

PACIFIC ISLANDS SHARK AND RAY POLICY BRIEF



Healthy reefs generally host high number of marine predators, including sharks. Photo: Johann Mourier.

While management of tuna and other commercial fish stocks is not core business for SPREP, maintenance of a productive oceanic ecosystem and conservation of threatened and migratory species clearly is core business, which is why SPREP has prepared this Policy Brief dealing with conservation of shark and ray populations. The aim of this Brief is to summarise the status and trends of shark and ray species in the Pacific islands region, and to provide advice on their conservation to PICT governments.

In their role as apex predators, sharks are keystone species in Pacific island ecosystems. The seemingly insatiable demand for shark fins in China and North Asia, however, has led to a huge increase in shark catches in the past 25 years. Because many species of sharks are long-lived and slow-breeding, producing

only a few offspring each year, the impacts of increased fishing pressure have been very severe for many species, and concerns have been repeatedly expressed about the status and trends of a number of sharks and rays in the Pacific islands region.

2014, however, saw a marked increase in regional efforts to raise awareness of the threats facing sharks and the closely-related rays. Fiji led a successful initiative to list 10 species of rays on Appendix I and II of the Convention on Migratory Species (CMS), and there were several new signatories to the CMS MoU on Migratory Sharks. There are now 21 species of sharks and rays listed on

CMS Appendices¹ and 10 listed² on CITES. WWF launched a new Pacific programme on shark conservation "Restoring the Balance". Additionally, the Western Central Pacific Fisheries Commission passed a consensus Conservation Measure to prohibit use of either shark lines or wire leaders during their 2014 annual meeting held in Apia. A regional workshop held in Moorea also provided further relevant information about shark status in the Pacific which informs this policy brief.

1 Conservation status of migratory sharks CMS; Knowing that 1,093 species of *chondrichthyan fishes* (about 60 families of sharks, skates and chimaeras) are included in the 2012 IUCN Red List

2 Entry into effect of new CITES listing of sharks and rays

Expert Workshop – General statement regarding sharks

Held in Moorea in October 2014, the 5-day regional workshop³ "Sharks and humans: how to reinforce the partnership?" involved 26 experts and researchers, who agreed on the following statement⁴:

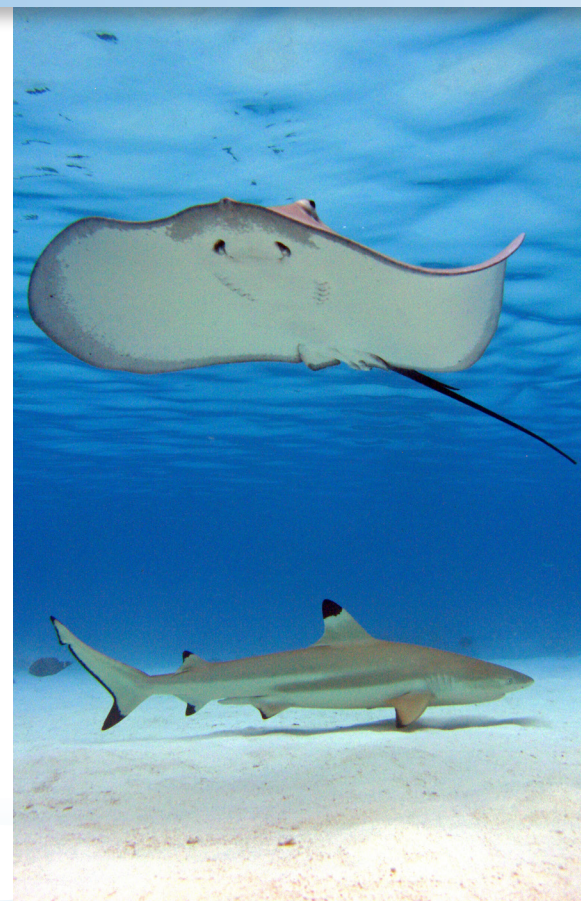
1. Healthy and productive oceans need sharks.
2. In the Pacific region, a live shark has higher social, cultural and often economic value than a dead shark.
3. Many shark and ray populations in the Pacific have been severely depleted by overfishing.
4. Many sharks have reached critically low numbers and inaction is not an option – time is running out.

Pelagic shark populations in the region are in decline (some species like oceanic whitetips and silky are in free-fall) largely because of fishing, and because some fleets use shark lines that specifically target sharks. The Oceanic whitetip shark has declined to less than 7% of its original biomass before fishing and the silky shark has declined to less than

28%. For blue sharks the catch rate is declining in the North Pacific by 5% per year. For Makos, it is by 7% per year and for Oceanic whitetips in tropical waters by 17% per year. Silky sharks and oceanic whitetip sharks have declined significantly in recent years within their core habitats. The median lengths of silky sharks in the Western Central Pacific Ocean are becoming shorter and the reproduction is estimated to have declined by 67% from 1995 reference values. Pelagic thresher sharks in the North Pacific are also overfished, with an estimated decline of 34% over the next 20 years.

Little reliable data is available for coastal sharks, and the situation is therefore largely unknown, although some studies document local declines. Therefore urgent action is needed.

Currently there is an urgent need for improved and effective management, regulation and enforcement in fisheries affecting shark populations. The immediate goal is to urgently reduce mortality to sustainable levels. A further goal would be to restore the shark population in all ecosystems.



Like sharks, rays play an important role in the ecosystem and are similarly vulnerable. Photo: Johann Mourier.

3 Organized by IRCP and CRIQBE

4 They presented 20 papers on shark conservation, shark based ecotourism, sharks and humans, and shark fisheries.

Multiple overviews for objectives

During the Moorea workshop, the participants highlighted the multiple uses and values of sharks.

CULTURE

1. Pacific peoples have important cultural values associated with sharks and rays and these values should be considered in management and conservation.
2. Cultural values can help to motivate or reinforce conservation efforts as well as encourage sustainable practices.
3. Efforts should be dedicated to providing local communities with up-to-date scientific knowledge aimed at better understanding and addressing the threats to sharks and rays, especially coastal species.
4. Cultural references to sharks and rays should be included in tourist education and experiences, but only when done in accordance with the protocols of the traditional peoples who own these stories, customs and beliefs.

PUBLIC PERCEPTION

1. The negative image of sharks amongst the general public must be improved in order to influence community behaviour and political decision-making.
2. Scientists and dive operators need to exercise caution to ensure that their involvement and contributions are constructive and presented properly, and they should refuse to participate in media projects that convey sensationalist, false or misleading messages.
3. The tourism industry, including dive operators, should be encouraged to present appropriate shark conservation messages to tourists and divers.
4. However, the public abhorrence of the inherent cruelty involved in finning live sharks acts to promote shark conservation.

FISHERIES

1. The demand for products (e.g. gill plates) from rays is growing.
2. Although there are indicators that the trade in shark fins may be decreasing, shark meat markets are expanding.
3. Although international trade is restricted for

several species, Pacific coastal shark and ray fisheries (for both local consumption and export) are not being adequately monitored, and further work is needed to assess and manage these fisheries, e.g. through National Plans of Action (NPOAs) and Shark Assessment Reports.

4. Targeted fishing for sharks (e.g. shark lines) should only be allowed for species and in fisheries that are demonstrably sustainable.
5. There should be a special focus on reducing by-catch (accidental catches), and target catch in both longline and purse-seine fisheries.
6. Although new technologies (e-monitoring, satellites and drone) can improve the tracking of fishing vessels, many more trained fisheries observers are essential for improving compliance with agreed conservation measures and species-specific monitoring of catches.
7. Quotas and catch limits need to be more effectively implemented in the Pacific
8. Enforcement of transshipment regulations in port and banning transshipment at sea are also cost effective measures for managing fisheries catching sharks.
9. An evaluation should be undertaken of the impacts of Fish Aggregating Devices (FADs) in the Pacific, which frequently utilise large curtains of old purse-seine net hanging below them to create the shadow that attracts fish. These may constitute a significant entanglement hazard for sharks and turtles. It is estimated that between 30,000 and 80,000 FADs (or more) are currently adrift in the Pacific.
10. Recent strengthening of management measures (CITES, CMS, WCPFC) for Pacific pelagic shark fisheries are welcomed. These need to be implemented, monitored and evaluated for effectiveness.

TOURISM

1. Ecotourism has been demonstrated to be a successful alternative use of sharks and rays in several countries of the Pacific.
2. The benefits need to be shared appropriately amongst all stakeholders.

3. The advantages of shark and ray ecotourism include: economic benefits, conservation, connection with nature, improving public perception of sharks and rays, and data collection and research.
4. Possible negative effects of shark and ray tourism include impacts on: health of the animals, animal behaviour, increased direct or indirect risks to tourists, and ecosystem functioning.
5. Guidelines and standards are needed to improve management of shark and ray ecotourism.
6. If guidelines are properly implemented, the advantages of shark and ray tourism override the potential negative effects.

SPECIES CONSERVATION

1. Data show that many sharks and rays are not able to cope with existing exploitation levels.
2. A range of management options is available, including shark sanctuaries.
3. Management, including shark sanctuaries, can be effective if it:
 - a. reduces total shark mortality, including cryptic mortality;
 - b. recognizes and preserves the ecosystem role of sharks;
 - c. protects critical habitats for shark populations;
 - d. generates data that can be used to evaluate effectiveness in reducing shark mortality;
 - e. can be practically enforced with a strong ownership by stakeholders including fishermen;
 - f. allows for continual improvement/adaptive management, and moves toward efficiency;
 - g. encourages connectivity between MPAs or LMMAs for migratory species;
 - h. equalizes or reverses the burden of proof, only allowing fishing to continue if there is clear evidence that catch levels are sustainable;
 - i. alleviates any disproportionate burden of conservation and management on SIDS.



Far left: Ecotourism, if sustainable, can provide good incomes as well as public awareness for sharks' conservation. Photo: Nicolas Buray.

Mainstream since 2014

MULTILATERAL ENVIRONMENTAL AGREEMENTS (MEAS)

- Nine SPREP members (Australia, Cook Islands, Fiji, France, New Zealand, Palau, Samoa, UK, USA) belong to the Convention on Migratory Species (CMS), which has developed a MoU for Migratory Sharks, which currently has 5 PIC signatories (Nauru, Palau, Samoa, Tuvalu and Vanuatu). Signing the MoU means those species are protected at the national level.
- Six SPREP members (Fiji, Palau, PNG, Samoa, Solomon Islands, Vanuatu) are signatories to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Certain species of pelagic sharks, such as basking shark and great white shark, oceanic white tips, porbeagle and scalloped, greater and smooth hammerhead sharks have been listed⁵ on Appendix II of CITES, which means traders need permits to export or import products. All trade is banned for Appendix I species.

CONSERVATION IN THE PACIFIC – RECENT HIGHLIGHTS

- Since the Palau Marine Sanctuary was established in February 2015, commercial shark fishing has not been permitted in the Palau EEZ.
- The Federated States of Micronesia was established as a shark sanctuary in February 2015.
- In November 2014, Samoa signed the CMS Memorandum of Understanding on migratory sharks.
- WWF “Pacific Shark Heritage Programme”, launched in 2014, aims to reduce shark mortality, and to improve the management by conservation and sustainable use.



Above: Sharks are becoming an important tool in attracting tourism and generating money for local economy in the Pacific. Photo: Thomas Vignaud.

Right: Manta ray. Photo: Shawn Heinrichs.

FISHERIES

The 11th Regular Meeting of the WCPFC held in Apia in December 2014 passed by consensus a Conservation Measure to prohibit the use of either shark lines or wire leaders by vessels fishing in the Convention Area.

REGIONAL ORGANISATION IN ACTION

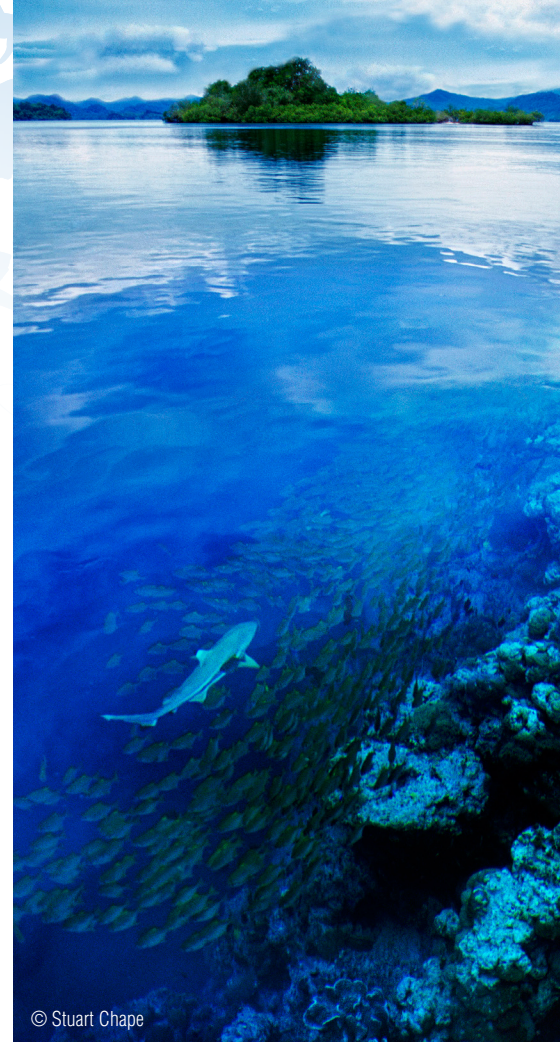
- SPC is responsible for providing scientific advice, based on research, and analysis of observer data. Many longliners attach a ‘shark line’ to the dropper buoys from which the pelagic longlines (which can be set at different depths, depending on which tuna or billfish species are the targets) are suspended. These shark lines are deployed in the surface waters to deliberately target sharks, and SPC reported in 2014 that of the 15 species reportedly caught on these lines, 13 are sharks.
- FFA acts as the coordinating body on fisheries management for PICs, and proposed a Conservation Management Measure (CMM) on sharks to the 2013 meeting of the WCPFC, but the CMM failed to achieve consensus and was withdrawn.
- A revised CMM⁶ was proposed in 2014 and aimed to reduce shark mortality in longline fisheries by either:
 - Banning wire leaders⁷; or
 - Prohibiting the use of shark lines.
- WCPFC is the Regional Fisheries Management Organisation (RFMO) for tuna and other pelagic fish stocks in the Pacific Islands region and the North Pacific. The adoption by consensus of the CMM on sharks was the only successful outcome for sharks of the 2014 WCPFC meeting.
- FAO recommends adopting National Plans of Action for the conservation and management of sharks and addressing



6 Conservation Management Measures

7 Longlines are mainly constructed of strong monofilament nylon, which sharks can bite through. Having a length of wire connecting the hook to the nylon branch line (a wire leader) prevents a captured shark from being able to bite off the branch line and escape (albeit with an embedded or swallowed hook that may eventually result in mortality).

5 New species included in CITES Appendix II at CoP16 in 2013: <http://www.cites.org/eng/prog/shark/sharks.php>



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shark conservation issues in national waters.

- SPREP is planning to update the existing Regional Plan of Action (RPOA) for Sharks, originally drafted in 2008 as part of the Marine Species Action Plan (MSAP), to make it shorter, more action-oriented and more useful for the region, by focusing more on coastal sharks and rays).
- SPREP will also seek to collaborate with FFA, SPC, the Parties to the Nauru Agreement and the Commission on areas of core interest, focusing on:
 - a. Protected species by-catch;
 - b. Marine Protected Areas;
 - c. Marine debris;
 - d. Promotion of an ecosystem-based approach, including the impacts of climate change.
- Finally SPREP intends to compile an update on the state of stocks and conservation measures; and shark sanctuaries in the region and their legal status and effectiveness.
- The 2014 UNGA Fisheries Resolution includes a reference to the priority assigned to sustainable fisheries that is outlined in the SAMOA pathway, specifically the text on shark finning, which referred to concerns about removal of fins from sharks and discard of carcasses at sea, and encouraged the use of the whole shark in any sustainable fishery.

What can be done?

Actions are necessary to ensure sustainability of shark stocks and to prevent the conservation burden falling unreasonably on PICTs.

Considering local use and trade:

- Improve knowledge on shark consumption for local use in the Pacific and if relevant consider alternative target species;
- Regulate trade to the relevant international standards, which will encourage sustainable trade and use;
- Encourage best practices and mitigation measures with specific objective of reducing fishing mortalities on shark species that are currently overfished, and bringing shark catches to within sustainable levels.

Improve data collection and collation:

- By improving the monitoring of coastal fisheries catch

- By monitoring coastal populations
- By encouraging and supporting scientific studies to improve knowledge
- By promoting shark experts events
- By improving local capacities and skills

For PI countries and territories:

- If not already a Party, sign and ratify CITES and CMS
- Sign the CMS Sharks MoU
- Ratify CITES
- Develop National Plan of Action
- Update and review national action plans for sharks, taking account of the FAO International Plan of Action for Conservation and Management of Sharks
- Contribute to the development of the SPREP Shark Action Plan as part of its Marine Species Programme: as endorsed by the 25th SPREP Meeting

Protect species by:

- Regulation and better control of catches of sharks listed on the IUCN red list and CMS and CITES Appendices
- Enforcement of national regulation
- MPA or sanctuary creation and management
- Commitment in international cooperation and coordination of shark management plans
- Promoting traditional taboo and practices

Campaign for awareness:

- Implement a regional awareness campaign based on cultural knowledge

Develop ecotourism in a sustainable way with best practices:

- Refer to success stories
- Encourage local industry
- Draw on recommendations of Blue Days

Assistance mechanisms and public actions

Several instruments and tools can facilitate shark conservation and management at national level recognising their ecological role in the ocean and cultural significance of sharks in the western and central Pacific.

- Citizen science may be a useful tool for conservation, provided that the objectives and expected outcomes are carefully defined, the methodology is consistent, and the limitations

of the data collected are fully acknowledged.

- The concept of "social licence to operate" (community acceptance of fishing and shark and ray tourism) may be a valuable tool, and should be explored and encouraged to promote shark and ray conservation.
- Actions can be implemented through various regional programmes, operated by SPREP, FFA, SPC, NGOs and national governments.

Finning in the Pacific region. Crédit: Fisherman in Solomon Islands catching black-tip shark for fin extraction to be sold by a reseller. This efficient traffic is set up in the Pacific for one decade now. Photo: Eric Clua.



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SOURCES

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2009 Regional plan of action for sharks

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2011 December, Review of records of sawfishes (Chondrichthyes: Pristidae) from Fiji, with deletion of *Pristis zijsron* Bleeker, 1851 and *Pristis* sp. from the fauna

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2014 August, A Proposal for a Research Plan to Determine the Status of the Key Shark Species

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