ISRA
IMPORTANT SHARK AND RAY AREAS

OCEAN TRAVELLERS:

SAFEGUARDING CRITICAL HABITATS FOR MIGRATORY SHARKS AND RAYS

ACKNOWLEDGEMENTS

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Cover Image: Oceanic Whitetip Shark (*Carcharhinus longimanus*) | b.neeser | Adobe Stock

IUCN SSC
Shark Specialist Group

IUCN Species Survival Commission Shark Specialist Group

The IUCN Species Survival Commission (SSC) Shark Specialist Group (SSG) was established in 1991 in response to growing concern of the severe impacts of fisheries on shark, ray, and chimaera populations worldwide. It is a global volunteer network of more than 230 experts from 82 countries, spanning fields such as biology, taxonomy, ecology, fisheries and conservation. The SSG works collaboratively to assess the extinction risk of all known shark, ray, and chimaera species, consolidate global knowledge, identify species at greatest risk, develop conservation strategies, and advise policymakers on effective, science-based measures for sustainable use and long-term conservation. It is recognised as the leading authority on the status of sharks, rays, and chimaeras globally. Building on more than three decades of scientific assessments and collaboration, the SSG is now focused on ensuring that this knowledge translates into targeted actions for species and habitats most in need of conservation.
iucnssg.org

ISRA
IMPORTANT SHARK AND RAY AREAS

Important Shark and Ray Areas

The Important Shark and Ray Areas (ISRA) initiative is led by the IUCN SSC Shark Specialist Group. ISRAs are defined as "discrete, three-dimensional portions of habitat that are important for one or more shark, ray, or chimaera species, which are delineated and have the potential to be managed for conservation."
The identification of ISRAs is an evidence-driven and purely biocentric process that applies standardized scientific criteria and uses the best available evidence. The primary goal of ISRAs is to draw the attention of policymakers and managers to areas essential for maintaining or improving the conservation status of sharks, rays, and chimaeras. ISRAs do not create legal protection themselves but serve as a scientific foundation for management action — including, where appropriate, designation as protected or managed areas.
sharkrayareas.org

Basking Shark | Lars von Ritter Zahony | Ocean Image Bank

EXECUTIVE SUMMARY

Shortfin Mako | Andy Murch

Sharks and rays are among the most threatened vertebrates on the planet, facing intense pressure from overfishing, habitat loss and degradation, and inadequate protection across critical sites for life-history processes and their migratory ranges. Many migratory species of sharks and rays are now listed under the Convention on the Conservation of Migratory Species of Wild Animals (CMS) and its daughter agreement, the Memorandum of Understanding on the Conservation of Migratory Sharks (Sharks MOU), reflecting the urgent need for collaborative international and regional conservation action.

This report presents a first global overview of Important Shark and Ray Areas (ISRAs) identified for CMS and Sharks MOU-listed sharks and rays. It showcases areas critical for life-history processes of these species including reproduction, feeding, aggregations, and migratory corridors. It highlights priority sites and regions where spatial protection and management measures can support recovery, resilience, and the maintenance of ecological connectivity for these vulnerable migratory species. ISRAs have been delineated in over 74% of global waters, in nine of 13 regions globally, through expert consultation and evidence-based information. This report is a tool for CMS Parties and Sharks MOU Signatories, policymakers, and conservation practitioners to inform marine spatial planning, shape national and regional conservation strategies, and accelerate progress toward achieving commitments under the Kunming-Montreal Global Biodiversity Framework (GBF), particularly Target 3 to *Conserve 30% of Land, Waters, and Seas*.

1,213

Species of sharks and rays have been described globally

816

ISRAs identified for all sharks and rays

42

Migratory sharks and rays are listed on the CMS Appendices and the Sharks MOU

4

ISRA Criteria, including 7 Sub-criteria, are used to identify important sites

769

ISRAs identified for migratory sharks and rays

RECOMMENDED ACTIONS

- **A** Marine spatial planning
- **B** Regional coordination
- **C** Research & monitoring
- **D** Biodiversity strategies & action plans

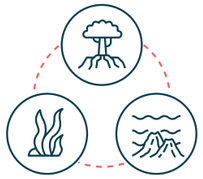
KEY MESSAGES

1

EARTH'S VAST OCEANS PROVIDE CRITICAL HABITAT FOR MIGRATORY SPECIES

Migratory sharks and rays are a highly threatened group that rely on critical ocean and coastal habitats for vital life-history needs including mating, giving birth, feeding, and for migrating between key areas.

2



IMPORTANT SHARK AND RAY AREAS (ISRAs) PROVIDE A FRAMEWORK TO IDENTIFY CRITICAL HABITAT

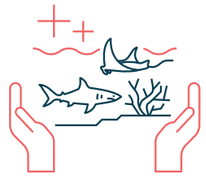
The ISRA process applies a set of evidence-based criteria to identify areas of importance for sharks and rays using the best available science and knowledge. Mapping of these areas around the globe is ongoing and is expected to be completed by 2027.

3

ISRAs HAVE BEEN IDENTIFIED IN ALL OCEAN BASINS FOR MIGRATORY SHARKS AND RAYS

Critical habitats have been identified for the vast majority of sharks and rays listed on CMS and the Sharks MOU. These ISRAs highlight areas important for threatened species, reproduction, feeding, migratory corridors, aggregations, and areas of exceptional species diversity.

4



ISRA DELINEATION CAN SUPPORT THE MANAGEMENT AND CONSERVATION OF CMS AND SHARKS MOU-LISTED SHARKS AND RAYS

ISRAs can play a key role in supporting the conservation and management of listed species through their integration into marine spatial planning, regional coordination efforts, research and monitoring, and into objectives of National Biodiversity Strategy and Action Plans. Using ISRAs as a common reference point can help improve the coherence and effectiveness of conservation measures across jurisdictions.

Pelagic Thresher | Sean | Adobe Stock

TABLE OF CONTENT

ACRONYMS

ABNJ	Areas Beyond National Jurisdiction
BBNJ	Biodiversity Beyond National Jurisdiction
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COP	Conference of Parties
EBSA	Ecologically or Biologically Significant Marine Areas
EEZ	Exclusive Economic Zone
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organisation of the United Nations
GBF	Kunming-Montreal Global Biodiversity Framework
IPOA	Food and Agriculture Organisation of the United Nations International Plan of Action for Sharks
ISRA	Important Shark and Ray Areas
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Areas
MEA	Multilateral Environmental Agreements
MOS	Meeting of Signatories
MPA	Marine Protected Area
NBSAP	National Biodiversity Strategy and Action Plans
OECM	Other Effective Area-Based Conservation Measures
RFMO	Regional Fisheries Management Organisations
SDG	Sustainable Development Goals
Sharks MOU	Memorandum of Understanding on the Conservation of Migratory Sharks
SSC	Species Survival Commission
SSG	Shark Specialist Group

INTRODUCTION

> Ecological connectivity is the unimpeded movement of species and the flow of natural processes that sustain life on Earth.

Sharks and Rays

Sharks, rays, and chimaeras collectively form the class Chondrichthyes, or cartilaginous fishes. Sharks and rays ('elasmobranchs') represent the bulk of the diversity of this predominantly marine group with 1,213 species (as of end 2024) while the chimaeras (or ghost sharks) comprise 53 species [1]. The poorly known chimaeras are primarily deep-sea species and since none are listed on the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and its daughter agreement, the CMS Memorandum of Understanding for Sharks (Sharks MOU), they are not considered further here.

Sharks and rays encompass a wide range of sizes, habitats, and ecology. At the extremes are miniature species such as the Dwarf Lanternshark (*Etmopterus perryi*) at 21 cm in length compared to the world's largest fish, the Whale Shark (*Rhincodon typus*) which may reach ~20 m. A diversity of species are adapted to shallow nearshore waters of the continental shelf, while others are true wanderers of oceanic waters far from land. The deep-sea fauna has evolved many specialised forms, occupying continental slopes, seamounts, deep plateaus, and in a few cases, the abyss (although sharks and rays are absent from the deepest oceans with the maximum recorded depth being 4,156 m for Bigelow's Skate [*Rajella bigelowi*]).

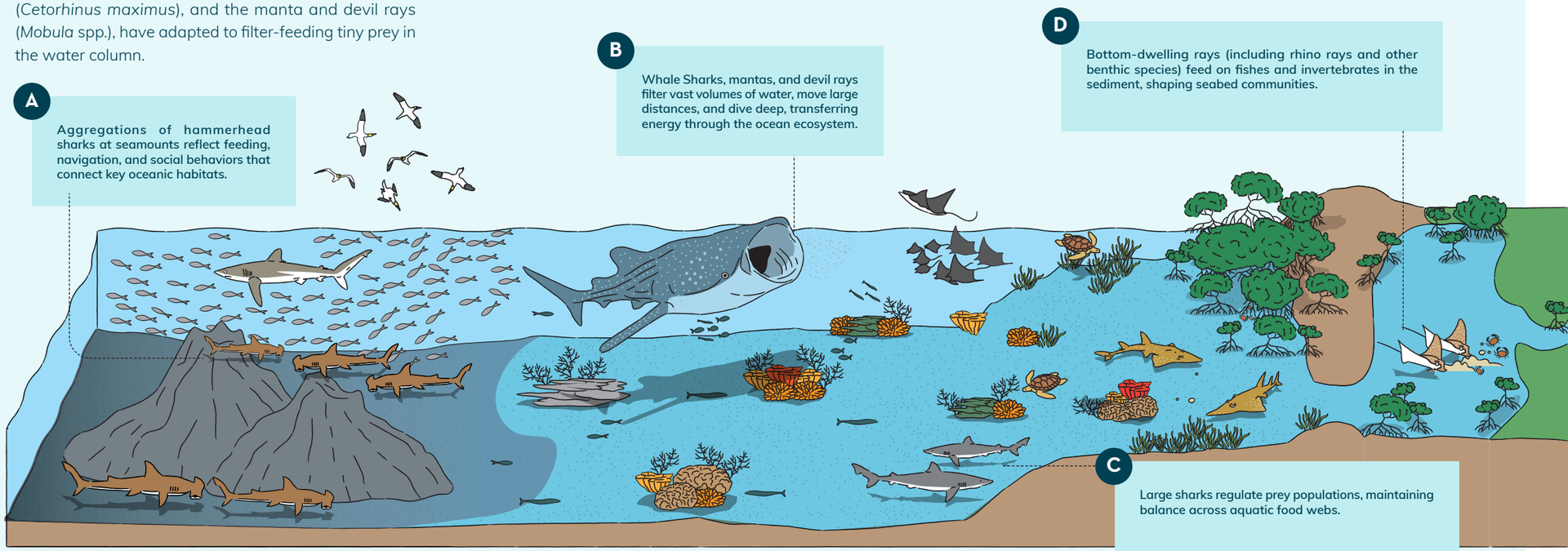
Sharks are known as being high level 'macro-predators', such as the White Shark (*Carcharodon carcharias*) whose feeding specialises on pinnipeds (seals and sea lions) as adults. But in reality, the diets and trophic positions of these species are as diverse as their body forms. The highest level predators are a relatively small group compared to the diversity of 'meso-predators' who occupy mid-level trophic positions. Oceanic species swimming in the water column can prey heavily on fishes and cephalopods, while benthic species (those living on the seafloor) prey on fishes and invertebrates (e.g., crustaceans and molluscs) living on or buried in the substrate. A few species, such as the aforementioned Whale Shark, Basking Shark (*Cetorhinus maximus*), and the manta and devil rays (*Mobula* spp.), have adapted to filter-feeding tiny prey in the water column.

This diversity of diets and body forms mean that sharks and rays play essential roles across aquatic ecosystems [2,3]. Large predatory sharks maintain ecosystem balance and regulate prey populations, ensuring the structure of complex food webs is maintained. Like large terrestrial predators, they can keep prey populations healthy by removing sick or injured individuals. Sharks and rays transfer energy through ecosystems via direct consumption and predator-prey interactions, and can maintain healthy habitats through herbivore control. Removing sharks and rays can shift the balance of prey which can impact the function of ecosystems and habitats.

Sharks and rays have diverse reproductive strategies including species that give birth to live young (viviparity) through to those that lay eggs (oviparity). Despite diversity in reproductive styles, the majority of sharks and rays are what is known as K-selected species, slow-growing and slow-maturing with low fecundity and low levels of natural mortality. Long gestation periods and small litter sizes are commonly observed, for example in the CMS Appendix II and Sharks MOU listed Dusky Shark (*Carcharhinus obscurus*). This shark species produces 3–16 pups after a gestation period of up to 22 months with the age of female maturity ranging from a lengthy 17–32 years. Life-history traits such as these are key contributing factors to the extinction risk so widely faced by sharks and rays as it exacerbates vulnerability to depletion by fisheries and severely limits their recovery potential. Species with the lowest reproductive output require targeted management measures to minimise mortality but a lack of science-based catch limits has historically hindered sustainable management.

Threats to Sharks and Rays

An estimated 35% of sharks and rays are threatened with extinction according to the IUCN Red List of Threatened Species [4, 5]. Overfishing has led to drastic population declines worldwide as a result of targeted fishing or incidental catch ('bycatch'). For example, within the oceanic environment, pelagic sharks and rays have been reduced by 71% in the last 50 years [6]. Compounding the pressure from fishing are habitat loss and degradation from coastal development, pollution that contaminates critical habitats, vessel strikes that can impact slow-moving or surface dwelling species, and climate change that can alter prey availability, distribution patterns, and reproductive success. Emerging threats from marine industrial activities, including deep-sea mining and offshore wind farms, are also being recognised with potentially severe consequences for fragile benthic ecosystems and species that occupy the water column. The loss of these species threatens ecosystem integrity, food security, and the resilience of coastal communities.



Existing Threats

The threat from overfishing, in both industrial and artisanal fisheries, on sharks and rays has been well documented. A broad range of fisheries have driven population declines in migratory species and along with a suite of other threats (e.g., habitat loss) are acting cumulatively to undermine recovery efforts.

FISHING

Targeted and incidental catch ('bycatch') in fisheries is by far the most significant threat facing migratory sharks and rays [6]. Exploitation is driven by high value products (e.g., fins from rhino rays [a group comprising sawfishes, wedgefishes, and guitarfishes]; gill plates from mantas and devil rays) combined with extensive domestic consumption and trade in meat. Fishing mortality has driven major population declines in all migratory oceanic shark and ray species.

1	The major types of fishing gear which capture migratory sharks and rays include trawls, gillnets, purse seines, and longlines.
2	Benthic trawls are responsible for significant incidental catch of migratory sharks and rays, particularly those occupying the seafloor (e.g., wedgefish, guitarfish). Trawling also causes substantial harm to ecosystems through physical damage to the seafloor. Pelagic trawls can also capture migratory species (e.g., Duckbill Eagle Ray [*Aetomylaeus bovinus*]).
3	Gillnets (including trammel nets which are gillnets comprising multiple layers of netting) capture migratory sharks and rays by entanglement with species (e.g., mantas and devil rays) susceptible to capture at the surface or in the water column. In cases where incidental catch is not retained, pre- and post-release survivorship can be low due to long soak times and injuries from entanglement.
4	Purse seines are set in the open ocean to capture schooling fishes. Oceanic sharks and rays are a regular incidental catch including where nets are set around fish aggregating devices (FADs) which also attract sharks and mantas and devil rays. In some cases, purse seines are set around Whale Sharks (which themselves act as a FAD) resulting in incidental capture.
5	Pelagic longlines are the most prominent fishing gear catching oceanic migratory sharks and rays and are a major source of mortality. These lines can reach tens of kilometres long and deploy thousands of baited hooks. Sharks and rays are caught in directed fishing or as an incidental catch in the world's extensive tuna and billfish longline fisheries. Demersal longlines, more typically used in nearshore and continental shelf waters, catch benthic species like rhino rays.

HABITAT LOSS AND DEGRADATION

The loss or degradation of critical habitat exacerbates the impacts of fishing. This is particularly pertinent for migratory species using nearshore areas for reproduction (e.g., rhino rays). Some species depend heavily on ecosystems like mangroves, coral reefs, and seagrass beds which continue to be lost at high rates along tropical coastlines.

VESSEL STRIKE

Migratory species which spend considerable time at the surface are at risk of collision with ships. Surface-feeding species (e.g., Whale Shark, Basking Shark, and mantas and devil rays) are susceptible to strikes especially where feeding aggregations overlap with high ship traffic in coastal areas. As global shipping traffic continues to increase, the risk of injury or mortality is increasing for migratory species.

CLIMATE CHANGE

Rising sea temperatures, acidification, deoxygenation, and shifting habitats, have been shown to alter the distribution, reproductive cycles, and prey availability of many shark and ray species. Species with specific habitat needs are particularly susceptible (e.g., reef associated). Climate-driven changes can compound existing threats like overfishing, making species recovery difficult.

POLLUTION

A variety of pollutants entering the aquatic environment can be encountered by migratory sharks and rays. These include synthetic chemicals which bioaccumulate in the food web, and plastics which may be ingested (particularly in filter-feeding species). Marine debris including discarded or lost fishing gear (e.g., 'ghost nets') can be a source of mortality through entanglement.

OIL AND GAS EXPLORATION

Exploration and extraction pose risks through noise generated from seismic surveys, physical disturbance of the seabed, and the potential for oil spills and chemical contamination. Such activities can alter the behaviour of sharks and rays potentially affecting migration or feeding. Infrastructure associated with drilling operations can also degrade critical habitats.

Emerging Threats

While the full extent of the impacts from these marine industrial activities on migratory sharks and rays remains under-studied, their increasing footprint in coastal and offshore waters is cause for concern, particularly in areas already under pressure from fishing and/or other threats.

DEEP-SEA MINING

Migratory species which frequent deep waters (>200 m depth) face an emerging threat from potential deep-sea mining exploitation activities for mineral deposits. This activity causes disturbances to the seafloor, sediment plumes, and may impact habitat quality and prey availability.

OFFSHORE WIND FARMS

Offshore wind farms are expanding in many parts of the world and may affect sharks and rays both during the construction and operational phases. For example, electromagnetic fields generated by underwater power cables may impact species that rely on electroreception. Habitat modification at key sites may also displace species and/or interfere with reproduction and feeding.

WHAT ARE MIGRATORY SPECIES?

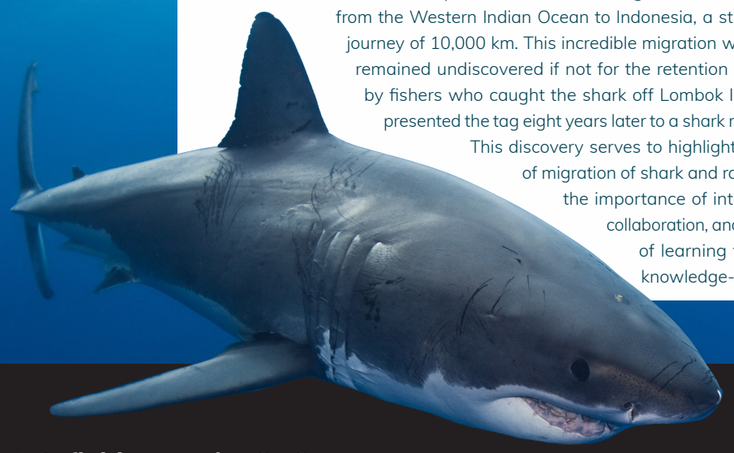
Migration is an essential ecological behaviour for many animals ranging from mammals and birds to fishes and insects. Movements can be regular and seasonal, connecting animals to food resources and optimal breeding conditions. Climatic and environmental cycles can drive migrations and lead animals to move on small or large scales.

The longest migrations see some species swimming across whole ocean basins or flying 10s of thousands of kilometres a year between the Arctic and the Antarctic (and back again). The longest documented migrations equate to annual travel approaching 100,000 km (distances exceeding 2 million km in the lifetime of an individual). Shorter distance movements may connect important sites on a local or regional scale, such as altitudinal migrants descending from mountains in winter, or marine species moving up and down the continental slope. The drivers, timing, and scale of migration are widely variable across the animal kingdom, requiring robust scientific knowledge of migratory pathways and the habitats and resources that they provide to migrants.

An Incredible Journey

Documenting the longest recorded migration of a White Shark (*Carcharodon carcharias*) [7]

A ~4 m total length female shark, named Alysha, was tagged in 2010 in Gansbaai, South Africa. After remaining close to the tagging location for at least five months, Alysha was logged travelling ~38,000 km throughout the southwest Indian Ocean over nearly 400 days. From there she went on to complete the first known migration for this species from the Western Indian Ocean to Indonesia, a straight-line journey of 10,000 km. This incredible migration would have remained undiscovered if not for the retention of the tag by fishers who caught the shark off Lombok Island and presented the tag eight years later to a shark researcher. This discovery serves to highlight the scale of migration of shark and ray species, the importance of international collaboration, and the value of learning from local knowledge-holders.



White Shark | Andy Cosagrande | Ocean Images Bank

Important Definitions under CMS

Migratory species: means "*The entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries*"

Cyclically: relates to "*a cycle of any nature, such as astronomical (circadian, annual etc.), life or climatic, and of any frequency.*"

Predictably: implies "*that a phenomenon can be anticipated to recur in a given set of circumstances, though not necessarily regularly in time.*"

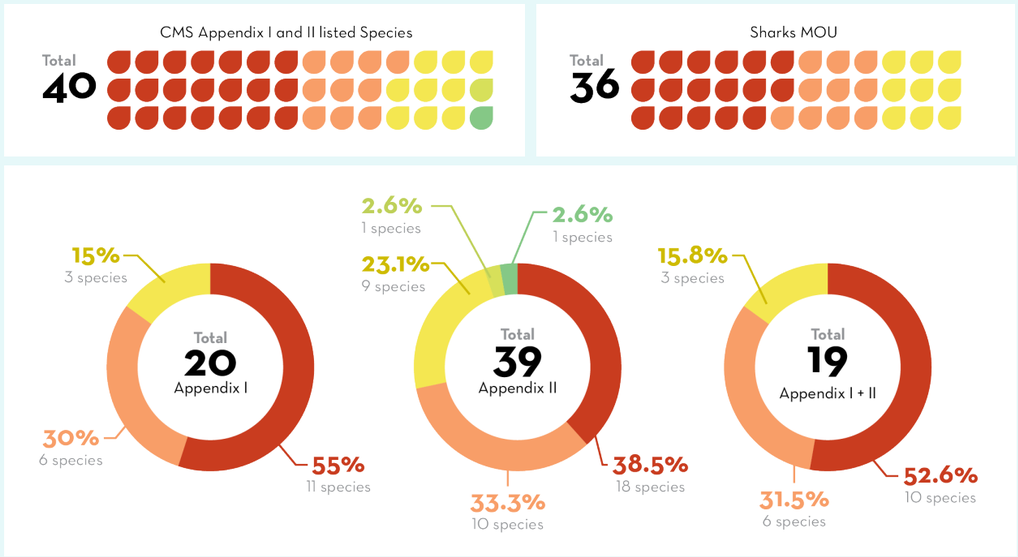
National jurisdictional boundaries: includes "*national land and sea borders and, where appropriate, the boundary between the Exclusive Economic Zone (EEZ) of each nation and the High Seas.*"

Conserving Migratory Sharks and Rays

The conservation and management of migratory sharks and rays presents unique challenges due to the vast geographical scales over which these species travel. They are a uniquely vulnerable group as they depend upon a network of habitats, which may span many ecosystems and jurisdictions, in order to complete their life cycles. Effective conservation requires international cooperation and coordination across their full migratory range. Incorporating every component of their life cycle—breeding grounds, feeding areas, resting areas, migratory corridors, and aggregation sites—is essential.

Ensuring the long-term survival of these migratory species requires a shared responsibility among nations for both the species and the habitats they depend on [8]. CMS and the Sharks MOU, provide a global framework for such cooperation. By bringing together the range states through which migratory sharks and rays travel, CMS establishes the legal and institutional foundation for coordinated international action. The CMS Conference of the Parties (COP) and Sharks MOU Meeting of Signatories (MOS), have called for improved access to knowledge on migratory patterns across taxa—including migratory sharks and rays—through initiatives like the Important Shark and Ray Areas (ISRA) (e.g., UNEP/CMS/COP14/Doc.27.4.2/Rev.1).

The IUCN Red List of Threatened Species status of CMS and Sharks MOU listed sharks and rays



As of October 2025, there are 42 species of sharks and rays listed on the appendices of CMS and Annex 1 of the Sharks MOU.

This report focuses on ISRAs delineated for the 42 species of sharks and rays listed under the CMS and the Sharks MOU and represents a major effort to contribute to the understanding of the migratory ecology of sharks and rays. It provides the first global synthesis of the critical habitats and connectivity pathways that have been identified across national and international waters (areas beyond national jurisdiction [ABNJ]) for sharks and rays that undertake wide-ranging movements. The information included in this document serves as a resource to guide international cooperation, marine spatial planning, and transboundary conservation efforts for migratory sharks and rays.

THE CMS APPENDICES

Appendix I – Endangered migratory species

Appendix I comprises migratory species that have been assessed as being in danger of extinction throughout all or a significant portion of their range [9]. The COP has further interpreted the term 'endangered' as meaning "facing a very high risk of extinction in the wild in the near future" (Res. 11.33 paragraph 1). Resolution 11.33 indicates a general correspondence between the term 'endangered' as defined within CMS and the IUCN Red List Criteria [10].

Parties that are a range state to a migratory species listed in Appendix I shall strictly protect them by prohibiting the taking of such species, with very restricted scope for exceptions; conserving and where appropriate restoring their habitats; preventing, removing, or mitigating obstacles to their migration, and controlling other factors that might endanger them [10].

Appendix II - Migratory species conserved through Agreements

Appendix II covers migratory species that have an unfavourable conservation status and that require international agreements for their conservation and management, as well as those that have a conservation status which would significantly benefit from the international cooperation that could be achieved by an international agreement. The Convention encourages the range states to species listed on Appendix II to conclude global or regional agreements for the conservation and management of individual species or groups of related species [9].

CMS acts as a framework convention from which separate instruments evolve. Agreements may vary from legally binding treaties to less formal instruments, such as Memoranda of Understanding, Action Plans, or Species Initiatives covering, to the extent possible, the entire migratory range of the species concerned.

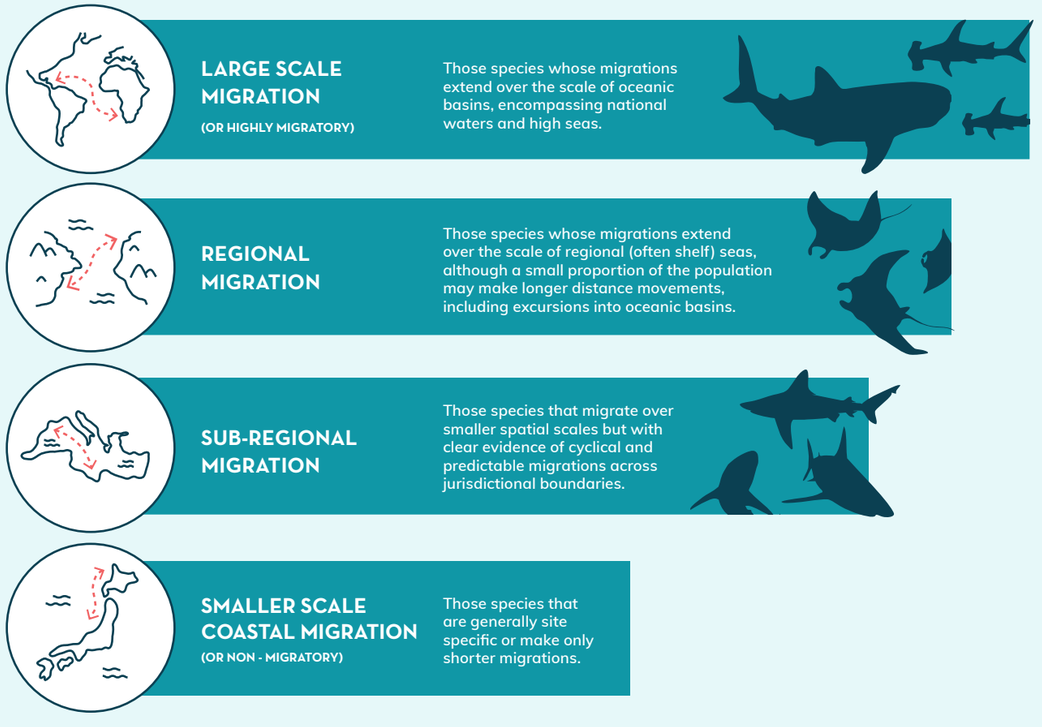
https://www.cms.int/en/species/appendix-i-ii-cms

THE CMS SHARKS MOU

The Memorandum of Understanding on the Conservation of Migratory Sharks (Sharks MOU) is a daughter agreement to the CMS [11]. It represents the only global instrument specifically dedicated to the conservation of migratory sharks and rays. The MOU was concluded in 2010 and is legally non-binding; rather, Signatories have committed politically to its implementation. The main objective of the Sharks MOU is to "achieve and maintain a favourable conservation status for migratory sharks included in its Annex 1 based on the best available scientific information, taking into account the socio-economic value of these species for the people of the Signatories".

In line with the criteria for the inclusion of species in CMS Appendix II, Annex 1 of the Sharks MOU lists migratory species which have unfavourable conservation status and which require international agreements for their conservation and management, as well as those which have a conservation status which would significantly benefit from the international cooperation that an international agreement could achieve

Further to the definition of 'migratory' under CMS, the Sharks MOU identifies four different categories of migratory behaviour, from wide-ranging migration to short distances:



SHARKS AND RAYS LISTED ON CMS APPENDIX I

*Species listed on CMS Appendix I require strict protection. *denotes that only the Mediterranean Sea populations of the species are included on Appendix I. The IUCN Red List of Threatened Species categories refer to CR – Critically Endangered, EN – Endangered, and VU – Vulnerable. ISRAs refer to the number of areas delineated for each species or species group in the nine global regions assessed at the time of writing (October 2025).* **Note:** *Some areas are too small to appear on the maps.*

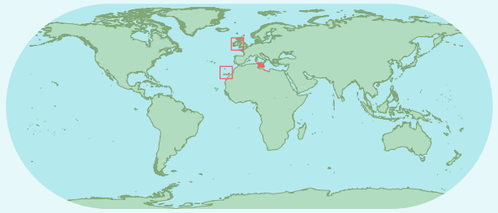
CR

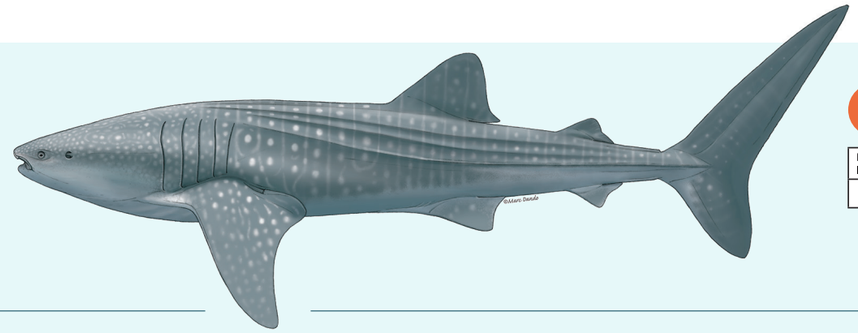
ISRA 21

ANGELSHARK

Squatina squatina

Once occurring throughout coastal waters of the Mediterranean Sea and Northeast Atlantic Ocean but now restricted to isolated areas. Remaining viable populations are scattered and essential for the species' global persistence. ISRAs have primarily been delineated for important reproductive sites and seasonal aggregations.





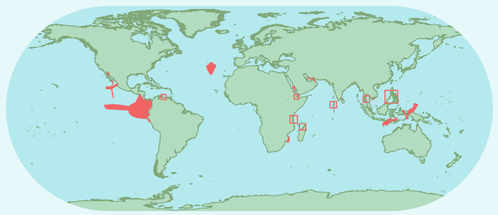
EN

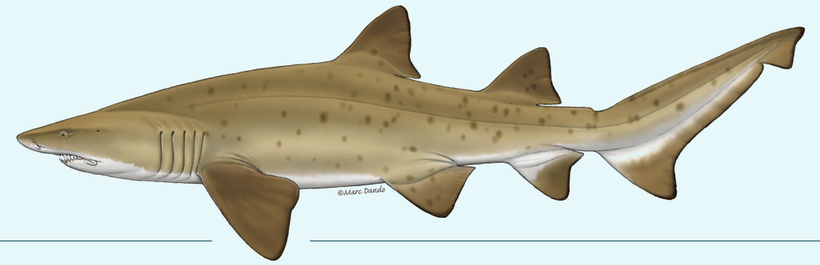
ISRA 69

WHALE SHARK

Rhincodon typus

The world's largest fish species and one of the few planktivorous filter-feeding sharks. It undertakes large-scale migrations to form seasonal aggregations at feeding sites which are popular tourism sites. ISRAs have primarily been delineated for feeding areas, migratory corridors, and seasonal aggregations in coastal areas and on oceanic seamounts.





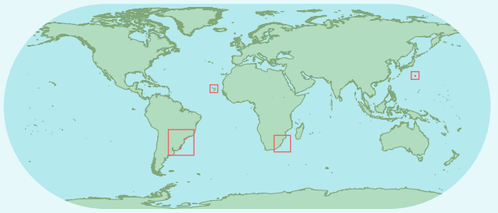
CR

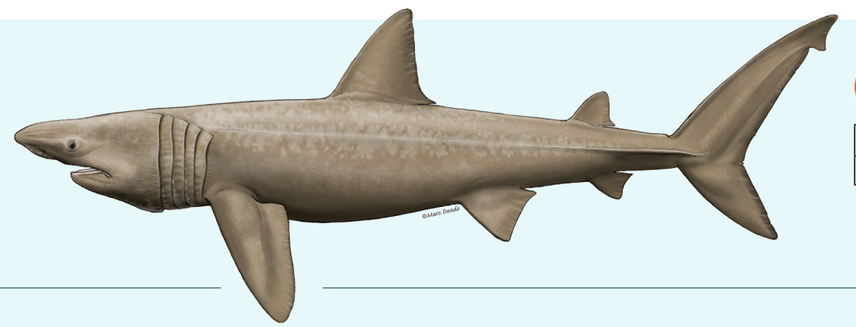
ISRA 12

SAND TIGER SHARK

Carcharias taurus

A large shark of coastal and shelf waters once persecuted for its fearsome appearance. Undertakes seasonal migrations and forms aggregations primarily related to reproduction. ISRAs have been delineated for most vital life-history functions, including reproductive and resting areas, migratory corridors, and aggregations.





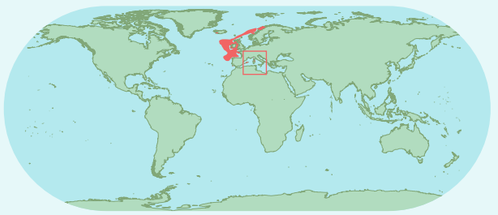
EN

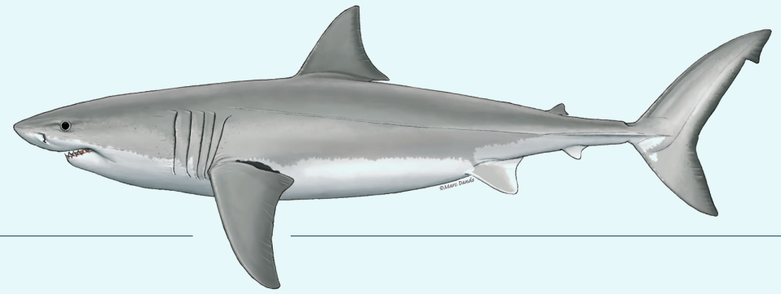
ISRA 21

BASKING SHARK

Cetorhinus maximus

A very large filter-feeding pelagic shark. Now protected in key range states with signs that the population is stabilising in some areas after steep historic declines. ISRAs have been delineated for feeding areas in coastal waters, where the species aggregates seasonally, as well as movement areas.





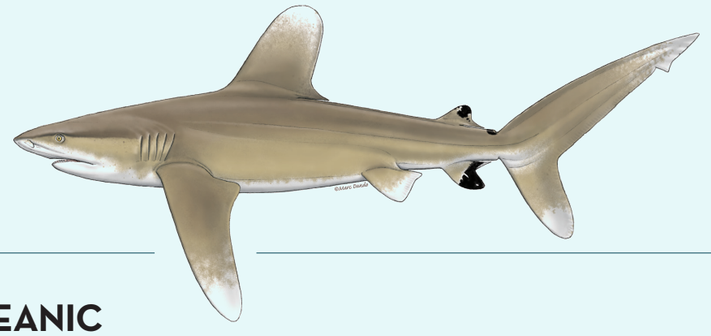
VU

ISRA 10

WHITE SHARK

Carcharodon carcharias

A large widespread species but most abundant at core sites associated with feeding grounds. Once widely persecuted, it is now one of the most protected sharks globally and the focus of considerable research and tourism. ISRAs have been delineated for a variety of vital life-history functions, particularly reproduction and feeding.



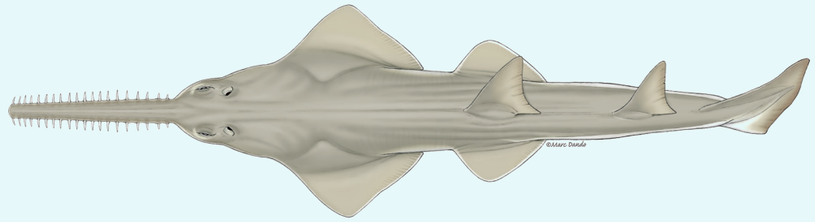
CR

ISRA 10

OCEANIC WHITETIP SHARK

Carcharhinus longimanus

A true ocean wanderer of tropical and warm-temperate waters. Populations of this shark have been severely depleted and it is now rare or absent where it was once common. ISRAs have been delineated for aggregations, movement, and areas of high species diversity in oceanic environments.



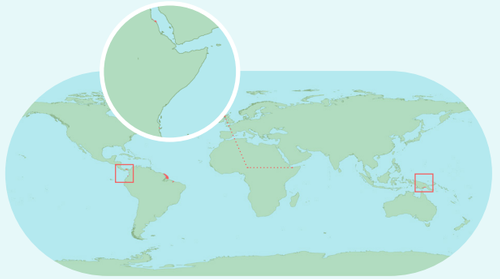
CR

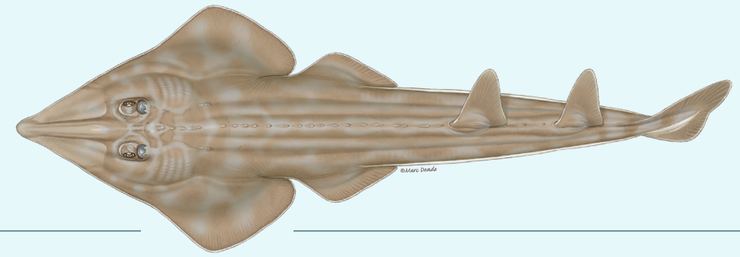
ISRA 21

SAWFISHES

Pristidae

The five species of sawfish are extinct from much of their former widespread geographic ranges. Viable populations are now restricted to a limited number of countries. ISRAs have primarily been delineated for reproductive areas and aggregations in rivers, estuaries, and coastal waters.





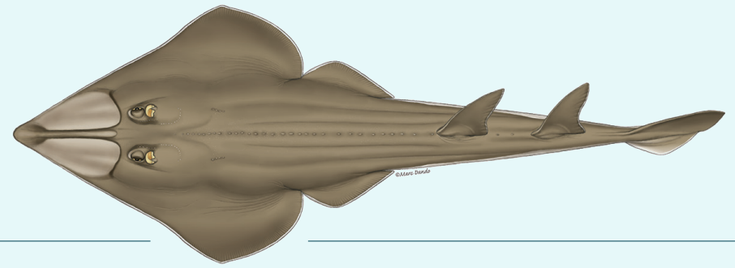
CR

ISRA 5

COMMON GUITARFISH*

Rhinobatos rhinobatos

A medium-sized benthic ray of continental shelf waters. It has disappeared from parts of its former range due to intense fishing which is continuing. ISRAs have primarily been delineated for reproductive areas in coastal waters.



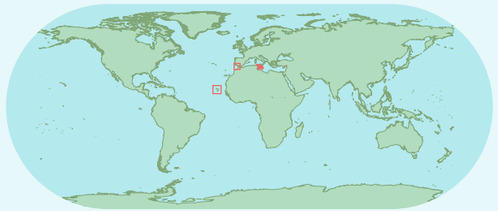
CR

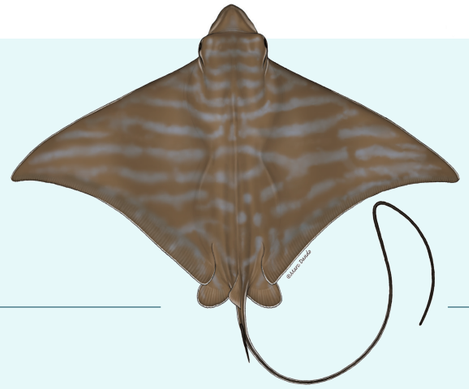
ISRA 10

BLACKCHIN GUITARFISH*

Glaucostegus cemiculus

The Atlantic Ocean's only representative of the highly threatened giant guitarfish family. This ray has disappeared from some areas where it once was abundant. ISRAs have been delineated for a variety of life-history functions, particularly reproductive areas in shallow coastal waters.





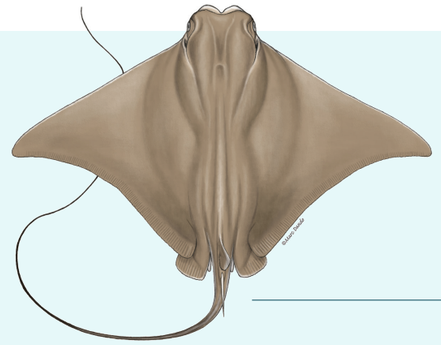
CR

ISRA 11

DUCKBILL EAGLE RAY*

Aetomylaeus bovinus

A large ray of temperate coastal waters which is uncommon across its range. It forms seasonal aggregations and feeds on the seafloor while swimming in the water column. ISRAs have been delineated for reproductive areas and undefined aggregations in nearshore waters.



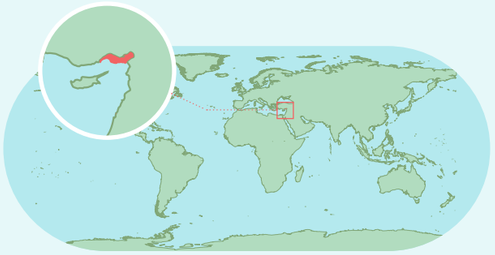
CR

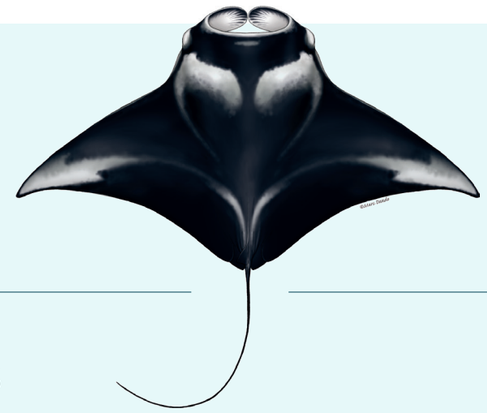
ISRA 3

LUSITANIAN COWNOSE RAY*

Rhinoptera marginata

A large ray of nearshore waters which feeds on the seafloor and swims in the water column. The species forms large schools which make it susceptible to capture in fisheries. ISRAs have been delineated for reproductive areas and aggregations in shallow embayments and coastal waters.





CR

EN

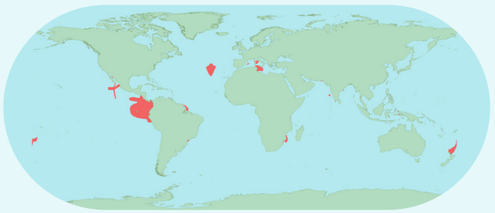
VU

ISRA 235

DEVIL RAYS

Mobulidae

The 10 species of devil rays include both coastal and oceanic species but all are filter-feeders of the pelagic zone. Within this family, the manta rays represent some of the world's largest rays. ISRAs have been delineated for a large number of feeding areas and aggregations, particularly around coral reef habitat.



IMPORTANT SHARK AND RAY AREAS

A lack of knowledge is often cited as a key barrier to the conservation of many aquatic species. Whilst many sharks and rays may remain data deficient, landmark efforts in recent years are turning the tide on knowledge gaps in shark and ray conservation. The challenge of protecting what is poorly understood exists in the interpretation of data on species behaviour and ecology but to an even greater extent the creation of policy and collaboration of stakeholders. Without compelling information on areas important to declining populations of migratory species, the scope of CMS and the Sharks MOU to promote multinational agreement for the protection of those species will inevitably be limited.

The ISRA Process

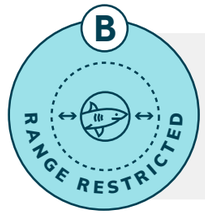
The Important Shark and Ray Areas (ISRA) framework was developed in 2022 by the IUCN SSC Shark Specialist Group. An ISRA is defined as a *'discrete, three-dimensional portion of habitat, important for one or more species of shark, ray, or chimaera species, that has the potential to be delineated and managed for conservation.'* [12] ISRAs are identified through a collaborative, transparent process, bringing together experts from around the globe. Identification of an area as an ISRA does not automatically convey any management or conservation protections, but identifies a priority area for possible future conservation and management actions.

The delineation of ISRAs is undertaken through an evidence-based process which solicits and collates the best available science and knowledge. Proposals for areas of importance (termed 'preliminary Areas of Interest') are put forward by experts based on species within the area meeting one or more of the ISRA Criteria. Four criteria, further divided into seven sub-criteria, cover the vulnerability of species (i.e., threatened species; Criterion A), range-restricted species (Criterion B), life-history (Criterion C: Sub-criterion C1 – Reproductive Areas; C2 – Feeding Areas; C3 – Resting Areas; C4 – Movement; C5 – Undefined Aggregations), and special attributes (Criterion D: D1 – Distinctiveness; D2 – Diversity).

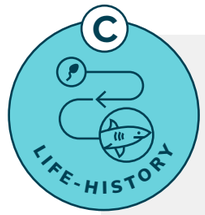
Definitions of the ISRA Criteria are provided on the following page. The term 'shark' refers to all species of sharks, rays, and chimaeras.

The ISRA Criteria

Areas important to the persistence and recovery of threatened sharks.
(*This criterion must be associated with an additional criterion.*)



Areas holding the regular and/or predictable presence of range-restricted sharks, that are occupied year round or seasonally.



Areas that are important to sharks for carrying out vital functions across their life-cycle (i.e., reproduction, feeding, resting, movement, or undefined aggregations).

C1 Areas that are important for sharks to mate, give birth, lay eggs, or provide refuge and other advantages to the young.

C2 Areas that are important for shark nutrition at one or more life-cycle stages.

C3 Areas that are important for sharks to conserve energy, often related to environmental conditions or temporal factors.

C4 Areas used by sharks regularly or predictably during their movements, such as migrations, which contribute to connectivity of other functionally important areas.

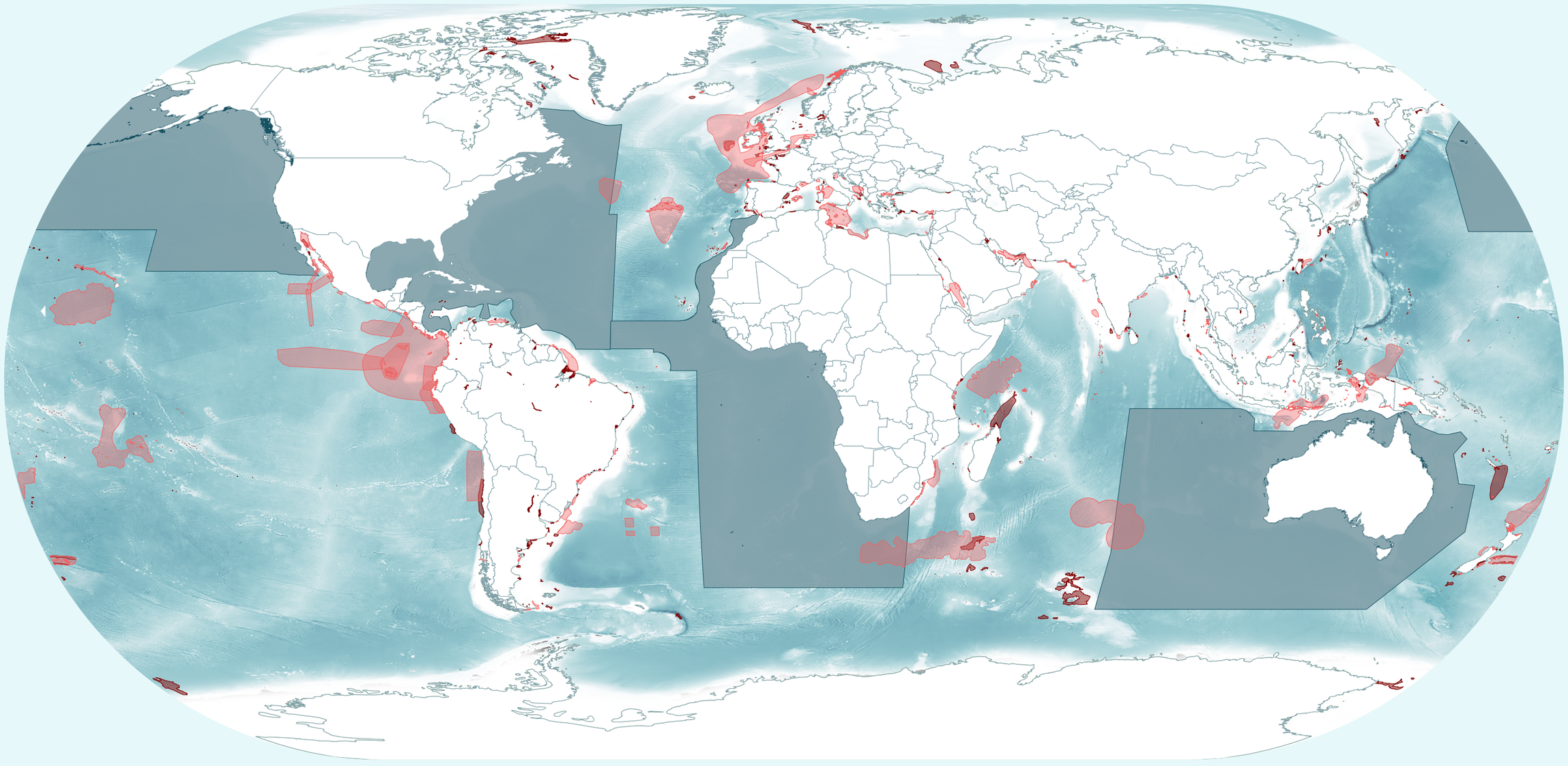
C5 Areas where an aggregation or assemblage of sharks regularly and/or predictably occurs, year round or seasonally, but the function of the aggregation or assemblage is currently unknown.

Areas important for sharks considered for distinct biological, behavioral, or ecological attributes (unique or associated with a unique habitat type), or which support an important diversity of species.

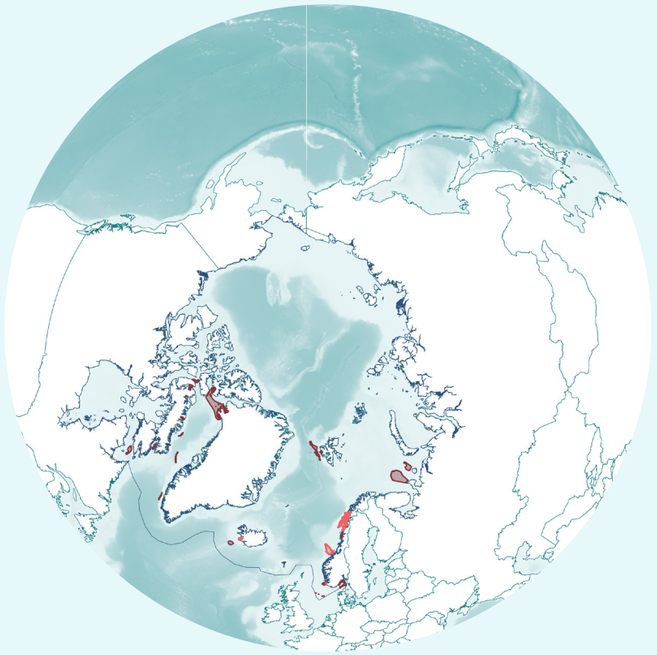
D1 Areas with sharks that display distinct biological, behavioral, or ecological characteristics.

D2 Areas that sustain an important diversity of sharks.

During expert regional workshops, proposals are further developed and refined prior to a consensus process to finalise a suite of 'candidate ISRAs' (cISRA). These cISRAs then undergo external peer-review by an Independent Review Panel. If sufficient evidence is available to support the application of the ISRA Criteria, areas formally become ISRAs. An accepted ISRA comprises a delineated area of the aquatic environment covering important habitat across a specified depth range for one or more shark, ray, or chimaera species (termed 'Qualifying Species') which meet one or more ISRA Criteria. Each ISRA has its spatial boundaries and a factsheet published on the **ISRA eAtlas**. An area considered during a regional workshop but found to have insufficient information to satisfy the ISRA Criteria (termed 'Area of Interest') is also mapped (not provided below). Such areas should be considered for upcoming research and monitoring programs. Detailed explanations of the ISRA Criteria and process can be found at [12–14]. The global map below illustrates all ISRAs that include CMS and Sharks MOU-listed species (and sometimes include other non-CMS-listed species), alongside ISRAs delineated for other sharks and rays. The following pages provide regional close-ups highlighting these areas in greater detail.



Polar Waters – Arctic



7
JURISDICTIONS

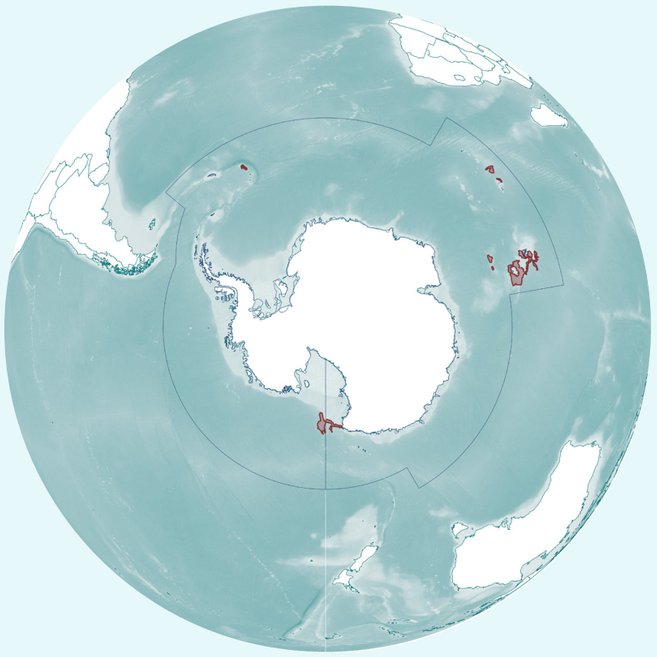
26
ISRAs

0.88% of region
ISRA COVERAGE

4
CMS/MOU SHARKS

0
CMS/MOU RAYS

Polar Waters – Antarctic



5
JURISDICTIONS

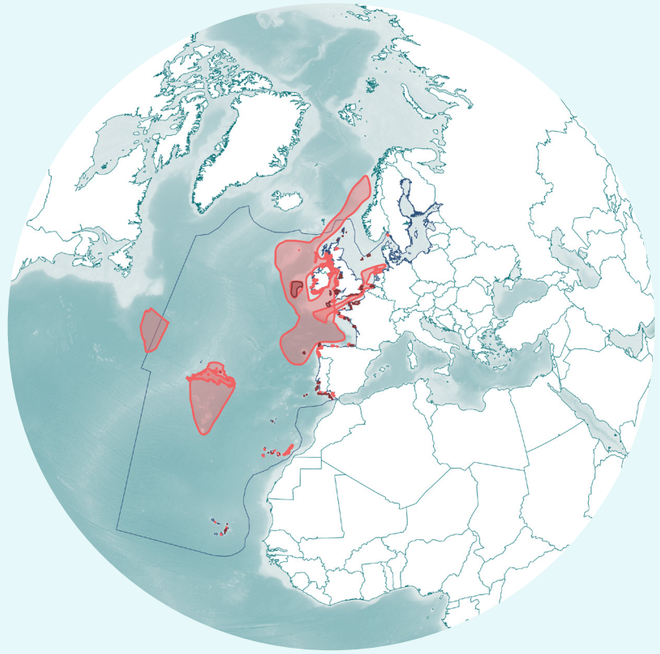
8
ISRAs

0.68% of region
ISRA COVERAGE

0
CMS/MOU SHARKS

0
CMS/MOU RAYS

European Atlantic



14
JURISDICTIONS

124
ISRAs

16.31% of region
ISRA COVERAGE

78
CMS/MOU SHARKS

29
CMS/MOU RAYS

Mediterranean and Black Seas

19
JURISDICTIONS

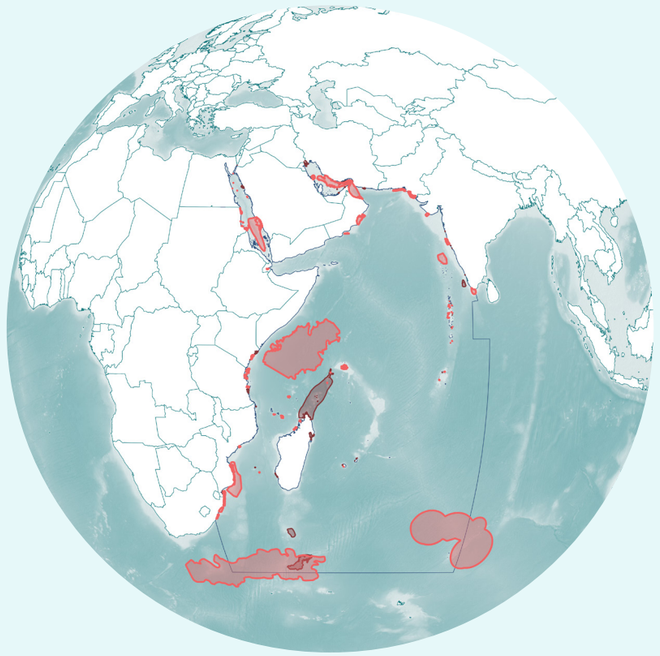
65
ISRAs

14.87% of region
ISRA COVERAGE

28
CMS/MOU SHARKS

31
CMS/MOU RAYS

Western Indian Ocean



28
JURISDICTIONS

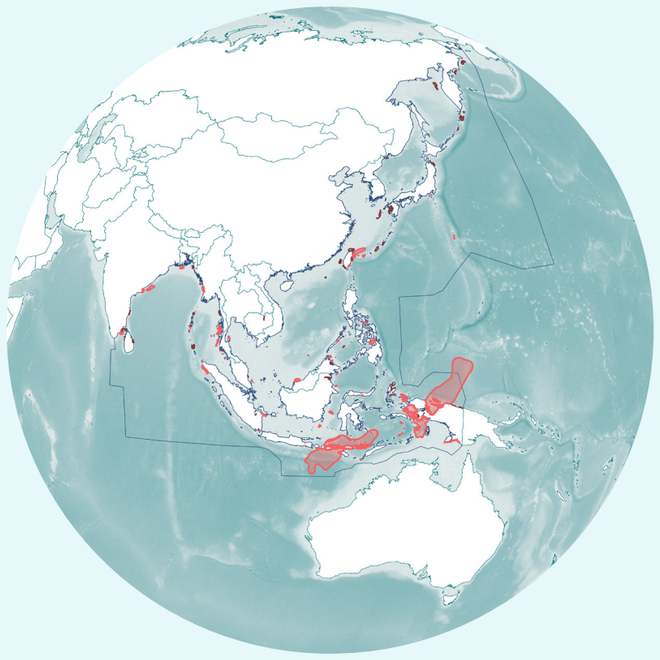
125
ISRAs

14.32% of region
ISRA COVERAGE

82
CMS/MOU SHARKS

71
CMS/MOU RAYS

Asia



13
JURISDICTIONS

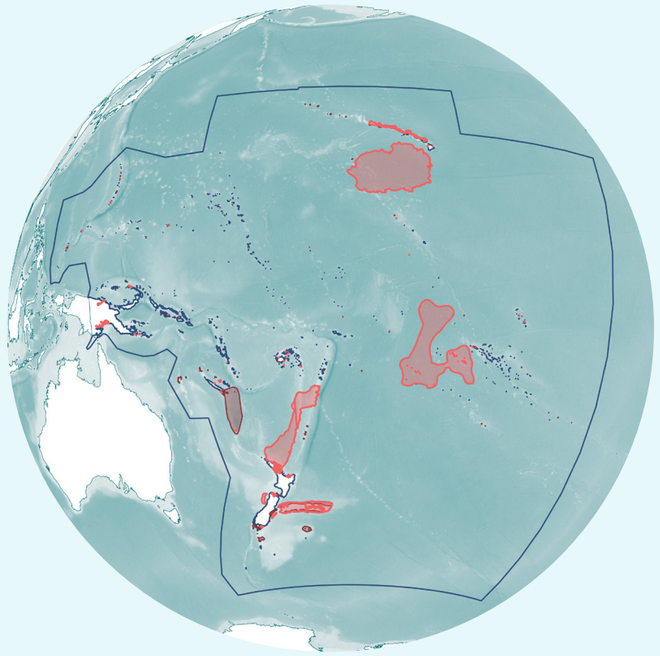
122
ISRAs

3.47% of region
ISRA COVERAGE

59
CMS/MOU SHARKS

61
CMS/MOU RAYS

New Zealand and Pacific Islands



27
JURISDICTIONS

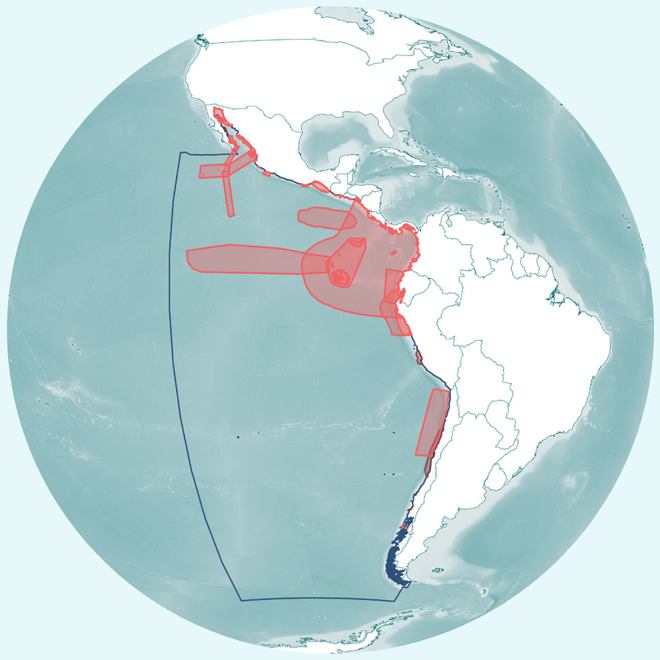
179
ISRAs

3.67% of region
ISRA COVERAGE

40
CMS/MOU SHARKS

56
CMS/MOU RAYS

Central and South American Pacific



12
JURISDICTIONS

65
ISRAs

14.9% of region
ISRA COVERAGE

130
CMS/MOU SHARKS

12
CMS/MOU RAYS

South American Atlantic

11
JURISDICTIONS

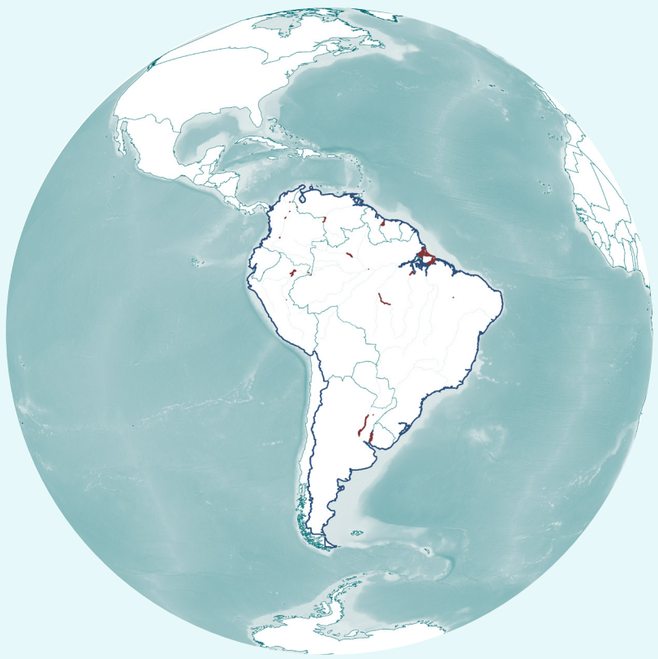
81
ISRAs

2.95% of region
ISRA COVERAGE

44
CMS/MOU SHARKS

18
CMS/MOU RAYS

South American Inland Waters



8
JURISDICTIONS

21
ISRAs

<1% of region
ISRA COVERAGE

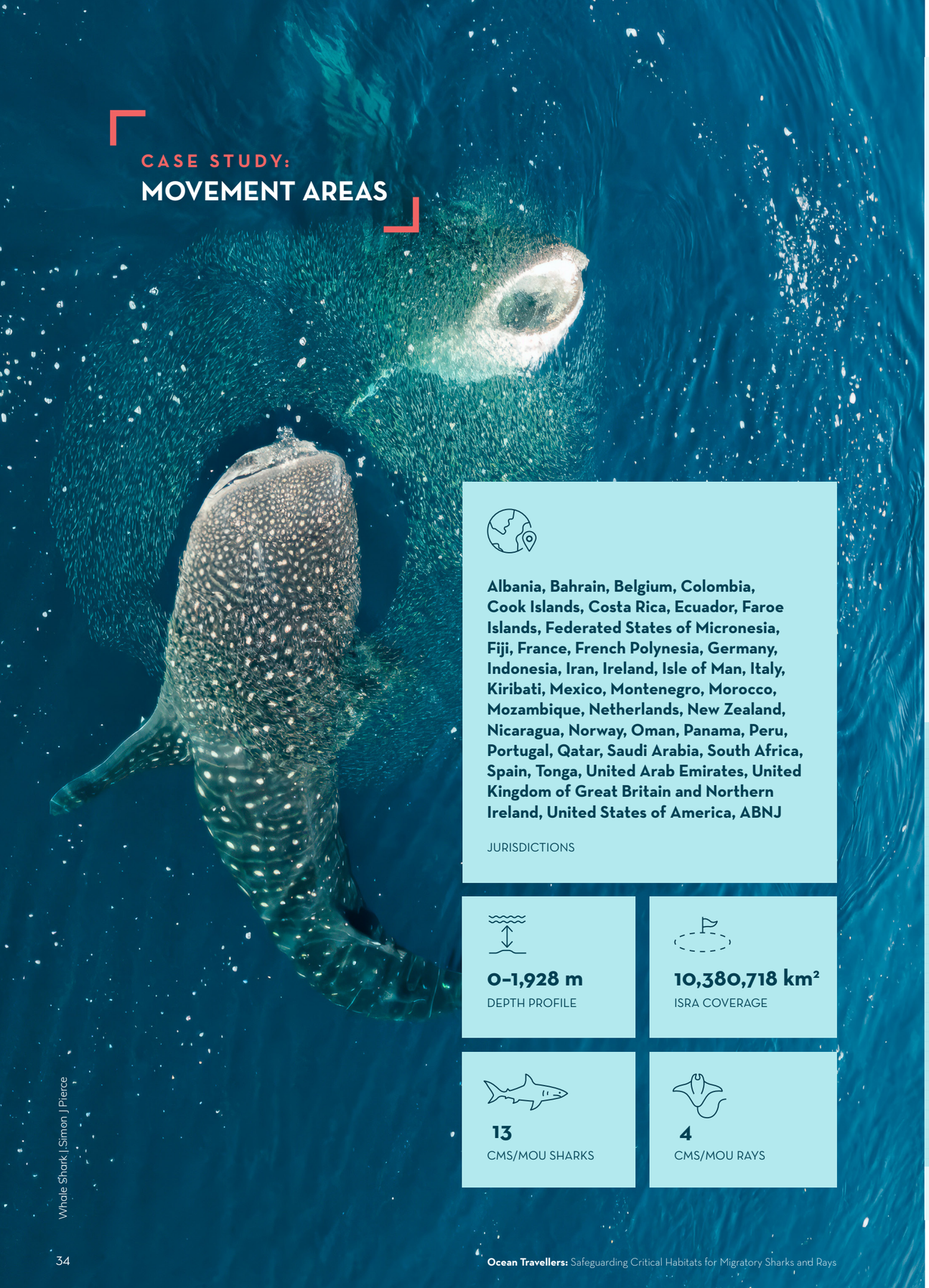
0
CMS/MOU SHARKS

0
CMS/MOU RAYS

Blue Shark | Andy Murch

CASE STUDY:

MOVEMENT AREAS



Whale Shark | Simon J Pierce

Albania, Bahrain, Belgium, Colombia, Cook Islands, Costa Rica, Ecuador, Faroe Islands, Federated States of Micronesia, Fiji, France, French Polynesia, Germany, Indonesia, Iran, Ireland, Isle of Man, Italy, Kiribati, Mexico, Montenegro, Morocco, Mozambique, Netherlands, New Zealand, Nicaragua, Norway, Oman, Panama, Peru, Portugal, Qatar, Saudi Arabia, South Africa, Spain, Tonga, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, United States of America, ABNJ

JURISDICTIONS

0–1,928 m

DEPTH PROFILE

10,380,718 km²

ISRA COVERAGE

13

CMS/MOU SHARKS

4

CMS/MOU RAYS

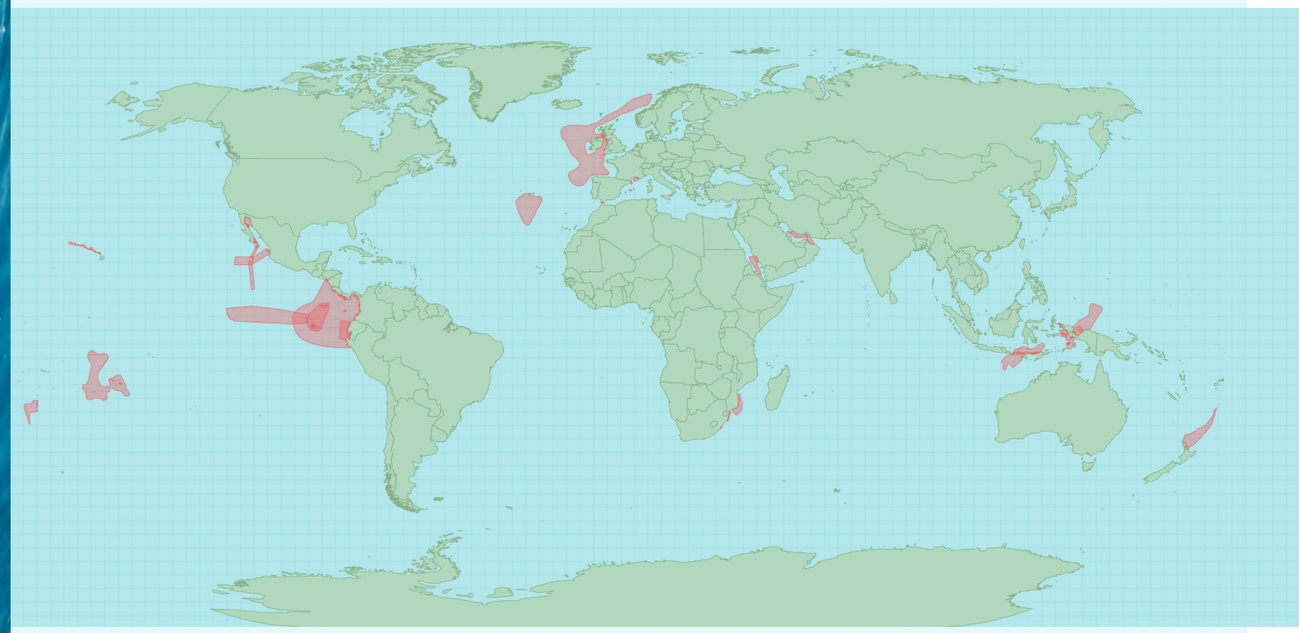
MIGRATORY CORRIDORS CONNECTING CRITICAL OCEAN HABITATS

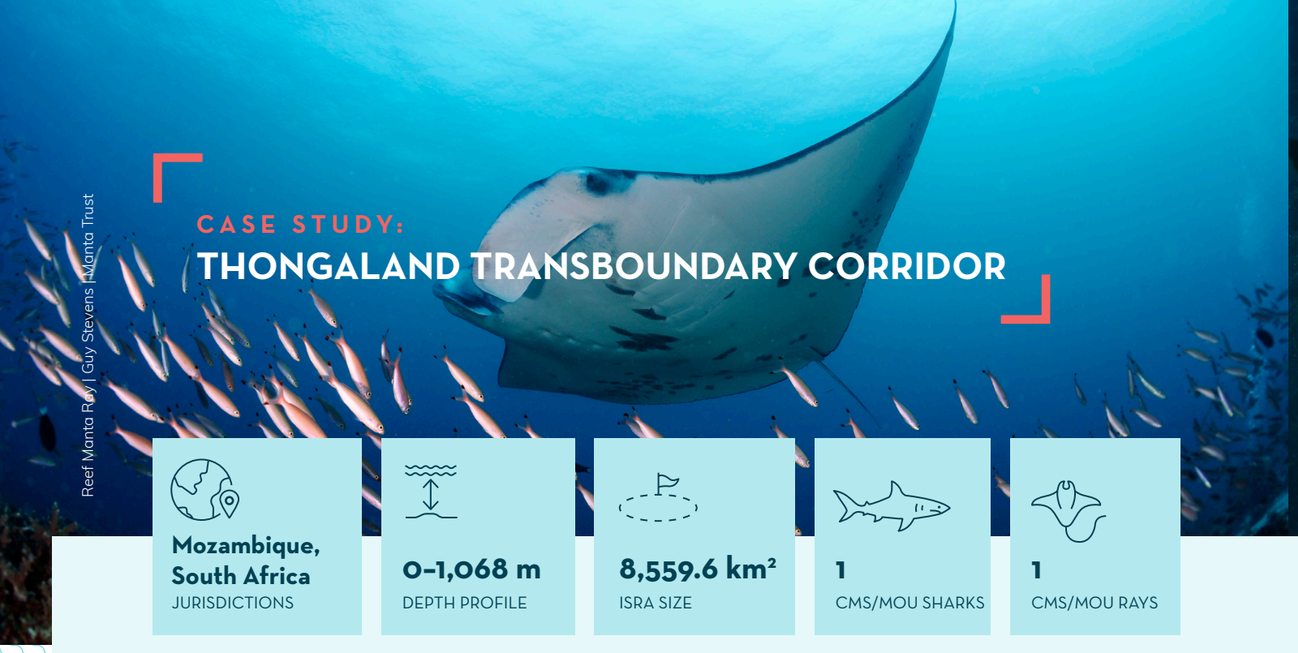
Movement areas connect populations and critical life-history processes, underscoring the need for transboundary management. A total of 40 movement areas have been delineated for 17 species of CMS-listed sharks and rays across 40 jurisdictions and ABNJ.

Movement areas range from coastal corridors on the continental shelf to open ocean environments far from land. These areas cover a vast array of habitats from shallow inshore waters to pelagic waters and the deepsea. Currents, upwellings, and other oceanographic features help shape these movement areas linking feeding, reproduction, and other critical sites.

Some 85% of ISRAs delineated as movement areas incorporate CMS and Sharks MOU-listed sharks and rays. A third of these areas are transboundary, overlapping with two or more range states. Whale Sharks (22 movement areas), Scalloped Hammerheads (*Sphyrna lewini*; 11), and Oceanic Manta Rays (*Mobula birostris*; 10) are the most represented migratory species highlighting their broadscale movement patterns, wide geographic distributions, and data availability to inform the ISRA process. Understanding movement patterns requires significant research investment, often involving advanced and costly monitoring technologies. Thus, many gaps remain in understanding migrations of CMS species as evidenced by a lack of delineated movement areas for 25 CMS-listed sharks and rays. Where they have been delineated, these areas emphasise the importance of ecological connectivity between critical habitats.

Since migratory sharks and rays can travel hundreds or thousands of kilometres each year, these species are exposed to varying threats. Coastal migrants risk capture in varied inshore fisheries while oceanic species may interact with the vast industrial fisheries operating in pelagic waters. Migratory corridors and swimways also overlap with the world's major shipping lanes, increasing the risk of vessel strike for surface swimming species. Risk mitigation is made even more complex by the transboundary movements of species which requires regional and international coordination to ensure effective management. The identification of movement areas highlights where regional cooperation could focus, helping policy makers target fisheries management, shipping regulations, and conservation actions more effectively.





Reef Manta Ray | Guy Stevens | Manta Trust

CASE STUDY:

THONGALAND TRANSBOUNDARY CORRIDOR

Mozambique, South Africa
JURISDICTIONS

0–1,068 m
DEPTH PROFILE

8,559.6 km²
ISRA SIZE

1
CMS/MOU SHARKS

1
CMS/MOU RAYS

A UNIQUE TRANSITIONAL ZONE IN THE WESTERN INDIAN OCEAN

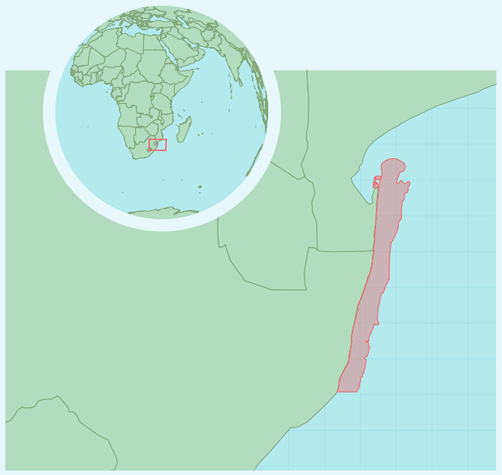
The Thongaland Transboundary Corridor ISRA connects Mozambique and South Africa [15]. This area is an important migratory corridor for threatened Sand Tiger Sharks and Reef Manta Rays (*M. alfredi*).

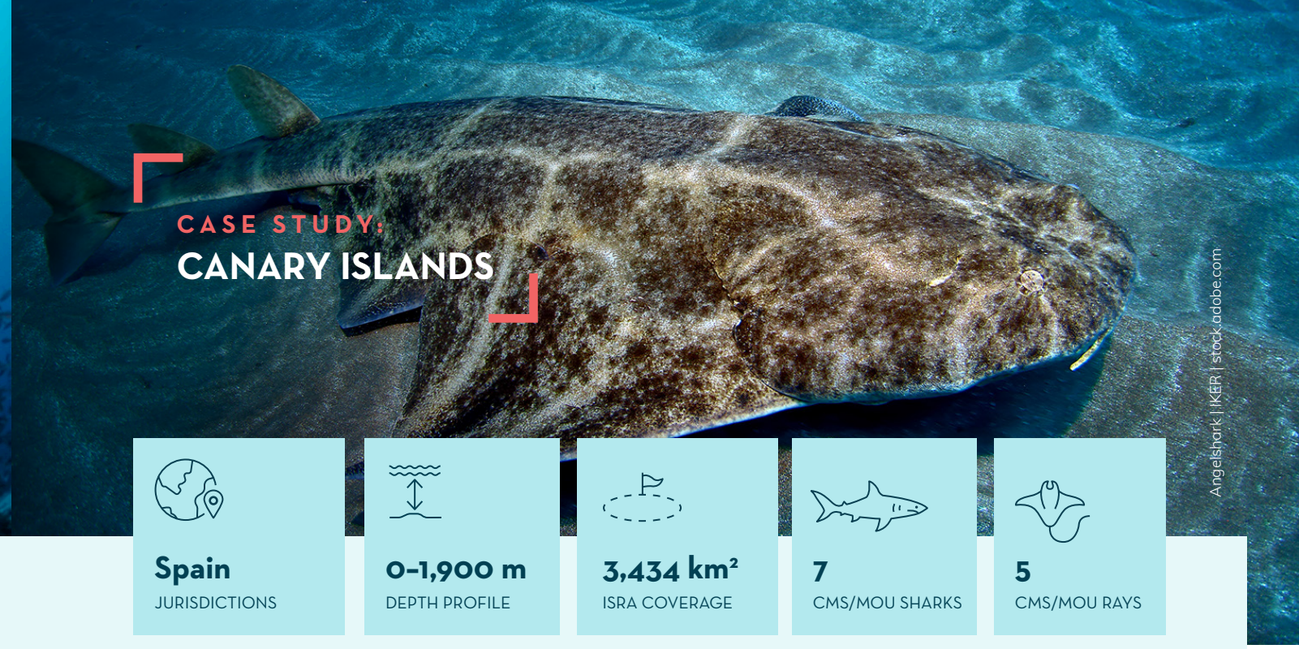
This area is notable for distinctive biogeographic features: some of the world's highest latitude hard corals, a narrow continental shelf, and exceptionally deep nearshore canyons. It is a transitional zone between the subtropical Eastern South African coast and the tropical waters of Mozambique.

Critically Endangered Sand Tiger Shark females migrate here seasonally in the austral summer to gestate in warmer waters. These females form groups at several reefs in the area and frequently move between these gestation aggregation sites. Research shows a clear seasonal movement pattern from south to north early in the season and then back to the south later in summer, highlighting a seasonal migration spanning the entire length of the corridor. The Vulnerable Reef Manta Ray also moves extensively through the area. Individual tagged and photo-identified rays have been recorded visiting different reefs within the area, highlighting their movements across the corridor. One Reef Manta Ray travelled 505 km from Praia do Tofo to Sodwana Bay with 301 days between sightings. Other non CMS-listed shark and ray species, such as the Bull Shark (*Carcharias leucas*), also use this corridor extensively as part of their migratory route.

The area overlaps with the Maputo National Park Marine Protected Area (MPA) and the iSimangaliso MPA (also a World Heritage Site), three Ecologically or Biologically Significant Marine Areas (EBSAs; Delagoa Shelf Edge, Canyons and Slope; Incomati River to Ponta do Ouro; and Mozambique Channel), and two Key Biodiversity Areas (KBA; Ponta do Ouro Marine Reserve and iSimangaliso Wetland Park).

South Africa and Mozambique are shark diving hotspots with a combined 16 ISRAs already identified within their jurisdictions. In recent years, South Africa has expanded MPAs [16] whilst Mozambique has taken legislative and community-focused steps to protect sharks and rays [17]. The ISRA designation emphasises the corridor's importance and provides a basis for Mozambique and South Africa to strengthen regional collaboration under CMS.





Angelshark | IKER | stock.adobe.com

CASE STUDY:

CANARY ISLANDS

Spain
JURISDICTIONS

0–1,900 m
DEPTH PROFILE

3,434 km²
ISRA COVERAGE

7
CMS/MOU SHARKS

5
CMS/MOU RAYS

A DIVERSE ARRAY OF ISLAND HABITATS

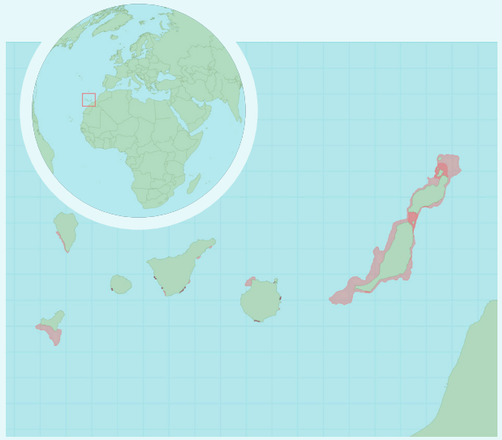
This Spanish archipelago in the northeast Atlantic is a hotspot of important areas for sharks and rays. The islands host 16 ISRAs for 12 CMS-listed sharks and rays covering areas important for reproduction, aggregations, and high species diversity.

The Canary Islands consist of eight main islands and five islets, situated ~100 km from the northwest African coastline. The complex oceanographic dynamics of the region promote elevated primary productivity. Habitats are diverse with extensive sandy substrates, rocky outcrops, volcanic reef structures, seagrass beds, submerged caves, and submarine canyons.

The islands are a global stronghold for the Critically Endangered Angelshark [18]. Of the 16 delineated ISRAs, all but two encompass critical habitat for this species. These areas in particular capture the importance of the islands for reproduction where shallow inshore waters serve as critical reproductive habitat. Many ISRAs are small coastal bays where young Angelsharks are regularly found, underscoring the islands' role as nursery habitat. The islands further encompass critical reproductive and aggregation areas for rays such as Duckbill Eagle Ray, Sicklefin Devil Ray (*M. tarapacana*), and Bentfin Devil Ray (*M. thurstoni*). Lastly, four areas capture high species diversity of threatened sharks and rays, including 12 CMS-listed sharks and rays.

These areas overlap with various designations including the Oceanic Islands and Seamounts of the Canary Region EBSA, Chinijo Islets KBA, Estrecho de la Bocaina KBA, Lanzarote Islets KBA, Western coast of El Hierro KBA, Archipiélago de Chinijo Natural Park, and the Reserva Marina de la Isla Graciosa y de los Islotes del Norte de Lanzarote.

The European Union (EU) fisheries regulation prohibits the targeting, retention, trans-shipping or landing of Angelshark for all vessels fishing in EU waters. This has led to all species of angel sharks being fully protected in Canary Islands waters including the prohibition of any action that might lead to the destruction or deterioration of Angelshark habitat and breeding areas. This strong regulatory framework provides a model of how EU-wide measures can safeguard species at a local scale and ISRA designations reinforce the Canary Island's role as global stronghold for Angelsharks.



Silky Shark | María Rodríguez-Salinas | iNaturalist.org

CASE STUDY:

COSTA RICA THERMAL DOME

Costa Rica, Nicaragua, El Salvador, Guatemala, ABNJ
JURISDICTIONS

0–500 m
DEPTH PROFILE

379,118 km²
ISRA SIZE

1
CMS/MOU SHARK

5
CMS/MOU RAYS

A DYNAMIC OFFSHORE OCEANIC ENVIRONMENT IN THE EASTERN TROPICAL PACIFIC

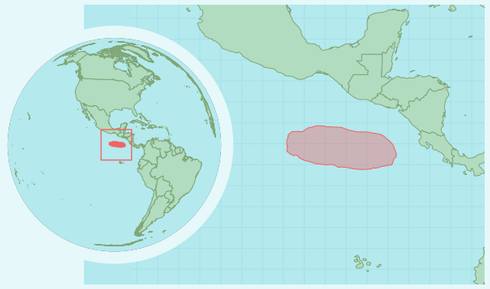
The Costa Rica Thermal Dome ISRA is a transboundary area between Costa Rica, Nicaragua, El Salvador, Guatemala, and ABNJ [19]. This vast oceanic environment is a critical feeding ground for Oceanic Manta Ray, Spinetail Devil Ray (*M. mobular*), Munk's Pygmy Devil Ray (*M. hypostoma*), Sicklefin Devil Ray, and Bentfin Devil Ray, and supports large aggregations of Silky Shark.

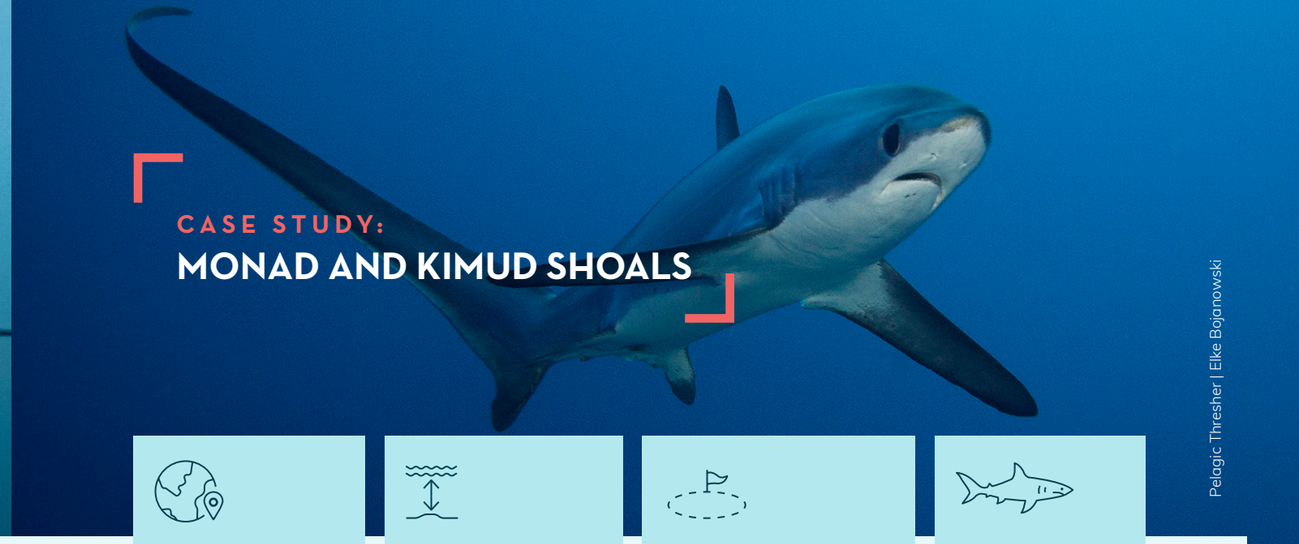
This oceanic area of high primary productivity supports a diverse and complex food web. The thermal dome includes a nutrient rich and oceanographically dynamic offshore upwelling system which is seasonally and predictably generated. This results in an ecologically significant feeding area for a diversity of marine megafauna including whales, dolphins, marine turtles, and seabirds.

Threatened devil rays have a strong association to oceanographic conditions of high productivity, like those found in the Costa Rica Thermal Dome. The upwelling systems in this area act as a hotspot for the regular and predictable presence of devil rays during the boreal summer (July-August), when the area is an oceanic centre of productivity and prey availability is enhanced. The area hosts undefined aggregations of Vulnerable Silky Sharks with a high abundance of juveniles found around FADs.

This area overlaps with the Upwelling System of Papagayo and Adjacent Areas Ecoregion EBSA.

The oceanic waters of the Costa Rica Thermal Dome are important industrial fishing grounds driven by the area's productivity. Silky Sharks are the most common shark taken as incidental catch and these fisheries also regularly interact with devil rays. The Dome also supports other CMS-listed sharks and rays, reinforcing its value as a critical migratory habitat. Efforts are underway to develop a marine governance scheme for the Dome and in recent years, Costa Rica has prohibited retention of hammerheads in its waters and strengthened conservation measures for other shark species [20]. Because the Dome spans multiple jurisdictions and ABNJ, effective conservation requires international cooperation on fisheries management and governance frameworks. The ISRA designation brings international recognition to this transboundary hotspot, supporting ongoing efforts to develop cooperative governance for the Dome.





Pelagic Thresher | Elke Boganowski

CASE STUDY:

MONAD AND KIMUD SHOALS

The Philippines
JURISDICTIONS

0–250 m
DEPTH PROFILE

32.05 km²
ISRA SIZE

1
CMS/MOU SHARKS

SHALLOW SEAMOUNTS IN AN ARCHIPELAGO OF THE CORAL TRIANGLE

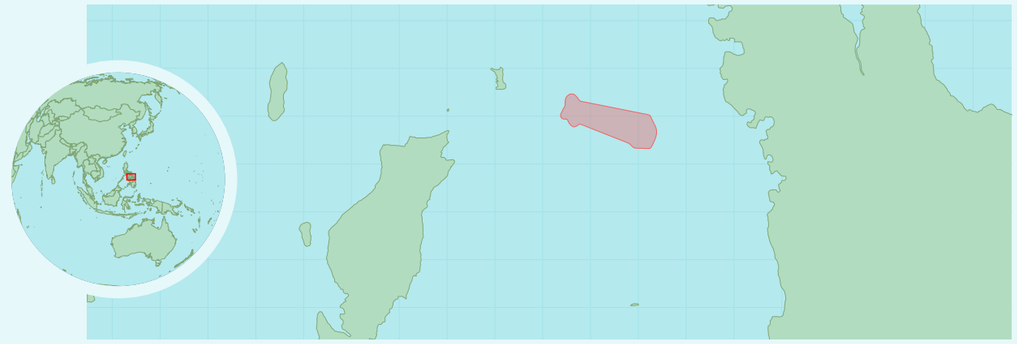
The Monad and Kimud Shoals ISRA is a small area in the Philippines supporting the Pelagic Thresher (*Alopias pelagicus*) [21]. These seamounts are an important area for distinctive behaviours of this oceanic migratory species.

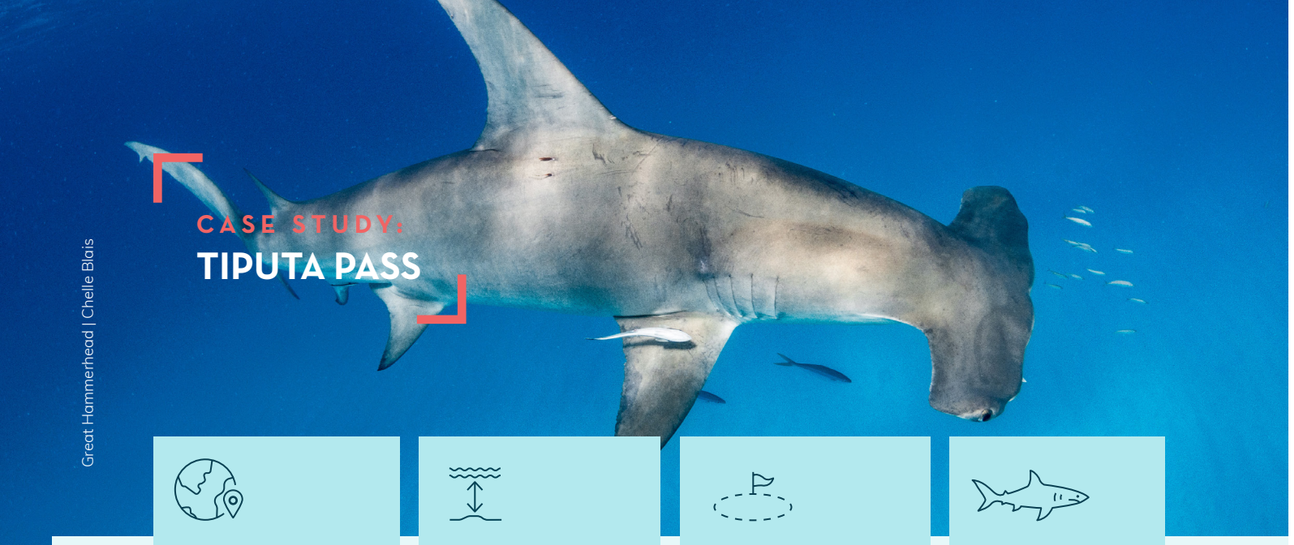
This area hosts two seamounts in the relatively shallow Visayan Sea of the Philippines. The tops of these seamounts form plateaus at 15–25 m before dropping off into deeper water of 200–250 m depth. Primary production is supported by frequent wind-driven vertical mixing and supplemented by land-based nutrient run-off.

Monad and Kimud Shoals is one of only a handful of sites worldwide where Endangered Pelagic Threshers are known to attend cleaning stations [22]. Cleaning stations, where cleaner fish remove parasites and dead skin, are vital for the health of many marine megafauna. Their locations are well documented for species like manta rays, but this behaviour has been very rarely observed in thresher sharks, highlighting the distinctiveness of the area for this species. Pelagic Threshers modify their swimming patterns at these shoals to signal cleaning interactions with wrasses. Several different cleaning stations have been identified on the shoals with tagged sharks showing preferences for visiting specific sites.

This area overlaps with the Sulu-Sulawesi Marine Ecoregion EBSA and both Monad Shoal and Kimud Shoal are MPAs.

Monad and Kimud Shoals is a popular dive site supporting local livelihoods around nearby Malapascua Island. The diving with Pelagic Threshers is world renowned and supported by conservation measures in place at the sites through MPA establishment [23]. The ISRA designation highlights the global importance of Monad and Kimud Shoals ISRA for Pelagic Threshers, complementing existing protections that also support dive tourism and other local livelihoods.





Great Hammerhead | Chelle Blais

CASE STUDY:

TIPUTA PASS

French Polynesia
JURISDICTIONS

0–150 m
DEPTH PROFILE

1.13 km²
ISRA SIZE

1
CMS/MOU SHARKS

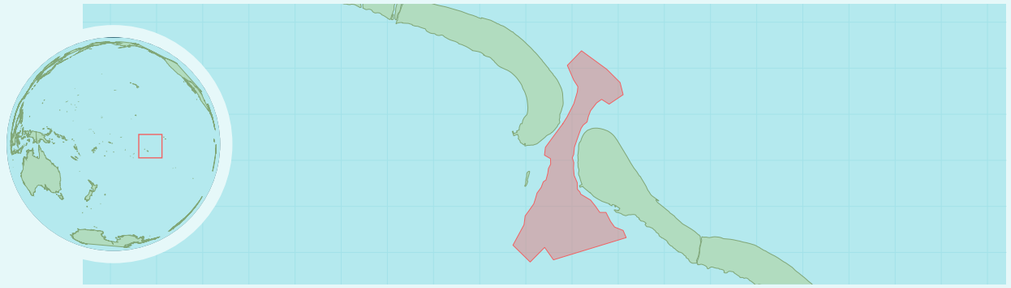
A DEEP CHANNEL CUTTING THROUGH A SOUTH PACIFIC CORAL ATOLL

Tiputa Pass ISRA is a small area in French Polynesia supporting the Great Hammerhead (*Sphyrna mokarran*) [24]. This coral atoll pass is an important feeding area for this oceanic species. The area encompasses one of the major passes on Rangiroa Atoll in the Tuamotu Archipelago of French Polynesia. These passes allow water to flow into and out of the atoll lagoon with the tides. The depth of the pass reaches 45 m on the ocean side with a steep drop-off at the mouth to ocean depths exceeding 200 m. Water circulating through the pass results in nearshore phytoplankton enhancement.

Critically Endangered Great Hammerheads are typically a solitary species, yet this species regularly aggregates in small numbers in Tiputa Pass. The shark has been observed preying on various sharks, rays, and marine turtles in the area, but the presence of Great Hammerheads appears to be synchronised with the occurrence of one of their main prey items, the Spotted Eagle Ray (*Aetobatus ocellatus*). The predictable occurrence of the rays during the austral summer months attracts Great Hammerheads to this site as a reliable food source.

This area sits within the French Polynesia Shark Sanctuary banning the targeted fishing of all sharks. Bycatch and illegal fishing, however, continue to be sources of mortality. In June 2025, the government announced the creation of the world's largest MPA that will cover the entirety of the country's EEZ (almost 5 million km²) and will restrict extractive practices like deep-sea mining and benthic trawling [25]. Approximately 20% of this area will be designated as a highly or fully protected area where only traditional coastal fishing, ecotourism, and scientific exploration will be allowed.

Dive tourism is a major economic activity on Rangiroa Atoll, with Tiputa Pass one of the atoll's premier dive sites. Great Hammerheads, or *Tamatoroa*, are deeply respected in Polynesian culture, and as such are not only of economic, but also vast cultural importance. Tiputa Pass illustrates how cultural traditions, tourism, and species conservation can work together to safeguard sharks. Designation as an ISRA highlights how Tiputa Pass combines ecological, cultural, and economic importance, providing a strong case for continued protection and sustainable use.



The Global Coverage of ISRAs

As of October 2025, ISRAs have been defined in nine of the world's 13 ISRA regions, encompassing the Central and South American Pacific, Mediterranean and Black Seas, Western Indian Ocean, Asia, Polar Waters, New Zealand and Pacific Islands, South American Inland Waters, South American Atlantic, and European Atlantic. This process has already engaged >1,330 contributors, including researchers, citizen scientists, and fishers. Over 360 spatial data requests have been received from 66 countries, and ISRAs are increasingly referenced in scientific literature and integrated into conservation frameworks.

The most recent ISRA workshop took place in September 2025, focusing on the Australian and Southeast Indian Ocean region. The remaining three regions—North America and Caribbean Atlantic, North American Pacific, and African Atlantic—are scheduled for assessment by 2027.

The ISRA Project works across 13 regions globally. ISRAs have been delineated in nine of these with the remaining four regions to be completed by early 2027.

NO	ISRA Region	Status	Number of ISRAs
1	Polar Waters	Completed	34
2	European Atlantic	Completed	124
3	Mediterranean & Black Seas	Completed	65
4	North American & Caribbean Atlantic	Upcoming 2026	
5	South American Atlantic	Completed	81
6	African Atlantic	Upcoming 2026	
7	Western Indian Ocean	Completed	125
8	Australia & Southeast Indian Ocean	Ongoing 2025	
9	Asia	Completed	122
10	New Zealand & Pacific Islands	Completed	179
11	North American Pacific	Upcoming 2026	
12	Central & South American Pacific	Completed	65
13	South American Inland Waters	Completed	21

A total of 816 ISRAs have been identified so far, covering 327 shark species—representing approximately 25% of all known species. All but two CMS and Sharks MOU-listed sharks and rays have so far been included in delineated ISRAs as Qualifying Species. This means that for the vast majority of CMS species, critical habitat has been identified in at least one part of their geographic range, the exceptions being the Endangered Longfin Mako (*Isurus paucus*) and Critically Endangered Smalltooth Sawfish (*Pristis pectinata*). These two species present contrasting situations where it will be a challenge to identify areas of critical habitat for Longfin Mako due to a lack of available data. On the other hand, several proposals for ISRAs centered on Smalltooth Sawfish are expected when the project assesses the North American and Caribbean Atlantic region. Improving data collection on Longfin Mako is needed to enhance the information base from which to identify important areas.

A Global Spatial Framework for the Conservation of Sharks and Rays

Policy Relevance of the ISRA Report for CMS-listed Shark and Ray Species

Sharks and rays are considered the second most threatened group of vertebrates globally, after amphibians [14]. Safeguarding their future requires identifying and conserving the habitats that sustain them. ISRAs provide a globally standardised, expert-driven framework to achieve this, highlighting the sites of greatest ecological significance for threatened species, range-restricted species, reproduction, feeding, resting, migration, aggregating, and high species diversity.

This report, which showcases ISRAs delineated for CMS and Sharks MOU listed species, provides an essential tool to support the implementation of these agreements as well as other multilateral efforts aimed at the conservation of biodiversity, including threatened sharks and rays. ISRAs generate actionable knowledge that directly supports national, regional, and international efforts to conserve highly mobile and transboundary species. Their value lies in providing the scientific foundation for more informed, targeted, and effective conservation and management measures. Spatial planning, including the application of fisheries management measures within territorial waters, EEZs, and on the high seas, remains one of the most effective strategies for improving the status of migratory shark and ray populations.

The ISRA framework is also directly relevant to the Kunming-Montreal Global Biodiversity Framework (GBF). It contributes to:

TARGET 1

Spatial Planning

Providing critical data for integrated, biodiversity-inclusive marine and coastal planning.

TARGET 2

Ecosystem Restoration

Identifying degraded habitats essential for shark and ray reproduction and/or early life stages.

TARGET 3

Area-based Conservation

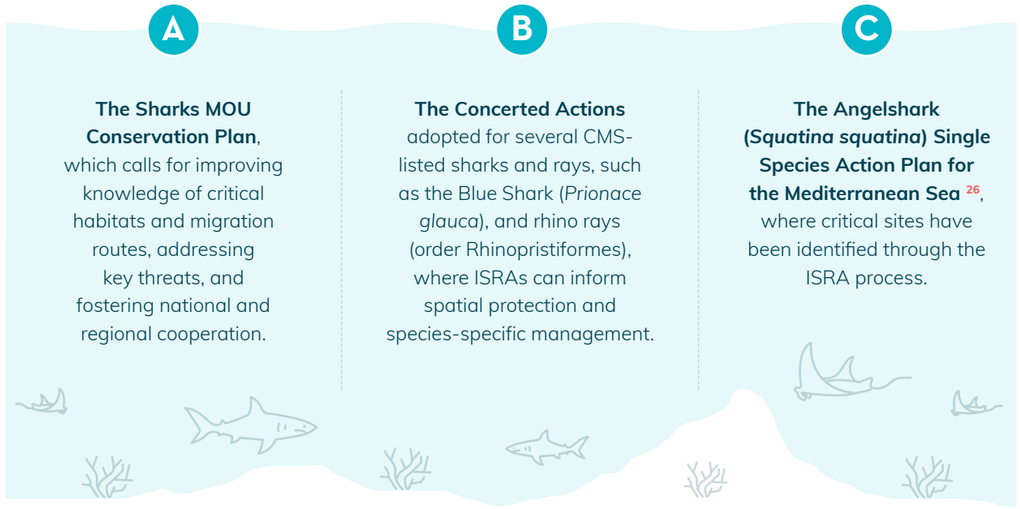
Serving as a blueprint for expanding and strengthening networks of MPAs and Other Effective Area-Based Conservation Measures (OECMs) to include shark and ray-critical habitats, contributing to the global 30x30 goal.

TARGET 4

Species Recovery

Supporting efforts to halt human-induced extinction and enable the recovery of threatened sharks and rays by directing action to their most important habitats.

Within CMS and the Sharks MOU, ISRAs respond to multiple priorities and contribute to the implementation of several CMS instruments and associated initiatives focused on sharks and rays, including:



ISRAs also create synergies with Regional Seas Conventions, Regional Fisheries Bodies (RFBs) including Regional Fisheries Management Organizations (RFMOs), and the FAO International Plan of Action for Sharks (IPOA-Sharks) [27]. Through these connections, they can guide area-based management measures to reduce incidental catch, improve fisheries sustainability, and ensure coherence across governance levels from local fisheries to management in ABNJ.

The practical applications of ISRAs extend beyond policy frameworks. They can inform fisheries management by pinpointing priority areas for spatially and temporally targeted measures — such as seasonal closures, gear restrictions, and bycatch mitigation — particularly where overlap with small-scale/artisanal and industrial fisheries is high. These spatial insights can strengthen national implementation of CMS obligations and inform complementary actions under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), RFMOs, the Sustainable Development Goals (SDGs), and other biodiversity and ocean governance frameworks (including the Agreement on Marine Biodiversity Beyond National Jurisdiction [BBNJ Agreement]). ISRAs are also relevant for environmental assessments, providing early warning of biodiversity concerns in coastal and offshore developments, and for biodiversity-positive financing, helping governments and donors prioritize investment in conservation and restoration. As a standardised dataset, ISRAs further support monitoring and reporting, including CMS and Sharks MOU national reports, National Biodiversity Strategy and Action Plan (NBSAPs), and SDG indicators.

Case studies illustrate this range of applications. In the Pacific Ocean, the Costa Rica Thermal Dome illustrates how ISRAs that span EEZs and high seas overlap with tuna fisheries, offering spatial insights that could support bycatch reduction under RFMOs. In the Canary Islands, Angelshark ISRAs provide a clearer picture of the habitats required to protect one of Europe's most threatened species. At Monad Shoal in the Philippines, ISRAs highlight the cultural and economic value of Pelagic Thresher Shark aggregations, reinforcing the link between species conservation and local livelihoods. In French Polynesia, the Tiputa Pass ISRA highlights distinctive Great Hammerhead feeding behaviour, illustrating how ISRAs capture key ecological processes in remote regions.

Munk's Pygmy Devil Ray | JayrClue | Dive Ninja Expeditions

SPECIES IN FOCUS

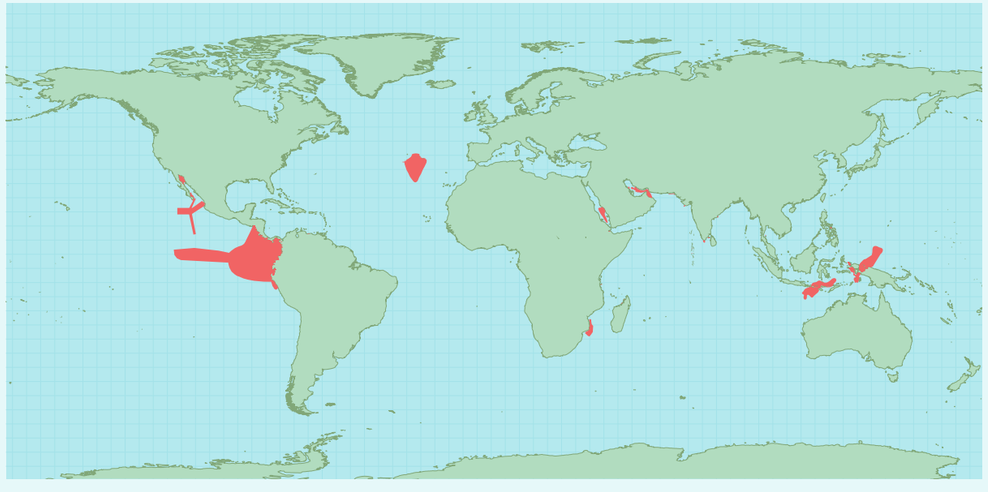
Common Guitarfish | Luis Pérez Berrocal

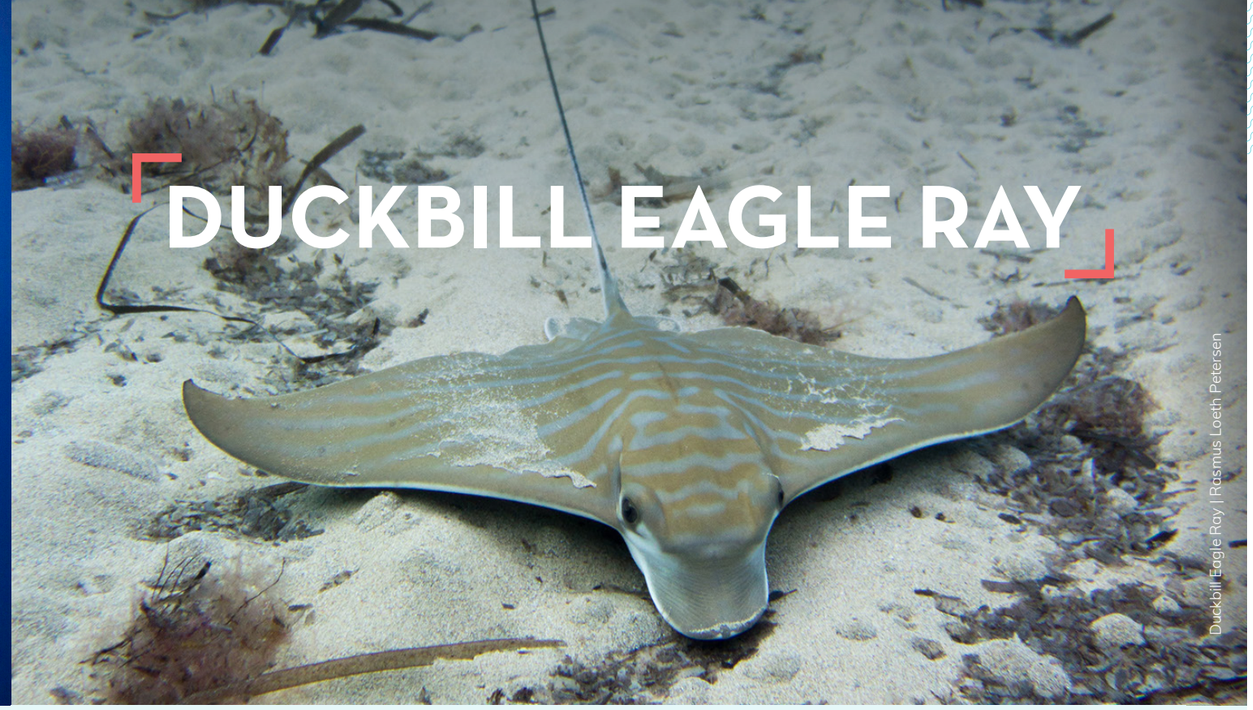
Whale Shark | Cinzia Osele Bismarck | Ocean Image Bank

WHALE SHARK

The Whale Shark is the world's largest fish species reaching ~20 m in length. It has a widespread global distribution in tropical to warm-temperate waters of the Atlantic and Indo-Pacific oceans. One of the few planktivorous filter-feeding sharks, it undertakes large-scale migrations and forms seasonal aggregations at feeding sites where it is the focus of wildlife tourism. The Whale Shark is Endangered due to significant population declines from targeted fishing and incidental catch, while also facing threats from vessel strike and entanglement in discarded fishing gear. It was notably the first shark species to be listed on a CMS Appendix when it was added to Appendix I in 1999. It was then listed on the Sharks MOU in 2010 and CMS Appendix II in 2017.

One of the most prominent shark or ray species in ISRAs, 69 areas of critical habitat have so far been identified across the Atlantic, Indian, and Pacific oceans. These encompass migratory corridors, feeding areas, and seasonal aggregations in coastal areas and on oceanic seamounts, and even rarely documented reproductive areas. The seven transboundary ISRAs delineated for the Whale Shark highlight the need for international collaboration to manage vast seascapes encompassing important migratory pathways and aggregation sites.



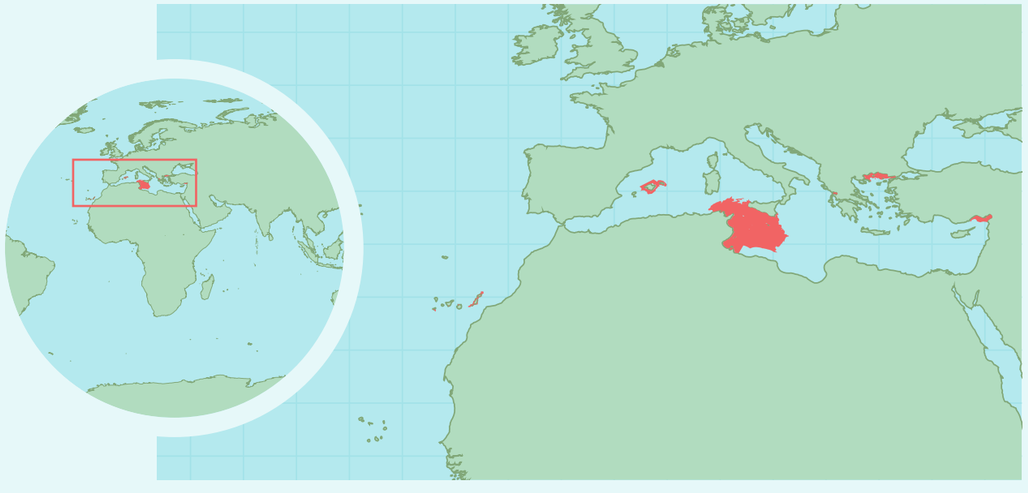


Duckbill Eagle Ray | Rasmus Loeth Petersen

DUCKBILL EAGLE RAY

The Duckbill Eagle Ray is a large-bodied ray reaching >2 m wide which is found in temperate coastal waters from the Mediterranean Sea and southwest Europe to South Africa, where it is widespread but generally uncommon. It favours muddy benthos and seagrass beds of inshore waters and is typically found at depths of <30 m making it susceptible to incidental catch from nearshore fisheries. It is both demersal and semi-pelagic and can form seasonal aggregations which further increases susceptibility. The Duckbill Eagle Ray is Critically Endangered due to significant population declines from increasing fishing pressure in the eastern Atlantic and a long history of overfishing in the Mediterranean Sea. It was listed on the CMS appendices in 2024, with its global population listed on Appendix II whilst its Mediterranean Sea population is listed on Appendix I.

Eleven ISRAs have so far been identified for this species across the Mediterranean Sea and Canary Islands (Spain) highlighting the region's importance. For example, two ISRA's represent the presence of cyclical but undefined aggregations whilst the shallow and sheltered Amvrakikos Gulf ISRA in Greece is a known reproductive area. Its tendency to form schools that have been reported crossing international boundaries highlights the need for range states to collaborate in ensuring important migratory routes and aggregation sites are protected to halt declines and permit recovery.

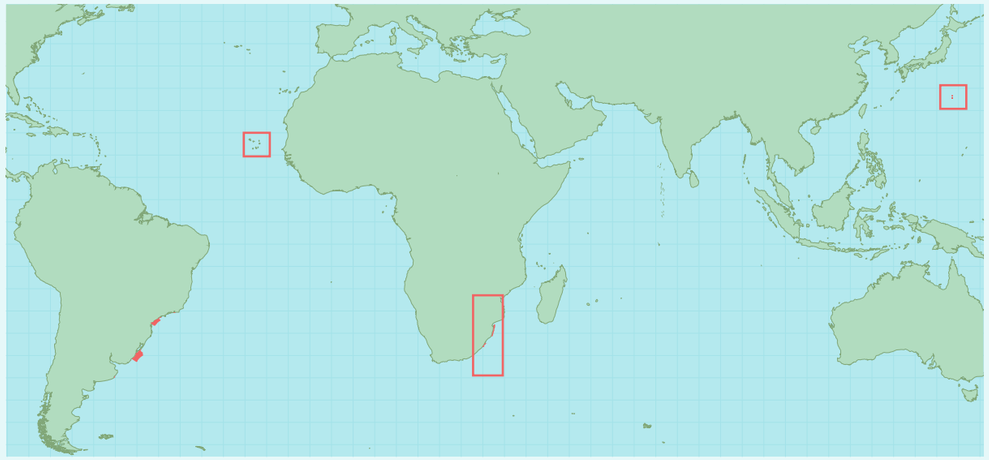


Sand Tiger Shark | Mike Watson | Adobe Stock

SAND TIGER SHARK

The Sand Tiger Shark is an epipelagic shark generally found in relatively shallow coastal waters, although it is also known to inhabit deeper waters to ~230 m. This species is subject to fishing pressures, both incidental and targeted, across its range resulting in significant population depletion and a Critically Endangered assessment. It regularly forms sex-segregated aggregations and individuals habitually return to breeding areas through highly cyclical migratory behaviour. It was listed on Appendix I and II of CMS in 2024.

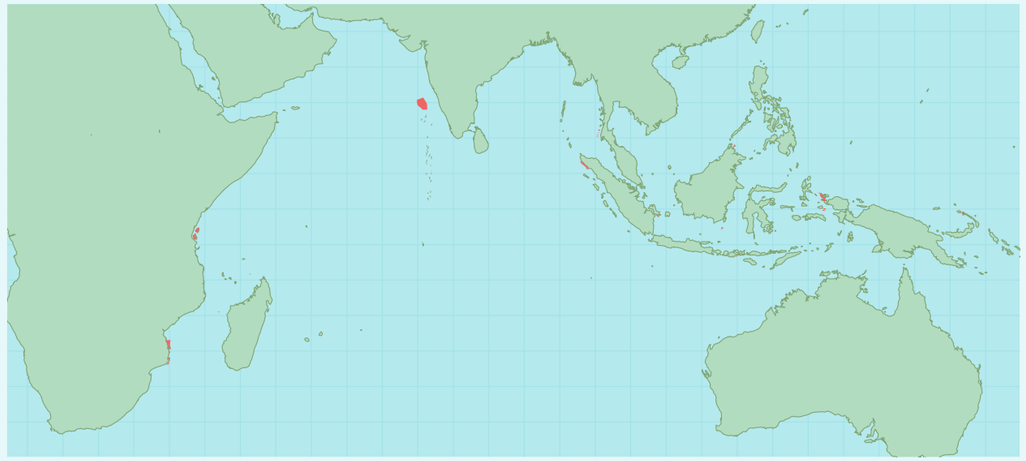
Twelve ISRAs have so far been identified for this species. These cover most vital life-history functions, particularly capturing reproductive sites, aggregations, and migratory corridors, as well as resting behaviour around rocky reefs and caves. One ISRA has identified a transboundary area important for seasonal migrations between Mozambique and South Africa. Transboundary management is essential for this species which regularly moves along key migration corridors.



Bottlenose Wedgefish | Elke Bojanowski

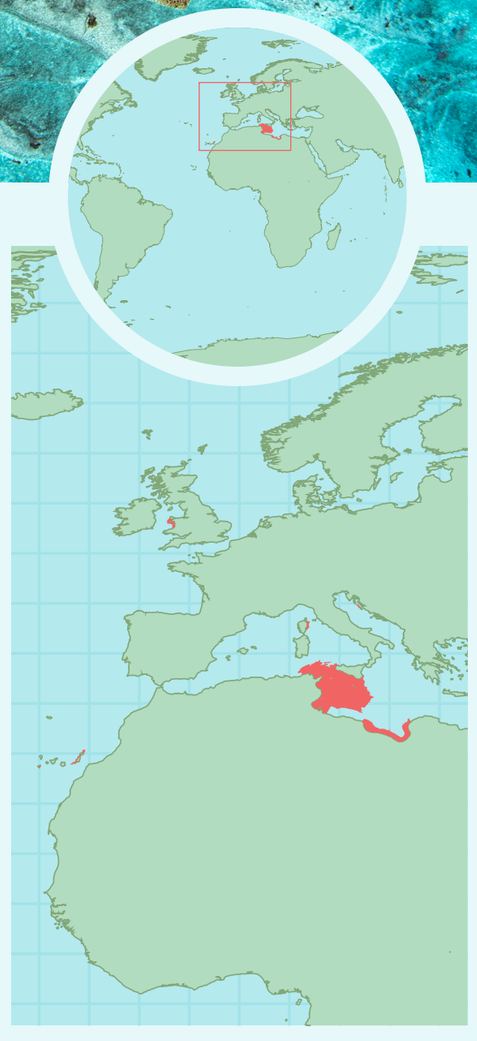
BOTTLENOSE WEDGEFISH

The Bottlenose Wedgefish (*Rhynchobatus australiae*) is a large ray reaching ~3 m in length. It has a widespread distribution in tropical and warm-temperate waters of the Indo-Pacific. A benthic species, it is restricted to nearshore and continental shelf waters on soft substrates and around coral reefs. The Bottlenose Wedgefish is Critically Endangered due to considerable population declines from targeted fishing and incidental catch. It was listed on CMS in 2017 when it was added to Appendix II and has since been added to the Sharks MOU in 2018. The most prominent CMS-listed rhino ray in ISRAs, 18 areas of critical habitat have been identified for this species. Important areas have mostly been identified in Southeast Asia and the Western Indian Ocean. These areas primarily encompass reproductive sites in inshore waters as well as areas where the range of Bottlenose Wedgefish overlaps with exceptionally high species richness (ISRAs qualifying under the Sub-criterion D2 – Diversity). Spatial management in parallel with fishery management will be essential to reduce mortality and facilitate recovery of this highly threatened species.



ANGELSHARK

Angelshark | Nuno Vasco Rodrigues

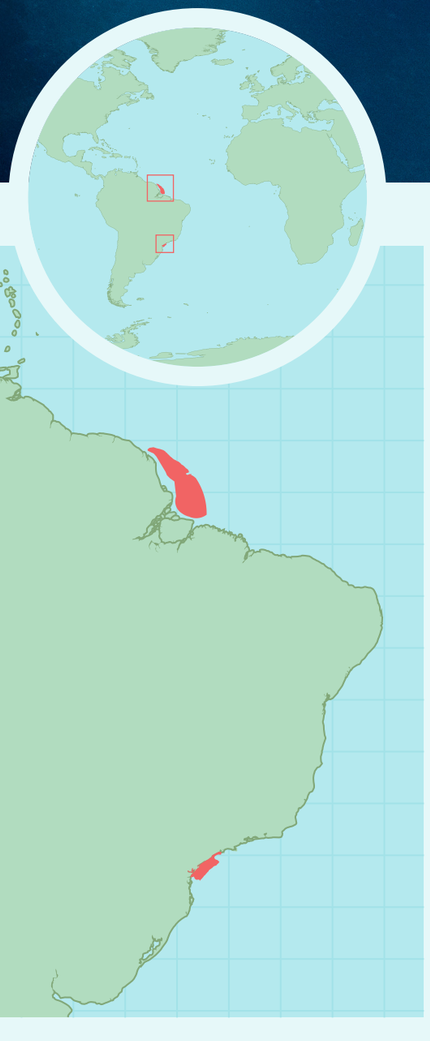


The Angelshark (*Squatina squatina*) is a medium-sized benthic shark reaching >2.4 m in length. Like all angel sharks, it is an ambush predator, laying buried and hidden in the substrate and striking unsuspecting prey that swim by. This species once occurred throughout coastal waters of the Mediterranean Sea and Northeast Atlantic Ocean but is now restricted to isolated areas. Its severe population decline and localised extinction across much of its former range is the result of intense fishing pressure and the species is assessed as Critically Endangered. The only CMS-listed angel shark, it was added to Appendices I and II in 2017, followed by the Sharks MOU in 2018.

Critical Angelshark habitat has been identified in 21 ISRAs, comprising four in the Mediterranean Sea and 14 in the Canary Islands. Within the Mediterranean Sea, two ISRAs have been delineated for important reproductive sites, one for seasonal aggregations, and one where the Angelshark is part of an exceptionally high species richness. The number of delineated areas around the Canary Islands where ISRAs have identified reproductive areas and aggregations in numerous locations highlight the essential role the islands play in the global persistence of the Angelshark. Considerable research and conservation investment in this species has increased the availability of knowledge to incorporate into ISRA identification.

Atlantic Pygmy Devil Ray | Massimiliano F | Adobe Stock

ATLANTIC PYGMY DEVIL RAY



The Atlantic Pygmy Devil Ray (*Mobula hypostoma*) is one of the smallest devil ray species reaching 1.2 m in width. Compared to most other devil rays which have widespread geographic ranges, this species is found only in the Atlantic Ocean where it forms schools in coastal and oceanic waters. Like all devil rays, its reproductive output is extremely low (one pup per litter) which limits its ability to sustain mortality from fisheries. Exploitation and incidental catch in artisanal, longline, and purse seine fisheries, combined with the global trade in devil ray gill plates has resulted in the species being assessed as Endangered. It was listed on CMS Appendix I and II in 2014 and has since been added to the Sharks MOU in 2016.

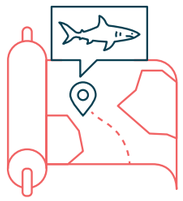
Critical habitat has been identified for all 10 devil ray species, with the larger and well studied manta rays featuring heavily in ISRA delineation. In contrast, only two areas of critical habitat have so far been identified for the Atlantic Pygmy Devil Ray. Both areas are on the continental shelf of Brazil in the Southwest Atlantic Ocean and represent areas of exceptionally high species richness (ISRAs qualifying under the Sub-criterion D2 – Diversity). The delineation of ISRAs encompassing critical habitat for this species is likely to increase since only one of the three ISRA Regions where it occurs has so far been evaluated.

A CALL TO ACTION

As governments and regional bodies accelerate action to deliver on global biodiversity commitments, ISRAs offer a timely and practical guide for decision-making. They represent a scientifically robust, transparent, and globally standardised method for identifying areas of conservation priority for sharks and rays across jurisdictions. By integrating ISRAs into national and regional policy frameworks, Parties and Signatories can accelerate progress towards CMS and Sharks MOU objectives, respectively, while contributing to halting global biodiversity loss, fisheries sustainability, and ecosystem resilience.

To realize this potential, CMS Parties and Sharks MOU Signatories are encouraged to take several next steps. By doing so, ISRAs can move from knowledge to action, ensuring that critical shark and ray habitats are safeguarded across jurisdictions.

Turning ISRAs into Action for Sharks and Rays



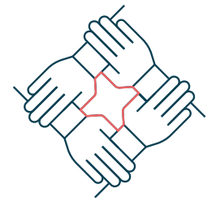
1 Secure shark and ray habitats through ISRAs

- Use ISRAs as blueprints to integrate into national marine spatial planning, fisheries management, as well as MPA and/or OECM development;
- Apply fisheries measures in and around ISRAs (e.g., seasonal closures, gear restrictions, bycatch mitigation);
- Require ISRAs in environmental impact assessments to safeguard habitats from coastal and offshore development;
- Coordinate conservation measures regionally for migratory species using ISRAs as a shared reference point; and
- Target ISRAs for habitat protection and restoration efforts.

2 Invest in ISRAs to deliver biodiversity and climate goals

ISRAs provide a cost-effective way to align national policies with global biodiversity and climate commitments.

- Use ISRAs as a tool to deliver on existing commitments by incorporating them into NBSAP updates, reporting on CMS and Sharks MOU objectives, demonstrating progress on GBF targets (1, 2, 3, 4), and supporting SDG 14 reporting;
- Use ISRAs to channel biodiversity-positive financing and investment;
- Support large-scale collaborative research to refine ISRA boundaries and identify new sites; and
- Use the ISRA eAtlas to direct national and regional research and policy priorities.



3 Collaborate to implement and monitor ISRAs

Making ISRAs effective requires cooperation across governments, sectors, and governance levels.

- Embed ISRAs in national and international reporting under CMS, the Sharks MOU, GBF, SDGs;
- Foster cooperation with Regional Seas Conventions, RFMOs, and other governance bodies to integrate ISRAs in regional and high seas management;
- Build cross-sectoral partnerships across fisheries, trade, conservation, and finance sectors to make ISRAs actionable on the ground;
- Use ISRAs to guide transboundary action for CMS and Sharks MOU listed species along critical migratory routes; and
- Work with the IUCN SSC Shark Specialist Group to keep ISRAs updated with the best available science.

Scalloped Hammerhead | Masayuki Agawa | Ocean Image Bank

REFERENCES

1. Weigmann S, Didier D, Finucci B, Nakaya K, Naylor GJP, Seret B, Straube N, Vaz DFB. 2024. Biodiversity, taxonomy, and systematics of extant chondrichthyan fishes. In: Jabado RW, Morata A, Bennett R, Finucci B, Ellis J, Fowler S, Grant M, Barbosa Martins A, Sinclair S, eds. *The global status of sharks, rays, and chimaeras*. Gland, Switzerland: IUCN, 7-30

2. Flowers KI, Heithaus MR, Papastamatiou YP. 2021. Buried in the sand: Uncovering the ecological roles and importance of rays. *Fish and Fisheries* 22(1): 105–127. https://doi.org/10.1111/faf.12508

3. Dedman S, Moxley JH, Papastamatiou YP, Braccini M, Caselle JE, Chapman DD, Cinner, JE, Dillon EM, Dulvy NK, Dunn RE, et al. 2024. Ecological roles and importance of sharks in the Anthropocene Ocean. *Science* 385: eadl2362. https://doi.org/10.1126/science.adl2362

4. IUCN. 2025. IUCN Red List of Threatened Species. Version 2025-1. Available at: https://www.iucnredlist.org/en Accessed in September 2025

5. Dulvy NK, Pacoureau N, Rigby CL, Pollom RA, Jabado RW, Ebert DA, Finucci B, Pollock CM, Cheok J, Derrick DH, Herman KB, Sherman CS, VanderWright WJ, Lawson JM, Walls RHL, Carlson JK, Charvet P, Bijeesh KK, Fernando D, Ralph GM, Matsushiba JH, Hilton-Taylor C, Fordham SV, Simpfendorfer CA. 2021. Overfishing drives over one-third of all sharks and rays toward a global extinction crisis. *Current Biology* 31(21): 4773–4787. https://doi.org/10.1016/j.cub.2021.08.062

6. Pacoureau N, Rigby CL, Kyne PM, Sherley RB, Winker H, Carlson JK, Fordham SV, Barreto R, Fernando D, Francis MP, Jabado RW, et al. 2021. Half a century of global decline in oceanic sharks and rays. *Nature* 589(7843): 567–571. https://doi.org/10.1038/s41586-020-03173-9

7. Irion DT, Jewell OJD, Towner AV, Fahmi F, Fischer GC, Gennari E, Stewart M, Tyminski JP, Kock AA. 2025. Transoceanic dispersal and connectivity of a white shark (*Carcharodon carcharias*) between southern Africa and Southeast Asia. *Wildlife Research* 52(6). https://doi.org/10.1071/WR24145

8. Fowler S. 2014. *The conservation status of migratory sharks*. Technical Report Edition 1. UNEP/ CMS Secretariat. Available at: https://test-d9.cms.int/publication/conservation-status-migratory-sharks#id-05e04f9a-e260-48e4-ac41-0f31f7908f43

9. CMS. 2024. Appendices I and II of the Convention on the Conservation. Available at: https://www.cms.int/en/species/appendix-i-ii-cms

10. CMS. 2014. Guidelines for assessing listing proposals to Appendices I and II of the Convention Resolution 11.33. Accessed in September 2025

11. IUCN SSC Shark Specialist Group. 2025. The Memorandum of Understanding on the Conservation of Migratory Sharks (Sharks MOU). Available at: https://www.iucnssg.org/sharksmou.html. Accessed in September 2025

12. Hyde CA, Notarbartolo di Sciara G, Sorrentino L, Boyd C, Finucci B, Fowler SL, Kyne PM, Leurs G, Simpfendorfer CA, Tetley MJ, Womersley F and Jabado RW. 2022. Putting sharks on the map: A global standard for improving shark area-based conservation. *Frontiers in Marine Science*. 9: 968853. https://doi.org/10.3389/fmars.2022.968853

13. IUCN SSC Shark Specialist Group. 2024. Important Shark and Ray Area (ISRA): Guidance on criteria application. Version 1. Dubai: IUCN SSC Shark Specialist Group.

14. IUCN SSC Shark Specialist Group. 2025. Important Shark Ray Areas. Available at: https://sharkrayareas.org/home/ Accessed in September 2025

15. IUCN SSC Shark Specialist Group. 2025. Thongaland Transboundary Corridor ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group. Available at: https://sharkrayareas.org/portfolio-item/thongaland-transboundary-corridor-isra/#toggle-id-2 Accessed in September 2025

16. Sink KJ, Lombard AT, Attwood CG, Livingstone TC, Grantham H, Holness SD. 2023. Integrated systematic planning and adaptive stakeholder process support a 10-fold increase in South Africa's Marine Protected Area estate. *Conservation Letters* 16: e12954. https://doi.org/10.1111/conl.12954

17. Flam A. 2021. Manta rays and whale sharks now protected in Mozambique. Marine Megafauna Foundation. Available at: https://marinemegafauna.org/news/manta-rays-and-whale-sharks-now-protected-in-mozambique Accessed in September 2025

18. Meyers EKM, Tuya F, Barker J, Alvarado DJ, Castro-Hernández JJ, Haroun R, Rödder D. 2017. Population structure, distribution and habitat use of the Critically Endangered Angelshark, *Squatina squatina*, in the Canary Islands. *Aquatic Conservation: Marine and Freshwater Ecosystems* 27 (6): 1133–1144. https://doi.org/10.1002/aqc.2769

19. IUCN SSC Shark Specialist Group. 2025. Costa Rica Thermal Dome Factsheet. Dubai: IUCN SSC Shark Specialist Group, Available at: https://sharkrayareas.org/portfolio-item/costa-rica-thermal-dome-isra/ Accessed in September 2025

20. Espinoza M, Zanella I, Lopez-Garro A, Madrigal J, Arauz R, Chávez EJ. 2024. Costa Rica. In: Jabado RW, Morata A, Bennett R, Finucci B, Ellis J, Fowler S, Grant M, Barbosa Martins A, Sinclair S, eds. The Global Status of Sharks, Rays, and Chimaeras.' In *The Global Status of Sharks, Rays, and Chimaeras*. IUCN

21. IUCN SSC Shark Specialist Group. 2025. Monad and Kimud Shoals ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group, Available at: https://sharkrayareas.org/portfolio-item/monad-and-kimud-shoals-isra/ Accessed in September 2025

22. Oliver SP, Grothues TM, Williams AL, Cerna V, Silvosa M, Cases G, Reed M, Christopher S. 2019. Risk and resilience: High stakes for sharks making transjurisdictional movements to use a conservation area. *Biological Conservation* 230: 58–66. https://doi.org/10.1016/j.biocon.2018.11.013

23. Utzurrum JA, Aquino T, Aca EQ et al. 2024. Philippines. In: Jabado RW, Morata A, Bennett R, Finucci B, Ellis J, Fowler S, Grant M, Barbosa Martins A, Sinclair S, eds. *The Global Status of Sharks, Rays, and Chimaeras*.' In The Global Status of Sharks, Rays, and Chimaeras. IUCN.

24. IUCN SSC Shark Specialist Group. 2025. Tiputa Pass ISRA Factsheet. Dubai: IUCN SSC Shark Specialist Group, Available at: https://sharkrayareas.org/portfolio-item/tiputa-pass-isra/ Accessed in September 2025

25. Shah S. 2025. French Polynesia Creates World's Largest Marine Protected Area. TIME. Accessed September 2025. https://time.com/7292420/french-polynesia-announces-new-marine-protected-area/ Accessed in September 2025

26. CMS. 2024. Single Species Action Plan for the Angelshark (*Squatina squatina*) in the Mediterranean Sea. Resolution 14.12. Available at: https://www.cms.int/fr/node/25263 Accessed in September 2025

27. FAO. 1999. International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries: International Plan of Action for the Conservation and Management of Sharks; International Plan of Action for the Management of Fishing Capacity. Rome: Food & Agriculture Org. Accessed in September 2025

28. Bucair N, Hinojosa-Alvarez S, Marshall AD, Pate J, Francini CLB, Garrido AG, Capel KCC, Loboda TS, Monteiro JS, Bruno CEM, Vaga CF, Dove ADM, Hoopes LA, Perry C, Kitahara MV. 2025. An integrative taxonomy investigation unravels a cryptic species of *Mobula* Rafinesque, 1810 (Mobulidae, Myliobatiformes), from the Atlantic Ocean. *Environmental Biology of Fishes*. https://doi.org/10.1007/s10641-025-01727-2

Annex I

Sharks and rays listed on the CMS Appendices and the Sharks MOU with the year of listing shown. [year]* denotes that only the Mediterranean populations of the species are included on Appendix I; † listed under previous names *Manta alfredi* and *Manta birostris*; ‡ listed under previous name *Mobula eregoodootenkee*; § includes the junior synonym *Mobula rochebrunei*; ‖ includes the junior synonym *Mobula japanica*. (Source: https://www.cms.int/en/species). The newly described Atlantic Manta Ray *Mobula yarae* [28] does not appear on the relevant CMS appendices due to its description in 2025.

COMMON NAME	SPECIES NAME	CMS APP I	CMS APP II	SHARKS MOU	# OF ISRAs
SHARKS					
Dogfishes (Family Squalidae)					
Spiny Dogfish	*Squalus acanthias*	-	2008	2010	16
North Pacific Spiny Dogfish	*Squalus suckleyi*	-	2024	-	1
Angelsharks (Family Squatinidae)					
Angelshark	*Squatina squatina*	2017	2017	2018	21
Whale Shark (Family Rhincodontidae)					
Whale Shark	*Rhincodon typus*	2017	1999	2010	69
Sand Tiger Shark (Family Carchariidae)					
Sand Tiger Shark	*Carcharias taurus*	2024	2024	-	12
Basking Shark (Family Cetorhinidae)					
Basking Shark	*Cetorhinus maximus*	2005	2005	2010	21
Thresher Sharks (Family Alopiidae)					
Pelagic Thresher	*Alopias pelagicus*	-	2014	2016	21
Bigeye Thresher	*Alopias superciliosus*	-	2014	2016	8
Common Thresher	*Alopias vulpinus*	-	2014	2016	4
Mackerel Sharks (Family Lamnidae)					
White Shark	*Carcharodon carcharias*	2002	2002	2010	10
Shortfin Mako	*Isurus oxyrinchus*	-	2008	2010	17
Longfin Mako	*Isurus paucus*	-	2008	2010	0
Porbeagle	*Lamna nasus*	-	2008	2010	10
Houndsharks (Family Triakidae)					
Tope	*Galeorhinus galeus*	-	2020	2023	28
Requiem Sharks (Family Carcharhinidae)					
Silky Shark	*Carcharhinus falciformis*	-	2014	2016	41
Oceanic Whitetip Shark	*Carcharhinus longimanus*	2020	-	2018	10
Dusky Shark	*Carcharhinus obscurus*	-	2017	2018	10
Blue Shark	*Prionace glauca*	-	2017	-	19
Hammerhead Sharks (Family Sphyrnidae)					
Scalloped Hammerhead	*Sphyrna lewini*	-	2014	2016	111
Great Hammerhead	*Sphyrna mokarran*	-	2014	2016	11
Smooth Hammerhead	*Sphyrna zygaena*	-	2020	2018	23
RAYS					
Sawfishes (Family Pristidae)					
Narrow Sawfish	*Anoxypristis cuspidata*	2014	2014	2016	2
Dwarf Sawfish	*Pristis clavata*	2014	2014	2016	1
Smalltooth Sawfish	*Pristis pectinata*	2014	2014	2016	0
Largetooth Sawfish	*Pristis pristis*	2014	2014	2016	15
Green Sawfish	*Pristis zijsron*	2014	2014	2016	3
Wedgefishes (Family Rhinidae)					
Bottlenose Wedgefish	*Rhynchobatus australiae*	-	2017	2018	18
Whitespotted Wedgefish	*Rhynchobatus djiddensis*	-	-	2018	4
Smoothnose Wedgefish	*Rhynchobatus laevis*	-	-	2018	1
Guitarfishes (Family Rhinobatidae)					
Common Guitarfish	*Rhinobatos rhinobatos*	[2017*]	2017	2018	5
Giant Guitarfishes (Family Glaucostegidae)					
Blackchin Guitarfish	*Glaucostegus cemiculus*	[2024*]	2024	-	10
Eagle Rays (Family Myliobatidae)					
Duckbill Eagle Ray	*Aetomylaeus bovinus*	[2024*]	2024	-	11
Cownose Rays (Family Rhinopteridae)					
Lusitanian Cownose Ray	*Rhinoptera marginata*	[2024*]	2024	-	3
Devil Rays (Family Mobulidae)					
Reef Manta Ray	*Mobula alfredi* †	2014	2014	2016	91
Oceanic Manta Ray	*Mobula birostris* ‡	2011	2011	2016	49
Longhorned Pygmy Devil Ray	*Mobula eregoodoo* ‡	2014	2014	2016	2
Atlantic Pygmy Devil Ray	*Mobula hypostoma* §	2014	2014	2016	2
Shorthorned Pygmy Devil Ray	*Mobula kuhlii*	2014	2014	2016	13
Spinetail Devil Ray	*Mobula mobular* ‖	2014	2014	2016	31
Munk's Pygmy Devil Ray	*Mobula munkiana*	2014	2014	2016	8
Sicklefin Devil Ray	*Mobula tarapacana*	2014	2014	2016	25
Bentfin Devil Ray	*Mobula thurstoni*	2014	2014	2016	14

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