



**CONVENTION ON
MIGRATORY
SPECIES**

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**CONCERTED ACTION FOR
THE MOBULID RAYS (MOBULIDAE)¹**

Adopted by the Conference of the Parties at its 13th Meeting (Gandhinagar, February 2020)

The Concerted Action for Mobulid Rays was first adopted at the 12th Meeting of the Conference of the Parties ([UNEP/CMS/COP12/Concerted Action 12.6](#)).

A report on implementation was submitted to the 13th Meeting of the Parties (COP13) together with a proposal for extension and revision ([UNEP/CMS/COP13/Doc.28.1.6](#)), which was approved by the Parties.

(i). Proponents:

The Manta Trust

The Manta Trust is an international organization that takes a multidisciplinary approach to the conservation of *Manta* spp. and *Mobula* spp. Mobulid rays and their habitats through conducting robust science and research, raising awareness and educating the general public and community stakeholders. The Manta Trust network extends across the globe, including collaborations and affiliated projects in-over 25 countries and mobulid Range States. The Manta Trust is a Cooperating Partner to the CMS Sharks MOU.

Wildlife Conservation Society (WCS)

The Wildlife Conservation Society is an international conservation organization working to save wildlife and wild places worldwide through science, conservation action, education, and inspiring people to value nature. WCS works across the globe in more than 60 countries, and the WCS Marine Conservation Program works in more than 20 countries to protect key marine habitats and wildlife, end overfishing, and protect key species, including sharks and rays. WCS is a founding partner of the Global Sharks and Rays Initiative (GSRI), which is implementing a global ten-year strategy that aims to: save shark and ray species from extinction; transition shark and ray fisheries to sustainability; effectively control international trade in shark and ray parts and products; and reduce consumption of shark and ray products from illegal or unsustainable sources. WCS is a Cooperating Partner to CMS Sharks MoU.

(ii). Target species, lower taxon or population, or group of taxa with needs in common:

Class: Chondrichthyes

Order: Rajiformes

Family: Mobulidae

Species: *Manta alfredi* - Reef Manta Ray

Manta birostris – Oceanic Manta Ray

Mobula mobular - Giant Devil Ray

¹ The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CMS Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.

- Mobula japonica* - Spinetail Mobula
- Mobula thurstoni* - Bentfin Devil Ray
- Mobula tarapacana* - Chilean Devil Ray
- Mobula eregoodootenkee* - Pygmy Devil Ray
- Mobula hypostoma* - Atlantic Devil Ray
- Mobula rochebrunei* - Lesser Guinean Devil Ray
- Mobula munkiana* - Munk's Devil Ray

(iii). Geographical range

Mobulid rays have worldwide distributions in the tropical and temperate waters of the Pacific, Atlantic and Indian Oceans (Clark et al., 2006; White et al., 2006a; Couturier et al., 2012; Bustamante et al., 2012). Within this broad range, populations are sparsely distributed and highly fragmented (Clark et al., 2006; White et al., 2006a), probably due to their resource and habitat needs.

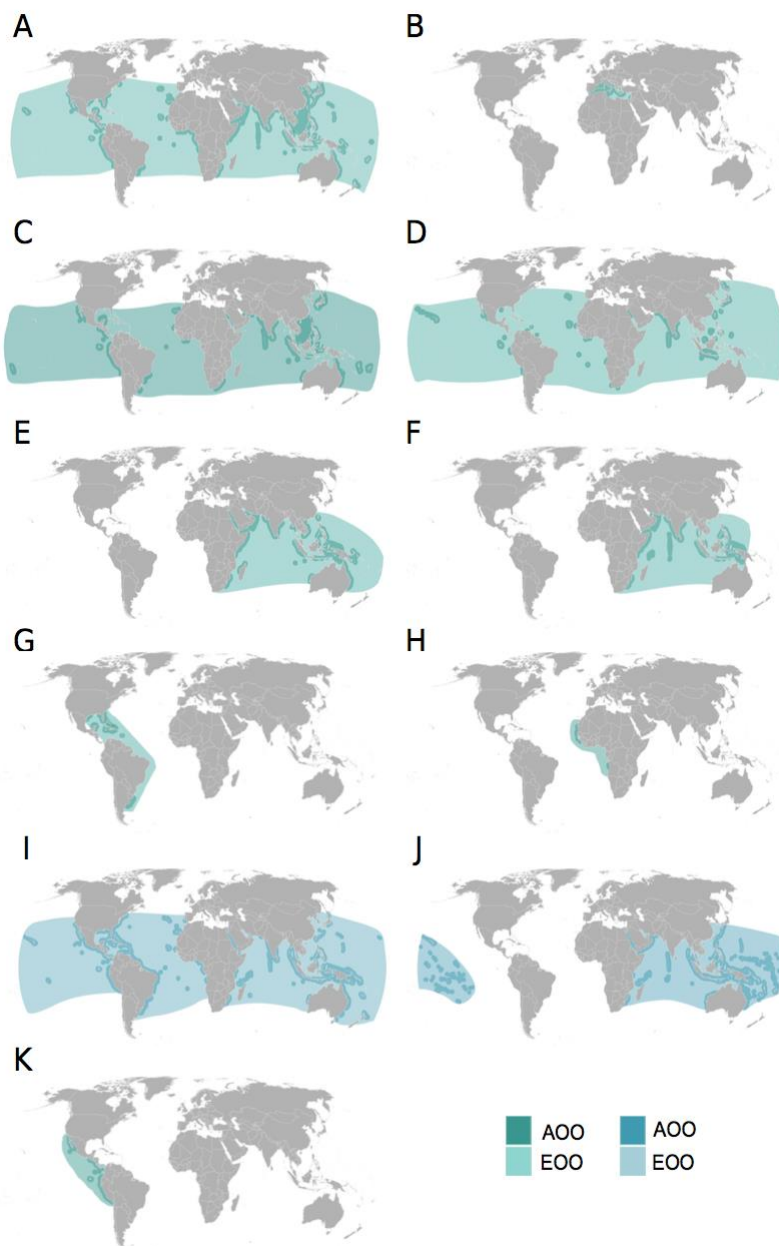


Figure by Lawson et al. (2017). **Distribution maps for manta and devil ray species.** Extent of Occurrence (EOO) and Area of Occupancy (AOO) maps for all nine species of devil ray and both species of manta ray. Species are as follows: (A) *Mobula japonica*; (B) *Mobula mobular*; (C) *Mobula thurstoni*; (D) *Mobula tarapacana*; (E) *Mobula eregoodootenkee*; (F) *Mobula kuhlii*; (G) *Mobula hypostoma*; (H) *Mobula rochebrunei*; (I) *Manta birostris*; (J) *Manta alfredi*; (K) *Mobula munkiana*.

(iv). Activities and expected outcomes

A comprehensive and strategic approach is required to ensure the long-term conservation and sustainable management of mobulid rays. The Global Strategy & Action Plan for Conserving Mobulid Rays (Ender *et al.*, 2018) provides clear guidance to Parties on strategic objectives and actions to take to achieve conservation outcomes. The Concerted Action objectives align with the Global Strategy & Action Plan.

CMS calls for effective national protections for mobulid rays. Some Parties have already declared national protection. Legislative changes and international obligations inevitably affect coastal communities that are dependent on mobulid fisheries and these impacts need to be addressed. Including coastal communities when designing conservation measures to ensure the interventions are effective, practical, and informed by stakeholders is of particular importance at this juncture in the work to protect mobulid rays.

Empowering coastal communities and ensuring long-term support for transition away from a dependence on unsustainable fishing practices and new income sources suitable for their context is needed. It is those which often have the least ability to absorb major regulatory changes that are most impacted by poorly implemented conservation measures. This also undermines the long-term success of protection strategies for the species. To effectively achieve SDG 1 (No Poverty) and SDG 14 (Life below water), protection of mobulids and supporting alternative livelihoods of fishers will need to be simultaneously addressed.

To ensure effective implementation of mobulid conservation strategies that are also socially and culturally appropriate and ethical, we urge Parties to include community stakeholders fully in the process and assist affected communities in their transition away from mobulid catch to new income opportunities.

It is foreseen that Parties (see Table in Annex 1):

1. implement the Global Conservation Strategy for mobulid rays (Lawson *et al.* 2017), which provides a framework for and prioritizes conservation interventions for mobulid rays (*Manta spp.*; *Mobula spp.*) throughout their entire range
2. drive collaborative and community-based conservation and management for mobulid rays
3. reduce mobulid target and incidental catch
4. monitor, evaluate, and adapt conservation and management strategies

(v). Associated benefits

It is the intention that the activities in this document serve as a catalyst to deliver effective conservation for mobulid rays and assist Parties in the implementation of their obligations under international treaties (e.g., CITES and CMS). It is also intended that these activities serve as an opportunity for Parties to collaborate, share, and propagate conservation knowledge, generate coordinating actions, and monitor progress that will be applicable to other marine species.

Many coastal communities that catch mobulid rays often also land other at-risk shark and ray species listed under CMS that will require protection. Understanding and documenting these fisheries and livelihood options in affected communities will also support coordinated, effective, and socially just management and conservation of marine resources. Support for diversified income opportunities will help alleviate pressure on marine resource and ensure long term economic sustainability.

(vi). Timeframe

Please refer to Annex 1.

(vii). Relationship to other CMS actions

All *Manta spp.* and *Mobula spp.* are listed on Appendix I and II of CMS. Parties that are a Range State to a migratory species listed in Appendix I shall endeavour to 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.

The Memorandum of Understanding on the Conservation of Migratory Sharks (Sharks MOU) is the specialized agreement for chondrichthyan species in accordance with Article IV 1 of the Convention. It aims to guide international cooperation to maintain and achieve a sustainable conservation status for migratory sharks and rays included in its Annex 1 to this document.

Mobulid rays have been included in Annex 1 of the Sharks MOU, which means they benefit from the agreed measures and actions under the MOU and its Conservation Plan as well as from technical guidance for its conservation, provided by the MOU's Advisory Committee and Conservation Working Group.

The Concerted Actions will support the implementation of the Sharks MOU and the aim of species listed under CMS Appendices and II. In particular, with regards to encouraging Sharks MOU Signatories that are also CMS Parties to ensure that national, legally binding regulations are in place to prohibit targeting, retaining, landing, transshipping, selling, etc. of mobulid rays, in line with CMS Appendix I obligations, whilst safeguarding the livelihoods of Parties' coastal communities that are dependent on mobulid ray fishery... In addition, the proposed concerted actions would be in alignment with Sustainable Development Goals 1 and 14 (eliminating poverty and life below water).

The CMS Scientific Council Bycatch Working Group reviews existing measures to mitigate or reduce bycatch of CMS species and aims to ensure that recommended measures benefit all taxa. The results of this Concerted Action would also contribute to this work.

(viii). Conservation priority

The greatest threat to mobulid rays is excessive targeted and incidental take in fisheries. As a result of overfishing, some mobulid populations in Southeast Asia, the Indian Ocean, and Africa exhibit regional declines of over 80 per cent. Of particular concern is exploitation of mobulids in critical habitats, where entire aggregations of animals can be captured through relatively low fishing effort. For such intrinsically vulnerable species (low fecundity, small size of sub-populations, migratory and aggregating-behaviour), localized negative impacts are likely to have severe consequences for global population survival.

Mobulids have been reported as bycatch in 21 small-scale fisheries in 15 countries and in nine industrial scale fisheries in 11 countries (Croll *et al.*, 2015). A recent study estimates global bycatch in tuna purse seine fisheries of ~ 13,000 mobulids annually (Croll *et al.*, 2015). Escalating demand for dried mobulid gill plates for use in Chinese medicine, as well as meat and cartilage, has also led to targeting of these vulnerable species through fisheries that are largely unregulated and unmonitored.

Significant catch declines have been observed in a number of locations in the Indo-Pacific, Eastern Pacific, and Indian Ocean regions, often despite evidence of increased fishing effort. Population declines are likely occurring in other locations, but have gone unnoticed.

Historically, subsistence fishing for mobulid rays occurred in isolated locations with simple gear, limiting the distance and time fishermen could travel to hunt. In recent years, however, fishers have begun targeting these rays with modern fishing gear and expanding their fishing range and season. (Dewar, 2002; White *et al.*, 2006b; Rajapackiam *et al.*, 2007; White and Kyne, 2010; Heinrichs *et al.*, 2011; Lewis *et al.*, 2015; Fernando and Stevens, 2011). Artisanal fisheries also target mobulids for food and local products (Ayala, 2014).

For fishing communities, especially small-scale fishers, mobulid rays may represent a significant portion of their income. Mobulid rays are often caught with non-selective gear as part of multispecies fisheries. Small scale fishing communities are often in the poorest sector of their countries and have little capacity to absorb sudden income loss. Without working with affected communities as partners and ensuring support is in place before conservation strategies are implemented, said strategies are often not effective.

At the core of alternative, sustainable livelihood initiatives is the focus on working in partnership, co-management, and recognition of local expertise to develop alternative means of making a living that reduce pressure on a particular element of biodiversity. Over the last decade, research into this field has greatly advanced. By working together with social scientists and experts, common errors can be avoided and the paths towards developing alternative incomes for communities can be smoothed.

Livelihoods analysis provides a means by which to better understand the nature of small-scale fishery production systems, and helps to identify appropriate entry-points for development intervention or policy support for poverty reduction in fishing communities (Allison and Ellis, 2001).

A systematic review and community consultation should be conducted before beginning investments (Roe *et al.*, 2015). Such a review can then inform both the decision to proceed as well as the nature of the initiative and investment.

The review should be focused not only on the specific intervention planned, but also on understanding the system within which it operates and the role of the activities that they are attempting to substitute for within the livelihood strategy. The work should be constructed in an adaptive management framework that allows testing and learning (Roe *et al.*, 2015).

(ix). Relevance

Parties that are Range States of mobulid rays, which are listed on CMS Appendix I and II, agree, under CMS, to endeavour to strictly protect them by prohibiting the taking of such species, with very restricted scope for exceptions. However, public and fisher awareness of mobulid rays' threatened status and the existence of protective measures in range states is generally poor. Moreover, support for assisting communities in developing alternative livelihoods is lacking even in locations where protective measures have been established, which therefore questions the effectiveness of and compliance with those measures.

Any national conservation initiatives intended to prevent mobulid rays from being driven further towards extinction are unlikely to be successful if the animals are not protected during their seasonal migrations into, and through other Range States' waters as well as areas beyond national jurisdiction. By agreeing to a listing on CMS, Range States also agree to endeavour conserving and where appropriate restoring their habitats; preventing, removing or mitigating obstacles to their migration and controlling other factors that might endanger them. Therefore, Parties need to work together in developing effective implementation measures, which incorporate considering the effect on coastal communities and engaging relevant development agencies as appropriate to develop alternative livelihoods.

(x). Absence of better remedies

The CMS Network is the ideal platform for improving awareness and driving implementation of the Global Conservation Strategy for Devil and Manta Rays under this Concerted Action. A strategic and collaborative approach is needed to take the next steps for conserving migratory species, such as mobulid rays, and for this purpose it is essential that Parties work together on developing and implementing activities.

In addition, all species in the genera *Mobula* and *Manta* are now included on CITES Appendix II, thereby requiring that all international trade in their parts and products be both legal and

sustainable. Cooperation through CMS will greatly enhance the ability of CMS Parties to implement their CITES obligations.

The partners to CMS, such as engaged NGOs and researchers, are able to support these actions once governments decide to go forward and adopt them, through the existing linkages that CMS has created.

(xi). Readiness and feasibility

A Devil and Manta Ray Conservation Network has already been established, enabling effective sharing of data and information, sharing and propagating conservation knowledge, generating coordinating actions, and monitoring progress. A Global Strategy and Action Plan for conserving mobulid rays has been published and support countries in planning and implementing of conservation measures.

There are engaged NGOs, researchers, and community organizations ready to support Range States to develop, fund and implement collaborative work. With the support of the partners involved in the Devil and Manta Ray Conservation Network, there is a very strong foundation from which Range States can implement the activities proposed. Furthermore, support will be requested from the Sharks MOU and Cooperating Partners, to support the development and implementation of the action plans.

Some Range States have already implemented national protection for mobulid species, including the Philippines, Peru, Indonesia, and there is already collaborative work with NGOs and scientists on the ground to support affected communities and implementation. The groundwork exists, but further understanding, planning, and support from these Range States is needed to assist communities to transition away from mobulid fisheries.

(xii). Likelihood of success

The Global Strategy and Action Plan for conserving mobulid rays provides clear guidance and action steps. The proposed activities are supported by engaged NGOs, researchers and community organisations. Approaching the livelihood challenge through the concerted action steps will pave the way for successful implementation of initiatives and incorporate communities as partners to ensure sustainability. No risk factors were identified that have the potential to significantly jeopardize the success of the proposed activities.

(xiii). Magnitude of likely impact

The engagement of communities in co-management and planning activities for implementation helps to ensure that protection strategies will be effective and realistic. This is of benefit to all Range States where coastal communities depend on mobulid fisheries.

The Concerted Action will also increase understanding and scientific data from the community level about catch and species information.

(xiv). Cost-effectiveness

Costs for reviewing the Strategy and identifying activities that can be implemented by Parties are minimal. Costs of conducting socio-economic surveys and developing alternative income opportunities with communities will vary depending on location. However, the benefits far outweigh the costs of implementing initiatives that are not effective.

Resources required are funding to conduct the socio-economic baseline studies advised by experts, and to develop and pilot new sustainable alternative livelihood opportunities with affected communities. Funding will also be required for building capacities of community members to assist the transition towards alternative livelihoods. Access to long term capital, grants, or loans to support the new alternative income opportunities is also needed.

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CONCERTED ACTIONS FOR CONSERVATION OF MANTA AND DEVIL RAYS (FAMILY MOBULIDAE) UNDER THE CONVENTION FOR THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS (CMS)

Activity	Output/Outcome	Timeframe	Responsibility	Funding
1. Reduce target and incidental catch of mobulid rays				
1.1. Develop and implement legislation that supports mobulid conservation.	Protective policies exist on local, national or regional scale that decrease or eliminate mobulid mortality.	2019 - 2023	Range State Parties, Fishing Countries, Transit and Consumer State Parties, RFBs, RFMOs.	As required by Parties
1.2. Build capacities for policy enforcement and monitor their effectiveness (e.g. CITES).	Effective enforcement at all levels reduces illegal catch, strengthens compliance, supports responsible fisheries management, and rewards responsible fishing communities.	2019 - 2020	Range State Parties, Fishing Countries, Transit and Consumer State Parties, RFBs, RFMOs.	As required on a case by case basis
1.3. Support research that improves knowledge on target and incidental mobulid catch.	Latest scientific knowledge informs Parties on appropriate protective measures and management.	2020 - 2023	Party Range States, NGOs. Parties may invite the following to support with implementation: Sharks MOU Signatories, CMS Sharks MOU Cooperating Partners, NGOs, research bodies.	As required by research projects

Activity	Output/Outcome	Timeframe	Responsibility	Funding
1.4. Provide affordable selective gear to fishers to reduce mobulid bycatch (e.g. gear swap programs, subsidies programs).	Fisheries use selective gear that reduces incidental catch and mortality of mobulid rays.	2020 - 2021	Party Range States, NGOs, Research Bodies, RFBs, RFMOs. Parties may invite the following to support with implementation: Sharks MOU Signatories, CMS Sharks MOU Cooperating Partners.	As required by Parties
1.5. Educate fishers on safe release methods for mobulid bycatch (see IOTC resolution on the conservation of mobulid rays IOTC-2019-S23-PropI[E]).	Safe release methods are employed for all mobulid bycatch.	2020 -2022	Party Range States, NGOs, Research Bodies, RFBs, RFMOs.	As required on a case by case basis.
1.6 Establish temporal or spatial restrictions on mobulid fishing for critical habitats.	Effective temporal or spatial fishing restrictions exist based on knowledge about mobulid movement and habitat use.	2019 - 2023	Party Range States, NGOs, Research Bodies, RFBs, RFMOs. Parties may invite the following to support with implementation: Sharks MOU Signatories, CMS Sharks MOU Cooperating Partners.	As required on a case by case basis.
1.7. Limit ghost fishing by identifying hotspots and mitigation measures for fishers.	Improved management practices are in place that reduce ghost fishing.	2019 - 2023	Party Range States, NGOs, Research Bodies, RFBs, RFMOs. Parties may invite the following to support with implementation: Sharks MOU Signatories, CMS Sharks MOU Cooperating Partners.	As required on a case by case basis.

Activity	Output/Outcome	Timeframe	Responsibility	Funding
2. Drive collaborative community-based management				
2.1 Gather socio-economic information on mobulid catch from fishing communities. Consult with communities to design for regulatory or legislative changes prior to implementation.	Informed management drives appropriate and effective decision making and implementation of legislation.	2019 - 2021	Party Range States, NGOs. Parties may invite the following to support with implementation: Sharks MOU Signatories, CMS Sharks MOU Cooperating Partners, NGOs, research bodies.	As required on a case by case basis.
2.2 Support the development of alternative livelihood programs (e.g. farming, aquaculture) through collaborative planning with communities.	Engaged and informed communities are willing to move away from mobulid fishing and prepared for changes.	2019 - 2023	Parties may invite the following to support with implementation: Sharks MOU Signatories, CMS Sharks MOU Cooperating Partners, NGOs.	As required on a case by case basis.
2.3 Build community capacity to transition away from mobulid fishing.	Engaged and informed communities have the skills and knowledge to transition away from mobulid fishing.	2017-2020	Party Range States, NGOs. Parties may invite the following to support with implementation: Sharks MOU Signatories, CMS Sharks MOU Cooperating Partners, NGOs.	As required on a case by case basis.
3. Monitor-impact and adapt management strategies				
3.1 Monitor and evaluate the socio-economic impact of new protective measures.	Data informs management approach to ensure the communities' economic well-being is maintained or improved.	2017- 2023	Party Range States, NGOs. research bodies.	As required on a case by case basis.
3.2 Monitor and assess the ecological impact of protective measures on mobulid rays, and re-assess approach dependent on effectiveness.	Management is informed of the effectiveness of protective measures and adapts its direction if needed.	2017- 2023	Party Range States, NGOs, research bodies.	As required on a case by case basis.

Activity	Output/Outcome	Timeframe	Responsibility	Funding
3.3 Collate and share findings and best practices at national and regional workshops.	Lessons learned and best practice can be shared across Range States and strategies can be adapted where needed.	2017-2023	Party Range States with support from the CMS Secretariat, CMS Sharks MOU Signatories, Cooperating Partners, NGOs, research bodies.	As required on a case by case basis.

**Table BY ENDER ET AL. (2018).
INTERNATIONAL, NATIONAL, AND TERRITORY/STATE PROTECTIONS CURRENTLY IN PLACE
FOR DEVIL AND MANTA RAYS.**

PROTECTIVE LEGISLATION		
LOCATION	SPECIES	LEGAL PROTECTION MEASURE
INTERNATIONAL		
CITES Appendix II	All mobulid species	Listing of the genus <i>Manta</i> (2013) and <i>Mobula</i> (2016) on Appendix II of the Convention on International Trade in Endangered Species (CITES).
CMS Signatories	All mobulid species	Convention on the Conservation of Migratory Species of Wild Animals (CMS), Appendix I and II; <i>M. birostris</i> (2011), all other mobulid species (2014).
Inter-American Tropical Tuna Commission (IATTC)	All mobulid species	Resolution C-15-04 on the Conservation of Mobulid Rays Caught in Association with Fisheries in the IATTC Convention Area.
REGIONAL		
Barcelona & Bern Conventions	<i>M. mobular</i>	Added to the Annex II 'list of strictly protected fauna species' of the Bern Convention and the Annex II 'List of endangered or threatened species' to the Protocol concerning Special Protected Areas and Biological Diversity in the Mediterranean of the Barcelona Convention, which came into force in 2001.
European Union member countries	All mobulid species	Council Regulation (EU) 2015/2014 amending Regulation (EU) No 43/2014 and repealing Regulation (EU) No 779/2014.
NATIONAL		
Australia	All mobulid species	Environment Protection and Biodiversity Conservation Act (added as protected species 2012).
Brazil	All mobulid species	Inter-ministerial Normative Instruction No. 2 of 14/3/2013.
Croatia	<i>M. mobular</i>	Law of the Wild Taxa 2006 Strictly prohibited.
Ecuador	<i>M. birostris</i> , <i>M. mobular</i> , <i>M. thurstoni</i> , <i>M. munkiana</i> & <i>M. tarapacana</i>	Ecuador Official Policy 093, 2010.
Indonesia	<i>M. birostris</i> & <i>M. alfredi</i>	KepMen National Protective Legislation, 2014.
Israel	All ray species	All sharks and all fully protected in Israel since 2005. They may not be captured, harmed, traded or kept, without a specific permit from the Israel Nature and Parks Authority (INPA).

LOCATION	SPECIES	LEGAL PROTECTION MEASURE
NATIONAL		
Maldives	All ray species	Exports of all ray products banned 1995. Environment Protection Agency rule - illegal to capture, keep or harm any type of ray; Batoidea Maldives Protection Gazette No. (IUL) 438-ECAS/438/2014/81.
Malta	<i>M. mobular</i>	Sch. VI Absolute protection.
Mexico	<i>M. birostris</i> , <i>M. mobular</i> , <i>M. thurstoni</i> , <i>M. munkiana</i> , <i>M. hypostoma</i> & <i>M. tarapacana</i>	NOM-029-PESC-2006 Prohibits harvest and sale.
New Zealand	<i>M. birostris</i> & <i>M. mobular</i>	Wildlife Act 1953 Schedule 7A (absolute protection).
Peru	<i>M. birostris</i>	Article 2 of Resolution 441-2015-PRODUCE, Jan 2016.
Philippines	<i>M. birostris</i> & <i>M. alfredi</i>	FAO 193 1998 Whale Shark and Manta Ray Ban.
United Arab Emirates (UAE)	<i>M. birostris</i> & <i>M. alfredi</i>	Fully protected in UAE waters (2014).
STATE		
Christmas Island and Cocos (Keeling) Islands, Australian Indian Ocean Territories	All ray species	Protected species. Dept. of Fisheries Western Australia 2010.
Commonwealth of the Northern Mariana Islands, USA Territory	All ray species	Public Law No. 15-124.
Florida, USA	<i>Manta</i> spp.	FL Admin Code 68B-44.008 - no harvest.
Guam, USA Territory	All ray species	Bill 44-31 prohibiting possession/sale/trade in ray parts 2011.
Hawaii, USA	<i>Manta</i> spp.	H.B. 366 2009 - no harvest or trade.
West Manggarai/Komodo	<i>Manta</i> spp.	Shark and Manta Ray Sanctuary Bupati Decree 2013.
Raja Ampat Regency, Indonesia	All ray species	PERDA (Provincial Law) Hiu No. 9 Raja Ampat 2012.
Yap (Federated States of Micronesia)	<i>Manta</i> spp.	Manta Ray Sanctuary and Protection Act 2008.