



# MEDITERRANEAN SHARK COMPASS

An overview of recent policy  
changes and the way forward

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## Authors:

Written and edited by Simone Niedermuller, WWF Mediterranean Marine Initiative, and Evan Jeffries ([www.swim2birds.co.uk](http://www.swim2birds.co.uk))

Design by Catherine Perry ([www.swim2birds.co.uk](http://www.swim2birds.co.uk))

## Front cover photo:

Sandbar Shark, *Carcharhinus plumbeus*, in the Strait of Sicily (C) Rocco Canella/ WWF-Mediterranean

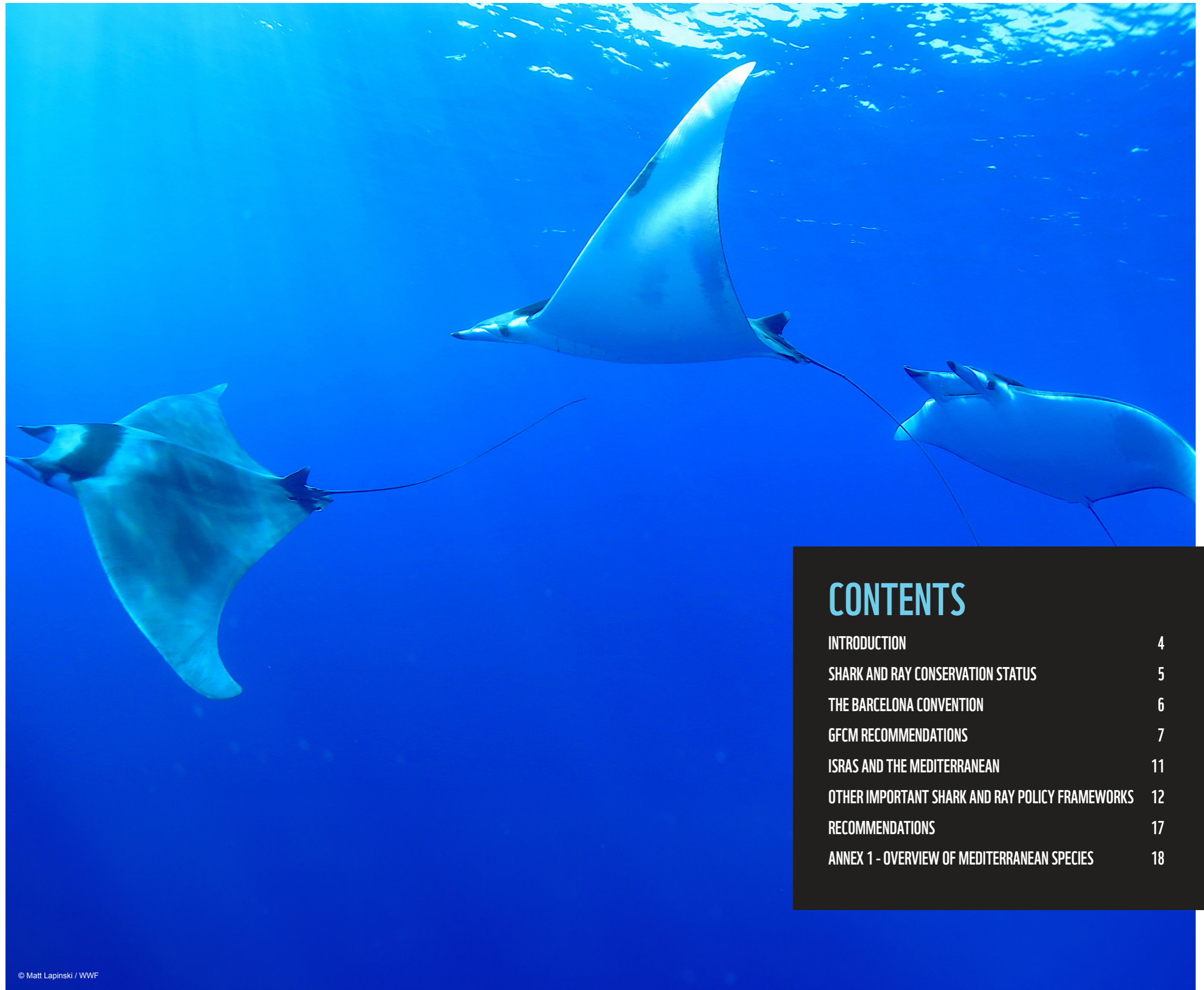
References and sources are available online at [www.wwfmmi.org](http://www.wwfmmi.org)

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## About WWF

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# INTRODUCTION

Shark<sup>1</sup> policy is complex. While some species groups clearly need to be protected, like dolphins and whales, and others are clearly suited to commercial exploitation, like pelagic bony fishes, sharks have spanned both categories – they’ve been targeted as a source of food and other products for centuries, and yet in recent decades their conservation status has become a cause for serious concern in the face of dramatic population declines and our growing understanding of the varied and vital roles they play in the ocean ecosystem.

This duality means that dealing with shark populations is difficult – not just for government decision-makers or fisheries managers, who must create and maintain a workable regulatory framework that protects livelihoods and vulnerable species alike, but also for fishers who must ensure they’re complying with current regulations and not fishing illegally.

Mandates and accountability for shark management and conservation often remain split between fisheries and environmental authorities, and a lack of collaboration and joined-up thinking between the two sides presents both a theoretical and practical barrier to meaningful implementation and workable enforcement.

This document aims to shed some light on current laws and policies regarding shark and ray species in the Mediterranean.<sup>2</sup> It surveys key provisions in force today, and explains what they mean in practice for fishers, managers, national administrations and other stakeholders. It also makes a series of recommendations on further actions that are needed to secure viable shark and ray populations across the region.

The Mediterranean is home to a higher percentage of threatened species of sharks and rays (58%) than anywhere else in the world. Will this still be the case in years to come? Mediterranean countries say they want to protect and restore populations of these iconic species, but what really matters is the extent to which this is reflected in real actions.

In fact, all shark species would profit from the implementation of existing policies and legislation. There are currently 37 species that still lack any kind of management measures or are not covered in any international policy annexes; of these 9 species are threatened (4 Vulnerable, 2 Endangered, 3 Critically Endangered), and urgently need protection.



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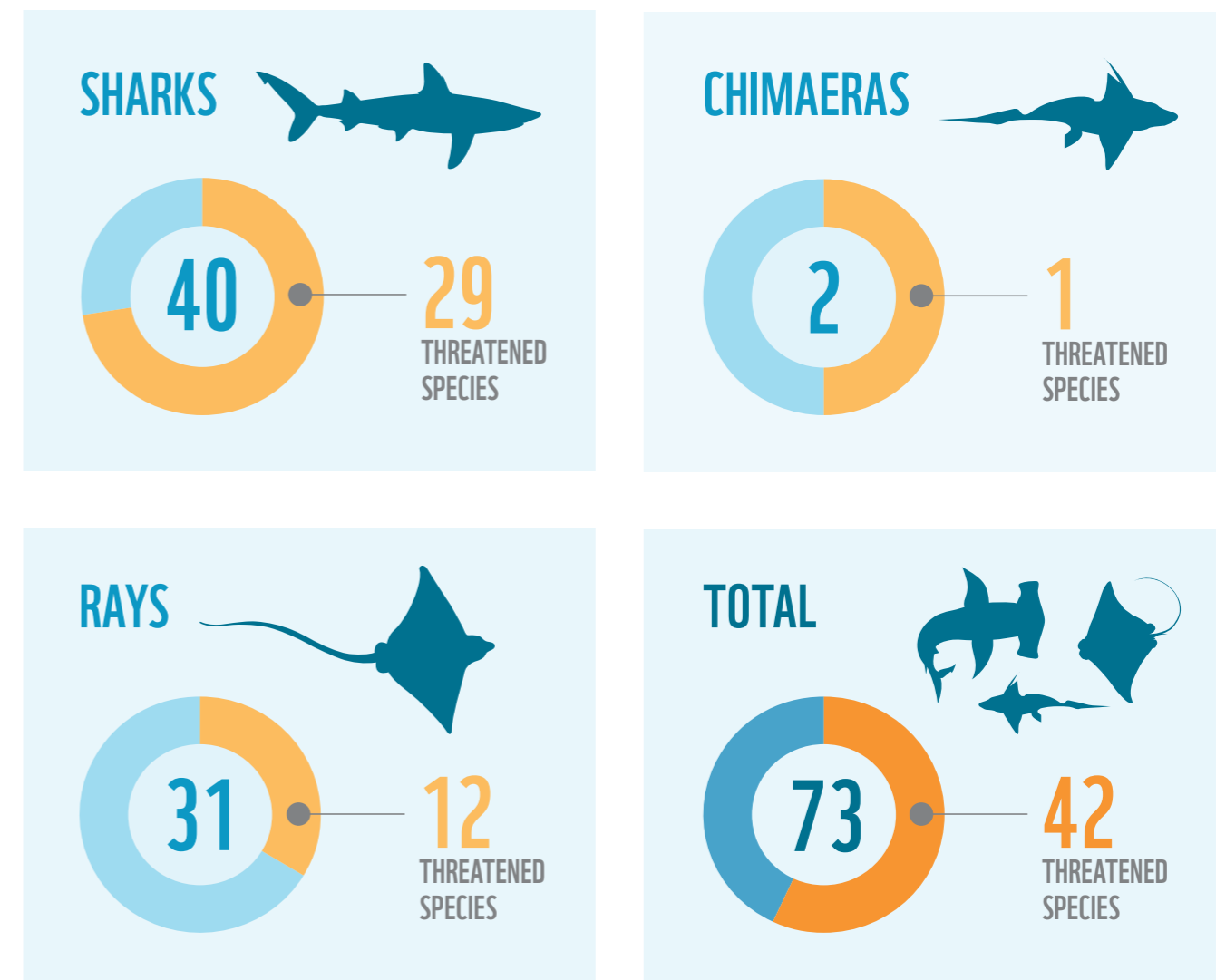
At this decisive moment we call on fisheries managers, decision-makers, and recreational and professional fishers alike to ensure that current legislation is implemented and followed. This will require adequate capacity to secure scientific monitoring and research, enforcement, training of control authorities and fishers in species identification and current regulations, training in handling and release of bycatch, appropriate information to the public, and cutting-edge science

to inform new advice. In addition, policy gaps clearly remain, with species at the brink of extinction lacking any form of protection or management at regional level. The Mediterranean has already seen regional and local extinctions, and urgent action is needed to avoid this happening again.

There’s much work still to do before we secure a future for our sharks and rays – and, by extension, a healthy and thriving Mediterranean Sea.

## SHARK AND RAY CONSERVATION STATUS IN THE MEDITERRANEAN

In recent decades, the conservation status of sharks and rays has deteriorated sharply. Of the 73 species of chondrichthyans (sharks, rays and chimaeras) reported in the Mediterranean, 42 (58%) are threatened,<sup>3</sup> a situation much worse than the already dramatic 37% globally,<sup>4</sup> and a deterioration since the last update (2021) and the previous one (2016, 53%). In this context, ‘threatened’ means listed as Critically Endangered, Endangered or Vulnerable on the [IUCN Red List](#).



# THE BARCELONA CONVENTION

Regional marine biodiversity is protected through the ‘Convention for the protection of the marine environment and the coastal region of the Mediterranean Sea’ and its protocols, more commonly known as the Barcelona Convention. The Convention is a legally binding instrument that requires the 21 riparian countries to cooperate to protect and enhance the Mediterranean marine environment and coastal area, to contribute to sustainable development.

As well as including a specific [Regional Plan of Action for Chondrichthyans](#) (see the section on action plans below) the Barcelona Convention Protocol concerning Specially Protected Areas and Biological Diversity maintains two important Annexes:

■ **ANNEX II:** Endangered or threatened species that the Parties shall manage with the aim of maintaining them in a favourable state of conservation. They shall ensure their maximum possible protection and recovery.

■ **ANNEX III:** List of species whose exploitation is regulated.

When these were launched in 1996, there were 3 shark species listed on Annex II and 5 on Annex III – but as their populations have continued to fall, the numbers of species included in the Annexes has risen. Today there are 24 on Annex II, of which at least 2 are already extinct in the region, and 9 on Annex III (the species in question are shown in the table at the end of this document) – and there are calls for several more to be added as a matter of urgency.



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# GFCM RECOMMENDATIONS

The [General Fisheries Commission for the Mediterranean \(GFCM\)](#) is an agency of the Food and Agricultural Organization of the United Nations (FAO). As the Regional Fisheries Management Organization (RFMO) for the Mediterranean, the GFCM has a mandate “to ensure the conservation and sustainable use, at the biological, social, economic and environmental level, of marine living resources”.<sup>5</sup>

It does this by adopting [binding recommendations and other resolutions](#) on behalf of its members, who are then responsible for transposing the decisions into their own national legislations, and monitoring and enforcing their implementation.

While Mediterranean countries are generally parties to other relevant agreements such as the Barcelona Convention, CITES and the Convention on Migratory Species (see below), regional fisheries are managed in practice within the GFCM framework.



## RECOMMENDATION GFCM/36/2012/3 ON FISHERIES MANAGEMENT MEASURES FOR CONSERVATION OF SHARKS AND RAYS

The GFCM adopted its first general recommendation on sharks and rays in 2012 ([GFCM/36/2012/3](#)), amended in 2018 ([GFCM/42/2018/2](#)). Key provisions include the following:



■ **Finning:** Bans all onboard finning of species that can be caught (all sharks must be landed with their fins attached to their bodies), and the retention, trans-shipment or landing of fins. Beheading and skinning onboard are also banned, as well before first sale.



■ **Area-based fisheries:** Bans trawling within 3 nautical miles of the coast or in depths of less than 50m. Allowance is made for a limited number of ‘specific and spatially limited’ exemptions, usually for vessels <12m, and these need to be carefully monitored and reported on, with efforts to mitigate impacts on the marine environment.



■ **Threatened species:** Obliges members to ensure high protection from fishing activities and bans landing, sale or trans-shipment for any species listed in Annex II of the SPA/BD Protocol of the Barcelona Convention; and obliges them to record and report data in vessel logbooks of any on catches of species in Annexes II and III.

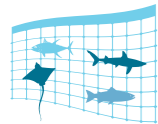
Since then, the GFCM has adopted a significant set of other measures expanding the scope of this first recommendation. These are summarized below, starting with the most wide-ranging.





## RECOMMENDATION GFCM/44/2021/16 ON ADDITIONAL CONSERVATION AND MITIGATION MEASURES FOR THE CONSERVATION OF ELASMOBRANCHS IN THE MEDITERRANEAN SEA

The most recent general recommendation came in response to advice from the GFCM [Scientific Advisory Committee on Fisheries](#) identifying the need for better elasmobranch conservation. The recommendation quotes the [MedFish4Ever Ministerial Declaration](#) of 2017 which highlights the need to “ensure adequate protection of vulnerable species”, and also references the GFCM’s own [2030 Strategy](#), which includes a specific target on minimizing and mitigating unwanted interactions between fisheries and marine ecosystems. It recognizes that fisheries remain “the most serious current anthropogenic threat” to elasmobranch species, and calls on all members “to encourage further actions” to improve their conservation status – including the following:



### Management measures

- Train and incentivize skippers to reduce shark bycatch mortality (e.g. reward low-impact practices, certify ‘shark-friendly’ products)
- Research gear, equipment and techniques to reduce bycatch mortality and increase post-release survival



### Data collection, monitoring and research

- Improve data collection and monitoring information on sharks and rays
- Identify critical habitats
- Research impact of different fishing gears (e.g. wire leaders on longlines), consider changing national legislation depending on the results
- Carry out pilot projects on listed species to collect additional data and ensure compliance
- Carry out at least five species-specific actions to improve conservation status

### Species-specific actions

<b>Smooth-hound shark</b> ( <i>Mustelus asterias</i> , <i>M. mustelus</i> , <i>M. punctulatus</i> )	<b>Common thresher</b> ( <i>Alopias vulpinus</i> )	<b>Sandbar shark</b> ( <i>Carcharhinus plumbeus</i> )	<b>Gulper shark</b> ( <i>Centrophorus granulosus</i> )	<b>Sharpnose sevengill shark</b> ( <i>Hepranchias perlo</i> )	<b>Piked dogfish</b> ( <i>Squalus acanthias</i> )	<b>Blue shark</b> ( <i>Prionace glauca</i> )
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For all of the species above, members should:

- Assess bycatch and targeted catch rates in all fisheries
- Assess bycatch survival rate
- Identify critical habitats
- Identify fishing tech solutions to reduce bycatch and increase post-release survival
- Compile any fisheries measures in place (including spatial) that can positively affect the species’ conservation
- Assess priority market demand (domestic, export etc.), if any



### Scientific Advisory Committee

The recommendation also sets a series of tasks for the SAC:

- Advise on good practices to increase post-release survival
- Advise on new conservation measures for listed species, such as:
  - Maximum catch percentage or number per species per trip
  - Species-specific minimum and maximum landing sizes
  - Restriction of elasmobranch recreational fisheries
- Run socioeconomic studies to increase knowledge on elasmobranch depredation
- Provide elements for an overall conservation and management framework for listed species, including objectives, targets and timescales, and best estimates of population sizes
- Advise on area- and threat-based conservation efforts

## THE DATA COLLECTION REFERENCE FRAMEWORK



The GFCM DCRF<sup>6</sup> is the frame for the submission of fisheries-related data and information by Contracting Parties on their national fisheries sectors. It provides the basis for the scientific advice formulated by GFCM subsidiary bodies.

It can be an effective tool for shark and ray conservation too: you can’t manage what you don’t measure, so GFCM recommendations have mandated members to use the DCRF to submit increasingly detailed information on managed species (those listed in Annexes II and III of the Barcelona Convention, as well an additional 37 species). When these species are caught, even as bycatch, members must record and transmit a comprehensive set of data that covers inter alia:

- The GFCM subarea where the fish was caught (the Mediterranean is divided into 28 subareas)
- The source of data (biological sampling on board, or at landing place or market, or scientific survey)
- The fleet segment and the fishing gear
- The name of the species and the total number of individuals caught and their weight
- The number of individuals released alive
- The number of dead individuals

If this information was consistently forthcoming across the region, we’d learn a lot more about sharks and rays and how to reduce their interactions with fisheries – but the GFCM acknowledges that its members need to increase their efforts. In a [technical paper from 2019](#) on the methodology to monitor the incidental catch of vulnerable species, it states: “*There are still large gaps in knowledge of the actual extent of bycatch in the Mediterranean and the Black Sea. Control and surveillance at landing sites are ineffective in recording bycatch, because animals are generally either released alive (with unknown post-release survival) or discarded dead by fishers at sea despite regulations in place, and programmes for monitoring incidental catch using on-board observers with statistically robust sampling designs are not regularly implemented for all fisheries in these areas.*”<sup>7</sup> The methodology needs to be applied as per recommendation **GFCM/44/2021/16**, to collect data on shark bycatch.

Measures adopted by the GFCM on shark and ray bycatch data must be properly transposed, implemented and enforced by all members at a national level – this is meant to be done within 4 months after adoption of the recommendation by the GFCM Commission, although in practice this doesn’t always happen.





## RECOMMENDATION GFCM/45/2022/12 ON THE ESTABLISHMENT OF A SET OF MINIMUM RULES FOR SUSTAINABLE RECREATIONAL FISHERIES IN THE MEDITERRANEAN SEA

Recreational fishing undoubtedly has a significant effect on many species, including sharks and rays, therefore recently the GFCM has begun serious efforts to quantify its true impact and to manage it sustainably.

**GFCM/45/2022/12** introduces various controls, among which is a prohibition on retaining many species of sharks and rays during recreational fishing activities. These include species listed in Appendices I and II of the Convention on International Trade in Endangered Species of Wild Fauna

and Flora (CITES), species listed in Appendices I and II of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and species listed in Annex II of the SPA/BD Protocol of the Barcelona Convention. It will therefore cover 39 species in the Mediterranean as of November 2023, when the most recent round of CITES listings become active. GFCM members have until March 2024 to put forward an implementation plan for how they will meet their obligations under this recommendation.



## RESOLUTION GFCM/41/2017/5 ON A NETWORK OF ESSENTIAL FISH HABITATS

The GFCM's resolutions don't have the same binding authority as its recommendations, but members are nonetheless expected to take proactive steps to support their implementation. Resolution **GFCM/41/2017/5** targets increased knowledge of the regional distribution of essential fish habitats which it defines as "habitats identified as essential to the ecological and biological requirements for critical life history stages of exploited [Ed. commercial]<sup>8</sup> fish species," and sensitive habitats, which it defines as "fragile habitats that are recognized internationally as ecologically important, which support important assemblages of commercial and non-commercial fish species [Ed. which includes shark species] and which may require special

protection". The resolution aims to map out a network of such habitats, and could ultimately support the creation of Fisheries Restricted Areas to protect them.

Historically there has been a notable lack of information on sharks' critical habitats in the Mediterranean, and hence little basis to protect them. New data from around the region will enable the SAC to identify areas where spatial protection interventions will be of maximum benefit to shark species.

Work under this resolution is ongoing – and it could receive a considerable boost from the IUCN's work on ISRAs (see opposite).



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## ISRAs AND THE MEDITERRANEAN: PROCESS NEARING COMPLETION

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Area-based conservation is a vital tool in reversing the steep decline in shark and ray numbers, providing shelter from fishing pressure as well as habitat change – but which areas do we need to protect?

That's the question that the [IUCN Species Survival Shark Specialist Group](#) has set out to answer on a global basis, and WWF has been involved with its ongoing work on the subject in the Mediterranean.

Specifically, the goal is to mobilize scientists and conservationists to identify the region's 'Important Shark and Ray Areas (ISRAs)', which the IUCN defines as "discrete, three-dimensional portions of habitat, important for one or more shark species, that are delineated and have the potential to be managed for conservation".

Potential ISRAs are assessed against a range of standardized science-based, evidence-driven criteria that reflect the animals' complex behaviours, ecology and biological needs, including vulnerability, range restriction, key life history activities, distinctiveness and diversity.

Like [Important Marine Mammal Areas](#), [Important Bird and Biodiversity Areas](#), and [Key Biodiversity Areas](#), ISRAs do not in themselves offer protection: their management is a separate question. Their main purpose is to raise awareness among decision-makers on the importance of particular areas for shark and ray populations, and provide a peer-reviewed scientific basis for any area-based conservation action. In this respect, they have huge potential to inform and accelerate place-based conservation measures, whether for selecting MPAs and creating MPA networks, for feeding into environmental impact assessments and marine spatial planning exercises, for informing decisions on fisheries areas or temporal management measures, or for the inclusion of shark and ray-specific measures in MPA management plans.

The Mediterranean is only the second global region where the ISRA process is underway, and it should be complete before the end of 2023.



# OTHER IMPORTANT SHARK AND RAY POLICY FRAMEWORKS

## THE INTERNATIONAL CONVENTION FOR THE CONSERVATION OF ATLANTIC TUNA (ICCAT)



ICCAT is the RFMO in charge of the conservation and management of tuna and tuna-like species in the Atlantic, including its adjacent seas (Mediterranean Sea and Black Sea). Only two Mediterranean states, Israel and Lebanon, have not ratified the convention. As is the case for the GFCM, an ICCAT ‘Recommendation’ is binding on all its Parties, except for any that formally register an objection.

Adopted in 1966, the convention establishing ICCAT was amended by a Protocol in November 2019. This Protocol must now be ratified by at least three-quarters of its Contracting Parties to enter into force, which might take several years. The amended convention clarifies its material scope of application. It will expressly include, besides tuna and tuna-like species, “elasmobranchs that are oceanic, pelagic and highly migratory”.<sup>9</sup> See Table 1 at the end of this document for references to ICCAT recommendations for Mediterranean species.

## CITES

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an agreement which aims to ensure that international trade in wild specimens doesn’t threaten the survival of the species. It’s a voluntary convention, but parties that sign up agree to implement its rules – and this includes every state in the Mediterranean.

CITES-listed species become subject to certain trade controls, depending on which Appendix they appear on. Appendix I includes species threatened with extinction, and trade is only permitted in exceptional circumstances. Appendix II species are not necessarily threatened with extinction, but trade in them must nonetheless be controlled to ensure their survival. For both appendices, an export permit can be granted only when a scientific authority of the state of export has advised that such export will not be

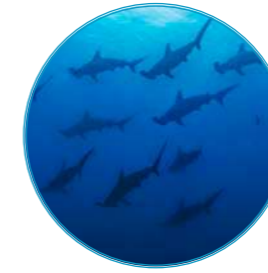
detrimental to the survival of that species. This is called a ‘Non-Detriment Findings’ certificate (NDF). In addition, documents including the ‘Introduction from the Sea’ and the ‘Legal Acquisition’ certificates can be required under certain circumstances, e.g. when the animal has been caught in what is considered ‘High Sea’.

CITES began to list shark and ray species in 2003, adding more over the years, and today it covers 26 Mediterranean species. All of these are on Appendix II, except for 7 species of *Pristidae* spp. (sawfishes) which are on Appendix I – however, the latter are deemed already extinct in the Mediterranean.

New species are proposed for inclusion then listed if a two-thirds majority of parties to the convention vote in favour. The most recent round of proposals, in 2022, saw the



*Carcharhinidae* spp.  
(requiem sharks)



*Sphyrnidae* spp.  
(hammerhead sharks)



*Potamotrygon* spp.  
(freshwater stingrays)



*Rhinobatidae* spp.  
(guitarfishes)

following shark and ray species added globally:

- *Carcharhinidae* spp. (requiem sharks) – 54 additional species, of which 6 are present in the Mediterranean
- *Sphyrnidae* spp. (hammerhead sharks) – 6 additional species, of which 3 are relevant for the Mediterranean (2 present and 1 vagrant species)
- *Potamotrygon* spp. (freshwater stingrays) – 7 species, not present in the Mediterranean
- *Rhinobatidae* spp. (guitarfishes) – 37 species, of which 2 are present in the Mediterranean

It’s up to each party to ensure compliance with CITES regulations, which means putting in place a system with enough resources and trained experts to monitor what’s really going on in the markets – and take action when needed. The new listings will bring the need for increased capacity-building to deal with species that are regularly marketed and traded. Capacity varies around the Mediterranean, with some states far better able than others to meet their CITES obligations.

## THE CONVENTION ON MIGRATORY SPECIES

The CMS, also known as the Bonn Convention, is a global platform for the conservation and sustainable use of migratory animals and their habitats. With the exception of Turkey, all Mediterranean states are parties to it.

The CMS set up a specific [Memorandum of Understanding \(MoU\)](#) on sharks, the first global instrument of its kind – WWF is one of the ‘[cooperating partners](#)’ who signed up to support MoU signatories in reaching their objectives. The MoU aims “to achieve and maintain a favourable conservation status for migratory sharks based on the best available scientific information and taking into account the socio-economic value of these species for the people in various countries”. It currently lists 37 species in its Annex I.

Signatories to the MoU are expected to adopt a Conservation Plan for these species, with five main objectives:

- 1 Improving the understanding of migratory shark populations through research, monitoring and information exchange
- 2 Ensuring that directed and non-directed fisheries for sharks are sustainable

- 3 Ensuring to the extent practicable the protection of critical habitats and migratory corridors and critical life stages of sharks
- 4 Increasing public awareness of threats to sharks and their habitats, and enhancing public participation in conservation activities
- 5 Enhancing national, regional and international cooperation

Some of the species in Annex I are receiving additional focused attention. One of these is the angelshark (*Squatina squatina*), for which a ‘Single Species Action Plan’ (SSAP) is being developed for the Mediterranean (the plan is intended to build on an earlier [Mediterranean Angel Sharks Regional Action Plan](#) created by the [Angel Shark Conservation Network](#) in 2019). At the time of writing, the SSAP is in draft form and is expected to be officially adopted in the autumn of 2023, bringing a vital new layer of regional protection for this iconic but Critically Endangered species.



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## PLANS OF ACTION FOR THE CONSERVATION AND MANAGEMENT OF SHARKS

In 1999, FAO launched the ‘[International Plan of Action for the Conservation and Management of Sharks](#)’ (IPOA). This non-binding instrument required states to establish their own national POAs for conserving and managing sharks in their waters, covering areas such as knowledge of stocks, data collection and research, and an assessment of threats to populations. These POAs should also detail strategies for achieving their objectives, from monitoring, control and surveillance activities to training personnel in the identification of shark species.

A parallel plan targeting the Mediterranean was launched under the Barcelona Convention, coordinated by the Regional Activity Centre for Specially Protected Areas (SPA/RAC). Entitled ‘[Action Plan for the Conservation of Cartilaginous Fishes \(Chondrichthyans\) in the Mediterranean Sea](#)’ it was adopted in 2003, and reviewed and updated in 2020. This suggested how the IPOA could be implemented across the region, establishing a set of priorities for the conservation and management of shark species and calling for cooperation on the issue between Mediterranean states. It also calls for every state to establish a NPOA – however, at the time of publication we’re not aware of any NPOA that has been formally adopted in any Mediterranean country. Nevertheless, the process to create one is underway in several countries.

The European Union established [its own POA](#) in 2009 – it calls it “a comprehensive and coherent legislative policy and legislative framework for the conservation and management of sharks within and outside Community waters” – which its Member States are individually responsible for implementing and enforcing. In the Mediterranean, the EU POA is thus shared by Spain, France, Malta, Italy, Slovenia, Croatia, Greece and Cyprus. It has not been updated since.

## EU POLICIES AND NATIONAL LEGISLATION

While no shark species is listed in the EU habitat directive, sharks are included in several EU fisheries legislations and policies, for example the so-called Technical measures Regulation 2019/1241, which lists a limited number of prohibited species.

However, through the transposition of GFCM recommendations into EU regulations all 24 species listed in Annex II of the SPA/BD Protocol of the Barcelona Convention are prohibited from being retained in all EU Member States. More recently the EU published the [EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries](#) in which the Commission “calls on Member States to develop threshold values for the maximum allowable mortality rate from incidental catches of the species selected by Member States”<sup>10</sup> by 2023 (an EU Decision

from 2017); adopt national measures or submit joint recommendations to the Commission to minimize bycatch (or reduce it to the level that enables the full recovery of the populations) of, inter alia, angel sharks, common skate, guitarfish, Maltese skate, great white shark, sand tiger shark, smalltooth sand tiger shark and spiny butterfly ray by the end of 2024; and the remaining sensitive marine species that are at risk of incidental catches, prioritizing those in “unfavourable conservation status” or threatened by extinction by the end of 2030.

## FIRST PROMISING RESULTS OF COLLABORATION BETWEEN FISHERIES AND RESEARCH IN THE NORTHERN ADRIATIC



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Reducing the bycatch rates of these shark species is challenging, considering their large sizes and the high fishing effort occurring in the area. Reducing fishing impacts – by means of minimum mesh sizes, shark excluder devices etc. – may interfere with fishing activities, meaning these strategies are less likely to be accepted by fishers. In some cases, effective and more acceptable management strategies may include an integration of different approaches, from the release of sharks at vulnerable life stages (e.g. early juveniles, usually being of low commercial value) to the avoidance of fishing in sensitive areas.

To understand key biological traits (e.g. the use of space) and explore feasible fisheries management measures and bycatch mitigation measures, work led by the University of Padova within the Italian monitoring programmes of the Marine Strategy Framework Directive (MSFD, Directive 2008/56/EC) and within

the MedBycatch<sup>11</sup> project assessed the potential of a management strategy including the release of juveniles of commercial elasmobranch species. Between 2020 and 2023 researchers were on board on 90 fishing trips using different fishing gears (otter trawling, pelagic trawling, gill nets), and by combining conventional tagging and acoustic telemetry they assessed the at-vessel mortality and post-release mortality of almost 3,500 individuals from 13 species. From this, they constructed individual-based population dynamics models to assess the expected recovery of populations according to different minimum conservation sizes and survival rates. Results for the three most common species, *Mustelus mustelus*, *M. punctulatus* and *Squalus acanthias*, highlighted that individuals may remain in the same area for several weeks, with initial results indicating the potential effectiveness of the release of juveniles and the avoidance of certain areas.<sup>12</sup>



# RECOMMENDATIONS

As this brief survey of regional frameworks for the conservation of sharks and rays shows, there are already enough regulations in place to significantly improve their status in the Mediterranean. The problem is that a great deal more needs to be done in terms of implementation and enforcement: there are some signs of progress, but if all countries fully embraced their commitments it would make all the difference.

WWF calls for action in the following key areas:



- Countries should ensure implementation of **existing legislation** and **harmonization of national, Mediterranean and global policies**, with an urgent need to transpose new regional measures into national legal frameworks



- Countries should ensure the **collection and submission of robust fisheries data** at national level following the GFCM Data Collection Reference Framework to allow the development of robust scientific advice



- Countries and the GFCM should support the **development of national capacity**, in particular of authorities and fishers, to implement policies and legislation, in particular GFCM and CITES measures



- Countries should support the **adoption of increased spatial management** measures at national and Mediterranean level, through the GFCM, to protect important habitats for sharks and rays and to support the establishment of coherent networks of well-managed areas, including Fisheries Restricted Areas and other spatio-temporal measures, for both exploited and non-commercial vulnerable species



- Countries should support the **inclusion of specific management measures** for sharks and rays in **existing MPAs** where they overlap with important habitats



- Countries should develop **POAs for sharks** as (inter alia) tools to ensure collaboration between environmental and fisheries management authorities



- Countries and the GFCM should develop **population recovery plans and fisheries management measures** including technical measures with measurable and science-based objectives at national and regional level in collaboration with all stakeholders, including decision-makers, fishers and coastal communities



- Countries should support the adoption of the GFCM regional plan of action for **vulnerable species** bycatch supported by the Scientific Advisory Council at its annual session in 2023



- Countries should support the inclusion of **new species** in the Annexes of the SPA/BD Protocol of the Barcelona Convention. Among the species which should be most urgently added to Annex II are:
  - **Lusitanian cownose ray** – *Rhinoptera marginata* – Critically Endangered
  - **Duckbill eagle ray/Bull ray** – *Aetomylaeus bovinus* – Critically Endangered
  - **Common eagle ray** – *Myliobatis aquila* – Critically Endangered
  - **Bigeye thresher** – *Alopias superciliosus* – Endangered



- Countries should support the inclusion of Mediterranean populations of new species in Appendix I of the Convention on Migratory Species, with the priorities being:
  - **Lusitanian cownose ray** – *Rhinoptera marginata* – Critically Endangered
  - **Duckbill eagle ray/Bull ray** – *Aetomylaeus bovinus* – Critically Endangered
  - **Common guitarfish** – *Glaucostegus cemiculus* – Critically Endangered



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# ANNEX 1

**Table 1 – Overview of Mediterranean species, their conservation status and related legislation and policies. In order to identify the species listed below a range of identification guides exist.<sup>13</sup>**

SCIENTIFIC NAME	VERNACULAR NAME	To be released unharmed and alive for commercial fisheries	Prohibited for recreational fishing	UNCLOS ANNEX	Barcelona Convention SPA/BD Protocol Annex	CITES Appendix <sup>2</sup>	Convention of Migratory (CMS) Appendix	CMS Sharks MoU Annex	ICCAT *19-01: definition of oceanic, pelagic, and highly migratory	GFCM/42/2018/2 (prohibition of retention)	GFCM Annex I Species specific actions	GFCM/44/2021/16 Annex I Species specific actions	IUCN status**
<i>Heptranchias perlo</i>	Sharpnose Sevengill Shark				III							●	NT
<i>Hexanchus griseus</i>	Bluntnose Sixgill Shark			I									NT
<i>Carcharias taurus</i>	Sand Tiger Shark	●	●		II					●			CR
<i>Odontaspis ferox</i>	Smalltooth Sand Tiger	●	●		II		I			●			CR
<i>Carcharodon carcharias</i>	White Shark	●	●	I	II	II	I & II	*		●			CR
<i>Isurus oxyrinchus</i>	Shortfin Mako	●	●	I	II	II	II	I	**19-06; 14-06; 10-06 (partial prohibition)*	●			CR
<i>Lamna nasus</i>	Porbeagle	●	●		II	II	II	I	*15-06 (prohibition)	●			CR
<i>Cetorhinus maximus</i>	Basking Shark	●	●	I	II	II	I & II		*	●			EN
<i>Alopias superciliosus</i>	Bigeye Thresher	●	●	I		II	II		*09-07 (prohibition)				EN
<i>Alopias vulpinus</i>	Common Thresher		●	I	III		II		*09-07 (monitoring)		●		VU
<i>Galeus atlanticus</i>	Atlantic Sawtail Catshark												NT
<i>Galeus melastomus</i>	Blackmouth Catshark												LC
<i>Scyliorhinus canicula</i>	Smallspotted Catshark												LC
<i>Scyliorhinus stellaris</i>	Nursehound												VU

<i>Galeorhinus galeus</i>	Tope	●	●									II	I	●		CR	
<i>Mustelus asterias</i>	Starry Smoothhound											III			●	VU	
<i>Mustelus mustelus</i>	Common Smoothhound											III			●	EN	
<i>Mustelus punctulatus</i>	Blackspotted Smoothhound											III	II		●	VU	
<i>Carcharhinus altimus</i>	Bignose Shark		●										II			NT	
<i>Carcharhinus brachyurus</i>	Copper Shark		●										II			VU	
<i>Carcharhinus brevipinna</i>	Spinner Shark		●										II			VU	
<i>Carcharhinus obscurus</i>	Dusky Shark		●										II	I		EN	
<i>Carcharhinus plumbeus</i>	Sandbar Shark		●	I								III	II		●	EN	
<i>Prionace glauca</i>	Blue Shark		●	I								III	II	*19-07 (monitoring)	●	CR	
<i>Sphyrna lewini</i>	Scalloped Hammerhead	●	●									II	II	II	*10-08 (prohibition)	●	CR
<i>Sphyrna mokarran (vagrant)</i>	Great Hammerhead	●	●									II	II	II	*10-08 (prohibition)	●	CR
<i>Sphyrna zygaena</i>	Smooth Hammerhead	●	●	I								II		I	*10-08 (prohibition)	●	CR
<i>Dalatias licha</i>	Kitefin Shark																VU
<i>Etmopterus spinax</i>	Velvet Belly Lanternshark																VU
<i>Centroscymnus coelepis</i>	Portuguese Dogfish																NT
<i>Somniosus rostratus</i>	Little Sleeper Shark																LC
<i>Oxyntotus centrina</i>	Angular Roughshark	●	●										II			●	CR
<i>Centrophorus uyato</i>	Little Gulper Shark												III			●	CR
<i>Squalus acanthias</i>	Spiny Dogfish		●										III	II	I	●	EN
<i>Squalus blainville</i>	Little Gulper Shark																DD



<i>Squatina aculeata</i>	Sawback Angelshark	●	●		II					●		CR
<i>Squatina oculata</i>	Smoothback Angelshark	●	●		II					●		CR
<i>Squatina squatina</i>	Angelshark	●	●		II	I & II	I			●		CR
<i>Torpedo marmorata</i>	Marbled Torpedo Ray											VU
<i>Tetronarce nobiliana</i>	Great Torpedo Ray											LC
<i>Torpedo torpedo</i>	Ocellate Torpedo											VU
<i>Glaucostegus cemiculus</i>	Blackchin Guitarfish	●	●		II	II						CR
<i>Rhinobatos rhinobatos</i>	Common Guitarfish	●	●		II	I	I & II	I		●		CR
<i>Pristis pectinata</i>	Smalltooth Sawfish	●	●		II	I	I & II	I		●		CR
<i>Pristis pristis</i>	Large-tooth Sawfish	●	●		II		I & II	I		●		CR
<i>Dipturus cf batis</i>	Common Blue Skate*	●	●		II					●		CR
<i>Dipturus nidarosiensis</i>	Norwegian Skate											NT
<i>Dipturus oxyrinchus</i>	Longnosed Skate											NT
<i>Leucoraja circularis</i>	Sandy Skate	●	●		II					●		CR
<i>Leucoraja melitensis</i>	Maltese Skate	●	●		II					●		CR
<i>Leucoraja naevus</i>	Cuckoo Skate											LC
<i>Raja asterias</i>	Starry Skate											NT
<i>Raja brachyura</i>	Blonde Skate											NT
<i>Raja clavata</i>	Thornback Skate											NT
<i>Raja miraletus</i>	Brown Skate											LC
<i>Raja montagui</i>	Spotted Skate											LC
<i>Raja polystigma</i>	Speckled Skate											LC
<i>Raja radula</i>	Rough Skate											EN

<i>Raja undulata</i>	Undulate Skate											EN
<i>Rostroraja alba</i>	White Skate	●	●		II					●		EN
<i>Bathytoshia lata</i>	Brown Stingray											VU
<i>Dasyatis marmorata</i>	Marbled Stingray											NT
<i>Dasyatis pastinaca</i>	Common Stingray											VU
<i>Dasyatis tortonesei</i>	Tortonese's Stingray											DD
<i>Himantura leoparda</i>	Leopard Whipray											VU
<i>Pteroplatytrygon violacea</i>	Pelagic Stingray								*			LC
<i>Taeniurops grabatus</i>	Round Fantail Stingray											NT
<i>Gymnura altavela</i>	Spiny Butterfly Ray	●	●		II					●		CR
<i>Myliobatis aquila</i>	Common Eagle Ray											CR
<i>Aetomylaeus bovinus</i>	Duckbill Eagle Ray											CR
<i>Rhinoptera marginata</i>	Lusitanian Cownose Ray					II						CR
<i>Mobula mobular</i>	Spinetail Devil Ray	●	●		II		I & II	I	*	●		EN
<i>Chimaera monstrosa</i>	Rabbitfish											VU
<i>Hydrolagus mirabilis</i>	Large-eyed Rabbitfish											LC

Some extremely rare or vagrant species have been excluded.

\*Presence in the Mediterranean questionable

\*\*Based on the IUCN 2016 Mediterranean assessments and the 2021 Global assessments. (ISRA) Region 3. February 2023. Dubai: IUCN SSC Shark Specialist Group.

**UNCLOS:** [Annex I](#): requires cooperation for the management of straddling stocks and highly migratory species in the EEZs and the high seas.

**CITES:** includes species threatened with extinction and provides the greatest level of protection, including restrictions on commercial trade; App II: includes species that, although currently not threatened with extinction, may become so without trade controls. It also includes species that resemble other listed species and need to be regulated in order to effectively control the trade in those other listed species.

**CMS:** App I Range States Parties should endeavour to conserve and, where feasible and appropriate, restore important habitats of those species, minimize obstacles on migratory routes, control the introduction of exotic species and prohibit the catching of listed animals; App II: CMS acts as a framework convention – it does not provide any specific protection to them, but requires that Parties conclude global or regional agreements on specified species.

**CMS Shark MoU Annex I:** CMS MoU signatories adopted a conservation plan. Updated to COP12 new listings.

**Barcelona Convention Annex II:** List of endangered and threatened species; **Annex III:** List of species whose exploitation is regulated.



# REFERENCES

1. Sharks, rays, and chimaeras (hereafter ‘sharks’)
2. Disclaimer: The information contained in this summary document on legislation is intended solely for general informational purposes. It is not intended to serve as legal advice, and should not be relied upon as such.
3. IUCN SSC Shark Specialist Group. 2023. Inventory of Knowledge: Geographic Ranges of Sharks, Rays, and Chimaeras in the Mediterranean and the Black Seas, Important Shark and Ray Areas (ISRA) Region 3. February 2023. Dubai: IUCN SSC Shark Specialist Group.
4. Dulvy et al. 2021 [https://www.cell.com/current-biology/fulltext/S0960-9822\(21\)01198-2](https://www.cell.com/current-biology/fulltext/S0960-9822(21)01198-2)
5. The ‘Agreement for the Establishment of the General Fisheries Commission for the Mediterranean’ was adopted under Article XIV of the FAO Constitution in 1949 and entered into force on 20 February 1952. It was amended four times (1963, 1972, 1997 and 2014); <https://www.fao.org/gfcm/about/legal-framework/en/>
6. GFCM Data Collection Reference Framework - Manual <https://www.fao.org/gfcm/data/dcrf/fr/>
7. FAO. 2019. Monitoring the incidental catch of vulnerable species in Mediterranean and Black Sea fisheries.
8. GFCM, 2018. GFCM Data Collection Reference Framework (DCRF). Version: 23.2, Annex A
9. ICCAT has already adopted measure 19-01 which lists the elasmobranchs to which the amended ICCAT convention will apply. See <https://www.iccat.int/Documents/Recs/compendiopdf-e/2019-01-e.pdf>
10. As per Decision (EU) 2017/848 Member States shall establish the threshold values for the mortality rate from incidental bycatch per species, through regional or subregional cooperation.
11. <https://www.fao.org/gfcm/activities/environment-and-conservation/med-bycatch-project/fr/>
12. Mazzoldi et al. as presented in the GFCM Subregional committee for the Adriatic in May 2023
13. Identification guide of vulnerable species incidentally caught in Mediterranean fisheries <https://portals.iucn.org/library/node/49019> ; <https://www.fao.org/3/I6911EN/I6911en.pdf>





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1196 Gland, Switzerland. Tel. +41 22 364 9111. Fax. +41 22 364 0332.

For contact details and further information, please visit our international  
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