marine Ecosystem<sup>10</sup> supports transition to ecosystem-based management of shared marine systems. Data to support application of the ecosystem approach are available from *inter alia* the UN-FAO and the European Environment Agency, which compiles the results of environmental monitoring in parts of the Mediterranean region.

<sup>8</sup> Principles for applying the ecosystem approach have been defined under the Convention on Biological Diversity (Decision V/6, see <http://www.cbd.int>).

<sup>9</sup> E.g. UNGA Résolution 62/117 (2007), §93.

<sup>10</sup> Supported by the United Nations Environment Programme (UNEP), the Global Environment Facility and the World Bank (see further <http://www.unepmap.org/index.php>).

1.3.1.a Fisheries policy, legislation and management measures should be consistent with the following principles:

- ⇒ fisheries should be managed to limit their ecosystem impact to an acceptable level;
- ⇒ ecological relationships between species should be maintained;
- ⇒ management measures should be compatible across the distribution of the resource;
- ⇒ precaution in decision-making and action is needed because knowledge of ecosystems is incomplete;
- ⇒ governance should ensure both human and ecosystem well-being and equity.

1.3.1.b The role of sharks as apex predators and as important components of a balanced marine ecosystem should be recognised in EAF implementation. Given the vulnerability of Mediterranean chondrichthyans to increasing fishing pressure, directed fisheries and bycatch should both be managed within a framework based on the ecosystem approach (see further Figure 3).

### **1.3.2 *Precautionary principle***

The precautionary principle is embedded in many international instruments, including the Barcelona Protocol, the 1995 United Nations Agreement on Straddling and Highly Migratory Fish Stocks, the UN-FAO Code of Conduct for Responsible Fisheries and IPOA-Sharks.

Fisheries managers are required to be cautious when the state of a resource is uncertain (e.g. where fishery data are insufficient or unreliable) and to conduct exploitation at a minimal level. This is particularly important for sharks in the Mediterranean where existing data and stock assessments are generally inadequate and where management measures have so far proved insufficient to rebuild depleted stocks or prevent the decline of others.

The low productivity of sharks in general and the naturally small population size or rarity of some species makes the precautionary approach most applicable to this group of fish. Their stocks can often be rapidly depleted to very low levels and be slow to recover from the effects of overfishing (UN-FAO 2000).

1.3.2.a The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species or their environment. Existing knowledge of the threats facing Mediterranean sharks is enough to justify rapid implementation of precautionary management measures in relevant fisheries.

1.3.2.b Shark conservation and management strategies should aim to keep total fishing mortality for each stock within sustainable levels by applying precautionary measures consistent with recommendations or guidance developed by competent international organisations. Controls should be implemented early during the developmental phases of fisheries taking shark species.

1.3.2.c Conservation and management measures should be implemented as a priority for critically endangered and endangered species (IUCN Red List 2007), without prejudice to ongoing collection of additional data.

1.3.3.d The precautionary principle should be extended to management measures for data-deficient species.

## **2 STRENGTHEN INSTITUTIONS AND MANAGEMENT SYSTEMS**

### **2.1 Promote cross-sectoral coordination**

The Chondrichthyan Action Plan stresses the importance of cooperative management at national, regional and international levels (§18). Effective governance and partnerships with different resource users are critical to meeting the objectives of legislation.

- 2.1.a Regular communication is essential between national focal points for conventions and organisations concerned with fisheries, marine environmental management and non-fisheries uses of the sea, particularly in advance of multilateral policy negotiations and reviews.
- 2.1.b Competent personnel should be required to cooperate with their counterparts in other Mediterranean States, RFMOs and relevant international organisations on information exchange, research and coordinated management measures, particularly for transboundary, straddling, highly migratory and high seas stocks.
- 2.1.c Cross-sectoral coordination is critical to ensure consistency of national policies and programmes for management of the marine environment and resources. Coordination between fisheries, environmental, coastal and other concerned departments can be promoted through a range of mechanisms, from an informal cross-sectoral committee to a dedicated marine agency.
- 2.1.d In parallel, stakeholder partnerships and/or co-management structures may be established to bring together the fisheries sectors, public policy-makers, scientists, external funding bodies, local communities and non-governmental organisations (NGOs). Training may be needed to enable some stakeholders to participate in these processes.
- 2.1.e Coordination between national and subnational administrations may need to be strengthened in certain States. In addition, local government bodies play a key role in planning and oversight of certain activities that affect the quality of coastal waters and ecosystems. States should ensure that local decision-making powers are exercised consistently with national legislation and its international commitments.

### **2.2 Cooperate more closely with relevant international organisations**

The Mediterranean is exceptionally well equipped with regional agreements and governance frameworks. In practice, however, improving the conservation status of sharks depends on the readiness of each riparian State to agree to and actually implement appropriate management measures and to provide the necessary resources for this purpose.

- 2.2.a All States should actively contribute to the work of conservation conventions (CITES, CMS, Barcelona Protocol: see Annex A), RFMOs and the UN-FAO (see Annex B) and support improved dialogue between relevant organisations on shark conservation, management and trade.
- 2.2.b States should promote and support the listing of additional threatened shark species under relevant agreements, taking account of the IUCN Red List 2007 threat assessments, where the long-term protection and management of such species requires stronger international cooperation (see also Guideline 3.1.1).

- 2.2.c States should encourage RFMOs and the fisheries industry to give higher priority to shark conservation and sustainable management in the Mediterranean through:
- ⇒ development and implementation of a Regional Shark Plan, based on the best available scientific information through *inter alia* limits on catch or fishing effort<sup>11</sup>;
  - ⇒ application of the ecosystem approach and precautionary principle to fisheries management within the remit of relevant RFMOs;
  - ⇒ expansion of shark stock assessments at the regional level;
  - ⇒ stronger data collection requirements with clearer coverage of bycatch.

### **2.3 Engage and build awareness amongst stakeholders**

- 2.3.a Stakeholder support is essential for conservation and management measures to be accepted. Representatives of fisheries sectors, affected communities, NGOs and other interested parties should be consulted during the process of strengthening national frameworks. Information on relevant regulations and permits issued should be publicly accessible.
- 2.3.b Information materials targeted at stakeholders directly engaged with fisheries taking sharks (commercial fishing sector, recreational anglers, associated industries) should be developed with the technical support of specialist organisations and/or NGOs and widely disseminated. These could include species identification guides and best practice on the safe handling and release of sharks.
- 2.3.c Public awareness campaigns should be developed for other groups of stakeholders, including administrative authorities, the general public and tourists, to address the role of sharks in the balance of marine ecosystems and the threats they face.
- 2.3.d Guidelines for shark watching should be published and widely distributed to anglers, yachtsmen, divers and other interested groups to promote responsible practices at sea, minimise disturbance to sharks and engage such groups in conservation (see Box 4).

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<sup>11</sup> Consistent with UNGA 63/112 (2008), §13.

## Box 4 Basking Shark Code of Conduct, United Kingdom

### **Control near Basking Sharks**

- Restrict your speed to below 6 knots and avoid sudden speed changes.
- Do not approach closer than 100m.
- When closer than 100m switch the engine to neutral to avoid injuring sharks.
- Avoid disturbing dense groups of sharks as you may disrupt courtship behaviour.
- Do not approach areas where basking sharks have been observed breaching.
- Jet-skis are incompatible with basking sharks and should stay at least 500m away.
- For every shark visible on the surface there are likely to be more hidden just below.

### **Tips**

- Take time to observe the direction of movement of the basking sharks then quietly position the vessel alongside their anticipated course for a safe and enjoyable view.
- If you find basking sharks close to your vessel switch your engine to neutral, remain calm and quiet and enjoy a close view of these magnificent animals until they move away. Don't forget to take photographs!

***It is not advisable to swim with basking sharks, both for your safety and for the safety of the sharks. If you do decide to enter the water please take note of the following precautions:***

- Do not try to touch the sharks.
- Maintain a distance of greater than 4m from each basking shark and be wary of the tail.
- Groups of swimmers must stay together and ideally remain at the surface.
- Avoid entering the water if visibility is less than 4m.
- Restrict the numbers of swimmers in the water at any time to 4.
- Avoid flash photography as this can scare the sharks.
- Do not use underwater-propelled devices.

A training and accreditation scheme for operators of registered passenger and charter vessels who agree to comply with this Code of Conduct has been established: approved operators may use the WiSe scheme logo on boats and brochures (<http://www.wisescheme.org/>).

Source: <http://www.baskingsharks.org/>

## 2.4 Expand research, data collection and monitoring

Good data on shark catches and trade are essential to inform stock assessment and monitoring and the development of science-based management decisions. International cooperation is particularly important in this area because many species of sharks have wide-ranging distribution and/or are migratory<sup>12</sup>. Despite this, compliance with existing RFMO data requirements is still considered grossly inadequate, especially for bycatch which is rarely incorporated into national and international fishery statistics<sup>13</sup>.

The IUCN Red List 2007 provides a baseline for measuring and monitoring changes in the conservation status of many shark species. However, several species in the Mediterranean are considered data-deficient with inadequate information to assess possible extinction risk<sup>14</sup>.

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<sup>12</sup> See UNGA Resolution 62-177 (2007), reiterated in Resolution 63-112 (2008) and for more technical detail, UN-FAO 2000 (Part 5, Fishery Management Data and Research).

<sup>13</sup> See e.g. Hurry et al (2008).

<sup>14</sup> NB Three Mediterranean species formerly classified as DD were respectively assessed as EN (*Rhinobatos* spp), VU (*Sphyrna zygaena*) and NT (*Raja polystigma*) by the IUCN Red List 2007.

Competent national authorities departments may also refer to information collected by scientific campaigns such as MEDITS (International bottom trawl survey in the Mediterranean<sup>15</sup>) to facilitate stock assessment for a particular species. MEDITS is an EU-supported programme for coordinated evaluation of demersal resources, including cartilaginous fishes (see Box 5).

#### **2.4.1 Research and capacity-building**

2.4.1.a National frameworks should support the establishment and funding of research and monitoring programmes, in collaboration with other States and competent organisations as appropriate, covering the following issues:

- ⇒ research into data-deficient species and threatened species, with particular regard to reproduction and growth parameters;
- ⇒ improved stock assessments of shark populations subject to target fisheries and/or bycatch to determine sustainable catch levels and identify appropriate management measures (see 3.3);
- ⇒ possible modification of fishing gear and practices to minimise bycatch<sup>16</sup> (see 3.4);
- ⇒ fishing methods that maximise the likelihood of survival of captured sharks after release;
- ⇒ methods for releasing sharks from fishing gear that minimise risk of injury to fishing vessel operators and crews.

2.4.1.b As part of regional cooperation, States should promote the sharing and use of research results as a basis for setting management objectives, biological reference points, sustainability indicators, acceptable risk levels, time frames and performance criteria and for ensuring adequate linkages between applied research and fisheries management.

2.4.1.c States should strengthen capacity for effective implementation by developing training programmes for specialists, fisheries officers and managers in the study and conservation of sharks, giving priority to taxonomy, conservation biology and techniques for data collection, analysis and monitoring.

#### **2.4.2 Species identification and labelling**

The species composition of the catch (bycatch or directed fisheries) needs to be determined to feed accurate data into stock assessment, monitoring and management programmes.

This is often complicated for sharks because of taxonomic uncertainties associated with many species and because fish are often processed at sea (e.g. by removal of fins, tails and head). On the other hand, it is impractical to require fishers to land sharks whole as they should be gutted and gilled as soon as practicable after capture to avoid degrading the quality of the meat and other products (UN-FAO 2001).

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<sup>15</sup> This European programme, launched in 1992, now reaches from the Alboran Sea to the Aegea, covering depths from 10 to 800m. Nine riparian States are participating in the programme: France, Spain, Italy, Greece, Slovenia, Croatia, Albania, Malta et Cyprus.

<sup>16</sup> In the context of multi-species fisheries activities that characterise the Mediterranean basin, bycatch levels associated with local fisheries can be significant and of commercial importance.

2.4.2.a. States should work with fisheries stakeholders to facilitate species identification by:

- ⇒ promoting use of field guides that illustrate whole animals, carcasses and body parts (fins, skin, vertebrae, head)<sup>17</sup>;
- ⇒ publishing identification sheets in appropriate languages that include the common names of species and disseminating them widely within the fishing industry.

2.4.2.b To enable species-specific landings records to be made (species, sex, partial length of the shark), regulations may provide for sharks to be headed, gilled and gutted at sea to ensure catch quality but should require carcasses to be landed ashore with fins, skin, claspers and, where applicable, dorsal spines attached. The landing of chondrichthyan parts without the accompanying carcasses should be prohibited (see also Guideline 3.5 on finning).

2.4.2.c To ensure species accuracy in trade data, States should use their commodity codes, where they exist, for traded fish products in order to differentiate between fresh/chilled, frozen and dried, processed and unprocessed, shark meat, oil, skin, cartilage and fin products, imports, exports and re-exports. This requirement should apply to all traded shark products, whether from CITES-listed or non-listed species<sup>18</sup> (see Guideline 3.2).

### **2.4.3 Reporting of catch and landing data**

2.4.3.a Legislation should mandate collection of species-specific data on total catch, to include landings, discards at sea, bycatch (whether discarded or retained) and transshipment of sharks at sea<sup>19</sup>.

2.4.3.b The issue or renewal of a fisheries licence should be subject to compliance with data collection regulations and procedures.

2.4.3.c Regulations should use the existing species-specific UN-FAO catch data recording fields for the reporting of shark catches and discards, and work within UN-FAO to amend these, if required, to achieve a more accurate picture of shark mortality through fishing<sup>20</sup>. Such data includes:

- ⇒ location and date of catch;
- ⇒ species composition of the catch (broken down if possible by sex and length of shark);
- ⇒ retained catch by species in number and weight;
- ⇒ discarded catch in number and weight (+ reasons for discard);
- ⇒ product form (whole, headed, gutted, fillets, fins);
- ⇒ gear and vessel specifications and cruise characteristics;
- ⇒ trade and market values.

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<sup>17</sup> E.g. Serena 2005, *Field Identification Guide to the Sharks and Rays of the Mediterranean and Black Sea* (<http://www.fao.org/fishery/publications>).

<sup>18</sup> CITES Decision 14.104 ([http://www.cites.org/eng/dec/valid14/14\\_101-117.shtml](http://www.cites.org/eng/dec/valid14/14_101-117.shtml)).

<sup>19</sup> e.g. ICCAT Resolution 2003-10 mandates improved data reporting on catch, effort by gear type, discards of sharks, landings and trade in shark products

<sup>20</sup> CITES Decision 14.105 ([http://www.cites.org/eng/dec/valid14/14\\_101-117.shtml](http://www.cites.org/eng/dec/valid14/14_101-117.shtml)).

2.4.3.d Data collection methods<sup>21</sup> may include:

- ⇒ fishing registration data on vessels, companies, gear, licences, operators and fish processing and marketing companies;
- ⇒ resource-user reporting (forms, logbooks, landings declarations);
- ⇒ market transaction records (invoices, sales slips, sales tallies).

2.4.3.e Monitoring programmes should be set up to ensure that catches are evaluated in the right way and verify catch and landing data. These could include:

- ⇒ observers at landing sites, processing plants and markets;
- ⇒ on-board observation programmes to gather precise data on fisheries and on species biology, including sightings and bycatch.

2.4.3.f To facilitate monitoring and compliance, States may consider restricting the landing of sharks to specified harbours which should be named in applicable regulations.

### **Box 5 Data collection and monitoring in Malta**

The Malta Centre for Fisheries Science (Veterinary Affairs and Fisheries Division) conducts two data collection programmes/surveys related to catches and landings.

The MEDITS Trawl Survey for demersal species involves the collection of data through planned trawls in Maltese waters. Chondrichthyan species recorded are listed by n/km<sup>2</sup>, kg/km<sup>2</sup>, length, weight, sex and maturity stage (covers *Centrophorus granulosus*, *Chimaera monstrosa*, *Dalatias licha*, *Dasyatis pastinaca*, *Dipturus oxyrinchus*, *Etmopterus spinax*, *Galeus melastomus*, *Heptanchias perlo*, *Hexanchus griseus*, *Leucoraja melitensis*, *Mustelus asterias*, *Mustelus mustelus*, *Myliobatis aquila*, *Oxynotus centrina*, *Raja circularis*, *Raja clavata*, *Raja miraletus*, *Raja radula*, *Scyliorhinus canicula*, *Scyliorhinus stellaris*, *Squalus blainvillei* and *Torpedo marmorata*).

The MEDLEM (Mediterranean Large Elasmobranchs Monitoring) programme for large pelagic sharks is carried out on land at the first point of landing at the fishmarket and involves the collection of biological data on species landed (length, weight, sex, maturity stage). It covers *Alopius vulpinus*, *Centrophorus granulosus*, *Dasyatis pastinaca*, *Galeus melastomus*, *Hexanchus griseus*, *Lamna nasus*, *Prionace glauca*, *Dipturus oxyrinchus*, *Raja spp.*, *Rostroraja alba*, *Scyliorhinus canicula*, *Sphyrna zygaena* and *Squalus/Mustelus spp.*

Data is also collected for species which are commercially exploited and landed at the fishmarket: *Centrophorus granulosus*, *Galeorhinus galeus*, *Hexanchus griseus*, *Hymenocephalus italicus*, *Lamna nasus*, *Prionace glauca*, *Rostroraja alba*, *Raja oxyrinchus*, *Raja spp.*, *Scyliorhinus canicula*, *Scyliorhinus spp.*, *Sphyrna zygaena*, *Squalus acanthias* and *Squatina squatina*. Information on certain species is also available through the Catch Logbook, filled by vessels over 10m in length.

Monitoring and reporting is mandatory for the MEDITS Trawl Survey, Fishmarket Landing Data and the Catch Logbook, but not for MEDLEM.

Source: Malta Environment Protection Directorate

## **2.5 Adopt and implement a National Plan of Action for chondrichthyans**

2.5.a Each State should carry out a regular assessment of the status of shark stocks subject to fishing, in accordance with the UN-FAO Code of Conduct for Responsible Fisheries (6.13), to determine whether it is necessary to develop a National Plan of Action for the Conservation and Management of Shark Stocks (Shark Plan) in

<sup>21</sup> For more detail, see §5.7, UN-FAO 2001.



accordance with IPOA-Sharks<sup>22</sup>.

- 2.5.b Any State that contributes to fishing mortality on a shark species or stock should participate in its management and, in particular:
- ⇒ adopt a Shark Plan to identify research, monitoring and management needs for shark fishes that occur in waters under its sovereignty or jurisdiction<sup>23</sup>;
  - ⇒ report on its implementation as part of their biennial reporting to UN-FAO on the Code of Conduct of Responsible Fisheries;
  - ⇒ assess its implementation at least once every four years to identify cost-effective strategies to increase its effectiveness.
- 2.5.c States that determine that a Shark Plan is not necessary should review that decision on a regular basis, taking account of changes in their fisheries, and should in any event compile information on catches, landing and trade.

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<sup>22</sup> See further IPOA-Sharks and associated guidance (<http://www.fao.org/fishery/ipoa-sharks/2>).

<sup>23</sup> This is called for under ICCAT Resolution 2003-10.

### 3 IMPLEMENT SHARK CONSERVATION AND MANAGEMENT MEASURES

Sustainable management of fish stocks is closely linked with and benefits from the conservation of other marine biodiversity components, particularly high trophic level species.<sup>24</sup>

IPOA-Sharks implementation guidance (UN-FAO 2000) endorses 'special protection' or 'special management' for species that have particularly low productivity, naturally small populations (rare), a spatially small distribution range, or a distribution range within regions of high anthropogenic impact where they might be threatened or have their populations seriously depleted. It stresses the need to maintain biodiversity through viability of shark populations, bearing in mind that the number of species and within-species genetic variability of shark species is naturally low compared with those of many other taxonomic groups.

Existing fisheries and conservation policies for the Mediterranean have so far proved inadequate to prevent the decline of many Mediterranean sharks. In 2007, thirty species (42%) were assessed as 'threatened' (CR, EN or VU) in the region (IUCN Red List 2007). Most of these species are not subject to special management.

National legislation need to support a broad range of tools adapted to the needs of different shark species, from strict protection to sustainable exploitation policies and recovery planning. As emphasised, close coordination between fisheries and marine biodiversity conservation authorities is critical to effective implementation.

#### 3.1 Confer legal protection on threatened species

International and regional instruments mandate species-specific protection for only a very small number of shark species (see Annex C). Only five of the thirty species assessed as threatened (CR, EN, VU) in the Mediterranean are subject to strict protection requirements of varying extent and well under half are proposed for special management regimes adapted to their conservation status.

Of equal or greater concern, under half of coastal States have actually implemented even these limited conservation and management requirements (see Annex D).

##### 3.1.1 Selection of species for legal protection

- 3.1.1.a The listing of a shark species under an international or regional instrument for strict protection or special management, and the modification of any species listing, should be rapidly followed by action at the national level to confer an appropriate legal status on the species concerned.
- 3.1.1.b States should, as a minimum, confer strict legal protection on *Cetorhinus maximus*, *Carcharodon carcharias* and *Mobula mobular* in accordance with CMS, the Barcelona Protocol and the Bern Convention (for CITES implementation, see Guideline 3.2.2).
- 3.1.1.c In accordance with Article 11.2 of the Barcelona Protocol, States should extend strict protection and/or special management to shark species that are endangered or threatened in zones subject to their sovereignty or jurisdiction. Species that may be considered, based on the IUCN Red List 2007 assessment, include:

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<sup>24</sup> See e.g. Recommendation on the Pelagos Sanctuary for the Conservation of Marine Mammals (GFCM/31/2007/2).

- ⇒ Critically endangered: *Oxynotus centrina*, *Squatina aculeata*, *Squatina oculata*, *Squatina squatina*\*, *Pristis pectinata*, *Pristis pristis*, *Dipturus batis*, *Leucoraja melitensis*, *Rostroraja alba* (= *Raja alba*)\*, *Gymnura altavela*, *Carcharias taurus*, *Isurus oxyrinchus*\*, *Lamna nasus*\*;
- ⇒ Endangered: *Squalus acanthias*, *Rhinobatos cemiculus*, *Rhinobatos rhinobatos*, *Leucoraja circularis*, *Odontaspis ferox* and *Carcharhinus plumbeus*;
- ⇒ Vulnerable: *Heptanchias perlo*, *Centrophorus granulosus*, *Alopias vulpinus*, *Galeorhinus galeus*, *Mustelus asterias*, *Mustelus mustelus*, *Prionace glauca*\* and *Sphyrna zygaena*.

\* denotes a species listed in Annex III of the Barcelona Protocol (List of Species whose Exploitation is Regulated) (see Annex A.2.1).

3.1.1.d States should prioritise cooperative assessment of species classified as Data Deficient (DD) and where their status is assessed as threatened, rapidly confer appropriate legal protection on the species concerned.

### **3.1.2 Content of legal protection**

3.1.2.a National legislation should provide for categories of strict protection and regulated management, linked to lists of species annexed to the legislation. Each species of shark concerned should be listed in the appropriate annex, consistent with relevant international obligations.

3.1.2.b For each species designated as strictly protected, the following activities should be prohibited or regulated to prevent the species from becoming extinct and promote its maximum possible protection and recovery:

- ⇒ taking, possession, killing, commercial trade, transport and exhibition for commercial purposes of live or dead specimens, their parts or derivatives (see also Guideline 3.2). For strictly protected sharks, this should include an explicit ban on retention on board, transshipment and landing of specimens;
- ⇒ incidental taking, possession or killing;
- ⇒ disturbance, particularly during breeding, migration and other periods of biological stress;
- ⇒ deliberate destruction of and damage to species' habitats.

3.1.2.c Strictly protected sharks should be automatically excluded, where possible, from the list of authorised fisheries species under fisheries management legislation.

3.1.2.d Legislation should provide for the development and implementation of conservation and recovery plans for strictly protected species. Where the range area of a species extends to both sides of a national frontier or jurisdictional limit, the States concerned should cooperate to ensure its protection, conservation and management.

3.1.2.d For species designated for special management, legal measures should be designed to ensure that exploitation is only authorised where consistent with maintaining their favourable conservation status. The regulatory framework will need to address the following main issues:

- ⇒ management of fisheries effort, catch and bycatch (see Guidelines 3.3 -3.7);

- ⇒ regulation of international and domestic trade where this affects the species' conservation status (see Guideline 3.2);
- ⇒ ongoing research, data collection and monitoring (see Guideline 2.4);
- ⇒ management of damaging activities to protect species habitats and marine environmental quality (see Part 4).

### **3.1.3 Control of exemptions**

International conservation instruments tightly control derogations from their rules for strictly protected species, using strict criteria that should be followed in national legislation.

3.1.3.a The conditions on which exemptions may be granted should be clearly specified in legislation/regulations to guide the exercise of administrative discretion, promote transparency and facilitate compliance and enforcement.

3.1.3.b Exemptions to the prohibitions described in Guideline 3.1.2.b should only be granted for scientific, education or management purposes necessary to ensure the survival of the species or to prevent significant damage, provided that the following conditions are met:

- ⇒ no other satisfactory solution must be available;
- ⇒ the exemption must not harm the survival of the population of the protected species concerned or that of any other species.

3.1.3.c Exemptions must not be granted for traditional subsistence and cultural activities of local populations where these could cause the extinction of or a substantial reduction in the number of individuals making up the populations or species of fauna, especially endangered, threatened or migratory species.

3.1.3.d Competent authorities should keep records of applications and decisions relating to exemptions and monitor exemptions granted. Information to be included in recording systems should include:

- ⇒ the species for which the derogation is requested and the reason why it is sought;
- ⇒ the alternative solutions considered and rejected;
- ⇒ the methods authorised for the capture or killing of the specimens and the reasons for their selection;
- ⇒ the location, timing and duration of any derogation granted;
- ⇒ details of the authority responsible for deciding the application;
- ⇒ the persons authorised to carry out the capture or killing;
- ⇒ the supervisory measures used and the results obtained.

3.1.3.e Exemptions relating to Endangered or Threatened Species listed in Annex II to the Barcelona Protocol must be notified to the Contracting Parties.

## **3.2 Regulate trade in accordance with international law**

The UN-FAO Code of Conduct for Responsible Fisheries (§11.2.9) calls on States to cooperate in complying with relevant international agreements regulating trade in endangered species. At the global level, CITES lays down species-specific trade rules that apply to certain sharks. At the regional level, the Barcelona Protocol and the Bern Convention require domestic trade and associated activities to be prohibited or regulated for strictly protected species.

Trade controls for endangered species and species that are potentially threatened by unsustainable levels of trade are an essential part of legal frameworks. However, defining and implementing effective measures is particularly complex for sharks, as trade is focused mainly on their parts and derivatives and the specimens themselves are taken at sea, often in waters beyond national jurisdiction. This issue is being closely studied by the CITES Secretariat in collaboration with UN-FAO and, for shark species under the mandate of a RFMO, by the GFCM and ICCAT (see Annex A et Annex B).

Trade controls should always be supported by education and awareness-building amongst target groups or communities that take, use or consume sharks, their parts and derivatives.

### **3.2.1 Basic administrative and regulatory requirements**

- 3.2.1.a Each State should designate a Management Authority with powers to issue regulations for CITES implementation, as well as a Scientific Authority to advise on permit applications in accordance with CITES. For decisions relating to sharks, the Scientific Authority should include or have access to specialised fisheries scientists.
- 3.2.1.b The CITES Management Authority should collaborate with the national fisheries authority to supply information to the CITES Secretariat to facilitate the review by the CITES Animals Committee, in collaboration with UN-FAO, of the list of shark species of concern<sup>25</sup> and the preparation of species-specific recommendations. Information should cover:
- ⇒ implementation of IPOA-Sharks and shark assessment reports, where applicable;
  - ⇒ data on landings and exports;
  - ⇒ management measures adopted for shark species of concern.
- 3.2.1.c Where a State uses nature conservation or customs legislation to implement CITES, it needs to be broad enough to cover marine species (e.g. the definition of “animal” must be broad enough to cover fish).
- 3.2.1.d Where fisheries legislation is used to implement CITES with regard to marine species, its provisions need to be fully consistent with the procedures and criteria laid down by CITES.
- 3.2.1.e Whatever type of legislation is used, “specimen” should be broadly defined to cover live and dead specimens of listed chondrichthyan species and their readily recognisable parts or derivatives<sup>26</sup>. To facilitate enforcement, regulations should list the main shark parts and derivatives that are most likely to feature in trade (e.g. fins, teeth, jaws, meat, cartilage, oil, raw hides, skins and leather).
- 3.2.1.f Legislation/regulations should clearly specify which agencies and classes of officers are responsible for enforcing trade controls. Personnel, including Customs officers, may need to be trained in recognition skills, especially for the most commonly traded parts and derivatives (fins, jaws, teeth...).

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<sup>25</sup> *Centrophorus spp., Galeorhinus galeus, Carcharhinidae, Rhinobatiformes, Mobulidae* (see **Erreur ! Source du renvoi introuvable.**).

<sup>26</sup> Readily recognizable parts or derivatives shall be interpreted to include any specimen which appears from an accompanying document, packaging, mark or label, or from any other circumstances, to be a part or derivative of an CITES-listed animal, unless such part or derivative is specifically exempted from the provisions of the Convention (Res.Conf.9.6, amended at COP11 and corrected by the Secretariat following COP14).

- 3.2.1.g States should contribute to and make available manuals and guides for the identification of sharks and shark products in international trade, using materials available through UN-FAO and the CITES Secretariat (see also Guideline 2.4.2).

### **3.2.2 Regulation and monitoring of international trade**

- 3.2.2.a The import, introduction from the sea, export or re-export of any specimen, part or derivative of *Pristis pectinata*, *Pristis pristis* (CITES Appendix I-listed) or of *Cetorhinus maximus* and *Carcharodon carcharias* (CITES Appendix II-listed) should be prohibited except under permit issued in accordance with the conditions laid down in CITES Articles III or IV respectively.
- 3.2.2.b A certificate for the introduction from the sea<sup>27</sup> of a specimen of any species listed above may only be issued if the Scientific Authority determines that this will not be detrimental to the survival of the species concerned. The Authority should take account of the best available scientific information on the stock concerned as well as recommendations or technical guidance issued by CITES, UN-FAO and /or the competent RFMO<sup>28</sup>.
- 3.2.2.c If national legislation provides for exemptions, these should be consistent with Article VII of CITES and worded in precise and unambiguous language.
- 3.2.2.d Each State may adopt stricter domestic measures, including full prohibition, on trade, taking, possession or transport of sharks listed in the Appendices to CITES as well as non-CITES species (article XIV). For this purpose, it should prioritise species classified as threatened (CR, EN, VU) that are not yet protected or specially managed at national level.
- 3.2.2.e States should take all necessary steps, including inspection and provision of information to merchants, to prohibit the sale of tourist souvenir specimens of Appendix-I shark species in places of international departure, such as international airports, seaports and border crossings and particularly in duty-free areas beyond Customs control points.

### **3.2.3 Regulation and monitoring of domestic trade**

- 3.2.3.a Domestic trade in strictly protected sharks, their parts and derivatives should be prohibited or subject to regulation. To promote legal certainty, it is preferable to list the specific activities that are controlled e.g. possession, transport, sale, exchange, offering for sale or exchange, purchase, exhibition, display for commercial purposes, processing, taxidermy, serving in restaurants or consumption of any specimen, part or derivative of a protected species.

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<sup>27</sup> Defined at art.1.e of CITES as “transportation into a State of specimens of any species which were taken in the marine environment not under the jurisdiction of any State”.

<sup>28</sup> With regard to Appendix II species, art.IV.7 of CITES provides that the Scientific Authority may deliver such certificates after consultation with other national scientific authorities or, when appropriate, international scientific authorities, in respect of periods not exceeding one year for total numbers of specimens to be introduced in such periods.

- 3.2.3.b Exemptions should be subject to permit. The legal basis for exemptions should be narrow, precisely worded and accompanied where appropriate by necessary conditions. Exemptions should only be granted for specimens that have been lawfully imported (e.g. under a scientific research permit). A record should be kept of exemptions granted.
- 3.2.3.c To facilitate enforcement, legislation may require a person found in possession of a strictly protected specimen to prove that the specimen was lawfully introduced into the country or otherwise lawfully obtained. Possession is deemed to be unlawful if the person in possession cannot produce the necessary proof.
- 3.2.3.d In States with a regionalised system of government, controls on trade, transport and possession should be harmonised at national level to ensure consistency.

### **3.2.4 Detection and enforcement of offences**

- 3.2.4.a States should establish meaningful penalties for illegal trade or associated activities relating to protected species of sharks.
- 3.2.4.b The legal framework should confer general powers on enforcement officers, subject to the law of the country concerned, to search vessels, persons and premises and to request information, inspect documents and, if necessary, make arrests.
- 3.2.4.c Powers should be available to seize specimens if enforcement officers have reasonable grounds to believe that these are traded or possessed in contravention of the law, and to confiscate equipment and/or methods of transport used in the commission of the offence.
- 3.2.4.d The disposal of illegally traded, confiscated and accumulated specimens should be handled in accordance with the detailed recommendations set out in CITES Conf. 9.10 (Rev. CoP14). No Appendix I-listed specimen, part or derivative should be sold or otherwise disposed of in any way that would result in its being the object of trade.
- 3.2.4.e Legislation should provide for the recovery of costs of seizure, confiscation and disposal from the importer and the person for whom the import has taken place. Where the identity of these persons cannot be established, costs should be recoverable from the transporter.

### **3.3 Promote sustainable fisheries management**

In 2007 and 2008, the UN General Assembly called on States, including through RFMOs, to urgently adopt measures to fully implement IPOA-Sharks for directed and non-directed fisheries, based on the best available scientific information.

The Chondrichthyan Action Plan (§11.3) supports the development of management programmes for sustainable fisheries catching commercially important species as target or bycatch:

- it prioritises action for the main commercial species: dogfish (*Squalus acanthias*), thresher sharks (*Alopias* spp.), makos (*Isurus* spp.), porbeagle (*Lamna nasus*), blue

shark (*Prionace glauca*);

- in addition, for other commercially important species: angel sharks (*Squatina* spp.), catsharks (*Scyliorhinus* spp. and *Galeus melastomus*), hound sharks (*Mustelus* spp. and *Galeorhinus galeus*), requiem sharks (*Carcharhinus falciformis*, *C. limbatus*, *C. obscurus* and *C. plumbeus*), skates (*Leucoraja* spp., *Raja* spp.), and stingrays (*Dasyatis* spp.).

Since the adoption of the Action Plan, the conservation status of several of these species has worsened. In 2007, the IUCN Red List assessment for these species was as follows:

- **Critically Endangered:** *Isurus* spp., *Lamna nasus*, *Squatina* spp., *Leucoraja* spp.;
- **Endangered:** *Squalus acanthias*; *C. plumbeus*;
- **Vulnerable:** *Alopias* spp., *Prionace glauca*, *Mustelus* spp., *Galeorhinus galeus*;
- **Near Threatened:** *Scyliorhinus stellaris*, *Raja* spp., *Dasyatis* spp.;
- **Least Concern:** *Scyliorhinus canicula*, *Galeus melastoma*;
- **Data Deficient:** *Carcharhinus falciformis*, *C. limbatus*, *C. obscurus*.

States are therefore encouraged to extend priority management measures to all species now assessed as CR or EN, including *Squatina* spp., *Carcharhinus plumbeus* and *Leucoraja* spp. The unfavourable conservation status of many commercially important species makes it imperative to adopt and enforce measures to prevent further decline or stock collapse.

The fishing sector in each Mediterranean State varies in terms of its size, target species, main fishing areas and gear and techniques used. Guideline 3.3.1 covers generally applicable matters for developing regulations for sustainable fisheries management. Subsequent Guidelines are more technical and may not be equally applicable to all States.

### **3.3.1 Legal tools to regulate fishing effort and catch**

- 3.3.1.a National fisheries law and regulations should be consistent with the objectives, scope, approaches and content outlined in Part 1 of these Guidelines.
- 3.3.1.b Implementation should be supported by cross-sectoral coordination and research, data collection and monitoring (see Part 2 of these Guidelines). States should contribute actively to the development and, where necessary, the strengthening of shark protection and management measures adopted by RFMOs or other competent organisations.
- 3.3.1.c Fisheries stakeholders need to be involved in formulating policy and management strategies for relevant resources<sup>29</sup>. Legal rules for implementation of fisheries conservation and management measures should be effectively disseminated.
- 3.3.1.d All States should have a licensing system for commercial fisheries to manage access to and effort in fisheries within waters under their jurisdiction and to regulate fishery activities by vessels flying their flag in waters beyond national jurisdiction.
- 3.3.1.e Fisheries regulations should avoid unnecessary complexity. They should comply with rules and recommendations adopted and updated by RFMOs and, where appropriate, other competent organisations (see Annex B).
- 3.3.1.e Regulations should apply to foreign fishing in waters under national jurisdiction and

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<sup>29</sup> See e.g. FAO Code of Conduct for Responsible Fisheries, section 6.16.



specify the conditions on which foreign fishing vessels may be allowed access to such waters and to national ports (see also Guideline 3.7).

3.3.1.f The regulatory framework should support the full range of management measures needed to adapt fishing activities to the state of fishery resources and promote stock recovery, consistent with the ecosystem approach and precautionary principle (see Box 6).

### Box 6 Legal tools to support sustainable management of fisheries

- 'Input' measures to **regulate fishing capacity and effort**. Measures to eliminate excessive fishing pressure on sharks include capacity limitations (e.g. adjustment of subsidies available for certain fisheries and equipment, number of fishing licences issued or number of vessels authorised) and effort limitations that reduce the fishing activity of fleets.
- 'Output' measures to **regulate catch**. These are aimed at directly reducing mortality on target species and could include the introduction of catch limits (Total Allowable Catch) for individual shark species, set at a precautionary level where scientific data is inadequate or unreliable. They may be complemented with measures to reduce bycatch.
- **Time/area restrictions**. These reduce fishing effort by prohibiting or limiting fishing in particular areas (e.g. critical habitats of a shark species, see Guideline 4.1) and/or at certain times or seasons when sharks are biologically vulnerable. Spatial and temporal controls may apply to all fisheries or just to specified categories of fisheries or vessels. Establishment of close or specially regulated fishing areas is a key measure for reconstitution of fish stocks (see e.g. GFCM/31/2007/2).
- Technical measures to **regulate fishing gear** aim to improve catch selectivity and reduce negative impacts on the marine environment and its resources in the course of commercial fisheries. They include size-selectivity options such as mesh size restrictions; bycatch reduction devices; use of biodegradable equipment; avoidance of destructive fishing methods in sensitive habitats; and adjustments to fishing operations and methods (see Guideline 3.4).
- Controls on **deliberate discarding or abandonment of fishing gear** which contributes to incidental mortality as well as environmental degradation. The UN-FAO Code calls on States to cooperate to develop and apply technologies, materials and operational methods that minimize the loss of fishing gear and the ghost fishing effects of lost or abandoned fishing gear (section 8.4.6).
- Measures to **minimise waste, discards and pollution** in the course of fisheries operations (consistent with the UN-FAO Code, sections 8.7.1-4). These should comply with the the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), including with regard to disposal of oily waste and the handling and storage of shipboard garbage.

### 3.3.2 Management of directed shark fisheries

Directed fisheries affect a relatively low number of shark species in the Mediterranean (cf bycatch which affects all shark species in the basin).

Nevertheless, targeted fishing pressure is considered to have led to the collapse of stocks of some species now considered locally extirpated or commercially extinct in the Mediterranean, including *Dipturus batis*, *Squatina aculeata* and *S. oculata*. In addition, data collected are incomplete and some of the most important landings are not recorded due to several species being reported under one group (Cavanagh and Gibson, 2007). It is known

that during certain seasons or in particular areas, fisherman do target sharks even though this is not officially reported<sup>30</sup>.

3.3.2.a Regulatory frameworks for directed fisheries should be designed to prevent overfishing and support sustainable management of stocks, based on the best available scientific information<sup>31</sup>. Appropriate measures for this purpose could include zero or limited catches, closure or suspension of unsustainable fisheries and size thresholds for authorised catches (see Box 6)<sup>32</sup>.

3.3.2.b For species assessed as CR or EN (IUCN Red List 2007), States should prioritise measures to prohibit or restrict targeting such species in fisheries within waters under their jurisdiction, and carried out by vessels flying their flag in waters beyond national jurisdiction, and should promote the adoption of equivalent measures by RFMOs.

3.3.3.c Where scientific information is inadequate to determine sustainable catch limits for particular species, States (in collaboration with RFMOs and other competent organisations) should establish precautionary measures to ensure the long-term conservation, management and sustainable use of shark stocks and prevent further decline of vulnerable or threatened shark stocks<sup>33</sup>.

3.3.3.d Each fisheries service should maintain a register of licences, issued to authorised fishing vessels, to conduct shark fisheries in waters under its jurisdiction and, for flag vessels, in waters beyond national jurisdiction. Vessels not included in this register should be deemed not to be authorised to fish for, retain on board, tranship, transport, transfer or land sharks in the State concerned.

#### **3.4 Minimise bycatch and incidental mortality of sharks**

All shark species in the Mediterranean are currently threatened or potentially threatened through bycatch in commercial fisheries, with the percentage of affected species varying according to the type of fishing gear (see Figure 2). The extent of bycatch is often poorly documented as most bycatch is estimated to be discarded at sea and not reported in official statistics.

Bycatch occurs in the course of directed fisheries for other species managed by RFMOs. Changes to fisheries effort, gear and methods are essential to ensure that incidental catch levels do not exceed sustainable limits. Several species currently assessed as Near Threatened may be unable to withstand continued indirect exploitation pressure e.g. *Dipturus oxyrinchus*, *Dasyatis pastinaca*, *Myliobatis aquila*.

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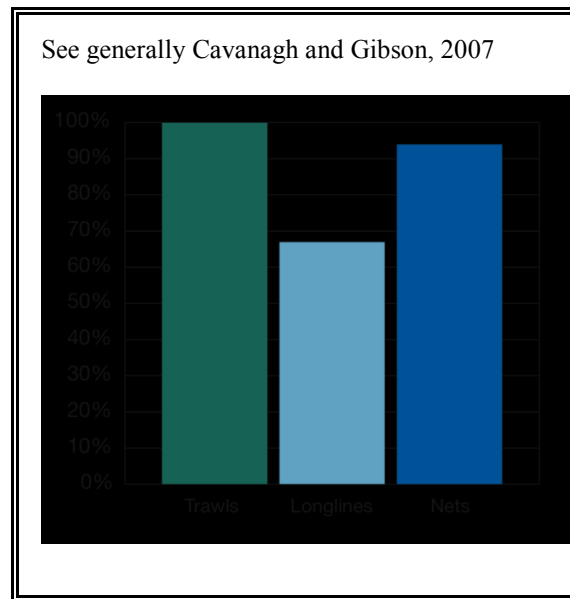
<sup>30</sup> Alen Soldo, pers.comm.

<sup>31</sup> This will include advice of RFMO Scientific Committees and, where available, the CITES Animal Committee and the CMS Scientific Committee.

<sup>32</sup> ICCAT is currently considering possible catch limits to reduce mortality in fisheries targeting *Lamna nasus*, *Isurus oxyrinchus* and *Prionace glauca* (see Annex B).

<sup>33</sup> Consistent with UNGA Resolution 62/177 (2007), §11.

**Figure 2 Percentage of chondrichthyans threatened by different types of bycatch**



### **3.4.1 General regulatory measures**

3.4.1.a Regulatory frameworks should be designed to minimise shark bycatch, as well as waste, discard of dead specimens and catch resulting from lost or abandoned fishing gear, in the course of fisheries in waters under national jurisdiction, or carried out by flag vessels in waters beyond national jurisdiction<sup>34</sup>.

3.4.1.b States should:

- ⇒ promote research into and development of more selective fishing gear, methods and practices, cooperating with other States, RFMOs and other competent organisations;
- ⇒ align relevant regulations with recommendations and/or technical guidance progressively updated by RFMOs or other competent organisations;
- ⇒ provide for environmental impact assessment with reference *inter alia* to possible habitat disturbance before new fishing gear, methods and operations are introduced on a commercial scale to an area<sup>35</sup>.

3.4.1.c For species assessed as CR and EN (IUCN Red List 2007), Mediterranean States should seek to establish bycatch reduction programmes aimed at zero bycatch.

3.4.1.d Where scientific information is inadequate to determine bycatch levels for shark species not subject to management, States should establish precautionary bycatch limits. These may take the form of a fixed percentage of target catch (e.g. 5%) within multispecies fisheries, calculated either by reference to the number of bycaught fish per landing out of the total catch or to their equivalent as percentage of weight. In fisheries where quotas apply, bycatch should be deducted from the quota of the flag State.

<sup>34</sup> ICCAT Resolution 2001-11 calls on Members to minimise waste and discards from shark catches in accordance with article 7.2.2.(g) of the Code of Conduct for Responsible Fisheries.

<sup>35</sup> Consistent with Article 8.4.7. of the UN-FAO Code of Conduct for Responsible Fisheries.

- 3.4.1.e The discard of dead bycatch sharks at sea should be minimised to reduce unaccounted fishing mortality. Live specimens caught as bycatch, especially juveniles, should be released at sea to the extent possible<sup>36</sup>, particularly where they belong to threatened species and/or have high discard survival rates. Regulations should require full notification of data on all bycatch, consistent with procedures established by RFMOs.
- 3.4.1.f Fishers should be provided with information and, where necessary, training on techniques for minimising, safe handling and releasing of bycatch and any rules applicable to protected species. These should be published in appropriate languages and circulated to all potential users.

### **3.4.2 Bycatch in trawls**

Bycatch in trawls is considered the greatest threat to sharks in the Mediterranean, although selectivity by trawl nets for size of sharks is still not yet well understood.

Bottom-dwelling species vulnerable to demersal trawling include several large skates and rays, the three species of angelsharks *Squatina spp.* and *Oxynotus centrina*. Other affected species include *Scyliorhinus spp.*, *Galeus melastomus*, *Mustelus spp.*, squalidae (*Centrophorus spp.*, *Squalus spp.*, *Etmopterus spinax*) and *Chimaera monstrosa*. Intensive bottom-trawling also reduces the complexity of benthic habitats, affects the epiflora and epifauna and reduces the availability of suitable habitats for predators and prey. Pelagic trawling adversely affects several species, though possibly not at all life stages (see generally Tudela 2004 and Cavanagh and Gibson 2007).

3.4.2.a States should as a minimum prohibit:

- ⇒ trawling at shallow depths to protect species dependent on fragile coastal habitats<sup>37</sup>;
- ⇒ use of towed dredges at depths beyond 1,000m<sup>38</sup>.

3.4.2.b Fishery managers should investigate options for fitting bycatch reduction devices in trawl nets to allow escapement of sharks and for adapting 'turtle excluder devices' to facilitate their exclusion.

3.4.2.c Maximum trawl time may be regulated to increase the chance of trapped specimens being brought alive to the surface.

3.4.2.d States should consider establishing closed areas and seasons for trawling, where appropriate, to protect shark spawning and nursery areas and other critical habitats (see also Guideline 4.1 below).

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<sup>36</sup> Consistent with e.g. ICCAT Recommendations 04-10 and 08-07.

<sup>37</sup> e.g. EC Regulation No 1967/2006 of 21 December 2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea lays down a series of restrictions on the use of certain fishing gear in shallow waters (art.13).

<sup>38</sup> Recommendation GFCM/2005/1 on the management of certain fisheries exploiting demersal and deepwater species deepwater fisheries.

### 3.4.3 Bycatch in drift nets and gill nets

Bycatch in nets (gillnets, purse seines and driftnets) is considered a possible threat to 67 (94%) of Mediterranean sharks. Pelagic drift nets are gillnets set at or near the sea surface to catch pelagic fish such as herring, tuna or mackerel. Migratory oceanic sharks form a large component of bycatch from large pelagic driftnet fisheries for tuna and billfishes e.g. *Cetorhinus maximus*, *Prionace glauca*, *Isurus oxyrinchus*, *Alopias* spp. and *Lamna* spp. At least two species evaluated as CR in the Mediterranean (*Pristis pectinata* and *P. pristis*) are vulnerable to bycatch in nets due to their large rostra.

At international and regional level, the prohibition of large-scale drift nets (individual or total length above 2.5 km) has been mandated since 1992<sup>39</sup>. Stricter EU measures apply to fishing in Community waters and to Member State-flagged vessels anywhere in the world<sup>40</sup>.

However, lack of adequate monitoring and enforcement remains a major problem and unlawful drift netting is still carried on by fishing vessels of some Mediterranean States.

- 3.4.3.a States should prohibit the keeping on board or use of drift nets in fisheries in waters under their jurisdiction or carried out by flagged fishing vessels under their jurisdiction or control in accordance with international or European Community law, as applicable. They should also prohibit the manufacture, sale, distribution or transfer of such drift nets to facilitate compliance.
- 3.4.3.b Stronger regional cooperation is essential, particularly within the framework of RFMOs, to monitor, exchange information, take necessary enforcement action against illegal drift netting and impose meaningful penalties, including confiscation of illegal gear (see Guideline 3.7).
- 3.4.3.c Deepwater gillnet fisheries should be prohibited below the limit of 1000 metres<sup>41</sup>. It may be appropriate to extend this prohibition to protect threatened deepwater shark species occurring at shallower depths than 1000 metres.
- 3.4.3.d Regulations to improve the selectivity of net fisheries may address gillnet mesh size and selection of web filaments (which determine breaking strain) to ensure that sharks are large enough to avoid growth overfishing and small enough to facilitate escapement of large breeding animals (UN-FAO 2000).

### 3.4.4 Bycatch in longline fisheries

Bycatch in longlines fisheries is a potential threat to 48 (67%) of shark species in the Mediterranean. Longline fisheries targeting swordfish and tunas pose a particular threat to certain species assessed as CR or EN, including *Lamna nasus*, *Isurus oxyrinchus*, *Carcharhinus plumbeus*, *Mobula mobular* and *Prionace glauca*.

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<sup>39</sup> UNGA Resolution 46/215 of 20 December 1991; UNGA Resolution 52/29 of 26 November 1997; for GFCM and ICCAT recommendations, see Annex B.

<sup>40</sup> EC Council Regulation No 1239/98 of 8 June 1998, extended to cover the Baltic Sea by Regulation 812/2004. A specific common definition of 'driftnet' was adopted in Council Regulation (EC) No 809/2007 of 28 June 2007.

<sup>41</sup> Recommendation GFCM/2005/1 on the management of certain fisheries exploiting demersal and deepwater species. This has improved the conservation status of at least two vulnerable deepwater species (*Centroscymnus coelolepis*, *Somniosus rostratus*.) because they are now protected against fisheries bycatch.

Most sharks can remain alive on hooks for extended periods and be released alive. There may be scope to improve survival by prohibiting the use of wire traces used to attach hooks to the snoods on a longline and by regulating for reduced breaking strains of the snoods. Wire traces reduce the probability of hooks being bitten off the snoods (UN-FAO 2000, UN-FAO 2005).

3.4.4.a Fisheries regulations should comply with RFMO rules and recommendations applicable to pelagic longline fisheries currently in force.

3.4.4.b Regulatory options to reduce bycatch from longlines, in accordance with research findings, may include minimum requirements related to line length, number and design of hooks, distance between hooks, kind of bait, times of setting and hauling, length of line and minimum depth at which bottom long lines may be set.

### **3.5 Prohibit or regulate shark finning**

Shark finning refers to the removal and retention of shark fins with the rest of the shark discarded at sea. The practice is highly wasteful as only 2–5% of the shark is used, the remainder being thrown away (partly for reasons of space on board vessels). Increasing demand for shark fins, driven by traditional Asian cuisine, has triggered a sharp increase in fin prices and increased the incentive to target sharks that might previously have been released alive.

Shark finning hampers onshore monitoring and surveillance of catch, either because carcasses are jettisoned immediately after finning and never appear in statistics or because they are landed already finned which makes them much harder to identify (see Guideline 2.4.2).

At international level, there is consensus on the need to regulate and phase out this practice for trade monitoring and management purposes as well as conservation<sup>42</sup>.

3.5.a States with fisheries that capture sharks, whether in directed fisheries or as bycatch in other fisheries, or which facilitate the landing of shark products by international flag vessels, should require that all sharks be landed with the fins attached to their bodies<sup>43</sup>.

3.5.b Skin, claspers and, where applicable, dorsal spines should also remain attached to facilitate the making of species-specific landings records and to promote full utilisation of shark catches.

3.5.c Pending the adoption of regulatory measures consistent with 3.5.a-b, the authorised fin-to-carcass ratio should not exceed 5% of dressed weight (or 2% of whole weight). Fins and carcasses should be offloaded together at the point of first landing: where this is not possible, compliance with applicable ratios should be verified through certification, monitoring by an observer, or other appropriate measures.

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<sup>42</sup> UNGA Resolutions 62/177 (2007), §12 and 63/112 (2008) §14, Chondrichthyans Action Plan (§19), RFMO recommendations and relevant EU legislation (see Annex A and Annex B).

<sup>43</sup> This is aligned with UNGA 62/177 (2007) but goes beyond the requirements of e.g. ICCAT Recommendation 04-10.

3.5.d National regulations should, in addition:

- ⇒ cover the full range of actions related to shark finning;
- ⇒ prohibit fishing vessels from retaining on board, transshipping or landing any fins harvested in contravention of applicable regulations;
- ⇒ provide for collection and reporting of species-specific biological and trade data (see Box 7 for an example of national legislation for this purpose).

**Box 7 Example of national legislation on shark finning (United States)**

The Shark Finning Prohibition Act 2000\* applies to all persons/vessels fishing in waters under national jurisdiction and prohibits:

- removing any of the fins of a shark (including the tail) and discarding the carcass of the shark at sea;
- having custody, control, or possession of any such fin aboard a fishing vessel without the corresponding carcass; or
- landing any such fin without the corresponding carcass.

"Shark finning" is defined as the taking of a shark, removing the fin or fins (whether or not including the tail) of a shark, and returning the remainder of the shark to the sea.

The Act creates a rebuttable presumption that any shark fins landed from a fishing vessel or found on board a fishing vessel were illegally taken, held, or landed if the total weight of shark fins landed or found on board exceeds 5% of the total weight of shark carcasses landed or found on board.

The competent minister is required to keep records and submit an annual report to Congress containing a list that identifies nations whose vessels conduct shark-finning and details the extent of the international trade in shark fins, including estimates of value and information on harvesting of shark fins, and landings or transshipment of shark fins through foreign ports.

\* Public Law n°106-557 "to eliminate the wasteful and unsportsmanlike practice of shark finning", amending Art.307(1) of the Magnuson-Stevens Fishery Conservation and Management Act.

**3.6 Manage recreational fisheries taking sharks**

There is no common regulatory framework for recreational fisheries in Mediterranean waters. Information is lacking on catch volumes as well as on the level of fishing effort for this type of fishery (see generally Gaudin and de Young, 2007). However, RFMOs have begun to address this issue in recent years, *inter alia* to ensure that recreational fishing activities do not undermine sustainable exploitation of the stocks covered by their mandate.<sup>44</sup>

Recreational shark fisheries have increased noticeably over the past few years, particularly off the Italian, Spanish and French coasts. Although data are limited, target species mainly include thresher sharks *Alopias spp.* and blue shark *Prionace glauca* (e.g. summer fishery in the Adriatic Sea) and porbeagle *Lamna nasus*. These species are also targeted by commercial fisheries.

**3.6.a States should include recreational fisheries in their legal and management**

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<sup>44</sup> e.g. ICCAT Recommendation 04-12, adopted by the GFCM in 2005; ICCAT Resolution TOR 06-17 establishing a Working Group on amateur and sport fisheries. In 2006 the GFCM has recognised recreational fisheries as a new priority area of study and commissioned a review of existing legal frameworks (Gaudin and de Young 2007). Recreational fisheries are also addressed in EC Regulation on management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea [(EC) No 1967/2006 of 21 December 2006.

frameworks to conserve and sustainably manage marine resources in accordance with UNCLOS, the UN-FAO Code of Conduct, the ecosystem approach and the precautionary principle.

- 3.6.b Legislation should clearly define the terminology, rules and procedures applicable to different categories of recreational fishing. A permit system should be established to make it possible to regulate access to target resources and support collection of biological and socio-economic data.
- 3.6.c Regulations and/or conditions attached to permits should be based on the best available scientific information, following consultation with the recreational fisheries sector and other relevant stakeholders. Such measures, similar to those used for commercial fisheries regulation (see Box 6) and may include:
- ⇒ limitation on the number of boats/permits to limit overall fishing effort;
  - ⇒ individual catch quotas e.g. in the form of daily bag limits for targeted species;
  - ⇒ limitation of fishing gear to minimise bycatch from recreational fisheries;
  - ⇒ minimum landing sizes;
  - ⇒ a requirement to release, wherever possible, specimens caught alive, especially juveniles (i.e. catch-and-release angling);
  - ⇒ establishment of closed areas and seasons;
  - ⇒ a prohibition on the sale, barter, transport or marketing of sharks caught in recreational or sport fishing.
- 3.6.d For shark species subject to protection or management measures (see Guideline 3.1):
- ⇒ recreational fisheries should be prohibited for strictly protected species;
  - ⇒ recreational fisheries targeting species subject to special management (including species vulnerable to over-fishing) should be subject to special permit;
  - ⇒ lists of species in each of these categories should be annexed to relevant regulations and widely disseminated to stakeholders.
- 3.6.e For recreational fisheries targeting highly migratory species of fish, States should cooperate at the appropriate level to develop common conservation and management measures.

### **3.7 Enforce controls on illegal, unregulated and unreported fishing**

Illegal, unregulated and unreported (IUU) fishing activities undermine the effectiveness of conservation and management measures adopted at national and regional level. Over 80% of COFI Members identify IUU fishing as a problem.

- 3.7.a States have a duty to curb IUU fishing in accordance with UNCLOS, the 1993 UN-FAO Compliance Agreement, the 1995 UN Fish Stocks Agreement and recommendations adopted by GFCM and ICCAT. National measures should be developed in accordance with these requirements and updated as new recommendations are adopted at regional level.
- 3.7.b At national level, responsibility for enforcing relevant legislation may come under several administrations (port authorities, fisheries administrations, customs agencies, Coast Guard, the navy, local authorities etc.). Where necessary, States should take steps to raise awareness of key personnel and to build coordination and capacity for law enforcement.



- 3.7.c Each Flag State should put procedures in place to monitor the activities of its fishing vessels and maintain a register of flag vessels authorised to fish on the high seas. In the event of non-compliance with applicable legal requirements, it should take enforcement measures and apply appropriate sanctions (see also Guideline 3.7.d).
- 3.7.d Each coastal State should extend monitoring, inspection and surveillance measures to non-flag vessels authorised to fish in waters under its jurisdiction.
- 3.7.e States should promote and, where appropriate, implement cooperative measures to ensure compliance with regional and international obligations in the high seas, consistent with procedures adopted by RFMOs (see Annex B). These should *inter alia* include:
- ⇒ observer programmes, inspection schemes and vessel monitoring systems to provide for satellite tracking of fishing vessels<sup>45</sup>;
  - ⇒ implementation of strengthened, harmonised and transparent Port State measures in accordance with Recommendation GFCM/2008/1 on a Regional Scheme on Port State measures to combat IUU in the GFCM area<sup>46</sup>;
  - ⇒ implementation of measures to regulate transshipment<sup>47</sup> in accordance with ICCAT Recommendation [06-11], adopted for the Mediterranean by GFCM/31/2007/3<sup>48</sup>.
- 3.7.f National legislation should provide for enforcement measures and sanctions with respect to vessels flying its flag that are in breach of applicable requirements. Penalties may include, depending on the gravity of the offence and in accordance with the pertinent provisions of national law:
- ⇒ fines;
  - ⇒ seizure of illegal fishing gear and catches;
  - ⇒ sequestration of the vessel;
  - ⇒ suspension or withdrawal of authorisation to fish;
  - ⇒ reduction or withdrawal of the fishing quota, if applicable.
- 3.7.g Without prejudice to relevant international agreements, States should encourage banks and financial institutions not to require, as a condition of a loan or mortgage, fishing vessels or fishing support vessels to be flagged in a jurisdiction other than that of the State of beneficial ownership where such a requirement would have the effect of increasing the likelihood of non-compliance with international conservation and management measures (UN-FAO Code section 7.8.1).

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<sup>45</sup> Under current GFCM and ICCAT regulations, minimum vessel monitoring requirements apply to bluefin tuna fishing vessels over 24 m but will be extended to vessels over 15 m from 1 January 2010 (GFCM/31/2007, adopting ICCAT Recommendation 06-05).

<sup>46</sup> Aligned with the draft Agreement on Port State measures under development within UN-FAO.

<sup>47</sup> Transshipment at sea (the transfer of fish from fishing vessels to transport ships (reefers)) is a well-established way to avoid detection of IUU as it removes the need for IUU fishing vessels to enter ports and makes it easier to launder an illegal catch by mixing it with legally caught fish on board these transport vessels.

<sup>48</sup> Texts available at <http://firms.fao.org/gfcm/topic/16100>.

## 4 INTEGRATE MANAGEMENT OF MARINE AND COASTAL ECOSYSTEMS

### 4.1 Identify and protect critical habitats for sharks

The identification and protection of critical habitats is recognised as a key part of shark conservation and management under IPOA-Sharks (§6) and mandated by several international instruments applicable to sharks (CMS, Barcelona Protocol, Bern Convention).

Scientific criteria for identifying ecologically or biologically significant marine areas beyond national jurisdiction could include: uniqueness or rarity; special importance for the life-history stages of species; importance for threatened, endangered or declining species and/or habitats; vulnerability, fragility, sensitivity or slow recovery; biological productivity; biological diversity and naturalness<sup>49</sup>.

Mediterranean areas already identified as critical habitat for sharks include Tunisian waters providing a nursery area for *Carcharodon carcharias* and areas of aggregation for *Cetorhinus maximus* in the northern Balearic region, Northern Adriatic and Tyrrhenian Sea. Some species have a restricted range within the Mediterranean e.g. a small population of *Odontaspis ferox* seems resident in a particular area off Lebanon (Cavanagh and Gibson 2007).

- 4.1.a States should promote and support field studies to inventory and map critical habitats around the Mediterranean at all stages of shark life cycles (mating areas, spawning and nursery grounds, winter feeding grounds, migration routes etc.).
- 4.1.b Inventories should build on existing databases and survey programmes where possible and be developed in cooperation with fisheries, environmental and other concerned stakeholders, nationally and within the region. They should be regularly updated to integrate new data.
- 4.1.c Inventories need to provide information on the location, ecological role and conservation status of critical habitats so that planning and management tools can be selected and prioritised to make best use of available resources.
- 4.1.d Legislation should provide, to the extent possible, for the designation and protection of critical habitats of strictly protected sharks and of species subject to special management (see examples in Box 8). Allowing for differences between national legal systems, the procedure leading to designation should follow these basic steps:
  - ⇒ identification of candidate sites (requires an understanding of species composition, stock structure, aggregation patterns, level of vulnerability to fishing etc.);
  - ⇒ assessment of candidate sites to identify which sites may deliver greatest benefits (viability in terms of size, shape, boundaries etc.);
  - ⇒ selection of sites, following consultation with affected sectors and stakeholders;
  - ⇒ delimitation of site boundaries on a map annexed to primary legislation or incorporated in fisheries and/or marine environmental regulations;
  - ⇒ choice of management regime (see below). Legislation may provide that basic protection measures apply automatically once a critical habitat is legally designated, to avoid administrative delay in implementation.
- 4.1.e Measures applied to protected critical habitats should be designed to prevent

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<sup>49</sup> Criteria set out in Annex 1 of CBD Decision IX/20 *Marine and coastal biodiversity* (COP9, Bonn, 19-30 May 2009).

negative impacts of human activities, including but not limited to fisheries, and to support monitoring, management and recovery activities. These could include:

- ⇒ permanent or seasonal closure to fisheries (e.g. to protect aggregations of sharks);
- ⇒ modification of fishing gear;
- ⇒ controls on dumping and discards;
- ⇒ restrictions on navigation consistent with international law e.g. exclusion of certain categories of vessel, speed restrictions;
- ⇒ establishment of marine protected areas (see Guideline 4.2).

4.1.f Public bodies responsible for the planning, authorisation and oversight of potentially damaging activities should be formally notified of the location of listed critical habitats and should ensure that such activities do not adversely affect the site or conflict with its management objectives.

### Box 8 Examples of legislative measures to protect critical habitats

<p><b>New South Wales (Australia): Fisheries Management Act 1994 N° 38</b> <a href="http://www.dpi.nsw.gov.au/fisheries">http://www.dpi.nsw.gov.au/fisheries</a> “The whole or any part of the habitat of an endangered species, population or ecological community or critically endangered species or ecological community that is critical to the survival of the species, population or ecological community is eligible to be declared... to be the critical habitat of the species, population or ecological community” (Art. 220P.1).</p> <p><b>Canada: Fisheries Act 1985</b> (<a href="http://laws.justice.gc.ca/en/F-14/">http://laws.justice.gc.ca/en/F-14/</a>) The Act prohibits, except under a permit, any work or undertaking resulting in the harmful alteration, disruption or destruction of fish habitats (defined as “spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes”) (arts.34-35). The impact of projects potentially affecting fish habitats must be considered before an activity may begin.</p>
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### 4.2 Adopt or strengthen legislation for marine protected areas

Marine protected areas (MPAs) may provide an important conservation and management tool for sharks, depending on the biological and migratory characteristics of the species concerned and the scale of threats identified.

At the global level, the UN General Assembly has called for greater cooperation in this area among relevant international organisations and bodies. Criteria on objectives and management of MPAs have been adopted under the Convention on Biological Diversity<sup>50</sup>. UN-FAO is developing technical guidelines for the implementation and testing of MPAs for fisheries purposes.

At the regional level, the Barcelona Protocol mandates the creation not only of MPAs in waters under national jurisdiction but also of Specially Protected Areas of Mediterranean Importance (SPAMI) which may be established on the high seas with the approval of the Meeting of the Parties. All Parties are bound by the protection rules adopted for a SPAMI.

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<sup>50</sup> CBD Decision IX/20 (Annex II) provides scientific guidance for designing representative networks of marine protected areas. See further Kelleher G, (ed.) 1999. *Guidelines for Marine Protected Areas*. IUCN Best Practice Protected Area Guidelines Series No.3, available for download from <http://www.iucn.org/themes/wcpa/pubs/guidelines.htm>.

Establishing MPAs in waters beyond national jurisdiction raises questions of governance: their effectiveness depends on multilateral cooperation by users of the area and its resources.

- 4.2.a States that have not already done so should adopt or amend legislation to provide a legal and institutional framework to establish and manage marine protected areas.
- 4.2.b This legislation may be site-specific or take the form of framework legislation that establishes powers to create marine reserves by secondary regulations. Site-specific legislation may be particularly appropriate for large MPAs.
- 4.2.c Consistent with the Barcelona Protocol (Art.10), the legislation should provide that any modification of the MPA's boundaries or its legal regime, or the delisting of all or part of the MPA, should be subject to the same legal procedure used for its establishment.
- 4.2.d The MPA's primary objective should be conservation of biological diversity and biological productivity. Legislation should recognise the link between protection and maintenance of ecological processes and the ecologically sustainable use of marine living resources.
- 4.2.e MPA management responsibility may be allocated to an existing agency or to a dedicated cross-sectoral body, depending on the nature of the MPA. Relevant authorities and agencies with responsibility for activities affecting the MPA should cooperate in MPA planning and management. If necessary, a procedure for resolution of conflicts between different stakeholders should be put in place.
- 4.2.g Public participation and consultation are important to engage local communities, NGOs and users of the coastal and marine environment e.g. representation on a consultative committee.
- 4.2.h The protection and management regime for an MPA should be aligned with a State's international commitments. Consistent with the Barcelona Protocol, regulations should cover the dumping or discharge of waste or harmful substances; the passage, stopping or anchoring of ships; the introduction of alien species and genetically modified organisms; activities involving the exploration of the sea-bed; fishing and hunting; and taking and destruction of and trade in wild animals and plants. Permit procedures should be developed to ensure management of activities consistent with MPA objectives.
- 4.2.i A management plan should be prepared for each MPA and reviewed at least every five years in consultation with stakeholders. In the event of inconsistency between the MPA management plan and other planning documents (coastal plans, sectoral plans), the former should prevail.

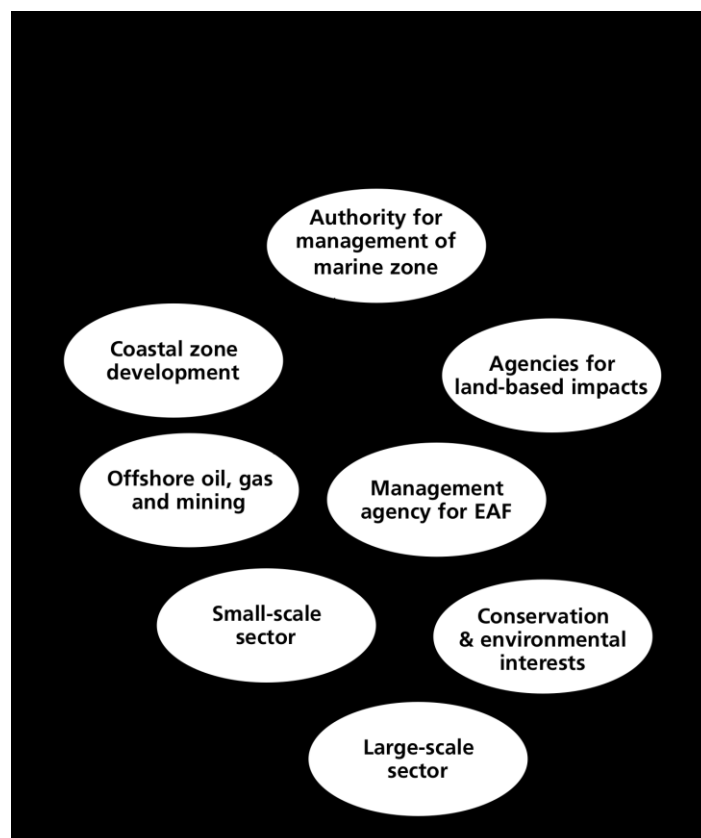
### **4.3 Develop integrated approaches to marine and coastal management**

About a third of sharks in the Mediterranean are threatened or potentially threatened by human activities leading to pollution, disturbance and habitat loss, particularly in the coastal zone. Pollution can contaminate food sources, concentrating in animals at the top of the food chain and potentially affecting physiology and functioning. Threats to sharks include collisions with boats, entanglement in fishing gear, marine litter and habitat degradation due to dredging, gravel extraction and dumping of waste or rubble.

Legal frameworks thus need to go beyond species- and area-based measures to address processes and activities that affect the quality of marine and coastal ecosystems on which the fish depend. This kind of holistic approach is already strongly endorsed at the global and regional levels:

- the UN-FAO Code of Conduct for Responsible Fisheries calls on States to ensure that their fisheries interests, including the need for conservation of the resources, are taken into account in the multiple uses of the coastal zone and are integrated into coastal area management, planning and development (section 6.9: see Figure 3);
- the UN General Assembly has urged all States to implement the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities<sup>51</sup> and to accelerate activity to safeguard the marine ecosystem, including fish stocks, against pollution and physical degradation;
- the Barcelona Protocol (art.3.4) mandates Parties to integrate strategies, plans and programmes for conservation of biodiversity and sustainable use of marine and coastal biological resources into relevant sectoral and cross-sectoral policies.

**Figure 3 Institutional coordination to support an ecosystem approach to management**



Source: UN-FAO 2005 *Putting into practice the ecosystem approach to fisheries*

<sup>51</sup> See UNGA Resolution 62/177 (2007), §103 and <http://www.gpa.unep.org/>.

The new Protocol on Integrated Coastal Zone Management in the Mediterranean<sup>52</sup> is the first legally binding ICZM instrument in the world. It defines ICZM as:

*“a dynamic process for the sustainable management and use of coastal zones, taking into account at the same time the fragility of coastal ecosystems and landscapes, the diversity of activities and uses, their interactions, the maritime orientation of certain activities and uses and their impact on both the marine and land parts” (Art. 2.f)*

The Protocol requires Parties to establish a common framework for ICZM in the Mediterranean, up to the limit of their territorial sea and to strengthen regional cooperation for this purpose.

4.3.a States should develop policies for the marine and coastal environment based on ecologically sustainable development and integrated management of activities and resources in estuarine, coastal and marine areas. Policies and implementation measures should:

- ⇒ ensure that the coastal and maritime economy is adapted to the fragile nature of coastal zones and that resources of the sea are protected from pollution;
- ⇒ promote the protection of marine areas hosting habitats and species of scientific interest through appropriate planning and/or management, irrespective of their legal status;
- ⇒ promote regional and international cooperation for the implementation of common programmes for the protection of marine habitats;
- ⇒ take into account the need to protect fishing areas in coastal development projects;
- ⇒ ensure that fishing practices are compatible with sustainable use of other marine resources;
- ⇒ build in consultation and participation procedures with the public and stakeholders.

4.3.b The most appropriate mechanism for coordination between different authorities responsible at sea and on land will vary from one country to another. Depending on existing arrangements for governance, options range from an informal committee of key agencies and stakeholders, which can be established without the need for special legislation, to the creation of a special statutory authority.

#### **4.4 Regulate and manage ecologically damaging processes**

The Barcelona Protocol requires Parties to:

- identify and monitor processes and categories of activities which have or are likely to have a significant adverse impact on the conservation and sustainable use of biodiversity (Art.3.5); and
- provide for environmental impact assessment (EIA) procedures in the planning process leading to decisions on industrial and other projects and activities that could significantly affect protected areas and species and their habitats (Art.17).

These obligations apply both to marine and terrestrial activities that affect interests protected under the Protocol.

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<sup>52</sup> The ICZM Protocol to the revised Barcelona Convention was signed in Madrid, 21 January 2008 (not yet in force) and may be downloaded from <http://www.pap-thecoastcentre.org/>.

- 4.4.a National frameworks should provide for regulation or management of activities that are potentially damaging to marine species, habitats and ecosystems. Activities that could threaten strictly protected species or their habitats should be prohibited without a permit.
- 4.4.b States should put in place EIA procedures for public and private projects likely to have significant environmental effects on marine and coastal ecosystems, including designated critical habitats. The EIA should take into consideration the specific sensitivity of the environment and the inter-relationships between the marine and terrestrial parts of the coastal zone<sup>53</sup>.
- 4.4.c States should also provide for strategic environmental assessment of plans and programmes affecting the marine and coastal zone<sup>54</sup>, including offshore development (e.g. gas and oil exploitation).
- 4.4.d Where plans, programmes and projects are likely to have a significant adverse effect on the marine or coastal zones of other States, the States should cooperate in assessing their environmental impacts by means of notification, exchange of information and consultation before any decision on authorisation or approval is made<sup>55</sup>.
- 4.4.e EIA procedures should be conducted in an open and transparent way and the participation of the public, conservation organisations and other stakeholders should be promoted.
- 4.4.f EIA regulations should clearly specify the following matters:
- ⇒ when an EIA is required (project type; size/cost threshold);
  - ⇒ the information and analysis it should contain (direct and indirect impacts, short- and long-term, possible cumulative effect, areas of uncertainty, possible alternatives to mitigate or compensate for anticipated impacts);
  - ⇒ who should carry out the EIA (where possible, this should be an independent and qualified EIA practitioner, and not the project proponent);
  - ⇒ which agency or institution should review the EIA during the decision-making process;
  - ⇒ circumstances in which a public enquiry may be required;
  - ⇒ criteria for determining whether a permit should be granted;
  - ⇒ who should bear the costs of the EIA and associated procedures.

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<sup>53</sup> Based on Art.19.1 of the ICZM Protocol (2008).

<sup>54</sup> *Ibid.* Art.19.2.

<sup>55</sup> Consistent with the FAO Code of Conduct for Responsible Fisheries (§10.3.2) and Art.29.1, ICZM Protocol.

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## **Annex A**

### **International instruments for conservation of marine biodiversity**

#### **A.1 Global instruments**

##### **A.1.1 Convention on International Trade in Endangered Species of Wild Fauna and Flora**

Adopted 3 March 1973, in force 1 July 1975 (see further <http://www.cites.org/>)

CITES provides the legal framework for the prevention of international trade in endangered species of wild fauna and flora (Appendix I: species threatened with extinction for which international trade may only be permitted in exceptional circumstances) and for the effective regulation of international trade in other species to avoid their over-exploitation (Appendix II: species not necessarily threatened with extinction, but in which international trade must be controlled in order to avoid utilization incompatible with their survival). Appendix III lists species protected in at least one country, which has asked other CITES Parties for assistance in controlling international trade.

The CITES COP first addressed trade-related threats to sharks in 1994 when sharks were not specifically managed by any multilateral agreement for fisheries management. Resolution 9.17 on the Biological and Trade Status of Sharks requested UN-FAO and international fisheries management organisations to establish programmes to collect necessary data on shark species, and called on all nations using and trading specimens of shark species to cooperate with them for this purpose.

Since then, the COP has repeatedly expressed concern that insufficient progress has been made in achieving shark management through implementation of IPOA-Sharks; that development and implementation of national Shark Plans is inadequate; and that the continued significant trade in sharks and their products is not sustainable.

CITES measures applicable to sharks in the Mediterranean include the listing of *Pristis pectinata* and *Pristis pristis* in Appendix I (effective 13/09/07) and *Cetorhinus maximus* and *Carcharodon carcharias* in Appendix II (effective 13/02/03 and 12/01/05 respectively). In 2007, proposals to add porbeagle *Lamna nasus* and spiny dogfish *Squalus acanthias* to Appendix II were defeated at COP14 (3-15 June 2007, The Hague, Netherlands).

The CITES COP has also adopted recommendations for sustainable management of particular shark species which have been taken into account in developing these Guidelines<sup>56</sup>. These include:

- Resolution Conf.12.6 on the Conservation and Management of Sharks which affirms that lack of progress in IPOA-Sharks development does not justify a lack of further substantive action on shark trade issues within the CITES forum and urges UN-FAO to take steps to actively encourage relevant States to develop national Shark Plans.
- Decision 13.42 which encourages Parties to improve data collection and reporting of catches, landings and trade in sharks (at species level where possible); to build capacity to manage their shark fisheries; and to take action on species-specific recommendations developed by the Animals Committee (see 3.2.2 and Annex C).

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<sup>56</sup> For more information, see the *Report of activities related to sharks undertaken by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)* submitted to the CMS meeting to identify and elaborate an option for international cooperation on migratory sharks under CMS (UNEP/CMS/MS/Inf/12, available on [http://www.cms.int/bodies/meetings/regional/sharks/shark\\_meeting.htm](http://www.cms.int/bodies/meetings/regional/sharks/shark_meeting.htm)).

The CITES Animals Committee assesses information provided by range States to refine the list of shark species of concern, in collaboration with UN-FAO, and makes species-specific recommendations at COP meetings on improving the conservation status of sharks and regulating international trade in these species.

The 2007-2010 CITES Programme of Work encourages Parties, when considering or developing proposals to include shark species in the CITES Appendices, to consider factors affecting implementation and effectiveness, in particular:

- non-detriment findings for commercially-traded marine species (including situations involving target and bycatch fisheries) and for shared stocks, migratory species and introductions from the sea;
- monitoring and enforcement practicalities, given that sharks are generally traded in parts (meat, fins, cartilage, etc.); and
- the likely effectiveness of listing, particularly when bycatch fisheries or non-fishery anthropogenic issues are involved.

The Programme of Work also includes measures related to commodity codes, species-specific reviews, capacity-building, implementation of IPOA-Sharks and illegal fishing.

The CITES Secretariat has signed Memoranda of Understanding to strengthen cooperation and synergy with the CMS Secretariat (2002) and UN-FAO (2007).

With the recent listing of some highly migratory species under CITES, and given that taking may occur on the high seas, work in progress is focused on reaching agreement on implementing provisions on introduction from the sea (see Conf.14.6). Issues under consideration include the making of non-detriment findings for species caught beyond national jurisdiction; respective responsibilities of Flag States and Port States; the handling of transshipments in high seas; and the clarification of key definitions to make these provisions enforceable.

### **A.1.2 Convention on the Conservation of Migratory Species of Wild Animals**

Adopted 23 June 1979, in force 1 November 1983 (see further <http://www.cms.int/>)

CMS provides a global framework within which Parties must take appropriate action, individually and in cooperation, to conserve migratory species and their habitats and to avoid any migratory species becoming endangered. Five shark species occurring in the Mediterranean are now listed either under both Appendices to the Convention (*Carcharodon carcharias*, *Cetorhinus maximus*) or in Appendix II (*Isurus oxyrinchus*, *Lamna nasus*, *Squalus acanthias*, added in 2008):

- **Appendix I (Endangered migratory species):** Parties that are Range States of a listed species must adopt strict protection measures including: a prohibition on “taking”, broadly defined to include hunting, fishing, capturing, harassing and deliberate killing; conservation and, where feasible, restoration of habitats important for these species; measures to prevent or minimise the adverse effects of activities or obstacles that seriously impede or prevent their migration; and prevention or control of other factors that might endanger them (Art.III);
- **Appendix II (Migratory species with an unfavourable conservation status that need or would significantly benefit from international cooperation):** Range States

(whether or not they are CMS Parties) are encouraged to conclude global or regional Agreements for their conservation and management (Art. IV)<sup>57</sup>.

In 2005, the CMS COP agreed to develop a global agreement for listed migratory sharks to enable them (and potentially other shark species) to benefit from conservation measures delivered through CMS in cooperation with RFMOs already engaged in shark conservation and management. Recommendation 8.16 also called on Parties to strengthen measures to protect migratory shark species against threatening processes, including habitat destruction, IUU fishing and fisheries bycatch.<sup>58</sup>

Two CMS meetings have now been held to develop a mechanism for international cooperation for migratory sharks (Mahe, Seychelles, 11-13 December 2007; Rome, 6-8 December 2008). The proposed agreement will probably take the form of a non-binding Memorandum of Understanding and Action Plan adopted under Article IV of the CMS treaty. The draft text (negotiations are due to be concluded at a meeting in the Philippines in 2009) will cover the three shark species listed in Appendix I. However, Range states are currently divided on whether the four species added to Appendix II in 2008 should be included.

The provisions of the future instrument are likely to include:

- conservation measures for listed species;
- engagement with the fisheries industry and RFMOs, including encouragement of shark fishing quotas, and control of bycatch;
- prohibition and control of shark finning;
- coordination of stock assessments and research;
- identification and protection of critical shark habitats and migration routes;
- capacity-building for shark management; and
- promotion and regulation of ecotourism and other non-consumptive use.

## A.2 Regional instruments

### A.2.1 Barcelona Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Adopted 10 June 1995<sup>59</sup>, in force 12 December 1999 (see further <http://www.rac-spa.org/accueil.php>)

The Mediterranean Action Plan (1975) provides a regional framework for legal instruments focused on different aspects of environmental protection in the basin. These include the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean Sea (adopted 1976, revised 1995), under which the Barcelona Protocol and the new ICZM Protocol have been developed.

The Barcelona Protocol requires Parties to adopt cooperative measures to ensure the protection and conservation of species listed in two Annexes:

- Annex II (Endangered or Threatened species) lists three shark species (*Carcharodon carcharias*, *Cetorhinus maximus* and *Mobula mobular*). Parties must ensure their “maximum possible protection and recovery” in accordance with measures laid down in Articles 11.3 and 12. These requirements are reflected in Guideline 3.1 above.

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<sup>57</sup> Under CMS, one Agreement for marine species in the Mediterranean has already been adopted (Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS), Monaco, November 1996).

<sup>58</sup> Bycatch of migratory species is specifically addressed under Resolution 6.2 and Recommendation 7.2.

<sup>59</sup> Replacing the 1982 Geneva Protocol (Protocol concerning Mediterranean Specially Protected Areas).

- Annex III (Species whose Exploitation is Regulated) lists five species (*Squatina squatina*, *Rostroraja alba* (= *Raja alba*), *Isurus oxyrinchus*, *Lamna nasus* and *Prionace glauca*). Parties are required, in cooperation with competent international organisations, to take all appropriate measures to ensure the conservation of these species while at the same time authorising and regulating their exploitation so as to ensure and maintain their favourable state of conservation (Art.12.4).

Parties must also compile lists of endangered and threatened species in zones subject to their sovereignty or jurisdiction and accord them protected status. They must regulate and, where appropriate, prohibit activities having adverse effects on such species or their habitats, and carry out management, planning and other measures to ensure their favourable state of conservation. They should coordinate their action through bilateral or multilateral cooperation for the protection and recovery of migratory species whose range extends into the Mediterranean.

Lastly, the Protocol lays down requirements for area-based protection measures, integrated marine and coastal planning and environmental impact assessment of projects and other activities that could affect protected species and their habitats.

#### **A.2.2 Action Plan for the Conservation of Cartilaginous Fishes in the Mediterranean Sea**

Adopted 2003 (see further <http://www.rac-spa.org/telechargement/PA/elasmo.pdf>)

The Chondrichthyan Action Plan was developed by the UNEP Regional Activity Centre for Specially Protected Areas (UNEP RAC/SPA), in collaboration with the IUCN Centre for Mediterranean Cooperation and the IUCN SSG. It builds on international and regional instruments for conservation and management of sharks in the Mediterranean and calls for regional implementation of IPOA-Sharks.

The Action Plan takes a holistic approach to processes threatening Mediterranean chondrichthyans and sets out broad objectives (see Guideline 1.2.1 and Box 2). Specific sections address species protection, sustainable fisheries management, research, training, cooperative management, data collection and education and public awareness. Each of these components has been reflected in the development of these Guidelines.

Implementation of the Action Plan is the responsibility of the national authorities of the Contracting Parties (§36). A review of implementation must be carried out five years after its adoption (i.e. in 2008), leading if necessary to revision of the Plan itself.

### **A.2.3 Convention on the Conservation of European Wildlife and Natural Habitats**

Adopted 19 September 1979, in force 1 June 1982

(see further <http://www.coe.int/t/dg4/cultureheritage/Conventions/Bern/>)

Parties to this regional convention include all European Mediterranean states, the European Community and two African Mediterranean States (Morocco, Tunisia).

The Mediterranean populations of *Cetorhinus maximus* and *Carcharodon carcharias* are listed as strictly protected animal species (Annex II). Parties must take appropriate and necessary legislative and administrative measures to ensure special protection of these species and their habitats and prohibit deliberate capture, keeping, killing, damage to or destruction of breeding or resting sites and possession of and internal trade in these animals, parts and derivatives where this would contribute to the effectiveness of this strict protection objective (Art.6).

The Mediterranean populations of *Isurus oxyrinchus*, *Lamna nasus*, *Prionace glauca*, *Squatina squatina* and *Raja alba* are listed as protected species of wild fauna whose exploitation must be regulated (Annex III). Measures for this purpose include: closed seasons and/or other procedures regulating exploitation; temporary or local prohibition of exploitation, as appropriate, to restore satisfactory population levels; regulation as appropriate of sale, keeping for sale, transport for sale or offering for sale of live and dead wild animals (Art.7). Parties must prohibit the use of all indiscriminate means of capture and killing and the use of all means capable of causing local disappearance of, or serious disturbance to, populations of these species (Art.8).

Parties must coordinate their efforts for the protection of Annex-listed migratory species whose range extends into their territories (Art.10.1) and ensure that measures adopted under Art.7.3a are adequate to meet the requirements of the migratory species listed in Annex III.

A Standing Committee meets annually to review implementation of the Convention, with specialist NGOs attending as observers. To date, however, it has not adopted any recommendation concerning shark conservation.

## **Annex B**

### **International instruments for fisheries conservation and management**

#### **B.1 Global instruments**

##### **B.1.1 United Nations Convention on the Law of the Sea**

Adopted 10 December 1982, in force 16 November 1994 (see further [www.un.org/Depts/los/](http://www.un.org/Depts/los/))

UNCLOS sets out the rights and duties of States for fisheries management and conservation, environmental protection and other legitimate uses of the sea, reflecting customary international law, and defines the legal regime for each marine jurisdictional zone.

- Within the **territorial sea** (up to a limit not exceeding 12 nautical miles measured from its baseline), a coastal State has sovereign rights over all resources, living or non-living.
- A coastal State may establish an **exclusive economic zone (EEZ)** beyond its territorial sea to a maximum of 200 nautical miles from its baseline in which it has *sovereign rights* for exploiting, conserving and managing natural resources. However, it must ensure that living resources are not endangered by over-exploitation and that populations of species associated with or dependent on harvested species are maintained above levels at which their reproduction may become seriously threatened. The State also has *jurisdiction* over scientific research and the protection and preservation of the marine environment.
- A coastal State has sovereign rights over the whole **continental shelf**, even beyond the 200 mile limit of a declared EEZ. Where the shelf does not extend as far as 200 miles (as is more usual), the coastal State has sovereign rights over the sea bed beyond the end of the continental shelf up to the 200 mile limit.
- In the **high seas**, the principle of freedom of fishing applies, subject to conservation and management rules laid down by Articles 116-120 and to other treaty obligations a State has accepted. All States must cooperate to conserve and manage living marine resources in the high seas, including associated and dependent marine species.

States bordering a semi-enclosed sea, such as the Mediterranean, are required to cooperate in exercising their rights and duties for management, conservation, exploitation and environmental protection, either directly or through an appropriate regional organisation (Art.123).

No sea point in the Mediterranean is more than 200 n.m. from the nearest land or island. Although most coastal States have established their 12-mile territorial waters<sup>60</sup>, until recently relatively few had extended their maritime jurisdictional areas beyond the territorial sea. The resulting high proportion of high seas in the basin created an even greater need for cooperation to ensure the sustainable use of fisheries resources and conservation of marine biodiversity.

However, a trend is currently developing among coastal States to extend their maritime jurisdictional areas. If continued, this would significantly reduce the proportion of high seas in the basin. By 2006, five States had claimed an EEZ (Cyprus, Egypt, Morocco, Syria, Tunisia) and several had established *sui generis* zones beyond the limits of national jurisdiction, such as the fishing zone (Algeria, Libya, Malta, Spain, Tunisia), the ecological zone (France, Italy, Slovenia) or the Ecological and Fisheries Zone (Croatia).<sup>61</sup>

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<sup>60</sup> Exceptions concern the United Kingdom (3 n.m. claimed for Gibraltar and the Sovereign Base Areas of Akrotiri and Dhekelia), Greece (6 n.m.) and Turkey (6 n.m. only in the Aegean Sea).

<sup>61</sup> Personal communication, Professor Tullio Scovazzi.

UNCLOS establishes specific regimes for different categories of fish species (Fowler and Cavanagh 2005):

- 'Highly migratory species' listed in Annex I include *Hexanchus griseus*, *Cetorhinus maximus*, *Alopiidae* spp., *Carcharhinidae* (including *Prionace glauca*), *Sphyrnidae* spp. and *Isuridae* (including *Isurus oxyrinchus* and *Lamna nasus*). Coastal States and other States who fish in areas where highly migratory species occur are required to cooperate with a view to ensuring the conservation and optimum utilisation of listed species both on the high seas and within EEZ (Article 64). The UN Fish Stock Agreement (see below) provides for detailed application of UNCLOS provisions to these stocks.
- 'Straddling fish stocks' occur both within and beyond the EEZ and are usually more localised than highly migratory species although many, particularly in temperate waters, will undertake seasonal or breeding migrations. States are required to agree upon measures to ensure the conservation of straddling stocks in accordance with Article 63.2.
- 'Transboundary stocks', which move between the EEZ of several coastal States, can also be straddling stocks although they do not always extend into the high seas. Transboundary stocks are often migratory, particularly in temperate seas.
- 'High seas stocks' denotes fish stocks that are not found in EEZs and are neither 'highly migratory' nor 'straddling'. In accordance with UNCLOS, fishing States must individually, or in cooperation with other fishing States, take measures to ensure these stocks are conserved.

### **B.1.2 United Nations Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (FSA)**

Adopted 5 August 1995, in force 11 December 2001 (see further [www.oceanlaw.net/texts/unfsa.htm](http://www.oceanlaw.net/texts/unfsa.htm))

The FSA is an implementing agreement to promote cooperative implementation of UNCLOS provisions on straddling fish stocks and highly migratory fish stocks. It requires States to apply the precautionary approach to conservation and management of these stocks, taking into account uncertainties concerning the impact of fishing activities on non-target and associated and dependent species. They should not exceed reference points set by reference to technical criteria in Annex II to the Agreement.

States must apply an ecosystem-based approach to management and take measures to protect marine biodiversity, minimise pollution, bycatch and discards of fish, monitor fishing levels and stocks, gather reliable, comprehensive scientific data as the basis for management decisions and exercise effective control over their fishing vessels.

The FSA establishes a comprehensive regime for international cooperation mechanisms for stocks covered by the Agreement, particularly with regard to the scope and functions of regional and sub-regional fisheries management organisations or arrangements (RFMOs). States are required to cooperate to ensure proper implementation of sub-regional and regional conservation and management measures for these stocks. The FSA sets out detailed provisions for compliance and enforcement as well as cooperative inspection activities which, for high seas areas covered by such an organisation or arrangement, are coordinated at sub-regional or regional level. It also requires States to settle disputes in a peaceful manner and establishes a dispute settlement mechanism.

### **B.1.3 Agreement to promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas**

Adopted Rome, 23 November 1994; in force 24 April 2003 (see further <http://www.fao.org/fishery/ccrf/2,2>)

The UN-FAO Compliance Agreement aims to prevent non-compliance with international fisheries regulations through reflagging vessels under the flags of States unable or unwilling to enforce such measures. Fishing in the high seas should be subject to a permit from the flag State and permit conditions enforced. Sanctions for serious offences must include the refusal, suspension or withdrawal of permits.

Parties are required to maintain a register of vessels authorised to fish on the high seas and to exchange information on the activities of such vessels (Arts.V-VI). The UN-FAO compiles this information and maintains the High Seas Vessels Authorization Record (HSVAR). The HSVAR database contains descriptive elements of authorised vessels and information on additions and removals from the register, exemptions granted and infringements.

### **B.1.4 UN-FAO Code of Conduct for Responsible Fisheries**

Non-binding; adopted 31 October 1995 (see further <http://www.fao.org/fishery/ccrf/2>, including for versions in Albanian, Arabic, Croatian, Spanish, French, Italian and Slovenian)

This non-binding global Code is based on the principle that all States and users of fishery resources should act responsibly to ensure the effective conservation, management and development of living aquatic resources, with due respect for marine and coastal biodiversity. It is fully integrated with the Straddling Stocks and Compliance Agreements summarised above.

The Code provides a comprehensive basis for Mediterranean States to review and strengthen policy, legal and institutional measures for sustainable fisheries and marine environmental management. It specifically covers conservation of critical habitats, integration of fisheries into coastal area management, regulation of damaging processes such as pollution and the engagement with fishing communities. Selected provisions of the Code are referenced in these Guidelines.

### **B.1.5 UN-FAO International Plan of Action for the Conservation and Management of Sharks**

Non-binding; adopted 1999 (see further <http://www.fao.org/fishery/IPOA-Sharks/2>)

IPOA-Sharks was developed as a voluntary instrument under the UN-FAO Code of Conduct for Responsible Fisheries. Its objective is to improve the conservation and management of sharks and their long-term sustainable use within directed and non-directed fisheries.

IPOA-Sharks applies to States in whose waters sharks are caught by vessels (their own or foreign) or whose vessels catch sharks on the high seas. It is based on the principle that States contributing to fishing mortality on a species or stock should participate in its management and sets out recommendations for such States, including the production of national Shark Plans. Relevant provisions are reflected in these Guidelines.

UN-FAO has issued technical guidelines to support IPOA-Sharks implementation (UN-FAO 2000). This provides detailed guidance on fishery management data and research and on fisheries management and species conservation.



Despite repeated urging at international level, implementation of IPOA-Sharks at global and Mediterranean level is agreed to be quite inadequate. UN-FAO held an expert consultation in 2005<sup>62</sup> which found that IPOA-Sharks was well accepted at national political and policy levels but that there seemed to be confusion about what was needed to implement a wholly voluntary instrument. Concrete operational activities were “meagre and unsatisfactory”. Notwithstanding these difficulties, the experts considered IPOA-Sharks to be a beneficial endeavour. Constraints on implementation were reviewed and suggestions made to improve its effectiveness.

By March 2007, less than 20% of COFI (UN-FAO) members had adopted a national Shark Plan. The UN General Assembly has repeatedly urged full implementation of IPOA-Sharks. In 2008<sup>63</sup>, it called on States to take immediate and concerted action for this purpose and to improve the implementation of and compliance with existing RFMO and national measures that regulate shark fisheries, especially those conducted solely for the purpose of harvesting shark fins, and to consider taking other measures (e.g. requiring that all sharks be landed with each fin naturally attached). The UNGA also requested the UN-FAO to prepare a report containing a comprehensive analysis of IPOA-Sharks implementation for presentation to the COFI at its 28<sup>th</sup> session in 2009.

Within the Mediterranean, the only regional initiative to apply IPOA-Sharks is the RAC/SPA Chondrichthyan Action Plan but this does not go into details on technical fisheries measures. At EC level, a Community Plan of Action on Sharks is under development (see B.2.3).

## **B.2 Regional fisheries organisations**

Regional fisheries management organisations (RFMOs) are intergovernmental organisations that have competence to establish fisheries conservation and management measures. Two RFMOs have management responsibilities for defined waters/fish stocks in the Mediterranean (GFCM and ICCAT). In addition, the European Community is a regional economic integration organisation to which its member States have transferred exclusive competence with regard to marine fisheries.

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<sup>62</sup> See FAO Fisheries Report No. 795: <ftp://ftp.fao.org/docrep/fao/009/a0523e/a0523e00.pdf>.

<sup>63</sup> United Nations General Assembly Resolution (63-112 of 5 December 2008) on *Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments*

### **B.2.1 General Fisheries Commission for the Mediterranean**

Established by formal agreement adopted in 1949, into force 1952 : reformed with extended mandate in 1998 (see further <http://www.gfcm.org/gfcm>)

GFCM's goal is to promote the development, conservation, rational management and best utilisation of living marine resources of the Mediterranean. It covers all fisheries and provides a forum for multilateral cooperation between all countries whose vessels fish in these waters.

The GFCM develops resolutions and recommendations consistent with UN-FAO technical measures and the Code of Conduct for Responsible Fisheries. Members must transpose relevant requirements into national policy, legal or institutional frameworks as appropriate.

The GFCM has not prioritised sharks to date or developed coordinated measures for regional implementation of IPOA-Sharks. However, it has endorsed all relevant ICCAT recommendations (e.g. on shark bycatch in pelagic tuna fisheries) and supports the MEDLEM (Mediterranean Large Elasmobranchs Monitoring) programme set up in 1985. This programme records captures and sightings of large cartilaginous fishes and its field data sheet has been widely distributed among many Mediterranean research centres.<sup>64</sup>

The GFCM Sub-Committee on Marine Environment and Ecosystems (established under the Scientific Advisory Committee) supports collaboration with partner organisations on discards and bycatch of species of conservation concern. In 2008, a transversal Working Group on bycatch/incidental catches was established. Its work plan for 2009 will pursue the work on population dynamics of protected species of conservation concern (including basking and great white sharks) and the elaboration of a data collection protocol on bycatch of such species, harmonised with existing similar initiatives (eg under MedLem).

Other relevant Working Groups have been created on Selectivity and on Recreational Fisheries<sup>65</sup>. In 2009, a Transversal Workshop on Selectivity Improvement and Bycatch Reduction will be organised to address definitions of relevant terms and concepts, current status of bycatch and discard related to Mediterranean fisheries, review of methods for assessing bycatch and its impact at the population level and possible integration of information on bycatch into the GFCM Task 1 database.

Some general GFCM recommendations contribute to reducing fishing pressure on sharks and to enhanced compliance with fisheries regulations, including:

- the prohibition on use of towed dredges and trawlnets fisheries at depths beyond 1,000m<sup>66</sup>;
- the prohibition on use of large driftnets for fisheries of large pelagics in the Mediterranean<sup>67</sup>;
- recommendations on illegal, unreported and unregulated (IUU) fishing, including on the establishment of a black list of vessels.<sup>68</sup>

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<sup>64</sup> The database (dominated by records of basking shark) is held by the information structures of ARPAT in Livorno, Italy ([http://www.arpat.toscana.it/progetti/pr\\_medlem\\_en.html](http://www.arpat.toscana.it/progetti/pr_medlem_en.html)). It corresponds to the following families: *Hexanchidae*, *Sphyrnidae*, *Echinorhinidae*, *Squatinae*, *Pristidae*, *Rhinobatidae*, *Rajidae*, *Dasyatidae*, *Gymnuridae*, *Carcharhinidae*, *Myliobatidae*, *Rhinopterae*, *Mobulidae*, *Odontaspidae*, *Alopiidae*, *Cetorhinidae* and *Lamnidae*.

<sup>65</sup> See Gaudin and de Young 2007 and Guideline 3.6 above.

<sup>66</sup> Recommendation GFCM/2005/1 on the management of certain fisheries exploiting demersal and deepwater species deepwater fisheries.

<sup>67</sup> GFCM/2005/3 (a) endorsing ICCAT Recommendation [03-04] relating to Mediterranean Swordfish.

<sup>68</sup> Recommendation GFCM/2006/4 : Establishment of a list of vessels presumed to have carried out illegal, unreported and unregulated fishing activities in the GFCM Area.

- prohibition of destructive fishing practices in sensitive habitats<sup>69</sup>;
- the introduction of a Regional Scheme on Port State Measures to combat INN fishing in the GFCM area<sup>70</sup>, which establishes detailed procedures for: designation of ports for entry by foreign vessels; authorisation or refusal of access to ports; port inspection; verification of INN fishing; and contribution to a regional information system to better monitor and control the GFCM Area.

### **B.2.2 International Commission for the Conservation of Atlantic Tunas**

Established under the International Convention for the Conservation of Atlantic Tunas, adopted 1966, in force 1969 (see further <http://www.iccat.int>).

The ICCAT has responsibility for tuna and tuna-like fisheries for the Atlantic, including the Mediterranean as a connected sea. Mediterranean Parties include Algeria, the European Community, Libya, Morocco, Tunisia and Turkey.

ICCAT undertakes collection and analysis of statistical information on conditions and trends of target fishery resources. It recognises that many shark species are captured in Convention area fisheries and compiles data for fish species caught as bycatch that are not investigated by another international fishery organisation. The ICCAT Manual<sup>71</sup> currently identifies 3 sharks (*Prionace glauca*, *Lamna nasus*, *Isurus oxyrinchus*) as 'bycatch species of special importance' and gives taxonomic, identification, distribution and fisheries information.

Scientific advice is provided by the Standing Committee for Research and Statistics (SCRS) which develops scientific guidance and conducts stock assessments, including for some shark species, to support development of conservation and management advice. A GFCM/ICCAT Joint Working Group on Stocks of Large Pelagic Fishes meets on an *ad hoc* basis to promote institutional synergy.

A series of decisions on bycatch<sup>72</sup> all call for improved data reporting on catch, effort by gear type, discards of sharks, landings and trade in shark products. Recommendation 2004-10 called for full utilisation of shark carcasses, restrictions on finning, release of live shark bycatch, especially juveniles and research into more selective fishing gear. However, data provision has remained grossly inadequate, hampering stock assessment<sup>73</sup>.

Recommendation 07-06, updating 04-10, marked a shift towards binding restrictions although it does not set any quota for shark catches in the Convention Area. It requires Contracting Parties, Cooperating non-Contracting Parties, Entities or Fishing Entities (CPCs):

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<sup>69</sup> Recommendation GFCM/2006/3: Establishment of fisheries restricted areas in order to protect the deep sea sensitive habitats.

<sup>70</sup> Recommendation GFCM/2008/1, aligned with the draft Agreement on Port State measures under development within UN-FAO

<sup>71</sup> [http://www.iccat.int/pubs\\_FieldManual.htm](http://www.iccat.int/pubs_FieldManual.htm).

<sup>72</sup> Resolution 95-02; Resolution 01-11; Resolution 03-10; Recommendation 04-10: Recommendation concerning the conservation of sharks caught in association with fisheries managed by ICCAT; and three Supplemental recommendations to 04-10 (05-05, 06-10 and 07-06).

<sup>73</sup> The 2006-07 ICCAT Biennial Report noted "*the very low level of compliance with the obligations of the CPCs to provide Task I and Task II data for sharks caught by their vessels, greatly hampering, when not completely impeding, the assessment of the status of exploited sharks*".

- to submit Task I<sup>74</sup> and Task II<sup>75</sup> data for catches of sharks (including estimates of dead discards and size frequencies), as required by ICCAT data reporting procedures in advance of the next SCRS assessment;
- to take appropriate measures to reduce fishing mortality in fisheries targeting *Lamna nasus* and *Isurus oxyrinchus* until such time as sustainable levels of harvest can be determined through peer reviewed stock assessments by SCRS or other organisations;
- where possible, to implement research on pelagic shark species caught in the Convention area in order to identify potential nursery areas and to consider time and area closures and other measures, as appropriate.

Two recommendations adopted at the most recent meeting in 2008 address sharks:

- under Recommendation 08-07, CPCs shall require vessels flying their flag to promptly release unharmed, to the extent practicable, bigeye thresher sharks (*Alopias superciliosus*) caught in association with fisheries managed by ICCAT which are alive when brought along side for taking on board the vessel. CPCs shall also require incidental catches as well as live releases to be recorded in accordance with ICCAT data reporting requirements.
- Recommendation 08-08 provides for a joint ICCAT-ICES scientific meeting in 2009 to further assess *Lamna nasus*, followed by a joint meeting of relevant RFMOs to examine possible adoption of compatible management measures in 2009 throughout its range in the Atlantic Ocean.

An independent review of ICCAT implementation (Hurry et al, September 2008) found that endemic levels of non-reporting and non-compliance with existing recommendations and resolutions meant that such measures were not dealing effectively with the management of shark fisheries and shark by-catch. The Review Panel was concerned that the present situation implied contempt for ICCAT decisions by some parties. It called on CPCs to immediately take the management of shark fisheries and shark by-catch seriously and implement and comply with ICCAT recommendations and resolutions to provide accurate and reliable data to the SCRS. It encouraged further use of expert groups to develop alternative catch estimate and assessment approaches for the major shark species under the purview of ICCAT.

ICCAT has also adopted measures to prevent or minimise IUU fishing and to establish a Regional Observer Programme to monitor transshipment (2008).

### **B.2.3 European Community**

The European Community (EC) has exclusive competence for fisheries management and conservation within Community waters. For other waters, it negotiates on behalf of the Member States in international fora and monitors their implementation of applicable rules. The EC is party to several agreements establishing RFMOs, including GFCM and ICCAT, and takes the necessary regulatory measures to incorporate binding management recommendations into the Community legal order.

Mediterranean States that are EU Member States must transpose EC regulatory measures into national legal frameworks.

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<sup>74</sup> Nominal annual catch by species, region, gear, flag, and where possible, separated between EEZ and High Seas.

<sup>75</sup> Catch and fishing effort statistics for each species by small area, gear, flag and month.

Sharks are living aquatic resources that fall within the domain of the Common Fishery Policy (CFP). Pending possible changes to Community legislation (see below), the existing legal framework provide broadly as follows:

- regulations cover mesh sizes and permitted fishing gear for capture of *Rajidae*, *Scyliorhinidae*, *Squalus acanthias* and *Scyliorhinus* spp.<sup>76</sup>;
- drift nets have been prohibited since 2002 (see Guideline 3.4);
- shark finning was prohibited in 2003<sup>77</sup> with regard to all types of fishing in Community waters and to all Community vessels fishing in non-Community waters. Under this measure, it is legal to remove the fins from sharks at sea, under special permit, but the carcasses must be retained on board and the weight of the fins is therefore not allowed to exceed the theoretical weight of the fins that would correspond to the remaining parts of sharks retained on board, transhipped or landed (in no case shall the theoretical weight of the fins exceed 5 % of the live weight of the shark catch);
- since 2007, as part of measures to support the conservation of certain highly migratory stocks and reduce bycatch, the catching, retaining on board, transshipment or landing of *Cetorhinus maximus* and *Carcharodon carcharias* in all Community and non-Community waters have been prohibited. Member States must encourage the release of live sharks captured accidentally, especially juveniles, and reduce discards of sharks by improving the selectivity of fishing gears<sup>78</sup>;
- catch limits are set for some shark species as part of the TACs and quotas set by the EU for Community waters (e.g. *Squalus acanthias*, *Lamna nasus*, several species of skates and rays) and for deepwater sharks in certain waters. The EU is committed to reducing the TAC for deepwater sharks to zero by 2010<sup>79</sup>.

In 2007, the EC institutions, recognising that the range of existing measures was insufficient to ensure the rebuilding of many depleted shark stocks, launched stakeholder consultations to develop an action plan to strengthen the existing framework<sup>80</sup>.

In February 2009, the European Commission published a Communication, *On a European Community Action Plan for the Conservation and Management of Sharks*<sup>81</sup>. This recognises that shark fisheries are not subject to a comprehensive management framework at Community level and proposes to develop and implement a comprehensive, effective and integrated policy and regulatory framework.

The Community Plan of Action aims to contribute to the general objective of IPOA-Sharks by

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<sup>76</sup> Council Regulation (EC) No 850/984 as amended.

<sup>77</sup> Council Regulation (EC) 1185/2003 of 26 June 2003.

<sup>78</sup> Council Regulation (EC) No 520/2007 of 7 May 2007 which sets out a list of highly migratory sharks (Annex 1) including *Hexanchus griseus*, *Cetorhinus maximus*, *Alopiidae Rhincodon typus*, *Carcharhinide*, *Sphyrnidae*, *Isuridae* and *Lamnidae*.

<sup>79</sup> For 2007 and 2008, fishing for deep water species was regulated under Council Regulation (EC) No 2015/2006 of 19 December 2006 which defines deep-sea sharks to include *Apristurus spp.*; *Centrophorus granulosus*; *Centrophorus squamosus*; *Centroscymnus coelolepis*; *Centroscymnus crepidater*; *Deania calceus*; *Centroscyllium fabricii*; *Dalatias licha*, *Etmopterus princeps*, *Etmopterus spinax*, *Galeus melastomus*, *Galeus murinus* and *Somniosus microcephalus*.

<sup>80</sup> The legal basis for this Plan is Council Regulation (EC) N°2371/2002 of 20 December 2002 (see further <http://ec.europa.eu/fisheries/>).

<sup>81</sup> Communication from the Communication to the European Parliament and the Council (COM(2009) 40 final, Brussels, 5.2.2009).

ensuring the rebuilding of many depleted stocks. It covers directed commercial, by-catch commercial, directed recreational and by-catch recreational fishing of any sharks within Community waters; any fisheries covered by current and potential agreements and partnerships between the EC and third countries; fisheries in the high seas; and fisheries covered by RFMOs managing or issuing non-binding recommendations outside Community waters.

The Plan is based on three guiding principles: a gradual strategy based on sound scientific evidence; regional cooperation; and an integrated framework of actions. It proposes measures to be implemented at EC and Member State level, for which the EC will seek endorsement by relevant RFMOs. These include measures to: strengthen investment in species-specific data collection, improve monitoring and stock assessment as a basis for better targeted regulations; strengthen on-board observer programmes; and, as regards fisheries management, to:

- promote programmes and analysis to adjust fishing effort at international level and establish catch limits for stocks in conformity with the advice provided by ICES and by relevant RFMOs;
- prohibit all shark discards in the medium to long term and require that all catches (including by-catches) are landed. Unwanted by-catches of sharks that have a chance to survive must be released back into the water;
- improve selectivity and establish by-catch reduction programmes for shark species considered CR or EN by relevant international organisations;
- confirm and strengthen control of the EU ban on shark finning practices. The Plan provides for a possible review of the 5% rule by requiring that in no case shall the weight of the fins exceed 5% of the dressed (gutted and beheaded) carcass weight of the shark<sup>82</sup>;
- introduce the requirement, for vessels of Member States that have been exempt from the obligation of landing sharks with fins attached, to land shark fins and carcasses at the same time in the same port; and
- support development and implementation by RFMOs of Regional Shark Plans.

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<sup>82</sup> However, Member States that have set up and implemented data collection programmes that show that this percentage could be increased in certain cases, could do so up to a percentage corresponding to 5% of the live weight of the shark catch.

### Annex C

#### Legal and threat status for chondrichthyans in the Mediterranean

Scientific name	Common name	Red List 2007	Instruments mandating strict protection or special management
<i>Oxynotus centrina</i>	Angular roughshark	CR	
<i>Squatina aculeata</i>	Sawback angelshark	CR	CITES (AC)
<i>Squatina oculata</i>	Smoothback angelshark	CR	CITES (AC)
<i>Squatina squatina</i>	Angelshark	CR	CITES (AC); Barcelona Protocol (III); Bern (III)
<i>Pristis pectinata</i>	Smalltooth sawfish	CR	CITES (I); CITES (AC); Action Plan
<i>Pristis pristis</i>	Common sawfish	CR	CITES (I); CITES (AC); Action Plan
<i>Dipturus batis</i>	Common/gray skate	CR	Action Plan
<i>Leucoraja melitensis</i>	Maltese skate	CR (endemic)	
<i>Rostroraja alba</i>	White skate	CR	Barcelona Protocol (III); Bern (III)
<i>Gymnura altavela</i>	Spiny butterfly ray	CR	
<i>Carcharias taurus</i>	Sand tiger shark	CR	CITES (AC); Action Plan; UNCLOS (I)
<i>Isurus oxyrinchus</i>	Shortfin mako	CR	CMS (II, added in 2008); Barcelona Protocol (III); Bern (III); UNCLOS (I); GFCM PS (Shared stock for all countries in the Mediterranean); ICCAT (bycatch species of special importance: 07-06 calls for reduction of fishing mortality)
<i>Lamna nasus</i>	Porbeagle shark	CR	CMS (II, added in 2008); CITES (AC); Barcelona Protocol (III); Bern (III); UNCLOS (I); GFCM PS (Shared stock for all countries in the Mediterranean); ICCAT bycatch species of special importance: 07-06 calls for reduction of fishing mortality); European Community catch limit
<i>Squalus acanthias</i>	Spiny dogfish	EN	CMS (II: northern hemisphere populations, added in 2008); CITES (AC); UNCLOS (I); European Community catch limit
<i>Rhinobatos cemiculus</i>	Blackchin guitarfish	EN	CITES (AC)
<i>Rhinobatos rhinobatos</i>	Common guitarfish	EN	CITES (AC)
<i>Leucoraja circularis</i>	Sandy skate	EN	
<i>Mobula mobular</i>	Giant devil ray	EN (endemic)	CITES (AC); Barcelona Protocol (II); Bern (II)
<i>Odontaspis ferox</i>	Smalltooth sand tiger shark	EN	CITES (AC); Action Plan
<i>Carcharodon carcharias</i>	Great white shark	EN	CMS (I & II); CITES (II); Barcelona Protocol (II); Bern (II); UNCLOS (I); fishing prohibited in EC waters or by EC-flagged vessels
<i>Carcharhinus plumbeus</i>	Sandbar shark	EN	UNCLOS (I)

<i>Heptranchias perlo</i>	Sharprnose sevengill shark	VU	
<i>Centrophorus granulosus</i>	Gulper shark	VU	CITES (AC)
<i>Alopias vulpinus</i>	Thresher shark	VU	CITES (AC); UNCLOS (I)
<i>Cetorhinus maximus</i>	Basking shark	VU	CMS (I & II); CITES (II); Barcelona Protocol (II); Bern (II); UNCLOS (I); fishing prohibited in EC waters or by Community-flagged vessels.
<i>Galeorhinus galeus</i>	Tope shark	VU	CITES (AC)
<i>Mustelus asterias</i>	Starry smoothhound	VU	
<i>Mustelus mustelus</i>	Smoothhound	VU	
<i>Prionace glauca</i>	Blue shark	VU	Barcelona Protocol (III); Bern (III); UNCLOS (I); GFCM PS (Shared stock for all countries in the Mediterranean)
<i>Sphyrna zygaena</i>	Smooth hammerhead	VU	UNCLOS (I)
<i>NT</i>			
<i>Chimaera monstrosa</i>	Rabbitfish	NT	
<i>Hexanchus griseus</i>	Bluntnose sixgill shark	NT	UNCLOS (I)
<i>Dipturus oxyrinchus</i>	Sharprnose skate	NT	
<i>Leucoraja naevus</i>	Cuckoo skate	NT	
<i>Raja clavata</i>	Thornback skate	NT	
<i>Raja polystigma</i>	Speckled skate	NT	
<i>Dasyatis centroura</i>	Roughtail stingray	NT	
<i>Dasyatis pastinaca</i>	Common stingray	NT	
<i>Pteroplatytrygon violacea</i>	Pelagic stingray	NT	
<i>Myliobatis aquila</i>	Common eagle ray	NT	
<i>Rhinoptera marginata</i>	Lusitanian cownose ray	NT	
<i>Galeus atlanticus</i>	Atlantic catshark	NT	
<i>Scyliorhinus stellaris</i>	Nursehound	NT	
<i>Etmopterus spinax</i>	Velvet belly	LC	
<i>Centroscymnus coelolepis</i>	Portuguese dogfish	LC	



<i>Somniosus rostratus</i>	Little sleeper shark	LC	
<i>Torpedo marmorata</i>	Spotted torpedo ray	LC	
<i>Torpedo torpedo</i>	Ocellate torpedo ray	LC	
<i>Raja asterias</i>	Atlantic starry skate	LC	
<i>Raja miraletus</i>	Twineye skate	LC	
<i>Raja montagui</i>	Spotted skate	LC	
<i>Galeus melastomus</i>	Blackmouth catshark	LC	
<i>Scyliorhinus canicula</i>	Smallspotted catshark	LC	
<i>Hexanchus nakamurai</i>	Bigeye sixgill shark	DD	
<i>Echinorhinus brucus</i>	Bramble shark	DD	
<i>Dalatias licha</i>	Kitefin shark	DD	
<i>Torpedo nobiliana</i>	Great torpedo ray	DD	
<i>Leucoraja fullonica</i>	Shagreen skate	DD	
<i>Raja brachyura</i>	Blonde skate	DD	
<i>Raja radula</i>	Rough skate	DD (endemic)	
<i>Raja undulata</i>	Undulate skate	DD	
<i>Dasyatis chrysonota</i>	Blue stingray	DD	
<i>Himantura uarnak</i>	Honeycomb whipray	DD	
<i>Taeniura grabata</i>	Round fantail stingray	DD	
<i>Alopias superciliosus</i>	Bigeye thresher	DD	CITES (AC); UNCLOS (I)
<i>Mustelus punctulatus</i>	Blackspot smoothhound	DD	
<i>Carcharhinus altimus</i>	Bignose shark	DD	CITES (AC); UNCLOS (I)
<i>Carcharhinus brachyurus</i>	Bronze whaler shark	DD	CITES (AC); UNCLOS (I)
<i>Carcharhinus brevipinna</i>	Spinner shark	DD	CITES (AC); UNCLOS (I)
<i>Carcharhinus limbatus</i>	Blacktip shark	DD	CITES (AC); UNCLOS (I)
<i>Carcharhinus obscurus</i>	Dusky shark	DD	CITES (AC); UNCLOS (I)
Abbreviation	Legal status		

CITES (I)	Appendix I: species threatened with extinction for which international trade may only be permitted in exceptional circumstances
CITES (II)	Appendix II: species not necessarily threatened with extinction, but in which international trade must be controlled in order to avoid utilisation incompatible with their survival
CITES (AC)	Species for which States should take action under recommendations developed by CITES Animals Committee (see CITES Decision 13.24 and Guideline 3.2.2).
CMS (I)	Endangered migratory species, for which strict protection is mandated (including prohibition on deliberate taking)
CMS (II)	Migratory species with an unfavourable conservation status that need or would significantly benefit from international cooperation
Barcelona Protocol (II)	Endangered and Threatened Species for which strict protection is mandated (including prohibition/regulation of deliberate taking)
Barcelona Protocol (III)	Species whose Exploitation is Regulated (to 'ensure and maintain their favourable state of conservation')
Action Plan	Species of commercial importance for which development of sustainable fisheries management measures should be prioritised (Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea)
Bern (II)	Strictly protected animal species (includes prohibition on deliberate killing)
Bern (III)	Protected species whose exploitation must be regulated
UNCLOS (I)	Highly migratory species listed in Annex I and covered by Art.64 UNCLOS
GFCM PS	Priority species considered of interest in GFCM Region (listed by Scientific Advisory Committee, 2006). criteria for determining 'interest' based on the volume of landings and economic importance of the species ( <i>Sub-Committee on Stock Assessment</i> )
ICCAT 07-06	Species covered by specific stock assessment and mortality reduction recommendation

## Annex D

### National implementation of the Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea

The following table summarises the answers provided to a short questionnaire circulated in March 2008, and further updated in April 2009, asking Parties to the Barcelona Convention to provide a brief update on steps taken at national level to implement the Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea (UNEP-MAP RAC/SPA, 2003). The European Community was not directly consulted because information on existing measures had been recently published through the ongoing consultation process to develop a Community Plan of Action on Sharks.

Country	Species protection status (name of legal instrument and competent ministry)?	Progress on data deficient species?	Regulation of shark finning?	Habitat protection/MPAs to support shark conservation?	Coverage of sharks in fisheries management programmes?	Monitoring of shark fisheries and bycatch?	Education and public awareness?
<b>Albania</b>							
<b>Algeria</b>							
<b>Bosnia &amp; Herzegovina</b>	No	No	No	No	No	No	No
<b>Croatia</b>	Strict protection for <i>Cetorhinus maximus</i> , <i>Carchadon carcharias</i> <i>Mobula mobular</i> (also covers trade and transport including in EEZ) under Ordinance on Proclamation of Wild Taxa as Protected or Strictly Protected (OG n°7/2006, issued by Nature Protection Directorate, Ministry of Culture).	<i>Raja polystigma</i> is still DD: the official Red list of Croatian Saltwater Fishes has not yet been issued.	Not legally regulated as "there is no problem with shark finning in Croatia".	Ordinance prohibits damage to breeding and resting sites in waters under national jurisdiction. Sharks are protected in MPAs along with other marine species but no MPA established specifically for these species.	None. Protected sharks are automatically excluded from the list of fishing species in the Marine Fisheries Act. No directed fisheries in Croatian waters but they are caught as bycatch and may also be bycaught in big game fishing.	No	No
<b>Cyprus</b>							
<b>European Community</b>	Catch, retention on board, transshipment and landing prohibited since 2007 for <i>Cetorhinus maximus</i> and <i>Carchadon carcharias</i> .		Regulation EC n°1185/2003 bans removal of fins followed by discard of the carcass at	None.	Community Action Plan for Sharks published in February 2009. Some general provisions already contribute to	Covered by the Community Action Plan.	

			sea. Finning with retention of carcasses on board is permitted in accordance with the provisions of Regulation.		reduction of bycatch (e.g. ban on driftnets, more selective fishing gear) and overfishing (eg closed seasons). The TAC for deep-sea sharks will be reduced to zero by 2010.		
<b>Egypt</b>							
<b>France</b>							
<b>Greece</b>	Protected species are the ones that are mentioned in CITES Convention (competent ministry – Ministry of Rural Development and Food), Bern convention and SPA – Biodiversity protocol of Barcelona Convention (competent ministry – Min. For the Environment, Physical planning and Public Works)		Regulation EC n°1185/2003 bans removal of fins followed by discard of the carcass at sea. According to the Ministry of Merchant Marine that controls the implementation of the Regulation, the national fishing fleet does not perform finning.	There are no MPAs for shark conservation.	Fisheries management programmes do not refer specifically to shark fishes because they are not commercial species. Driftnets are prohibited, contributing to reduction of bycatch .	Fisheries data including bycatch have been collected for some years under responsibility of Ministry of Rural Development and Food. In the frame of the application of Council Regulation (EC) No 199/2008 a new project for the years 2009-2010 will be procured. Research and data collection is also carried out by individual scientists.	No actions for the time being.
<b>Israel</b>	All Cartilaginous Fishes (Class Elasmobranchii, including Order Squaliformes and Order Batoidae) are being protected from any type of harm or damage at the entire Israeli water region. This inclusive protection is given to sharks being Cartilaginous Fishes declared as a protected	No quantitative data and limited capacity for this taxonomic group	No (no fining activities).	Currently, all organisms are declared protected within the borders of Israeli marine nature reserves (6) and Marine Protected Areas ( 2 "Mediterranean Sea Reserves"). Commercial fishing of any species or other harmful activities is forbidden at those areas. Critical areas for sharks were not determined yet, and there is	Sharks should not be fished under any occasion, and therefore are not included in any management plan.	No	Not on a regular bases. The issue is being widely exposed and discussed by the Media upon targeted hunting of Cartilaginous

	natural value (2005 declaration within the legislative framework of National Parks, Nature Reserves and National Monuments 1998 – The Ministry of Environmental Protection).			no specific declaration of MPAs for the sake of sharks conservation.			fishes or massive by catch. Protective legislation is presented to the public on these occasions.
<b>Italy</b>	Applies to species listed for strict protection under Barcelona Protocol, Bern Convention and in CITES Appendices.	Data lacking for <i>Sphyrna</i> spp. and <i>Rhinobatos</i> spp. Stock assessment under way for <i>R. polystigma</i> based on data from trawl surveys	No finning permits have been granted pursuant to EC Regulation n°1185/2003	No legal protection for critical habitats though these have been identified for some species (mating, spawning and nursery grounds for <i>Raja asterias</i> , <i>Scyliorhinus canicula</i> , <i>Galeus melastomus</i> , <i>Etmopterus spinax</i> , etc.). The trilateral Pelagos Sanctuary could have benefits for pelagic sharks.	Pending. The final report for an Italian Action Plan was produced mid 2007 by ICRAM with the support of the Ministry of the Environment and Sea (MATTM).	Yes, through MEDITS, GRUND (assessment of demersal resources in N.Thyrrhenian/ Ligurian Seas, and MEDLEM.	Some initiatives targeted at public, students and other stakeholders but no overall EPA plan.
<b>Lebanon</b>	No	No	No	No	No	No	No
<b>Libya</b>							
<b>Malta</b>	Strict protection for <i>Carcharodon carcharias</i> <i>Cetorhinus maximus</i> <i>Mobula mobular</i> (Sch.VI). 14 species listed in Sch.VIII (species of national interest whose taking in the wild and exploitation may be subject to management measures) <i>Alopias vulpinus</i> <i>Carcharhinus brevipinna</i> <i>Carcharhinus limbatus</i> <i>Carcharhinus plumbeus</i> <i>Carcharias taurus</i> <i>Galeorhinus galeus</i>	All species in Maltese waters classified as DD. Nature Protection Unit (Environment & Planning Authority) commissioned study and associated database	The national fishing fleet does not perform finning. No special permits have been issued pursuant to EC Regulation n° 1185/2003.	Critical habitats have not yet been identified. Some mapping of nursery areas and spawning ground for some demersal sharks being carried out by the Veterinary Affairs & Fisheries Division (VAFD). Legislation provides for creation of Marine Conservation Areas which can support protection of nursery grounds and protection of juveniles.	No management programmes covering shark species. A Fleet Management programme will be set up to efficiently manage the national fishing fleet on the basis of the gear utilised. This will indirectly assist in proper management of bycatch e.g. through more selective use of gear in surface longlining and bottom trawling.	Yes, under the Malta Centre for Fisheries Science, conducted by VAFD. Two data collection programmes/ surveys (MEDITS and MEDLEM) plus collection programmes for Fisheries Landing Data (see Box 6).	No but under consideration by VAFD. Will involve fishers, the Armed Forces of (Malta Maritime Squadron) due to their involvement in fisheries enforcement) and the general public.

	<p><i>Hexanchus griseus</i> <i>Isurus oxyrinchus</i> <i>Lamna nasus</i> <i>Leucoraja melitensis</i> <i>Prionace glauca</i> <i>Pristis pristis</i> <i>Rostroraja alba</i> <i>Squatina squatina</i>.</p> <p>Protection conferred through Flora, Fauna and Natural Habitats Regulations (311/2006) issued under the Environment Protection Act (Malta Environment and Planning Authority).</p>	<p><i>Threatened Fish of the Maltese Islands</i> (ADI &amp; EcoServ, 2006).</p>			<p>Fisheries enforcement comes under the responsibility of the Armed Forces (limited capacity because of other responsibilities). Onboard fisheries inspections only carried on in waters under national jurisdiction.</p>		
<b>Monaco</b>	<p>Protection is mainly delivered through legislation for implementation of CITES (Ordonnance Souveraine n° 67 du 23 mai 2005, Journal de Monaco du 26 mai 2006 n° 7757).</p>	No	No	<p>Two MPAs: Larvotto (Ordonnance Souveraine du 25 avril 1978) and Spélugues (Ordonnance Souveraine du 29 août 1986) as well as the trilateral Pelagos Sanctuary. Not established with reference to sharks.</p>	<p>Not applicable as there are no fisheries in Monaco.</p>	<p>There is no monitoring system as there are no fisheries.</p>	No
<b>Montenegro</b>	<p>Strict protection for <i>Carcharodon carcharias</i> and <i>Lamna nasus</i> under the Decision on Endangered or Threatened Species of Flora and Fauna (2006) and CITES implementation legislation (Decision on control list of import, export and transit: Official Gazette RME, no. 28/06).</p>	No available data or capacity for this taxonomic group		<p>Ministry of Agriculture, Forestry and Water Management has jurisdiction over fisheries. The new Law on Marine Fisheries regulates commercial fishing and mariculture and provides for protection of marine biodiversity. EU support to Montenegro focused on strengthening administrative structures to ensure effective implementation of fisheries policy.</p>	<p>Nothing specific for sharks, though marine fisheries management plan is under preparation. National Strategy for Sustainable Development prepared in 2006: targets include protecting at least 10% of the coastal zone by 2009. National ICZM Strategy being finalised.</p>	None.	<p>Nothing specific but members of Institute for Marine Biology attend training courses, seminars and workshops.</p>
<b>Morocco</b>							
<b>Slovenia</b>	<p>Strict protection for</p>	Some data	Finning not	No legal protection of shark	Fisheries	No mandatory	None.

	<i>Carcharodon carcharias</i> and <i>Cetorhinus maximus</i> (covers harm, disturbance, poisoning, killing, hunting or keeping in captivity) under Decree on Protected Wild Fauna, Official Bulletin 46/2004 (Ministry of Environment and Physical Planning)	now available on species found in Slovenian waters and their status is being evaluated.	specifically mentioned but falls under the general protection regulations.	critical habitats or proper fishery management programmes	management programmes do not refer specifically to shark fishes. Bycatch is the major problem. An Action Plan is to be drafted in 2009.	monitoring but ongoing research and data collection carried out by the Marine Biological Station.	
<b>Spain</b>	None.		Permitted only under special permit in accordance with EC Regulation n° 1185/2003		Integrated national management plan for the conservation of the fisheries resources in the Mediterranean Sea ( <i>Order APA 79/2006</i> , Ministry of Agriculture, Fisheries and Food). No specific provisions on sharks but general provisions for closed seasons for trawling and other fisheries; ban on bottom trawling below 1000m depth; protection of critical vulnerable habitats e.g. seagrasses, maerl beds, coral reefs.		Workshop on Sharks Sustainable Fisheries (Feb 2008) jointly organised by Fisheries Department and the Spanish Fisheries Alliance with stakeholder participation. Proposals include rapid production of species identification brochure.
<b>Syria</b>							
<b>Tunisia</b>		Yes for <i>Rhinobathos rhinobathos</i>	No	There are critical habitats in the Gulf of Gabès but these are not legally protected.	Some. It is prohibited to fish rays and skates less than 40 cm and torpedos below 20 cm in length, measured from tip of snout to start of tail (Decree 28.9.1995, Minister of Agriculture)	Yes. Monitoring covers many species (research projects plus the MEDLEM framework.	Limited. Few actions with fishers.

<p><b>Turkey</b></p>	<p>Strict protection for <i>Carcharhinus plumbeus</i> and <i>Cetorhinus maximus</i> (covers harvesting and trade) under Circulars on Fisheries, (related to Fisheries Law:1380) Ministry of Agriculture and Rural Affairs.</p>	<p>No specific research on population dynamics or migratory routes.</p>	<p>Not regulated, as finning does not take place in Turkish waters.</p>	<p>Mating and breeding habitats of <i>Carcharhinus plumbeus</i> in the Bay of Boncuk are protected by the Environmental Protection Agency for Special Areas</p>	<p>No programmes specifically for sharks as there are no directed fisheries.</p>	<p>Determining the occurrence and distribution patterns of <i>C.plumbeus</i> within the survey area, using <i>in situ</i> observation techniques, Annual survey (Two Months) in Bay of Boncuk for <i>Carcharhinus plumbeus</i>. Determining the possible threats on local sand-bar shark population, Processing all the observation and threat data using GIS (global information system) on 1/25000 scale maps,</p>	<p>Several brochures have been prepared and distributed for public awareness, in addition to the book entitled "Conservation and Monitoring Project of Sandbar Sharks (<i>Carcharhinus plumbeus</i>) in Boncuk Bay, Gökova Special Environmental Protection Area".</p>
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