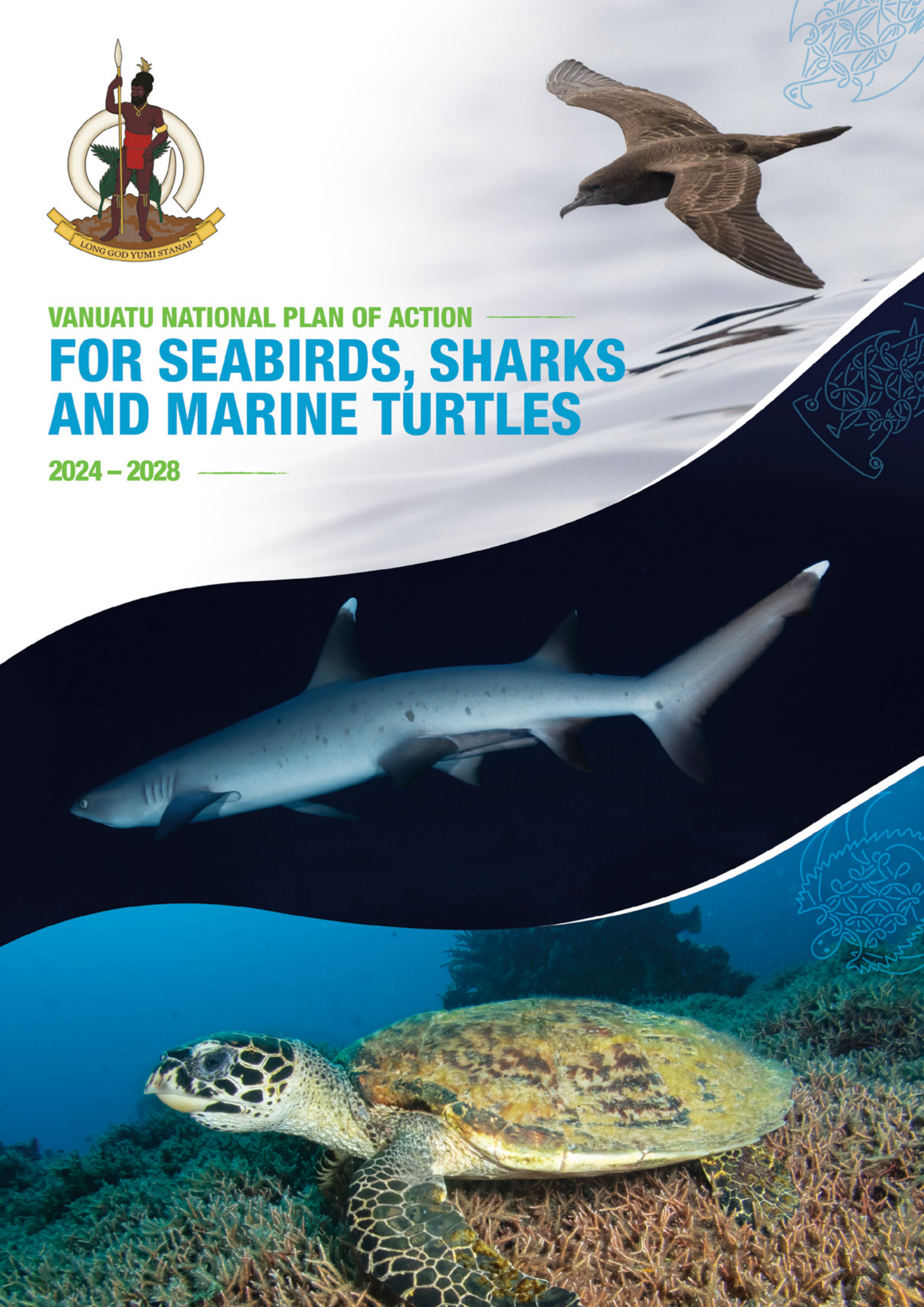

VANUATU NATIONAL PLAN OF ACTION

FOR SEABIRDS, SHARKS AND MARINE TURTLES

2024 – 2028

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Vanuatu Sand Drawings
Wedge-tailed shearwater (Ardenna pacifica). © 2024 Edgar Hinge, All rights reserved.
Scalloped hammerhead (Sphyrna lewini). © 2024 Edgar Hinge, All rights reserved.
Green turtle (Chelonia mydas). © 2024 Edgar Hinge, All rights reserved.

These original Bwatu Uliuli (sand drawings) were specially created by Edgar Hinge (Matasangvulu), a Vanuatu cultural expert from Pentecost Island, for the Vanuatu National Plan of Action for Seabirds, Sharks and Marine Turtles. Vanuatu sand drawings are an endangered form of traditional cultural communication and storytelling inscribed by UNESCO on the Representative List for Intangible Cultural Heritage of Humanity in 2008.

Cover image:
Wedge-tailed shearwater *(Ardenna pacifica).* Credit: E.Whitehead/edinnz.com
Whitetip reef shark *(Triaenodon obesus).* Credit: CritterSpotter
Hawksbill sea turtle *(Eretmochelys imbricata).* Credit: CritterSpotter

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Table of Contents

List of Figures and Tables

Figures

Tables

Black noddys *(Anous minutus)* are resident to Vanuatu. **Credit: S.Borrelle/Birdlife**

FOREWORD

As minister responsible for fisheries and marine resources, I am delighted to present this revised Vanuatu National Plan of Action for Seabirds, Sharks and Marine Turtles for the years 2024 to 2028. This revised NPOA for Seabirds, Sharks and Marine Turtles is built from lessons from the previous NPOAs and it provides updated national policy direction on the management and conservation of these three special marine taxonomic groups in Vanuatu territorial waters, the Vanuatu Exclusive Economic Zone (EEZ), and areas beyond national jurisdiction with respect to the Vanuatu national fishing fleet.

Seabirds, sharks and marine turtles are important apex species in the marine food-chain, and they maintain marine ecosystem health. These resources are caught as bycatch of commercial fisheries and some species are a source of food security and livelihoods with cultural values to some coastal communities in Vanuatu. The eggs and chicks of turtles and seabirds on land are exploited by coastal communities for food. Lack of effective control measures of harvesting activities have led to overexploitation which threaten their survival. Community monitoring of turtles and enforcement of existing laws is challenged by the wide distribution of nesting areas. Resource availability leads to continued illegal harvesting practices and the absence of regulation of seabird chick harvests adds to the existing challenges.

Vanuatu was identified as a major shark bycatch production country, raising concern internationally and a call to action. The negative Convention of International Trade in Endangered Fauna and Flora (CITES) non-detrimental finding (NDF) report in 2023 for shortfin mako shark and thresher shark confirm these concerns leading to holding off sharks' trade until another NDF is completed. The already struggling shark populations are further challenged by threats caused by climate change, global warming and sea level rise.

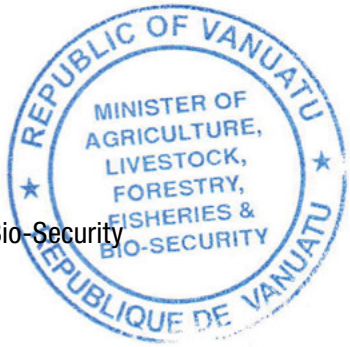
This revised NPOA for Seabirds, Sharks and Marine Turtles continues to recognize and uphold the "shark free fishing ban" in the Vanuatu EEZ from the previous NPOAs for sharks, turtles and seabirds and is in-line with respective national policy such as the Fisheries Policy, National Biodiversity Strategy and Action Plan (NBSAP), the Fisheries Act, and regional and international frameworks on turtles.

The national vision outlined in the NPOA for Seabirds, Sharks and Marine Turtles is informed by stakeholders at the national Government, local governments and Non-Governmental Organisations (NGOs). The national and local Governments are committed to implementing the NPOA by ensuring effective monitoring and reporting on the progress of the plan.

The front-line Government Departments, Vanuatu Fisheries Department (VFD), Department of Environmental Protection and Conservation (DEPC), together with Wan Smolbag (WSB) as an NGO partner, and communities in Vanuatu have done excellent work in protecting turtles and we look forward to extending this good work to sharks and seabirds. I thank you all for your excellent efforts and contributions to producing the revised Vanuatu NPOA for Seabirds, Sharks and Marine Turtles.

I do hope and trust that you will all continue this good work into the future to implement this revised NPOA to bring management and conservation of seabirds, sharks and marine turtles to another level.

Yes, we can do it.



Hon Xavier Emmanuel HARRY MP
Minister for Agriculture, Livestock, Forestry, Fisheries and Bio-Security

INTRODUCTION

How to use this document.

SECTION I:

States the purpose and scope of the National Plan of Action (NPOA), providing the background as to why NPOAs are needed, and the national, regional and international legal and policy landscape in which the plan sits.

SECTION II:

Gives a brief description of the status in Vanuatu of the three taxonomic groups – seabirds, sharks and turtles – and outlines our current knowledge, including threatened status, in Vanuatu and globally.

SECTION III:

The third section is the action plan itself. The NPOA lists activities that will lead to the desired outcome, namely protection and management of these species of conservation concern. It states who is responsible to implement the actions, which actors can support the activities and a timeline for implementation. The activities are also allocated a priority rating.

The foraging grounds of the endangered Antipodean albatross *(Diomedea antipodensis)* overlap with the fishing activities of Vanuatu flagged vessels outside of Vanuatu waters. **Credit: E.Whitehead/edinnz.com**

SECTION I

Purpose and Scope of the National Plan of Action

Purpose

The purpose of the Vanuatu National Plan of Action for Seabirds, Sharks and Turtles (VNPOA-SST) is to protect, conserve and manage populations of these marine species of conservation concern within Vanuatu's Exclusive Economic Zone (EEZ), on land and where interactions occur with Vanuatu flagged vessels fishing in other jurisdictions and on the high seas. Vanuatu derives significant revenue from access fees and fishing licencing for vessels fishing within the Vanuatu EEZ and in international waters. Vanuatu Fisheries Department (VFD) recognises that this fishing activity results in by-catch of species of conservation concern, and management of incidental by-catch needs to provide adequate protection to seabirds, sharks and turtles, whilst minimising the impact on revenue. Vanuatu is obliged to meet regional and international responsibilities under various tuna-related treaties, conventions and agreements of which it is a member or cooperating non-member. The VFD has also a national mandate to safeguard marine biodiversity and sustainably manage fish stocks and other marine recourses. This action plan will guide the activities undertaken in Vanuatu and by Vanuatu flagged vessels to safeguard seabirds, sharks and turtles over the next five years.

Origin and Scope

The VNPOA-SST replaces the Vanuatu National Plan of Action for Reducing Incidental By-catch on Seabirds in Longline Fisheries (2016–2020), the Vanuatu National Plan of Action on Sharks (2015–2018) and the Vanuatu National Plan of Action on Sea Turtles (2016–2020). This new National Plan of Action combines these three plans into one document to avoid unnecessary duplication and in the recognition that many of the measures to manage or protect these species groups overlap. The previous plans were adopted by the Vanuatu Fisheries Department (VFD) in line with the recommendations and obligations under the Regional Fisheries Management Organisations (RFMOs) to which Vanuatu is a member or an acceding state. To meet these obligations, the focus of the previous NPOA-Seabirds and NPOA-Turtles was the reduction in by-catch in the pelagic fishery, and in the previous NPOA-Sharks, the focus was on the off-shore fishery with the aim of conservation and management of a sustainable harvest of oceanic sharks. The previous NPOAs for sharks and seabirds were limited to commercial fishing only. The Vanuatu Fisheries Department recognises that the threats to these species are wider than those posed by the commercial offshore fishing fleet. As such, this revised, combined NPOA has an expanded scope to include actions to mitigate all threats to seabirds, sharks and marine turtles in all habitats they use, be it the pelagic ocean, the coastal areas or, in the case of seabirds and turtles, on land. Therefore, this NPOA for Seabirds, Sharks and Turtles is aimed at:

- Vanuatu flagged vessels operating outside Vanuatu's EEZ;
- Foreign and local commercial fishers fishing in Vanuatu's waters;
- Artisanal and subsistence fishers;
- Game fishers and other tourism operators where their activities do, or could, interact with seabirds, sharks or turtles; and
- Communities living close to important habitat for seabirds, sharks or turtles.

Areas under commercial fishing licensing span Vanuatu's internal waters, archipelagic waters, territorial sea and Vanuatu's EEZ including those portions around Matthew and Hunter islands. The areas covered for management of flagged vessels include all waters where Vanuatu registered, licensed and flagged vessels fish for highly migratory tuna species. This includes Vanuatu flagged vessels fishing for tuna or other marine resources in convention areas of the WCPFC, IATTC, CCAMLR, NPFC and SPRFMO[1] or areas of other regional fisheries management organisations (RFMO) that Vanuatu becomes a party to, or a member of, in the future. The plan also addresses obligations under national legislation and policy and other international obligations such as the Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and the Convention on Migratory Species (CMS)-MOU for Sharks.

1 Western and Central Pacific Fisheries Commission, Inter-American Tropical Tuna Commission, Commission for the Conservation of Antarctic Marine Living resources, North Pacific Fisheries Commission and South Pacific Regional Fisheries Management Organisation.

CURRENT NATIONAL LEGISLATION

The Fisheries Act

Fishing is regulated under the Fisheries Act No. 10 of 2014, the Fisheries (amendment) Act No. 34 of 2019, and Fisheries Regulations 2009. The purpose of the act is to *"conserve, manage and develop fisheries in Vanuatu in order to ensure their long-term sustainable use for the benefit of the people of Vanuatu and effectively discharge obligations under Scheduled Treaties* and agreements in which Vanuatu is party to".* The principles stated within the Act, which are relevant to this document, are to:

- Apply the precautionary principle and adopt measures to minimise waste, discards, catch of non-target species and impacts on associated or dependent species, in particular endangered species;
- Promote the development and use of selective, environmentally safe and cost-effective fishing gear and techniques;
- Protect biodiversity in the marine environment;
- Collect and share, in a timely manner, complete and accurate data concerning fishing activities on catch of non-target species and information from national and international research programmes; and
- Implement and enforce conservation and management measures through effective control and surveillance.

*Scheduled treaties in current regulations are (as worded in the Regulations):

- Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.
- Convention on the Conservation of Antarctic Marine Living Resources.
- Convention for the Establishment of an Inter-American Tropical Tuna Commission.
- Multilateral Treaty on Fisheries between the Government of United States of America and certain Pacific Island States.
- Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region, including its subsidiary Agreement.
- Pacific Islands Forum Fisheries Agency Convention.
- United Nations Convention on the Law of the Sea of 10 December 1982.
- Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.
- Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean.

The Fisheries Act defines commercial fishing as "any fishing resulting in, or intended or appearing to result in, the sale or trade of any fish that may be taken, caught or harvested during the fishing operations, but does not include recreational fishing". Game fishing is defined as "fishing for reward or profit for the purposes of game or sport and includes the hire, charter, or use of a vessel for such purposes". Recreational fishing is defined as "fishing done for leisure and without regard to earnings, gain or profit".

The Fisheries Act states that fishing vessels fishing commercially in Vanuatu waters are required to have either a local or a foreign (if the vessel is not owned by a Vanuatu citizen) fishing licence. Operators of fishing vessels within Vanuatu waters must comply with the Fisheries Act. Operators of Vanuatu fishing vessels beyond Vanuatu waters must acquire an International Authorization to Fish Certificate (IATF), issued by the Director of Vanuatu Fisheries Department. IATFs issued by Vanuatu state that vessels must comply with the CMMs of the RFMO where they are fishing, and with the regulations under the Fisheries Act. The Act also specifies that operators of a Vanuatu fishing vessel must provide any information required by the Director of Fisheries in relation to that vessel's activities.

The Fisheries Act also covers the Vanuatu Observer Programme and states that the function of the programme, amongst others, is to: collect, record and report reliable and accurate information for scientific, management, and compliance purposes including by-catch, with special reference to protected or vulnerable species including sharks, turtles, seabirds and marine mammals. The Fisheries Act also gives the authority to observers and port samplers to carry out their duties.

The Fisheries Act gives the Minister the authority to impose regulations for the protection of species and the regulation or prohibiting of discards and by-catches. Section 63 of the Act allows the Minister to publish a gazette of CMMs. No gazette has yet been published, however, measures are set out in the NPOA for Seabirds, Sharks and Turtles in this document and in the previous NPOAs for seabirds, sharks and turtles. The Revised Tuna Management Plan (RTMP) requires all vessels to comply with the measures set out in the NPOA-Sharks.

The international obligations under CITES for trade in species listed in Appendix II are not currently mentioned in the Fisheries Act or Regulations. As many species of shark are now listed on Appendix II, this needs to be addressed in any future review of the Fisheries Act and other relevant legislation to ensure interoperability and to reflect the international treaty obligations. The Food and Agricultural Organization (FAO) published "Implementing the Conventions on International Trade in Endangered Species of Wild Fauna and Flora (CITES) through national fisheries legal frameworks: a study and a guide"[2] in 2022 to assist national governments to incorporate the requirements into national legislation.

Seabirds in the Fisheries Act

Other than requiring adherence to the CMMs of the RFMOs where the vessel is fishing and the provision for observers to collect data on seabirds, there are no specific mentions of seabirds in the Fisheries Act or the Fisheries regulations.

Sharks in the Fisheries Act

The Act states under the general regulating-making power, that the Minister may impose regulations that provide for regulating or prohibiting the taking of sharks or part thereof and prescribing particular fishing methods to promote protection. No such regulation has so far been made. The only other reference to sharks is the requirement for adherence to the CMMs of the RFMOs where the vessel is fishing, the provision for observers to collect data on sharks, and their authorisation to confiscate any shark fins found on vessels.

Turtles in the Fisheries Act

Regulation 59 specifically addresses marine turtles. It prohibits the harming, killing, consuming, selling, purchasing, export or destroying of any turtle species, hatchlings, juveniles or adults. It prohibits the interference with or disturbance of turtle nests or nesting turtles, and the taking of and consumption of turtle eggs. It also makes it illegal to hold turtles in captivity. There is provision for the Director to grant an exemption on the grounds of custom, education and/or research. No permits have been issued to any of the tourism operations that hold turtles in captivity and therefore, as this regulation stands, all existing tourism establishments with turtles in captivity are in violation of this law. It also does not provide a mechanism to address turtles caught incidentally in the commercial fisheries of Vanuatu's EEZ.

Review of regulations under the Fisheries Act

The VFD is currently reviewing the regulations under the Fisheries Act. There is a plan to have a separate set of regulations for the off-shore fisheries and the near-shore fisheries. There is an opportunity to incorporate provisions to aid the conservation of seabirds, sharks and turtles under the revised regulations.

2 https://www.fao.org/3/cb1906en/cb1906en.pdf

Revised Tuna Management Plan 2014

The Revised Tuna Management Plan (RTMP) is the national policy for the management of Vanuatu tuna fisheries. The plan states that:

- All vessels must observe by-catch management limits and policies specified under RTMP, NPOA (sharks) and WCPFC-relevant CMMs on sharks, sea turtles and sea birds.
- Shark fishing in Vanuatu waters is reserved only for local fishing vessels pursuant to terms and conditions as may be set by the Director of Fisheries.
- All commercial vessels licensed to fish in Vanuatu waters and Vanuatu flagged vessels elsewhere must comply with specific measures set out in the Vanuatu NPOA on sharks.
- The target for observer coverage for all fishing vessels operating in Vanuatu's EEZ is to exceed 5% by 2015, 10% by 2017 and 20% by 2020.
- The target for log sheet reporting for Vanuatu flagged vessels is greater than 70% by 2020.

The RTMP is currently under review.

Environmental Management and Conservation Act (2010)

Although there are provisions for doing so, there are currently no regulations under this act to protect seabirds, sharks or turtles. It is undergoing a review and the Department of Environmental Protection and Conservation (DEPC) plans to introduce species regulations that protect native and threatened species in Vanuatu. There is an opportunity to increase the protection of these species by ensuring they are listed in the new regulations. Measures to ensure the sustainable use of seabirds from islands quotas based on best population estimates could be included in this regulation. Measures for sustainable take of sharks and turtles fall under the Fisheries Act as described above.

National Biodiversity Strategy and Action Plan (NBSAP)

Vanuatu's NBSAP lists important species and sites. The ones pertaining to seabirds, sharks and turtles are noted in the species-specific sections below.

Other relevant national policies and legislation

The following policies call for general protection for Vanuatu's biodiversity and ecosystems but do not have specific policies for seabirds, sharks, rays, or turtles.

- National Sustainable Development Plan 2016 to 2030: The People's Plan
- Vanuatu's National Oceans Policy 2015
- Vanuatu National Environment Policy and Implementation Plan 2016–2030

The following acts are relevant but do not specifically mention seabirds, sharks or turtles.

- Wild Birds Protection Act 1962
- Prevention of Cruelty to Animals Act 2006
- Vanuatu Sustainable Tourism Policy (2019–2030)
- Vanuatu Sustainable Tourism Strategy 2021–2025
- Foreshore Development Act 1976
- Tourism Councils Act 2012

INTERNATIONAL CONVENTIONS

CITES

Vanuatu is a signatory to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and has ratified the treaty in the International Trade (Fauna and Flora) Act of 1989. The aim of CITES, an international agreement between governments that came into force in 1975, is to ensure international trade in specimens of wild animals and plants does not threaten their survival in the wild. All import, export, re-export and introduction from the sea of species covered by the Convention has to be authorised through a licensing system. Domestic trade is not regulated under CITES.

Each Party to the Convention must designate one or more Management Authorities in charge of administering that licensing system and one or more Scientific Authorities to advise them on the effects of trade on the status of the species. In Vanuatu DEPC is the Managing Authority and VFD is the Scientific Authority.

Animals and plants listed in Appendix I cannot be traded internationally, but export can be permitted for scientific purposes. All marine turtles are listed in Appendix I.

Animals and plants listed in Appendix II can be traded across international borders, but only when a permit is obtained. Export permits for specimens of species included in Appendix II shall be granted only when a Scientific Authority of the State of export has advised that such export will not be detrimental to the survival of the species (a determination known as a 'non-detriment finding' or NDF).

The International Trade (Fauna and Flora) Act of 1989 has not been updated since being ratified, but efforts are currently underway to review it. The Act should be reviewed and amended in light of changes to the Convention that have happened since 1989. The FAO recommends countries to review fisheries legislation to ensure complementarity between CITES legislation and fisheries legislation and have produced a guideline[3] to assist countries to do so. The Fisheries Act should recognise the new CITES requirements including the necessity of providing NDFs prior to trade.

Prior to 2022, there were 38 species of shark listed in Appendix II, including mako and thresher sharks that were added in 2019. At the CITES COP19 in November 2022, countries voted in favour of proposals to add all 53 species of requiem shark, 6 species of hammerhead sharks, and 37 species of guitarfish to Appendix II. Of all species now listed, 28 are found in Vanuatu waters (Appendix 5). The listing of these shark species in Appendix II has implications for the Vanuatu fishing fleet, as several of these species have historically been landed. If the international trade in these species is to continue, the Vanuatu government will need to submit non-detriment findings for each species, and show that the trade is legal and sustainable. The Management Authority will need to issue permits for sharks listed on Appendix II caught in Vanuatu waters for each shipment of these species or their parts. If these species are caught in the high seas by Vanuatu flagged vessels, the vessel operator will need to obtain an Introduction from the Seas Permit to import them into the country where they will be landed. Non-compliance with the treaty could result in a recommendation for suspension in trade that could affect the ability of all fishing vessels to sell their catch of the shark species listed within CITES Appendix II. Vanuatu has recently developed NDFs for mako and thresher sharks, both of which have been found to be negative, meaning the species cannot be legally or sustainably traded. Recommendations to address issues identified are included in this document.

No seabirds listed on the CITES appendices are found in Vanuatu waters.

3 https://www.fao.org/documents/card/fr/c/cb1906en/

CMS

The Convention on the Conservation of Migratory Species of Wild Animals (CMS) is an environmental treaty of the United Nations. CMS brings together the States through which migratory animals pass (known as Range States) and lays the legal foundation for internationally coordinated conservation measures throughout the migratory range of a listed species. Vanuatu has not ratified the CMS. However, Vanuatu has been a signatory to the Memorandum of Understanding on the Conservation of Migratory Sharks (CMS Shark MOU) since 2013. The MOU is "a legally non-binding international instrument. It aims to achieve and maintain a favourable conservation status for migratory sharks based on the best available scientific information and taking into account the socio-economic value of these species for the people in various countries". Appendix 6 shows the Vanuatu shark species that are listed in the CMS Shark MOU appendices.

ACAP

The Agreement for the Conservation of Albatrosses and Petrels (ACAP) is a multilateral agreement under the CMS, which seeks to conserve albatrosses and petrels by coordinating international activity to mitigate known threats to their populations. Best practice by-catch mitigation is agreed on by parties to this agreement and held up as international best practice. Vanuatu is not currently a party.

RFMOs

Vanuatu is a member of the following Regional Fisheries Management Organisations (RFMO):

- Western and Central Pacific Fisheries Commission (WCPFC)
- South Pacific Regional Fisheries Management Organisation (SPRFMO)
- Inter-American Tropical Tuna Commission (IATTC)
- The North Pacific Fisheries Commission (NPFC)

Vanuatu is an Acceding State to the:

- Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

The membership of Vanuatu in these RFMOs has enabled Vanuatu's fishing fleet to fish the RFMO's waters for tuna and other highly migratory fish species. Fishing inside the Exclusive Economic Zones (EEZ) of coastal states is made possible by way of Bilateral Fishing Access (BFA) agreements for both Vanuatu flagged longlines and purse seiners, and squid jiggers in the IATTC.

Vanuatu has previously been (but is not currently) a member of the Indian Ocean Tuna Commission (IOTC) and the International Commission for the Conservation of Atlantic Tunas (ICCAT). Vanuatu de-registered from IOTC and the ICCAT after a European Union (EU) yellow card in 2012. De-registering from two RFMOs and concentrating on ensuring compliance in the other four RFMOs was one of the measures taken to get back into good status with the EU. Vanuatu continued its memberships of WCPFC and IATTC as Vanuatu had the most boats licensed to fish in those RFMOs. Vanuatu aspires to return to IOTC and ICCAT when all the compliance mechanisms are effectively functioning, and international obligations are implemented and reflected in its polices and national legislation. Vanuatu wishes to re-register as some boats that were flagged to Vanuatu have moved flag because Vanuatu is not registered in all the RFMOs where they want to fish.

The Nauru Agreement

(Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Interest)

The Nauru Agreement is an Oceania subregional agreement between the Federated States of Micronesia, Kiribati, the Marshall Islands, Nauru, Palau, Papua New Guinea, Solomon Islands and Tuvalu. The eight signatories collectively control between 25% and 30% of the world's tuna supply and approximately 60% of the western and central Pacific tuna supply. Vanuatu flagged vessels operating within the area of the Nauru agreement must adhere to the measures imposed by the agreement, which in the most part relate to purse-seine fishing for tuna species.

UNCLOS

United Nations Convention on the Law of the Sea (UNCLOS) is an international agreement that establishes a legal framework for all marine and maritime activities. It includes bestowing an obligation on countries to protect the environment in their EEZ and on the high seas and responsibility for flagged vessels. Vanuatu ratified UNCLOS in 1999.

MARPOL

International Convention for the Prevention of Pollution from Ships (MARPOL) has the objective of reducing pollution from ships, and Annex V of the Convention bans the dumping of plastic at sea. Vanuatu ratified Annex V in 1987.

Ramsar Convention on Wetlands

The Ramsar Convention on Wetlands aims to protect globally important wetland sites. The Convention defines wetlands as: “areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres”. The Convention states that wetlands to be included in the Ramsar list of internationally important wetlands may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands. Coastal areas that are important for seabirds, sharks and turtles could be considered as Ramsar sites. Currently, the only Ramsar site in Vanuatu is Lake Letas on Gaua island.

Regional Action Plans

The Pacific Islands Regional Marine Species Programme 2022–2026, compiled by the Secretariat of the Pacific Regional Environment Programme (SPREP), contains specific policies and outlines actions to be taken to mitigate by-catch and other threats to marine species. Previous programmes included sharks, turtles, dugongs and cetaceans. This newest programme includes seabirds as well as a multispecies programme. Some additional instruments call for general protection of biodiversity and ecosystems but do not have specific policies for seabirds, sharks or turtles, including but not limited to:

- Convention on Biological Diversity.
- Agreement Establishing the South Pacific Regional Environment Programme (SPREP).
- Pacific Community’s Strategic Plan 2022–2031.
- Pacific Tourism Organisation (SPTO) Sustainable Tourism Policy Framework 2030.

VANUATU FISHERIES AND FISHING FLEET

Bluespotted fantail ray *(Taeniura lymma)*. **Credit: CritterSpotter**

Fisheries Management

The Vanuatu fisheries are overseen by the VFD, with management divided into three areas:

- Coastal Fisheries – within 6 nautical miles of the coast;
- National Fisheries – within the Vanuatu EEZ, beyond 6 miles and within 200 miles of the coast; and
- International Fisheries – Vanuatu flagged vessels fishing in international waters and other jurisdictions.

Coastal Fisheries

The coastal fisheries are defined as within 6 miles of the coast. Local artisanal fishers target multiple species, both shallow and deep-water bottom fish. Many species of reef fish are caught close in-shore. Invertebrates are also gleaned from the reef flats, seagrass beds, mangroves and lagoons. Typical gear includes cast nets, gill nets, hook and line, and spearguns as well as traditional fish trapping methods. Fishers use small outboard powered boats, canoes, or enter the water on foot from the shore. Fishers fishing in the deeper waters further away from the coast access fishing grounds mostly by small motorised fiberglass “banana” boats with outboard engines and a small number of larger vessels with in-board motors. Target pelagic species include skipjack, yellowfin and dog-toothed tuna, wahoo and mahi mahi. “Poulet”, a deep-water snapper is also targeted and attracts the best prices at market. Longline and mid-water trawling are used in the pelagic fisheries, often around anchored fish aggregating devices (aFADs) or seamounts. Often, fishers targeting poulet will trawl for skipjack to use as bait in the longline fishery.

Currently, all boats with an engine that sell their catch are required to have a fishing licence. Recently the VFD has been working to ensure that more fishers participating in commercial fishing within the artisanal fleet are complying with the law and registering their boats. It is thought that there are over 500 boats fishing in the near-shore fishery. The licences for the artisanal fleet are issued by the provincial governments. As not all vessels are licenced, the number of licences issued is not the same as the number of vessels operating within the provinces. Table 1 provides the number of boats licenced in the coastal fishery.

Table 1: Number of fishing licences issued by province for the latest year where figures are available.

Province	Number of vessels licenced	Notes
Tafea	77	Number of licences issued in 2021
Shefa	111	Number of licences issued in 2022
Sanma	53	Number of licences issued in 2022
Penama	26	Number of licences issued in 2020
Malampa	10	Number of licences issued in 2022
Torba	8	Number of licences issued in 2021
Total for all provinces	**285**	

As part of the review of the fisheries regulations, the Government is considering extending the requirement for a fishing licence to all boats, including canoes without engines, and to fishing with no boat. This is because significant amounts of fish sold are caught from canoes or after entering the sea from the shore on foot and therefore, these activities should be classed as commercial fishing. VFD is also considering adding a requirement for licences for recreational fishing. VFD would like all fishing effort to be under the licencing umbrella so that all fishers are subject to VFD management measures, and VFD's data collection is as complete as possible.

A reason often cited for why fishers have not registered their vessels and obtained fishing licences is that the fishers must go to the provincial centre to pay and obtain their licence. For those residing in remote areas it can be difficult and expensive to visit the provincial offices. Likewise, when VFD officers have been tasked with visiting remote areas to enable fishers to licence their vessels, the travel costs are greater than the revenue from the fishing licences. To overcome this problem VFD would like to develop an online registration and payment system. A project is planned to give all commercial fishers a tablet to improve data collection on the catch, and this could also allow for remote registration and payment.

Sport fishing

In 2022, five licences were issued to game fishing boats which engage in sport fishing, mostly catering for overseas tourists. The main target fish for sport fishing in Vanuatu are billfish, including black marlin *(Istiompax indica)*.

Fish markets

Fish markets in Vanuatu are given a list of licenced fishing vessels as a measure to reduce the sale at the market of fish caught without a licence to fish commercially.

National Fisheries

National fisheries are defined as being located within Vanuatu's EEZ or within 200 nautical miles of the shore. The most significant fishery in Vanuatu waters is for albacore tuna. All vessels fishing within Vanuatu's EEZ are required to have either a local or a foreign fishing licence. Vanuatu is allocated a quota of 10,000 metric tonnes of tuna by the WCPFC. To ensure the national catch stays within the quota, Vanuatu set a limit on the number of vessel licences (foreign-owned and locally-owned longline) it will issue in any one year. The VFD addressed overfishing by limiting the licences to to 70 vessels a year. Boats that only fished for part of the year were charged a pro-rata amount for their licence but each of these licences count as one in the total tally per year. Approximately 3,000 metric tonnes of tuna were harvested from Vanuatu waters in 2022, considerably less than the quota. In 2024 VFD changed the number-of-boats licencing system to a vessel day scheme (VDS) in the belief that vessel-owners will be more willing to fish in Vanuatu waters as they will only be paying for the days they fish in the EEZ. It is hoped that this will increase the effort and therefore income that Vanuatu will receive from this resource. Electronic log-book reporting and electronic monitoring of vessel positions, allows more real-time management of the fishing

effort in Vanuatu waters. If the national catch continues to be significantly under quota, the quota from the WCPFC is likely to be reduced and therefore the potential income from the fishery will be smaller.

In 2022, 52 foreign boats were licenced to fish in the national fisheries. The number of licences for previous years is provided in Table 2. Most of these boats were Chinese-flagged vessels with a small number of Fiji-flagged vessels, fishing in Solomon Islands, Fiji, on the high seas and in Vanuatu. Most off-load their catch in Fiji.

Table 2: Number of fishing licences issued for foreign flagged vessels and locally based foreign vessels to fish in Vanuatu waters.

Year	Number of fishing licences issued
2015	69
2016	90
2017	171
2018	83
2019	70
2020	85
2021	67
2022	52

International fish fleet

Vessels fishing under the Vanuatu flag are registered on the Vanuatu International Shipping Registry (VISR) and are required by law to acquire an International Authorisation to Fish certificate (IATF). Currently there are 103 vessels registered. The fleet comprises:

- 75 longline vessels
- 8 Purse seine vessel
- 4 Squid jiggers
- 13 Carrier
- 3 Bunker

The foreign-owned Vanuatu flagged vessels are managed by an agent in Taiwan, the Ming Dar Fisheries Agency. The vast majority of the offshore fishing fleet do not land their catch in Vanuatu. Common ports where the catch is landed include:

- For longline vessels, Kaohsiung in Taiwan and Japanese ports.
- For purse seine vessels, Rabaul in Papua New Guinea and Tarawa in Kiribati.
- For squid jiggers, Kaohsiung, Taiwan; Busan in South Korea; and Chinese ports.

For several years prior to 2019 there were no foreign vessels (locally based or flagged in another jurisdiction) landing their catch in Vanuatu. Since 2019, the Sinovan company has five locally-based foreign-fishing vessels operating from Port Vila and landing their catch there. However, due to border restrictions and difficulties with flights to export the catch, the fish were off-loaded in Fiji during the COVID-19 pandemic. The off-loading in Vanuatu was re-instated after the pandemic was over but was suspended again when port infrastructure was damaged during cyclones in March 2023 and the catch was again off-loaded in Fiji.

Compliance and Monitoring of the ocean fishing fleets (in Vanuatu's EEZ, other jurisdictions and the high seas)

Commercial fishing boats fishing for tuna and other highly migratory fish are required to comply, as a minimum, with the Conservation and Management Measures (CMMs) of the RFMO where they are fishing as well as the national laws when fishing within an EEZ. Vanuatu's EEZ lies within the WCPFC area. One of the standard methodologies for ensuring compliance with the CMMs and regulations is to require vessel operators to keep logbook records of their catch and by-catch. According to Section 35 of the Fisheries Regulation Order 28 (2009), fishing vessel operators must report the "total catch by species (target and non-target)". Vanuatu has made the submission of logbook data a requirement of all fishing permits. Until recently, logbook records were physical paper records that needed to be faxed or posted to VFD on return from each fishing trip. However, e-logbook data can now be sent electronically, which has increased compliance, and allows for more real-time monitoring. Compliance rates for submitting log-book data in the off-shore fleet is now close to 100%. Data is entered into the TUFMAN2 database hosted by the Pacific Community (SPC). The TUFMAN (Tuna Fisheries Data Management System) is a cloud-hosted, web database developed for Pacific island countries to manage their tuna fishery data. This database allows sharing of data across jurisdictions and has facilitated the ability of VFD to report to the RFMOs. For the paper forms, the Vanuatu government uses the standard logbook form developed by SPC and the data fields are compatible with the TUFMAN2. There are some limitations on the form. For example, the 2009 version of the logbook did not have shark species individually listed. The 2014 version of the logbook form corrected this, and now all species of shark can be easily reported. The Vanuatu government is currently trialling an e-logbook that was developed and is supported by a Taiwanese company. Within the e-logbook there is the option to add additional data fields, while keeping the compatibility with the database. There is, therefore, scope to add data fields to record additional information on interactions or observations of seabirds, sharks and turtles and mitigation devices or methods used during fishing trips.

There are several standard methodologies for verifying log-book data. One is to have observers on board the vessels. The Vanuatu Observer programme for Vanuatu flagged vessels began in 2008 and observers have been placed on both purse seine and longline vessels in the Vanuatu flagged fleet. RFMO's require 100% observer coverage on purse seine vessels and a minimum of 5% observer coverage on long line vessels. VFD has stated in the revised tuna Fisheries Management Plan that it has aspirations to increase the observer coverage to 20% on longline vessels. Vanuatu uses the number of days fished to calculate the observer coverage. In 2019 there were more than 50 observers trained and deployed on vessels. The Vanuatu observers receive regular training at the Vanuatu Maritime College. This training includes recording catch and by-catch of species of special interest (SSI), including seabirds, sharks and turtles. SPC, FFA and WCPFC have supported training in the past.

Vessels are identified for observer placement depending on previous reports. If a vessel is identified as a vessel of interest for engaging in activities that seem suspicious, then this is a vessel likely to be recommended for observer placement. An observer can stay onboard a vessel for the whole duration of its trip from (2 - 9 months) or return earlier as required.

The cost of the observer programme has been an impediment to it being expanded further. VFD has amended the Fisheries Act to allow for cost-recovery programmes to fund this compliance measure, as there had been issues with the fishing companies taking too long to pay the observers after a fishing trip. The payment of observers has been transferred to the Government, and the Government now retrieves the funds from the fishing vessels, rather than the observers being paid directly from the fishing operators.

The COVID-19 pandemic disrupted the observer programme as border closures from March 2020 to July 2022 made it difficult to deploy new observers and to repatriate those who had finished their deployment. In addition, the RFMOs suspended the requirements for observers during the pandemic. Although no such suspension in the national law was made, the lack of flights in and out of Vanuatu made access to market for tuna landed in Vanuatu very difficult. Subsequently, vessels were allowed to off-load their catch in Fiji. This made it difficult to deploy and

repatriate observers, and the deployment was suspended. In 2020, there was only one observer trip prior to the pandemic, and thereafter there was no observer coverage. In mid-2022, observers were deployed on two of the six locally-based foreign fishing vessels and, by the end of 2022, the coverage had returned to 100% on these 6 longline vessels. In 2023, all observers were deployed to the rest of the fishing fleet and the programme is back at pre-pandemic levels.

Electronic monitoring to supplement or replace human observers was piloted on Vanuatu flagged vessels, with assistance from Australia, New Zealand and the United States of America. This method of observation can reduce the cost, mitigate safety concerns for human observers, and can be continued in situations where human observers are unavailable, such as during a pandemic. During the pilot there were only two observers in the observation unit at VFD and there were not enough monitoring stations to monitor all vessels. There was also a lack of human resources to analyse the data. Currently there is no e-monitoring as no funds are available to pay for the software needed now that the pilot has ended. Re-instating and expanding an e-monitoring system is a goal of VFD, however financing this is an impediment.

It can be difficult for the VFD to access observer data from foreign vessels fishing in Vanuatu's EEZ. There have been difficulties accessing the data from observers on boats fishing in multiple EEZs as the observers are from foreign states and not Vanuatu. This is despite Vanuatu being part of the regional observer programme. It can be hard to establish which data relates to which EEZ if multiple EEZs are fished in the one fishing trip. E-logbooks and daily reporting will help address this, as has the development of the TUFMAN2 database, which allows for increased access to data and reports. Currently it is difficult to calculate the observer coverage of foreign vessels fishing in Vanuatu's EEZ. Information is available for the location of observed sets (when an observer is on board at the time of a set) – 512 sets were observed within the Vanuatu EEZ in 2012 and 298 sets were observed in 2022. These data have been plotted on the maps in Figures 1 and 2.

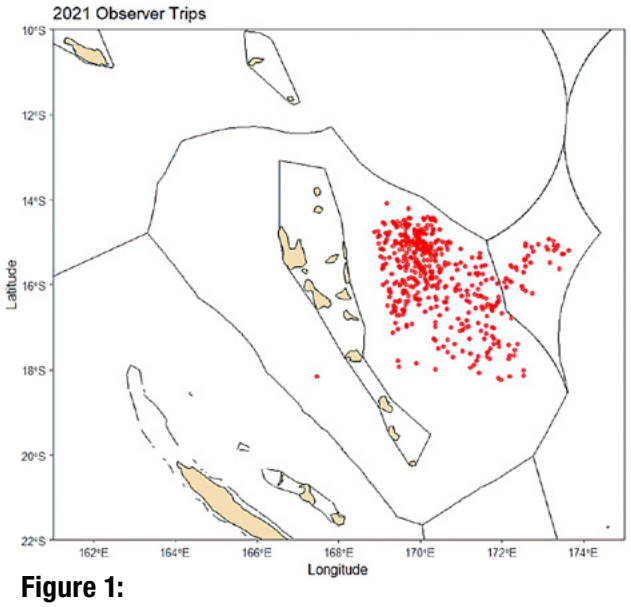


Figure 1:
Observed sets recorded in Vanuatu's EEZ in 2021

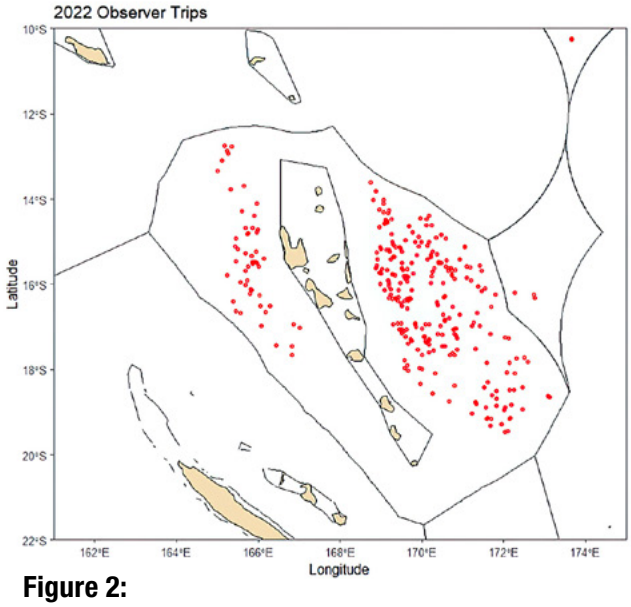


Figure 2:
Observed sets recorded in Vanuatu's EEZ in 2022

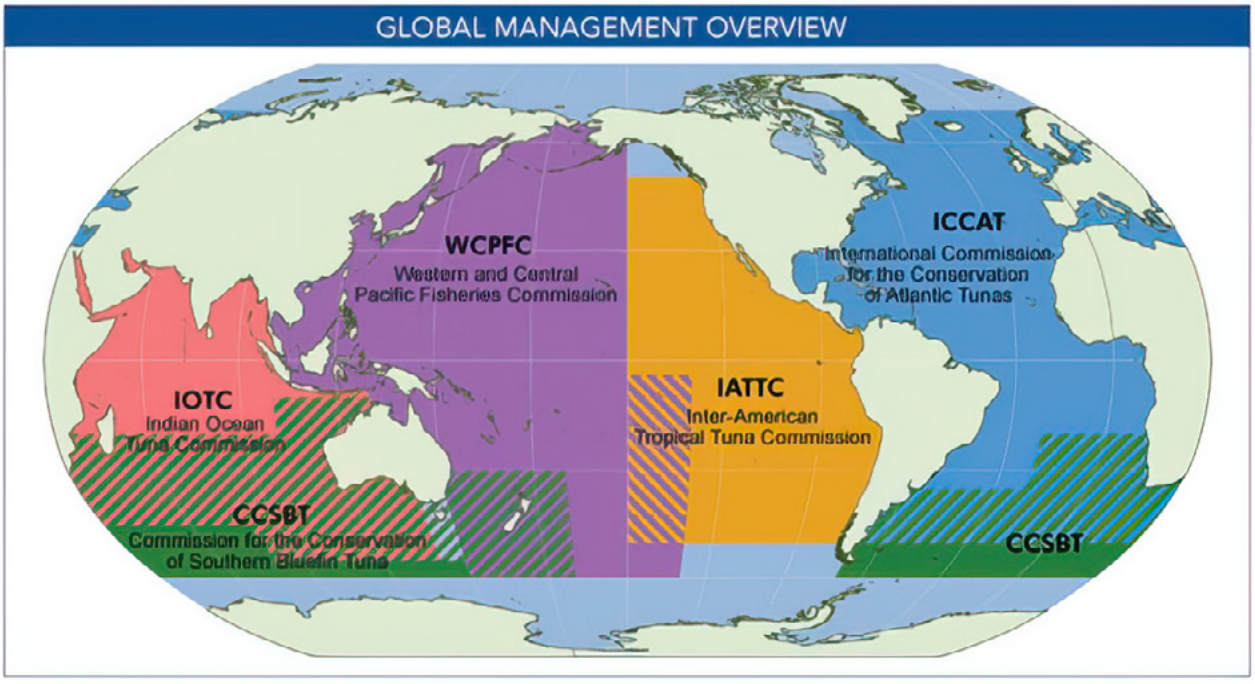
In the VFD compliance division different officers handle different datasets. For example, one is responsible for logbook data from Vanuatu's EEZ and another observer data. Although the observer data is a means to verify the logbook data, they are rarely compared. A reporting template to produce an annual internal report comparing data sets and trends would be useful to report the comparisons.

All signatory countries have an obligation to ensure CITES regulations are being complied with. Currently the observers are not asked to check compliance to CITES, including checking whether conditions specified in CITES permits are being adhered to. This should be incorporated into the duties of the observers, particularly considering the number of sharks now listed in CITES Appendix II.

Port inspections, both prior to, and at the end of fishing trips, and off-loading records are another means to verify log-book data. These inspections should include examination of by-catch data and inspection of mitigation gear on board the vessel. As the majority of Vanuatu flagged vessels off-load in other jurisdictions, this relies on authorities in those jurisdictions carrying out the inspections on behalf of Vanuatu. However, some of the bilateral agreements are not yet in place to allow for joint inspections of vessels or sharing of data. An MOU is being negotiated with Fiji. Agreements are also required with Samoa. In July 2017, during a technical meeting for fisheries cooperation, Taiwan agreed to provide Vanuatu with inspection of landing and/or transhipment data collected at Taiwanese ports. In September 2022, VFD officers travelled to Taiwan to carry out inspections on Vanuatu flagged vessels. VFD are in negotiations with a private company in Taiwan to carry out inspections on behalf of Vanuatu. Observers and port inspections also have a role to play to ensure compliance with gear restrictions and operational measures required by CMMs. Data from compliance measures is held on the TUFMAN2 online database hosted by SPC and the sharing of data across jurisdictions has facilitated the ability of VFD to report to the RFMOs. However, more collaboration with other jurisdictions could improve compliance and the conservation of seabirds, sharks and turtles.

Regional Fisheries Management Organisations (RFMOs) conventions

Figure 3. Map of the RFMOs [source: pewtrusts.org]



Western and Central Pacific Fisheries Commission (WCPFC)

Currently, there are 77 Vanuatu flagged vessels with licenses to fish in WCPFC area, including 61 long line vessels and 8 purse seiners. Six of the longline vessels are locally based foreign fishing vessels. Not all vessels are active.

Observer coverage:

Purse seine fishing vessels fishing within the WCPFC Convention area are required to have 100% observer coverage. Longline fisheries within the Convention area are required to have at least 5% observer coverage. These requirements were suspended during the COVID-19 pandemic until regular placement was restarted in 2023.

The locally based foreign fishing vessels are required by Vanuatu law to land 100% of their catch in Vanuatu and have 100% observer coverage. During the COVID-19 pandemic, the border restrictions and lack of flights

for exporting the catch made it difficult for the locally based vessels to off-load in Vanuatu. Therefore, the catch was unloaded in Fiji. During 2021 there were no observers on board. In mid-2022, two out of the six vessels had observers on board, and by the end of 2022 observer coverage had returned to 100%.

Table 3 shows the observer coverage for Vanuatu vessels from 2016 to 2020. In 2016 and 2017 there were problems with the sharing of data from other jurisdictions and SPC. Real time e-reporting has improved this.

Table 3: Observer coverage as reported to the WCPFC, using number of days fished that were observed for longline vessels and number of trips observed for purse seine vessels.

	% Observer coverage in longline fleet	% Observer coverage in purse seine fleet
2016	2%	Not reported
2017	2%	Not reported
2018	6.6%	100%
2019	6.2%	90.7
2020	1.1%	51%
2021	No placements due to COVID-19	No placements due to COVID-19
2022	No placements due to COVID-19	No placements due to COVID-19

Conservation and Management Measures (CMMs)

The following CMMs for seabirds, turtles, sharks and mobulid rays are active for fishing vessels fishing in the WCPFC region:

- CMM 2018-03 Conservation and Management Measure to mitigate the impact of fishing for highly migratory fish stocks on seabirds[4].
- CMM 2018-04 Conservation and Management of Sea Turtles[5].
- CMM 2019-04 Conservation and Management Measure for Sharks[6].
- CMM 2019-05 Conservation and Management Measures on Mobulid Rays caught in association with fisheries in the WCPFC Convention Area[7].

The CMM 2019-04 contains specific measures for oceanic whitetip sharks, silky sharks and whale sharks. The WCPFC has also published safe handling guidelines for turtles [8,9], whale sharks[10], other sharks[11], seabirds[12], mantas and mobulids[13]. These are available from the WCPFC website.

4 https://cmm.wcpfc.int/measure/cmm-2018-03
5 https://cmm.wcpfc.int/measure/cmm-2018-04
6 https://cmm.wcpfc.int/measure/cmm-2019-04
7 https://cmm.wcpfc.int/measure/cmm-2019-05
8 https://cmm.wcpfc.int/supplementary-info/supplcmm-2018-04-1
9 https://cmm.wcpfc.int/supplementary-info/supplcmm-2018-04-2
10 https://meetings.wcpfc.int/node/7865
11 https://cmm.wcpfc.int/supplementary-info/supplcmm-2022-04-2
12 https://cmm.wcpfc.int/supplementary-info/supplcmm-2018-03
13 https://cmm.wcpfc.int/supplementary-info/supplcmm-2019-05

The Nauru Agreement (PNA)

When Vanuatu flagged purse seine vessels are fishing in the EEZs of Parties to the Nauru Agreement (PNA), they must adhere to the stricter controls that are required by these countries, including: 100% observer coverage; all the catch must be landed within PNA countries; and temporal and special closures must be used on purse seines set on FADs.

Inter-American Tropical Tuna Commission (IATTC)

There are currently 30 longline vessels carrying the Vanuatu flag registered to fish in the IATTC area, and one carrier, and one bunker vessel. In 2022, VFD submitted a scientific observer report for the Vanuatu tuna longline fishery in the Antigua Convention area to the IATTC commission. This report also contained data on the by-catch of turtles, seabirds and sharks and rays.

The requirement for longline fishers in IATTC is a minimum of 5% observer coverage by fishing effort. Longline fishing effort is defined as the number of effective days of fishing or hooks deployed. The recommendation from the Scientific Advisory Committee of the Commission was to use the 'number of hooks' methodology for determining fishing effort and recommends 20% observer coverage, recognising that electronic monitoring could supplement human coverage. The available data for the Vanuatu fleet is provided in Table 4. In 2019, observer coverage of >5% was only achieved if using the method of 'percentage of vessels'. No observers were placed on vessels in 2020, 2021 and 2022 because of the COVID-19 pandemic.

Table 4: Observer coverage for Vanuatu flagged longline fishing vessels as reported to the IATTC.

	% Observer coverage by number of hooks	% Observer coverage by number of sets	% Observer coverage by number of days fished	% Observer coverage by number of trips	% Observer coverage by number of vessels
2018	2.63%	5.19%	5.19%	2.35%	9.09%
2019	2.99%	4.47%	4.46%	1.64%	8.00%
2020	0	0	0	0	0
2021	0	0	0	0	0
2021	0	0	0	0	0

The following CMM for seabirds, turtles, sharks in general, silky sharks, oceanic whitetip sharks, mobulid rays and whale sharks are active for fishing vessels fishing in the IATTC region:

- C-04-07 Resolution on a three-year program to mitigate the impact of tuna fishing on sea turtles.
- C-05-03 Resolution on the conservation of sharks caught in association with fisheries in the eastern Pacific ocean.
- C-11-02 Resolution to mitigate the impact on seabirds of fishing for species covered by the IATTC.
- C-11-10 Resolution on the conservation of oceanic whitetip sharks caught in association with fisheries in the Antigua Convention Area.
- C-15-04 Resolution on the conservation of mobulid rays caught in association with fisheries in the IATTC Convention Area.
- C-16-04 Amendment to C-05-03-Sharks.
- C-16-05 Resolution on the management of shark species.
- C-19-04 Resolution to mitigate the impacts on sea turtles.
- C-19-06 Whale sharks.
- C-21-06 Conservation measures for shark species, with special emphasis on the silky shark, for the years 2022 and 2023.

The North Pacific Fisheries Commission (NPFC)

The Convention on the Conservation and Management of the High Seas Fisheries Resources in the North Pacific Ocean came into effect in July 2015.

Four Vanuatu flagged vessels operate in the NPFC region targeting Pacific saury and neon flying squid in the NPFC Convention area and targeting Argentine shortfin squid in the southwest Atlantic Ocean and Falkland Island EEZ (fisheries cooperation). All four vessels are jiggers and operate stick held dip nets to catch pacific saury, handlines to catch neon flying squid, and jigging machine to catch Argentine shortfin squid. Vanuatu vessels have been fishing this fishery since 2004. Since 2020, the Vanuatu Pacific saury fishing fleet have reported the fisheries data daily via the e-logbook system. VFD reported to NPFC in 2021. There is no information on by-catch of seabirds, sharks or turtles. As none of the Vanuatu flagged vessels are bottom fishing in this fishery, there is no requirement for observers nor for reporting by-catch. There are plans to have observer coverage on these vessels.

South Pacific Regional Fisheries Management Organization (SPRFMO)

Vanuatu is a member of SPRFMO. For several years there were no vessels fishing within this Convention area, however, Vanuatu continued its membership should Vanuatu flagged vessels want to fish in the SPRFMO area in future. In 2023, there were 12 carriers and 3 bunkers operating within the SPRFMO region.

International Commission for the Conservation of Atlantic Tunas (ICCAT)

Vanuatu is not currently a member of ICCAT. Six Vanuatu flagged vessels are currently chartered to Namibia and operate in the ICCAT Convention area. Namibia is responsible for the compliance of these vessels.

Marine Stewardship Council (MSC) certification

With the increasing consumer awareness of the impact of fishing, certification programmes such as the Marine Stewardship Council (MSC) are helping to give economic incentives to achieve better management and protection of SSI species. VFD have begun consultations about certification schemes for Vanuatu's fishing activities. Some companies with Vanuatu flagged vessels are applying for certification. As part of the certification process, data, such as observer data, needs to be supplied from VFD to MSC. This may help improve observer coverage within the fleet and assist with funding the observer programme. One impediment to companies reaching MSC standards is the lack of data that VFD has from observers and port inspections that can be used to verify good fishing practices.

SECTION II

The status and current knowledge of seabirds, sharks and turtles in Vanuatu and globally.

The Collared petrel *(Pterodroma brevipes)* nests on Mount Sereama on Vanua Lava in the Banks Islands. **Credit: J. Rossouw**

SEABIRDS

Seabirds are defined as birds that feed over the open ocean at some point in their lifecycle. Many of them travel vast distances, either in search of food or when migrating between breeding and non-breeding foraging grounds. They utilise both the open ocean and land, and cross jurisdictions. This exposes them to multiple threats. The life history traits of many seabird species mean they are slow to recover from any population decline. They are long-lived, slow to reach maturity and therefore to reproduce, and they may only lay one egg every one to two years. They play important roles within the ecosystem and have cultural significance. For example, seabirds have been used for generations by fishers to find their fish catch. Seabirds make a significant contribution to Vanuatu's biodiversity, and as such it is beholden on the Government and Ni-Vanuatu stakeholders to ensure these birds are protected and conserved for future generations.

In the 1980s and 1990s it was recognised that many seabirds were being killed by interacting with commercial fishing activities, particularly in the longline fishery. Seabirds are attracted to fishing activity by baits, fisheries catch as it is being hauled, and by discards. When attempting to forage they can be incidentally caught in the fishing gear. To address the mortality within fisheries, FAO adopted the International Plan of Action for Reducing Incidental By-catch of Seabirds in Longline Fisheries (IPOA-Seabirds) in 1999. In 2009 the plan was extended to cover all types of fishing gear. The IPOA-Seabirds sets out the international standards for mitigating the losses of seabirds due to by-catch. The Plan states that each fishing nation should assess their fishery to identify if a problem exists with respect to the incidental by-catch of seabirds, and to adopt a National Plan of Action to address it. Having a national plan of action for seabirds fulfils Vanuatu's voluntary commitment to the FAO Code of Conduct for Responsible Fishing and obligations under UNCLOS. Fishing activity continues to impact populations of seabirds, with albatrosses and petrels at particular risk. Many of these species are threatened with extinction globally.

Threats to seabirds

Globally, seabirds face threats both on land and at sea. At nesting sites, threats to seabirds include:

- Invasive species, for example, cats, rats, fire ants and dogs predate the nests for eggs, chicks or adult birds.
- Loss of suitable habitat due to land use change and development.
- Unsustainable harvest of eggs, chicks or adult birds for local consumption or for local, national or international trade.
- Climate change, including effects on habitat, as well as direct effects of mortality due to cyclones and drought.
- Pollution, including from artificial light.
- Disease.
- Volcanic eruptions.

Seabirds also face threats at sea, when foraging or migrating. The major threats impacting seabirds at sea are:

- Incidental by-catch in fisheries.
- Prey depletion from overfishing.
- Artificial light from vessels or marine infrastructure causing collisions.
- Ingestion of, or entanglement in marine debris, particularly plastic.
- Climate change causing direct effects, or effects on prey distribution and abundance.
- Oil spills and pollution.

Of particular concern is that the foraging grounds for several threatened albatrosses and petrels overlap with the fishing activities of Vanuatu flagged vessels outside Vanuatu waters. This includes the foraging grounds of the highly threatened Antipodean albatross, and this species has been recorded as having interactions with Vanuatu flagged vessels.

Seabirds in Vanuatu

Status

Thirty species of seabirds are known to occur in Vanuatu. Some are resident all year round, and some migrate through Vanuatu waters or are vagrants. A recent study has demonstrated that the Vanuatu petrel *(Pterodroma occulta)* is a distinct species from the white-necked petrel *(P. cervicalis)* and is endemic to Vanuatu[14]. The only known nesting site for *P. occulta* is on the island of Vanuatu Lava in the Banks Islands in the north of the country. It forages in the ocean between Vanuatu and Fiji, an area that overlaps with significant fishing activity. Local communities report observations of the Vanuatu petrel nesting on Mere Lava, another remote island of the Banks group. Appendix 1 lists the seabirds found in Vanuatu. The list was developed using information from the Global Biodiversity Information Facility (GBIF) and E-Bird databases. Appendix 1 lists the birds that have been confirmed in Vanuatu and gives their conservation status, as stated on the IUCN Red List. The collared petrel *(Pterodroma brevipes)* is classed as Vulnerable. IUCN is yet to recognise the Vanuatu petrel as a separate species and the "combined" species of the Vanuatu and the white-necked petrel is also vulnerable to extinction. Once the taxonomic confirmation has been accepted, these two species will be assessed using the Red List criteria as separate species. It is likely that the Vanuatu petrel warrants an Endangered rating due to its restricted range. The white-winged petrel *(Pterodroma leucoptera)*, breeds in New Caledonia and off eastern Australia and is a known migrant. The providence petrel *(Pterodroma solandri)*, which breeds on Lord Howe and Phillip Island off Australia, also ranges through Vanuatu waters. Both species are rated Vulnerable to extinction. The Polynesian storm-petrel *(Nesofregetta fuliginosa)*, also ranges through Vanuatu and is listed as Endangered.

Significant gaps exist in our knowledge of the seabirds that use Vanuatu waters. There are several species that are likely to occur in Vanuatu but have not been confirmed in recent observations (see Appendix 2). Likewise, information about many of the confirmed Vanuatu species is scant. A lack of basic information such as whether other species breed on Vanuatu's islands or where important habitat is located, hinders protection and conservation efforts. Filling these data gaps by conducting scientific studies and harnessing local indigenous knowledge will aid conservation and allow effort to be directed to where it will have the most impact.

There are several large nesting colonies of seabirds in the Vanuatu islands. Wedge-tailed shearwaters *(Ardenna pacifica)* nest on the islands of Laika and Tevala, close to Tongoa in the Shepard Islands. The collared petrel and Vanuatu petrel have nesting areas on Mount Sereama on Vanua Lava in the Banks Islands, and white-necked petrel nest on Mount Tukusmera on Tanna in Tafea province. The petrels in these sites are one of the trigger species that define these sites as Key Biodiversity Areas (KBAs) and Important Bird Areas (IBAs). A marine IBA/KBA around Vanua Lava is triggered by the white-necked petrel foraging grounds around this island. The Polynesian storm-petrel is the trigger species for two further KBAs in Tafea province, namely Aneityum and Green Hill on Tanna.

A traditional harvest of wedge-tailed shearwater chicks occurs on Laika. Recently, the number of birds harvested has increased to be sold for commercial sale in Port Vila, with anecdotal reports of export to neighbouring countries. A recent project conducted by Birdlife International in conjunction with local NGOs has assessed the populations of wedge-tailed shearwaters on Tongoa and petrels on Tanna with the view to ascertain the level of harvest that can be sustained by these populations of seabirds and develop a conservation plan. This work is ongoing. There is also research being undertaken looking at potential ingestion of plastic by shearwaters on Tongoa/Laika. Research on local and international trade in seabirds is needed to understand whether this constitutes a significant threat to seabirds in Vanuatu.

The importance of seabirds to Vanuatu's biodiversity is reflected in the fact that seabirds are cited in the justification for six Special and Unique Marine Areas (SUMAs). The six SUMAs are listed in Appendix 3 with information on how the presence of seabirds influenced the justification.

14 Vaughan PM, Bird JP, Bretagnolle V, Shirihai H, Tennyson AJD, Miskelly CM, Clarke RH 2024. A review of records and research actions for the poorly known Vanuatu Petrel *Pterodroma [cervicalis] occulta*. Bird Conservation International, 34, e9,1–7 https://doi.org/10.1017/S0959270923000382

The National Biodiversity Strategy and Action Plan (NBSAP) calls for improvements to the management of Vanuatu's marine resources. Seabirds are listed as important marine species in all six provinces. The policy also calls for the government to work closely with chiefs, community leaders and landowners to encourage the protection of the wedge-tailed shearwater in Shefa province. Collared petrel are specifically listed as species to conserve on Tanna and collared petrels and the Vanuatu/white-necked petrel are specifically listed as species to conserve on Vanua Lava. Traditional harvest of these species is practiced by the local population.

Protecting these important seabird sites, identifying others for protection, and encouraging local communities to monitor and take guardianship of these sites will reduce the extinction risk and increase the likelihood of seabirds thriving in Vanuatu. DEPC is trialling ranger tool kits which will capture data about species within community conservation areas (CCA). This tool could be used to monitor seabird colonies. Volunteer rangers, mostly recruited from existing environmental networks are being trained, however more training will be needed in species identification to ensure the data is reliable. DEPC plans to incorporate this into the Department structure and to have two paid rangers for every CCA.

Seabirds in some of these sites may meet the criteria for trigger species for Key Biodiversity Areas (KBAs) and should be assessed against the Global Standard for the Identification of KBAs (published in 2016). Seabird monitoring data from these sites should be kept up to date to ensure that there is enough data for the sites to continue to be included in the global KBA database.

Protection of seabirds under Vanuatu legislation

The Wild Bird Act (1962) prohibits the killing of protected bird species listed in the Act. No seabirds are listed. The Act also prohibits the hunting of any species of bird at night and the importation of traps, nets or other devices for catching birds without a permit. The Act has not been revised for several decades. The DEPC are currently revising the regulation under the Environmental Management and Conservation Act and plan to repeal the Wild Birds Act (1962) and incorporate protection for birds under the species regulations in the Environmental Management and Conservation Act regulations. There is an opportunity to ensure protection for threatened species and incorporate important seabird colonies into the new regulation. Consideration should be given to protecting all native species as a default position and require a permitting process for harvesting or use.

As previously mentioned, albatrosses and petrels are the subject of the CMS Agreement for the Conservation of Albatrosses and Petrels (ACAP). Should Vanuatu become a signatory, this could improve protection for these species of seabirds.

Seabird interactions with fisheries

Incidental by-catch of seabirds in pelagic fisheries is one of the largest threats to seabirds. By-catch occurs both within Vanuatu's EEZ and by Vanuatu flagged vessels operating on the high seas and in other jurisdictions. Fifty-five species of seabirds that are threatened with extinction use the waters of the WCPFC area and are at risk of by-catch. The most vulnerable to by-catch are albatrosses, shearwaters and petrels. The species are listed in Appendix 4.

Members of the RFMOs operating longline vessels are required, to the greatest extent possible, to implement the International Plan of Action for Reducing Incidental Catches of Seabirds in Longline Fisheries (IPOA-Seabirds). To reduce the incidental catch of seabirds it is essential to reduce the number of encounters between seabirds and baited hooks.

By-catch of seabirds in longline fishing gear can be reduced by implementing measures designed to prevent birds from interacting with the baited hooks. This can be done by deterring the birds from going near the baits with the use of tori lines. Hooks within 10 metres of the sea surface represent the greatest danger for seabirds. Measures to make the line sink faster, such as weighting the line, using bait that is not frozen (less buoyant), and reducing the tension on the line during roll-out reduces the risks, as does ensuring there is no offal or discards in the water at the time of setting or hauling the lines. Hook shielding devices have recently been developed and are designed to

cover the hook until it is beneath the foraging depth of most seabirds. As seabirds are most active during the day, setting lines at night can also reduce by-catch.

The ACAP reviewed the mitigation measures for reducing by-catch of seabirds and published the results in 2021. ACAP's best practice advice is that the simultaneous use of weighted branch lines, bird scaring lines and night setting is the most effective approach to mitigate seabird bycatch in pelagic longline fisheries[15]. Three hook-shielding devices and one underwater bait setting device have recently been assessed and included in the list of best practice measures for mitigating seabird by-catch in pelagic longline fisheries. These best practice by-catch mitigation measures should be applied in areas where fishing effort overlaps with seabirds vulnerable to by-catch, to reduce the incidental mortality to the lowest possible levels. Incorporating requirements for mitigation measures into the gazetted CMMs under the fisheries regulations and ensuring vessel compliance will result in reduced by-catch.

When fishing in the WCPFC area, fishing vessels are required to adhere to CMM 2018-03 Conservation and Management Measure to Mitigate the Impact of Fishing for Highly Migratory Fish Stocks on Seabirds (CMM-Seabirds). This CMM replaced previous CMMs for seabirds in 2018 but does not reflect best practice measures as advised by ACAP. RFMOs regularly review CMMs to ensure objectives of reducing by-catch are being met, and both WCPFC and SPRFMO are reviewing their seabird measures from 2024.

The current CMM-Seabirds[16] stipulates the mitigation measures that vessels are required to deploy in four different geographical areas within the WCPFC region:

- South of 30° south
- 30° south to 25° south
- 25° south to 23° north, and
- north of 23° north.

The 25°S to 30°S area was added to the CMM-Seabirds in 2018, as was the option to use hook-shielding devices as a standalone measure.

Observer data collection of seabird interactions and by-catch is a requirement under the WCPFC Convention. Seabirds that interact with fisheries should, ideally, be identified to species level. Members must also report the observation effort, the mitigation measure used to reduce by-catch and mortality per effort (catch per 1,000 hooks). In Vanuatu's reports to the WCPFC, the data on seabirds has either been incomplete or missing, although this improved after 2018, until the observers were recalled in March 2020 due to the COVID-19 pandemic. Compliance on the required mitigation measures deployed by longline vessels flagged by Vanuatu are given in Table 5.

15 https://www.acap.aq/bycatch-mitigation/mitigation-advice/3956-acap-2021-pelagic-longlines-mitigation-review-bpa/file
16 https://cmm.wcpfc.int/measure/cmm-2018-03

Table 5. Reported mitigation measures to reduce seabird by-catch

Area		South of 30°S	25°S - 30°S	25°S - 23°N	North of 23°N	Type of mitigation used
Number of measures required		2	1a	1b	2	
% of sets that were compliant with mitigation measures	2016	No Mitigation measures reported to WCPFC				
	2017	No Mitigation measures reported to WCPFC				
	2018	74%	91%	63%	No sets with mitigation measures reported	Night set only
	2019	60%	100%	100%	0 sets reported	WB, NS, BC, MOD
	2020	No mitigation measures reported because there were no observers due to COVID-19.				
	2021	No mitigation measures reported because there were no observers due to COVID-19.				

Mitigation measure abbreviations:

NS – Night set, BC – Bird curtain, WB – Weighted branch lines, MOD – Management of offal discharge
DSLS – Deep setting line shooter, TL – Tori Line

a – 1 measure encouraged before 2020. 1 measure required from 2020 (not including night set) and required only outside of PICT EEZs.

b – 1 measure encouraged but not required by WCPFC.

Similar measures are required by vessels fishing in the IATTC region. When fishing north of 23°N or south of 30°S (with some exceptions), vessels must use at least two mitigation measures as set out in resolution C-11-02 Resolution to mitigate the impact on seabirds of fishing for species covered by the IATTC. Outside these latitudes, vessels are encouraged to use at least one mitigation measure.

Records of seabird interactions with the commercial offshore fishery are obtained from observer data and logbooks from Vanuatu flagged vessels, and observer data and logbooks on foreign-flagged vessels operating in Vanuatu's EEZ (shared by other jurisdictions).

Seabird CMMs and identification of seabirds are included in the training given to observers in the Vanuatu Observer Programme. Identification guides are given to observers.

Most data on seabird interaction with the Vanuatu fishing fleet and fishing vessels in Vanuatu waters comes from observer data. Logbooks, including e-logbooks, have a data field to add information about "other species", but seabird interactions are rarely reported in logbook data. The only seabird observer data available is from observers on Vanuatu flagged vessels, and this has only been available since 2018. There was no observer coverage after March 2020 through 2021 due to the COVID-19 pandemic. No seabird interactions were reported by observers on the foreign fleet fishing in Vanuatu's EEZ. Table 6 gives the available by-catch observations made by the observers on Vanuatu flagged vessels.

Table 6. Seabird interactions with fishing gear as reported by observers on Vanuatu flagged vessels, by number of individuals seen. There has been no observer coverage since March 2020 because of the COVID-19 pandemic. Before March there was only one observed trip in 2020.

	2018	2019	2020	2021	2022
% observer coverage	6.6%	6.2%	1.1%		
Laysan albatross	2	7	-	-	-
Black-footed albatross	-	2	-	-	-
Albatross not elsewhere included	2	27	-	-	-
Gulls – terns and skuas	1	-	-	-	-
Petrels and shearwaters not elsewhere included	-	9	-	-	-
Parkinson's petrel	-	1	-	-	-
Boobies and gannets not elsewhere included	-	-	-	-	-
Bird (unidentified)	1	1	-	-	-
Total	6	47	0	0	0
% Identified to species level	33%	21%	0	0	0

Of these reported interactions, three were reported from the IATTC region: one Parkinson's petrel and one unidentified bird in 2019, and one Laysan albatross in 2018. The rest of the reports were from the WCPFC region.

Members of the WCPFC and IATTC are encouraged to adopt measures aimed at ensuring seabirds captured alive are released alive in as good a condition as possible. The WCPFC has published guidelines for the safe handling and release of seabirds[17]. Only one albatross (not identified to species) was reported as alive and released in 2019. All the remaining reports refer to dead birds.

Observers also report sightings of seabirds and Table 7 shows the sightings reported from 2018 to 2020.

Table 7. Seabird sightings as reported by observers on Vanuatu flagged vessels. There has been no observer coverage since March 2020 because of the COVID-19 pandemic. Before March there was only one observed trip in 2020.

Species	2018	2019	2020
Laysan albatross	-	134	-
Black-footed albatross	7	62	-
Albatross not elsewhere included	40	20	-
Gulls – terns and skuas	90	222	80
Petrels and shearwaters not elsewhere included	32	100	-
Parkinson's petrel	-	-	-
Boobies and gannets not elsewhere included	-	26	6
Bird (unidentified)	-	21	-
Total	169	585	86
% Identified to species level	4%	33%	0%

17 https://cmm.wcpfc.int/supplementary-info/supplcmm-2018-03

The data shows that seabirds are by-caught by Vanuatu's fleet but due to the scarcity of available data, the extent of the by-catch is not well understood. More information is needed at species level to understand the threat posed by Vanuatu's fishing activities, and to establish a baseline to measure effectiveness of any mitigating measures implemented. In addition to reporting absolute numbers annually, it would be useful to report by-catch of each species of seabird by the measure of birds caught per unit effort (e.g. per 1,000 hooks). This would allow for comparisons across years as well as comparison between logbook data and observer data. Reports should include: number of vessels; number of hooks; observed hooks; number and species of seabird captures. This then allows for calculation of % hooks observed and rate of capture of seabirds to be calculated. It would also be useful to know the geographic spread of the observer coverage and how the coverage relates to fishing effort. This will lead to a better understanding of where the interactions are being reported from and whether the monitoring is occurring in the areas where the seabirds are most vulnerable to by-catch.

Fisheries compliance officers have spoken to the Vanuatu observers about the reporting of mitigation measures and recording observations. It appears that there is some confusion amongst the observers between the different mitigation measures used by the vessels. It is generally known that most of the Vanuatu flagged longline vessels should be using tori lines. However, in the data, only one trip in 2013 was reported as using tori lines. The data suggests most vessels use bird curtains. It would seem these two mitigation methods are being wrongly reported. Some of the mitigation devices are relatively new, as is the requirement to report (2018). Improving training for observers on the mitigation devices and measures in use and supplying a guide would improve the reporting. Ensuring that pre-departure briefings include all CMMs for seabirds would also be of benefit.

Whilst there is recording of interactions of seabirds with fishing gear, the recording of observations of seabirds by observers has been limited. Observers cited the inability to identify the birds to species level when flying as the reason many observations of seabirds are not recorded. Improving training and equipment such as binoculars, cameras and identification guides would assist the observers to make more meaningful recordings of birds observed on fishing trips. The ACAP bird identification guide is available online and good photos can greatly assist identification by an expert if needed. It is noted that the Regional Observer Programme is currently reviewing its seabird identification guide.

Vanuatu flagged vessel operations overlap with the foraging sites of many seabirds. Albatrosses and petrels are most impacted by longline fisheries due to their vulnerable life history characteristics. Seabirds have a strong sense of smell and are opportunistic, especially as foraging opportunities in the open sea are limited. They follow fishing vessels for the chance of a free feed and can easily be hooked. Of particular concern is the overlap with albatross foraging areas in the west and central Pacific Ocean. Bose and Debski published a paper in 2021 demonstrating the overlap of the Antipodean Albatross (AA) with fishing effort including the overlap with Vanuatu flagged long-liners fishing in the western and central Pacific[18]. Along with Chinese Taipei, Vanuatu flagged vessels overlapped the AA's range the most out of the eight countries with vessels operating in the region. AA are declining by 5% per year and are a conservation priority for the New Zealand government as they breed in New Zealand and are listed as endangered. They are also listed on Appendix 1 of the CMS and are an ACAP priority species. The paper showed that AA, particularly females, range north of 25°S where there is no mandatory requirement for seabird mitigation measures. There is direct evidence of interaction of AA with fishing vessels, as birds with trackers have been caught by Vanuatu flagged vessels. New Zealand has expressed a desire to work with fishing nations whose fleets are most likely to impact this species to reduce the threat of by-catch in the longline fisheries, one of the main drivers of the species decline. Contact has been initiated between the Ministry of Primary Industries of New Zealand and VFD. VFD have indicated their willingness to participate in a programme to address the threats to AA.

The Vanuatu petrel has been identified as a species in its own right and no longer consider a sub-species of the white-necked petrel. It is endemic to Vanuatu and forages between Vanuatu and Fiji. This is also an area of significant fishing activity by longline vessels, Although gadfly petrels, the group to which the Vanuatu petrel belongs, are not known to be vulnerable to by-catch, it highlights the importance of identifying seabirds that are caught, to establish whether this is true for this newly described species and if so, the threat can be eliminated.

18 Bose S. and Debski I. 2020, Antipodean albatross spatial distribution and fisheries overlap 2020. https://www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/marine-conservation-services/reports/final-reports/antipodean-albatross-fisheries-overlap-2020.pdf

The WCPFC CMM-Seabirds requires different rules in different geographical areas within the regions. Best practice is to use three mitigation devices. If mitigation devices were used beyond where they were required by the RFMOs, this would reduce the risk of by-catch of the AA, the Vanuatu petrel and other seabirds. As examples, Australia requires stronger measures than those stipulated in the CMMs of the RFMOs for vessels fishing in their waters. Vanuatu could simplify the requirements and implement a universal requirement for all longline vessels fishing for highly migratory fish stocks either fishing within the Vanuatu EEZ or those that are Vanuatu flagged vessels fishing outside Vanuatu's EEZ. This will follow best practice and make compliance and reporting easier for VFD. Requiring the following mitigation measures would reduce incidence of by-catch whilst keeping Vanuatu compliant with the WCPFC's CMM and IATTC resolution for seabirds:

All vessels, fishing in all areas, must use the following three mitigation measures:

- Weighted branch lines;
- Tori lines;
- Setting of all hooks at night (note: night is defined as between nautical dawn and nautical dusk)

Or

- Hook-shielding devices that meet the minimum line weighting standard on 100% of hooks.

In addition, all vessels should not use bait that is still frozen and must not discharge fish waste during or immediately before setting.

Adopting these mitigation measures and strengthening data collection and reporting will reduce the risk of by-catch by Vanuatu's off-shore fishing fleet. These measures should be a requirement of the fishing licences and be incorporated into fisheries regulations.

Coastal fishery

Death or injury of seabirds can occur when they get entangled in fishing gear, either when it is actively fishing or when lost or discarded. Gillnets, line, traps and pots can all cause entanglement. Seabirds are also exposed to injury or death when foraging and consume a baited hook. The incidence of seabird by-catch in the coastal fishery in Vanuatu has not been studied. In 2016 VFD started a coastal catch monitoring programme named Tails. There is currently no data field for reporting seabird interactions. Therefore, no seabird data, interactions or sightings have been captured in the Tails database to date. Measures such as not leaving gillnets unattended, and not targeting known seabird foraging areas, can reduce the incidence of entanglement of seabirds.

Seabirds and tourism in Vanuatu

Bird tourism is not well developed in Vanuatu and unlikely, at its current level, to impact seabird populations. However, there is little data available on tourism involving seabirds in Vanuatu. Guidelines for how tourism operators should operate when interacting with seabirds will guide any future tourism operations and would be a good pre-emptive measure to ensure any new business is sustainable and does not put seabirds at risk.

Wedge-tailed shearwaters *(Ardenna pacifica)* nest on the islands of Laika and Tevala, close to Tongoa in the Shepard Islands. **Credit: T. Morris/SPREP**

Whale sharks *(Rhincodon typus)* are listed as endangered on the IUCN Red List of Threatened Species.
© Credit: Ishan Seafromthesky/Unsplash

Sharks

For the purpose of this document, “sharks” refers to all species in the class Chondrichthyes, which includes sharks, rays, skates and chimaeras. Sharks play important roles in keeping the marine ecosystem healthy, particularly those in the role of apex predators. Most shark species are slow growing, late to mature and produce few offspring. These characteristics of their life cycle are similar to seabirds and result in low rates of recovery if the population declines, making them particularly susceptible to overfishing. Many species of sharks are highly migratory. Some live in the pelagic ocean and some are found in coastal waters, often associated with coral reefs. Sharks are targeted in some fisheries globally but are also caught incidentally in capture fisheries targeting other species such as tuna. Assessments have shown that the ecological risk to many shark species is higher relative to most of the target species of tuna and billfishes. Sharks are also caught in coastal fisheries by commercial, artisanal and subsistence fishers. Game fishing and scuba diving can also involve interactions with sharks.

Globally, shark species are in decline and many shark species are threatened with extinction. The majority of sharks are taken as by-catch. However, unlike seabirds and turtles, they do have a value and there is an economic incentive to retain incidental catches of sharks. This can make the implementation of conservation measures more difficult and the requirement for compliance higher.

In response to the evidence of declining shark populations and the realisation that internationally coordinated effort is needed, FAO developed the International Plan of Action for the Conservation and Management of Sharks in 1999. The goal of the plan is “to ensure the conservation and management of sharks and their long-term sustainable use”. Under that plan, fishing nations that regularly catch sharks, either as the target of their fisheries or as by-catch, should develop their own National Plan of Action for Sharks. In 2009 the FFA, SPC and SPREP published the Pacific Island Regional Plan of Action for Sharks as a guide for Pacific island countries on the conservation and management of sharks and to help the countries develop their own NPOA-Sharks, as is called for in the IPOA Sharks. There is also a new Pacific Island Regional Marine Species Programme 2022–2026, which includes an Action Plan for sharks.

Threats to sharks

The major threats impacting sharks are:

- Targeted fishing – in some localities, sharks are the target of fishing effort. However, the targeting of sharks is prohibited within Vanuatu’s EEZ.
- By-catch in off-shore fisheries is the most significant threat posed to some shark species.
- Coastal fisheries may be a threat to species of shark that inhabit coastal waters.
- Habitat loss and degradation, for example of coral reefs, nursery or aggregating areas.
- Climate change as a direct impact or indirect impact on prey species or habitat.
- Superstition and fear.
- Pollution and marine debris.

Sharks in Vanuatu

Status

A review of the conservation status, biodiversity and value of sharks in Vanuatu has been undertaken by Archibald and Chin[19]. At the time of writing, this was still in draft form, but permission was given to use the information to compile the Vanuatu shark information in this document. Once peer review is completed, the final species list can be found at https://www.sharksearch-indopacific.org/vanuatu. Archibald and Chin conducted a desktop review of the scientific literature, analysis of fisheries data and citizen science evidence to create the checklist of Vanuatu sharks.

The review identified 58 shark, ray and chimaera species (chondrichthyans) that may occur in Vanuatu waters, as listed in Appendix 5. Sixteen were assessed as being confirmed and verified and thirty were likely to occur in Vanuatu but require verification. Of the remaining species, nine were considered plausible and three unlikely to occur in Vanuatu's EEZ. Less than a third of the shark species thought to occur in Vanuatu have been scientifically observed and confirmed to occur. More research or citizen science projects are required to verify species presence in Vanuatu.

Many of the sharks found in Vanuatu waters are of conservation concern, as 62% of Vanuatu's sharks are considered threatened species. Four are Critically Endangered, fifteen Endangered, and seventeen Vulnerable, according to their listing in the IUCN Red List. A further six are Near Threatened and four species are Data Deficient, leaving only twelve out of the 58 classed as Least Concern. Appendix 6 lists the IUCN Red List status of Vanuatu sharks.

Twenty-eight species of shark found in Vanuatu appear in Appendix II of CITES. Thresher and mako sharks were added to the Appendix in 2019 and all species in the families of requiem sharks (Carcharhinidae) and hammerheads (Sphyrnidae) were added in 2022. Several of the species now in the CITES appendices are sharks reported in the catch of Vanuatu fishing vessels.

The presence of sharks is specifically cited within the site justification for seven Special and Unique Marine Areas (SUMA) in Vanuatu. In fifteen others, seamounts and/or canyons are the justification and sharks are mentioned in the narrative as species supported by these habitats. One SUMA, Palekula to Turtle Bay on the east coast of Santo, has been suggested as suitable habitat for a shark nursery. A list of SUMAs where sharks are mentioned can be found in Appendix 7.

Sharks are also included in the list of important marine species for Penama and Malampa provinces in the NBSAP.

Protection for sharks

Protections for sharks in Vanuatu is limited to the requirement to adhere to the RFMO CMMs for sharks. There are currently no specific protections for sharks in Vanuatu waters under the Fisheries Act. The previous NPOA-Sharks listed protections that could be introduced as regulations or conditions on licences, but to date, they have not been legislated or included in the licencing process. In addition to legislating the CMMs into national laws, these recommendations included:

- Banning targeted shark fishing by longline vessels in all of Vanuatu's fisheries waters.
- Establishing shark sanctuaries within territorial and archipelagic waters, including prohibitions against commercial fishing.

19 Archibald, J and Chin, A. [In prep]. A Review of The Conservation Status, Biodiversity and Values of Sharks and Rays in The Republic of Vanuatu, Centre for Sustainable Tropical Fisheries and Aquaculture, James Cook University.

- Prohibiting commercial fishing in any area within three nautical miles from the centre of all underwater seamounts located in Vanuatu's fisheries waters. Where two or more seamounts are in close proximity, the distance of three nautical miles shall be measured from the centre of the nearest seamount.

Only one seamount, west of Santo, is currently listed under the fisheries regulations as a prohibited fishing area where neither foreign nor local fishing vessels are permitted to fish.

Foreign fishing vessels are not permitted to fish within 12 nautical miles of Vanuatu's archipelagic baselines.

Although there are RFMO CMMs related to reducing the practice of shark finning to which the commercial fishing fleet must adhere, and the CMS Shark MOU conservation plan advocates for national legislation to prevent shark finning, nothing in the Vanuatu national laws prevents this practice. This should be addressed during the review of the fisheries regulations.

Several neighbouring Pacific island countries have declared their EEZs to be shark sanctuaries, disallowing the retention of any sharks or parts thereof. Vanuatu could do similarly and also disallow the landing of sharks on Vanuatu flagged vessels via the vessel-licencing conditions. Consultations would be required to understand the impact of a shark fishing ban on local communities and commercial fishers. Importantly, any cultural links to sharks and shark catch should be understood.

There are currently no management plans for any shark species in Vanuatu. Putting management plans in place for all threatened species of sharks that are fished and traded would decrease the chance of unsustainable harvesting of these species. Non-detrimental findings for sharks have been completed for several species of sharks with recommendations for management of the fishery. This is necessary if international trade is to continue from Vanuatu's waters or from Vanuatu flagged vessels.

Sharks under CITES

Sharks landed in a different jurisdiction from where they were caught, or those caught in international waters, are deemed to be traded internationally when sold. Therefore, CITES comes into effect and species listed in the CITES Appendices are subject to restrictions or measures. Thirty species of sharks and rays listed on CITES Appendix II can be found in Vanuatu waters (Appendix 6). Some of these species are sharks and rays that the RFMO CMMs state cannot be retained, such as the silky sharks, whale sharks, oceanic whitetips and mobulid rays. Recently, more species of sharks have been added to CITES Appendix II. Mako sharks and thresher sharks were added in 2019, and all requiem sharks and hammerheads were added in 2022. Makos, threshers, blue sharks and hammerheads have all been historically recorded in the Vanuatu fleet catch. Due to the new listing, these species now cannot be traded internationally without CITES permits. The catch must also be proven as sustainable. The proof must be in the form of a non-detrimental finding (NDF) submitted to CITES. All trade in these species needs to be accompanied by either a CITES export permit or an Introduction from the Seas permit, depending on where the sharks are landed. The catch must also be certified as legal (known as a legal acquisition finding) by the Vanuatu CITES authority (DEPC).

When the new requirements for NDFs for mako and thresher sharks came into effect, the Vanuatu CITES authority had not submitted NDFs for any of these shark species to CITES. However, the Vanuatu CITES Management Authority had been issuing CITES permits for shortfin mako to buyers in Chinese Taipei and Korea. This was a significant risk to Vanuatu's CITES exports as a trade ban could be implemented by CITES (for all trade of CITES listed animals and plants, not just the sharks in question). To manage this risk, trade in these species was suspended until NDFs had been completed. NDFs have been prepared by VFD for shortfin mako shark (Isurus oxyrinchus) and thresher shark (Alopias spp.). Capacity building was provided to enable Vanuatu Scientific and Management Authorities to undertake future NDFs for newly listed shark species and to continue to update and manage existing ones. This process and capacity building is being facilitated through SPREP, via the By-catch and Integrated Ecosystem Management (BIEM) Initiative, of the Pacific European Union Marine Partnership Programme funded by the European Union and the Government of Sweden. Assistance is also available in guidance from CITES

in the document "CITES Non-detriment Findings Guidance for Shark Species" [20]. NDFs for shortfin mako sharks and thresher sharks were developed during a four-day workshop in Port Vila from 4 to 7 July 2023. The automated outcome using the e-NDF framework for both the shortfin mako and thresher sharks was a negative NDF, and the recommendation was to halt trade. Specific management measures were recommended as follows:

Exports of shortfin mako shark and thresher shark product from Vanuatu will be halted until their status improves.

Conditions:

1. Considering existing stockpiles, an exemption on a case-by-case basis shall be provided to allow trade for a two-month period for those that have records of capturing shortfin mako sharks or thresher sharks. This shall apply for whole specimens only and they must be exported out of Vanuatu. This exemption shall expire two months after cessation of trade. Extensions will not be provided.
2. Vanuatu will work with neighbouring countries and through regional fisheries management bodies such as WCPFC and CROP[21] agency FFA to ensure these migratory species are more effectively managed throughout their range and not just within Vanuatu national waters.
3. These two negative NDFs will be in place until revised NDFs are developed, at the latest, two years from the date of these NDFs (July 2025).
4. Once these species are provided with sufficient management that demonstrates that further declines have been prevented and recovery enabled, trade can resume.

Other management recommendations for the management of sharks in Vanuatu and by Vanuatu flagged vessels were made by the July 2023 workshop participants. These recommendations are:

5. Population monitoring (fisheries-independent data). VFD to promote, encourage and work with universities and others (including private or independent) research agencies for research and data collection that informs regional stock assessments.
6. Fisheries monitoring (fisheries-dependent data). Improving fisheries data:

    - Using the current electronic monitoring system, it is possible to include additional data collection fields. For instance, recording sizes (lengths) of specimens along with sex and maturity and condition upon release.
    - Observer data: At present there are data fields to collect species identification, sex and length. Condition of release should also be collected (scale of 1–4, where 1 = excellent, 2 = alive but spent, 3 = alive but weak, 4 = dead). All CITES-listed sharks would be designated priority species for this level of data.
    - Data collection for fisheries within the EEZ: Ensure species-specific data collection is done for any shark and ray by-catch within the EEZ. This should include information on size, sex, maturity and condition of release (scale of 1–4, where 1 = excellent, 2 = alive but spent, 3 = alive but weak, 4 = dead).

    All the above information should be used to inform regional stock assessments, better handling practices, possible by-catch mitigation, etc. Also, higher resolution of catch data between the different fisheries (particularly to separate the level of effort/catch between the southwest/southeast Pacific for shortfin mako shark and east and west Pacific for thresher sharks) is encouraged. Once clearer data is available to separate the effort and catch from the two regions, it would be possible to make separate NDFs.

7. Monitoring of domestic and international trade volumes and characteristics. To streamline and ensure data exchange, convene a meeting between DEPC, VFD, and Department of Customs and Inland Revenue (CIR) to identify and develop a suitable inter-departmental procedure to adopt for the issuing of CITES permits.
8. The CITES Management Authority is currently working with SPREP and UNCTAD to implement the ASYCUDA electronic permitting system in Vanuatu. A feasibility study has already been completed by UNCTAD.
9. Fishing time restrictions. To implement a longline vessel-day-scheme within the EEZ to better manage effort in the longline fishery.

20 https://cites.org/sites/default/files/eng/prog/shark/docs/Shark%20NDF%20guidance%20incl%20Annexes.pdf
21 Council of Regional Organisations in the Pacific

10. Fishing gear restrictions. Comply with the WCPFC CMM 2022-04 to prohibit use of wire leaders in longline fisheries.
11. Total Allowable Catch (TAC). At present, within the EEZ, sharks can be retained but cannot exceed 10% of total catch per boat trip. However, non-retention is generally practiced and logbooks and unloading forms demonstrate that sharks are not being landed. Therefore, non-retention of these species would be encouraged through a TAC of 0 for all sharks within the EEZ. This should be accompanied by improving by-catch mitigation, and developing awareness materials outlining best release-practices, etc.
12. Non-retention of sharks and rays outside of the EEZ should be investigated, considering the nature of the high seas fisheries and the concerns surrounding pelagic shark and ray populations.
13. By-catch reduction devices. Circle hooks should be promoted in all longline fishing especially as they are already being used by many Vanuatu flagged vessels and locally based foreign fishing vessels.CMS Sharks MOU. Identify opportunities to actively engage through the Convention on the Conservation of Migratory Species of Wild Animals (CMS) Sharks MOU to obtain scientific guidance and management advice to benefit national fisheries that interact with sharks and rays. Foreign fleet regulations. Evaluate the current cost-benefit of foreign vessels operating under the Vanuatu flag. This includes allocations and proportions of national staff on all flagged vessels, compensation for utilisation of Vanuatu regional fishery quotas (considering that fish are offloaded at foreign ports resulting in a potential loss of national revenue through sales and taxes), and the additional bureaucratic and operational expenditures undertaken by Vanuatu government departments. It is also necessary to determine costs with ensuring that any Vanuatu flagged vessels are being issued with CITES export permits when landing in foreign ports to ensure compliance with the CITES Convention, e.g. the need to have an officer based in these ports for this purpose (see CITES Resolution Conf. 18.7 Legal Acquisition Findings, Annex 2, Paragraphs 3-5). Engagement with RFMOs (WCPFC, IATTC). Vanuatu to actively engage on shark and ray matters at WCPFC and IATTC. This includes requesting stock-wide regional scientific advice to support future NDFs across all CITES Appendix II listed sharks and rays, encouraging species-specific data collection (designating them as species of special interest), and identifying opportunities for conducting regional NDFs to manage migratory sharks and rays more effectively. This may require the development of proposals or advice at WCPFC and IATTC Working Groups, Scientific Committees, and Commission meetings, in addition to obtaining support from other members for adoption. Similar requests should be conducted via FFA. Update the CITES Trade Database. In the case of any export prohibitions (or restrictions such as quotas and zero quotas), ensure they are provided to CITES with a request to ensure all Parties receive a notification of the restriction/ quota. Recognising data mismatches in the CITES Trade Database, DEPC shall update the CITES Secretariat with the correct information (following validation with VFD). This includes:

    - correcting the product types (from fins to whole specimens);
    - correcting the invalid export to France; and
    - ensuring that any exports of marine products from the high seas directly into a foreign country (e.g., for fleets operating in the high seas and landing in foreign countries), the following data would be included: Exporter Vanuatu, Importer XXCOUNTRY, POC & Source = X (not W).

14. Revision and updating of Vanuatu national plans (sharks and tuna). Management recommendations from the NDFs should be incorporated into the revised NPOA-Sharks and Tuna Fishery Management Plan.
15. CMS Convention. Look into the needs and opportunities of becoming a Party to the CMS Convention.[22]

CMS Shark MOU

As stated in the legislative framework section above, Vanuatu is a signatory to the CMS Shark MOU and should be working towards the objectives and implementing activities listed in the Conservation Plan[23].

22 https://www.cms.int/en/parties-range-states
23 https://www.cms.int/sharks/en/page/sharks-mou-text

Shark interactions with fishing

Members of the RFMOs are required, to the greatest extent possible, to implement the FAO International Plan of Action for the Conservation and Management of Sharks (IPOA). There is no fishery within Vanuatu waters that targets sharks. All sharks caught are by-catch in a different fishery, mostly targeting tuna. Sharks are the fourth largest catch of the Vanuatu flagged fleet.

All fishing in the WCPFC regions must comply with the WCPFC CMM. All members are required to include their NPOA-Sharks in part 2 of their annual report to the WCPFC. The first measure for sharks was introduced in 2006 and has been updated regularly since. The objectives of the CMM are to ensure the long-term conservation and sustainable use of sharks, using a precautionary and ecosystem-based approach to fisheries management. The latest iteration is CMM 2019-04 Conservation and Management Measure for Sharks, which came into effect on 1st November 2020. This CMM prohibits the practice of shark finning and requires that sharks are landed with fins naturally attached (or take approved alternative measure to ensure full utilisation of retained sharks).

Similarly, the IATTC requires compliance with CMMs to reduce the by-catch of sharks. The following resolutions are active:

- C-05-03 Resolution on the Conservation of Sharks Caught in Association with Fisheries in the Eastern Pacific Ocean.
- C-11-10 Resolution on the Conservation of Oceanic Whitetip Sharks Caught in Association with Fisheries in the Antigua Convention Area.
- C-15-04 Resolution on the Conservation of Mobulid Rays Caught in Association with Fisheries in the IATTC Convention Area.
- C-16-04 Active_Amendment-to-C-05-03-Sharks.
- C-16-05 Resolution on the Management of Shark Species.
- C-19-06 Active_Whale-sharks.
- C-19-08 Resolution on Scientific Observers for Longline Vessels.
- C-21-06 Conservation Measures for Shark Species, with Special Emphasis on the Silky Shark, for the Years 2022 and 2023.

CMMs for longline vessels fishing in the WCPFC and IATTC regions include minimising by-catch by either not using wire trace as branch lines or leaders, and/or not using “shark lines”. Vessels cannot retain silky sharks, oceanic whitetip sharks, whale sharks or mobulid rays. If they are caught alive, they should be released, preferably alive, as soon as possible, following the guidelines for safe release and handling of sharks.

Purse seine vessels fishing in these areas may not set a purse seine on a live whale shark. If any silky sharks, oceanic whitetip sharks, whale sharks or mobulid rays are seen in the net, they should be released as soon as possible following the guidelines. If any silky sharks, oceanic whitetip sharks or mobulid rays are inadvertently taken and frozen as part of a purse seine vessel’s operation, they cannot sell or barter the shark but must surrender the whole carcass to the authorities.

Members of RFMOs are required to report on the implementation of these measures. Data on key shark species should be collected and reported to the RFMOs. Key shark species listed by the WCPFC can be found in Appendix 6.

The scientific committee of the WCPFC makes stock assessments of key shark species in the western and central Pacific ocean (WCPO). Archibald and Chin[24] have calculated a productivity score for the shark species in Vanuatu where there were sufficient life history data available to do so. The productivity score is between 1 and 3, with 1 indicating high productivity and therefore, low risk of depletion, and 3 being low productivity with a high risk of depletion. Table 8 shows the stock assessments and productivity score of some of the key species of sharks that interact with commercial fishing in Vanuatu waters.

24 Archibald, J and Chin, A. [In prep.] A Review of The Conservation Status, Biodiversity and Values of Sharks and Rays in The Republic of Vanuatu, Centre for Sustainable Tropical Fisheries and Aquaculture, James Cook University.

Table 8. Stock status or NDF and productivity score of sharks of interest to WCPFC (adapted from WCPFC reports and productivity score from Archibald and Chin and Vanuatu NDF workshop report)

Species	Stock condition	Productivity score	Date of assessment
Shortfin mako shark *(Isurus oxyrinchus)*	An NDF assessment in July 2023 returned a negative NDF for shortfin mako sharks.	2.6 – high risk of depletion.	2018 & 2023
Pacific bigeye thresher shark *(Alopias superciliosus)*	Stock status of this species is currently unknown.	2.6 – high risk of depletion.	Sustainability risk assessment in 2017
Southern hemisphere porbeagle shark *(Lamna nasus)*	Although the stock status of the species is currently unknown the results of the assessment show that fishing mortality on the southern hemisphere stock is very low, and that it decreases eastward from the waters off South Africa to the waters off New Zealand.	2.6 – high risk of depletion.	2017
Whale shark *(Rhincodon typus)*	There is a low probability that the Indo-Pacific whale shark is at risk of being caught as by-catch from Pacific purse seine fisheries.	2.4 – medium to high risk of depletion.	2018
Pelagic thresher *(Alopias pelagicus)*	An NDF assessment in July 2023 returned a negative NDF for thresher sharks.	2.3 – medium risk of depletion.	2023
Silky shark *(Carcharhinus falciformis)*	The stock is not overfished, but is subject to overfishing.	2.1 – medium risk of depletion.	2018
Oceanic whitetip shark *(Carcharhinus longimanus)*	Oceanic whitetip shark stock continues to be overfished and overfishing is occurring, however the stock assessment also estimates a slight recovery in stock biomass in recent years.	2.0 – medium risk of depletion.	2019
South Pacific blue shark *(Prionace glauca)*	Fishing pressure has declined. It is likely blue sharks are not being overfished.	1.7 – low to medium risk of depletion.	2021

Foreign vessels fishing in Vanuatu waters.

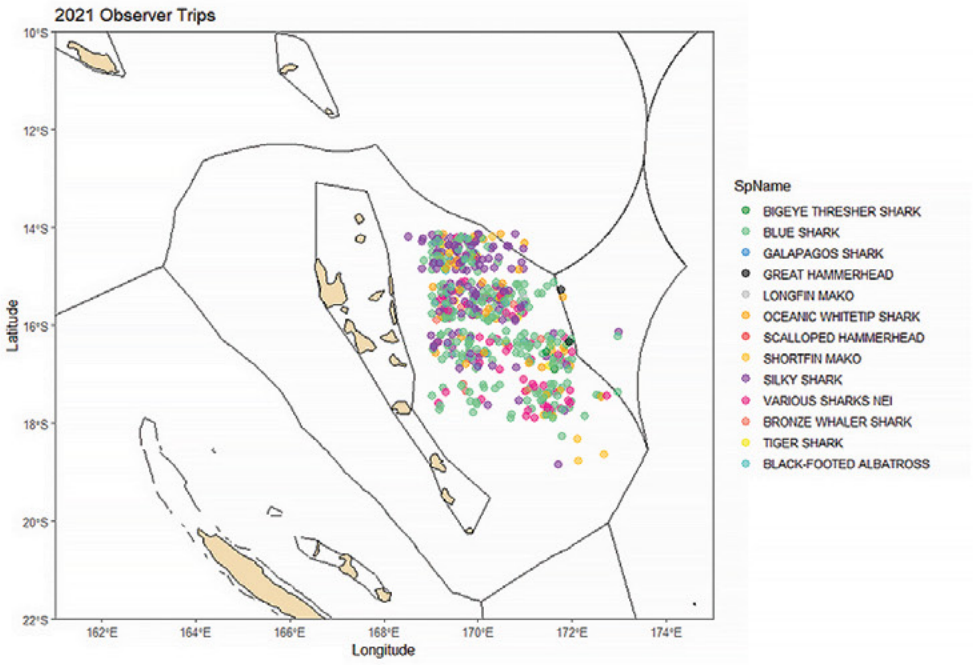
The following tables show the available data for shark catch from the various fishing fleets operating under the Vanuatu flag or fishing in Vanuatu waters. This data has been extracted from the TUFMAN2 database.

Table 9. Shark catch reported by observers from foreign flagged vessels operating within Vanuatu's EEZ data by numbers (No) of animals caught and metric tonnes (Tn)

	2015		2016		2017		2018		2019		2020		2021		2022		Total	
	No	Tn	No	Tn	No	Tn	No	Tn	No	Tn	No	Tn	No	Tn	No	Tn	**No**	**Tn**
Blue shark	7	0.2	31	0.8	122	3.3	87	2.3	13	0.4	372	10	140	3.8	118		**772.0**	**20.8**
Silky shark	5	0.1			82	1.4	5	0.1			85	1.2	23	0.3	36		**200.0**	**3.1**
Oceanic whitetip shark	2	0			85	1.4					65	1.1	15	0.3	13		**167.0**	**2.8**
Shortfin mako			5	0.3	8	0.4	60	3.8	35	2.2	27	1.7	7	0.5	3		**142.0**	**8.9**
Longfin mako	21	1.4					13	0.9	5	0.3					13		**52.0**	**2.6**
Bigeye thresher shark					2	0.2					10	1					**12.0**	**1.2**
Bignose shark											2	0.1			2		**4.0**	**0.1**
Blacktip shark					3	0.1											**3.0**	**0.1**
Galapagos shark											3	0.1			2		**5.0**	**0.1**
Bronze whaler shark			2	0	30	0.5					11	0.2	5	0.1			**48.0**	**0.8**
Tiger shark															2		**2.0**	**0.0**
Various sharks not elsewhere included					39	3			9	0.4	13	0.5	51	2.1			**112.0**	**6.0**
Total	**35**	**1.7**	**38**	**1.1**	**371**	**10.3**	**165**	**7.1**	**62**	**3.3**	**588**	**15.9**	**241**	**7.1**	**0**	**0**		

Figures 4 and 5 show the location of observed shark interactions within Vanuatu's EEZ for 2021 and 2022 respectively.

Most of the sharks caught in Vanuatu's EEZ are not retained. All sharks caught in Vanuatu's EEZ were recorded as discarded or escaped, except one Chinese-flagged vessel recorded 2 sharks described as "various sharks NEI" weighing a total of 0.806 metric tonnes in 2020.



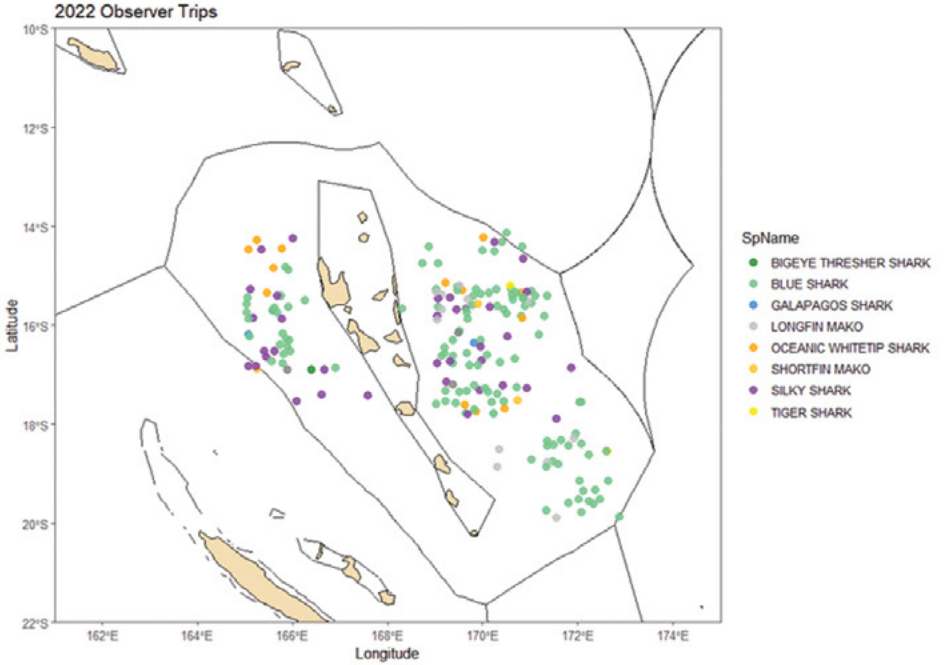


Figure 4: Map of shark (and seabird) interaction from 2021 observer data from vessels fishing within Vanuatu's EEZ
Figure 5: Map of shark interaction from 2022 observer data from vessels fishing within Vanuatu's EEZ

Table 10. Shark catch reported in logbooks from foreign flagged vessels operating within Vanuatu's EEZ data by numbers (No) of animals caught and metric tonnes (Tn)

	2015		2016		2017		2018		2019		2020		2021		Total	
	No	Tn	No	Tn	No	Tn	No	Tn	No	Tn	No	Tn	No	Tn	No	Tn
Bigeye thresher shark					13	0.22					8	0.22			**21.00**	**0.44**
Bignose shark											47	1.26			**47.00**	**1.26**
Blacktip shark					3	0.19									**3.00**	**0.19**
Blue shark	81	1.36	101	2.38	40	1.34	14	0.37	23	0.54	270	7.49	31	0.83	**560.00**	**14.31**
Bronze whaler shark			2	0.05	5	0.1					7	0.19	0	0	**14.00**	**0.34**
Galapagos shark											6	0.16			**6.00**	**0.16**
Longfin mako	2	0.09					10	0.64	3	0.05					**15.00**	**0.78**
Oceanic whitetip shark	2	0.02			25	0.42					47	1.79	3	0.05	**77.00**	**2.28**
Shortfin mako			7	0.19	63	0.77	82	2.2	7	0.1	8	0.14	0	0	**167.00**	**3.40**
Silky shark	59	1.58			64	2.27	5	0.11			168	5.19	2	0.03	**298.00**	**9.18**
Various sharks not elsewhere included					49	3.99			7	0.28	32	0.48	0	0	**88.00**	**4.75**
Total	**144**	**3.05**	**110**	**2.62**	**262**	**9.32**	**111**	**3.31**	**40**	**0.97**	**593**	**16.9**	**36**	**0.91**	**1296.00**	**37.08**

Vanuatu flagged vessels fishing in international waters.

Table 11. Shark interactions from observer reports from Vanuatu flagged longline vessels fishing in international waters.

	2015		2016		2017		2018		2019		Total	
Species	**Number of sharks**	**Metric tonnes**	**Number of sharks**	**Metric tonnes**	**Number of sharks**	**Metric tonnes**	**Number of sharks**	**Metric tonnes**	**Number of sharks**	**Metric tonnes**	**Number of sharks**	**Metric tonnes**
Basking shark	1		1	0.0062							2	0.01
Big-eyed sand tiger shark							22	0.577			22	0.58
Bigeye thresher shark	33	3.1649	19	1.6063			437	32.1642	297	25.2814	786	62.22
Bignose shark									8	0.2056	8	0.21
Blacktip shark							28	0.6583	8	0.2499	36	0.91
Blue shark	26	0.728	36	1.6503	1	0.028	1445	56.6183	1874	80.6901	3382	139.71
Bronze whaler shark	1	0.0172	6	0.1032					46	0.7566	53	0.88
Cookie cutter shark									5	0.0026	5	0.00
Crocodile shark	42	0.0964	29	0.0701			570	1.2723	421	0.9488	1062	2.39
Galapagos shark	1	0.0579					1	0.0259	7	0.1872	9	0.27
Great hammerhead			1	0.0476					4	0.1852	5	0.23
Kitefin shark	1	0.0021	6	0.0654			43	0.0903	51	0.1071	101	0.26
Longfin mako	7	0.4426	8	0.5713			71	4.8431	40	2.4504	126	8.31
Oceanic whitetip shark	21	0.2302	16	0.1907			48	0.6883	32	0.5945	117	1.70
Pelagic thresher shark	2	0.012	1	0.006			30	0.1671	4	0.024	37	0.21
Sandbar shark							2	0.0302	7	0.2872	9	0.32
Scalloped hammerhead	1	0.0167					2	0.0665	1	0.0844	4	0.17
Shortfin mako	16	1.1078	1	0.0649			68	5.6318	94	5.3284	179	12.13
Silky shark	421	3.4573	274	3.3217			179	2.559	32	0.4269	906	9.76
Silvertip shark							8	0.1854	3	0.0662	11	0.25
Smooth hammerhead	1	0.0158							1	0.0715	2	0.09
Comment thresher shark							12	0.2413	23	0.2822	35	0.52
Tiger shark	1	0.0217					1	0.2817	1		3	0.30
Various sharks not elsewhere included	4	0.1612	79	3.1837			624	25.1472	31	1.2493	738	29.74
Velvet dogfish	3	0.0045					117	0.172	41	0.0546	161	0.23
Total	582	9.5363	477	10.8874	1	0.028	3708	131.4199	3031	119.5341	7799	271.41

Most of the sharks that were observed interacting with fishing activity in the longline fishery, were discarded. Some sharks were recorded as retained. The proportions of the catch that was retained from different species of shark are given in Table 12.

Table 12: Proportion of catch shark species that were retained on board the vessels from observer data from Vanuatu flagged longline vessels fishing in international waters. Note the only shark species reported in observer data from 2017 was the blue shark.

	2015	2016	2017	2018	2019
Bigeye thresher shark	0%	10.53%		10.34%	1.68%
Blue shark	0%	75.00%	0%	93.35%	97.49%
Crocodile shark	2.38%	0%		0.18%	0%
Galapagos shark	0%			0%	0%
Longfin mako	0%	50.00%		49.30%	67.50%
Oceanic whitetip shark	0%	0%		2.08%	0%
Shortfin mako	12.50%	0%		69.12%	79.79%
Silky shark	0%	0%		11.86%	0.0%
Silvertip shark				0%	33.33%

Table 13. Shark interaction with the Vanuatu flagged purse seine vessels fishing in international waters by individual count from observer data.

	2015	2016	2017	2018	2019
Longfin mako					2
Oceanic whitetip shark	4			4	20
Silky shark	297	123	113	208	835
Smooth hammerhead				1	
Whale shark				2	6

All sharks were discarded from the purse seine vessels except for 14 oceanic whitetip sharks in 2019.

Table 14. Log sheet data of shark interactions from Vanuatu- flagged longline vessels fishing in international waters – number of sharks

	2015		2016		2017		2018		2019		2020		2021		2022	
	Discarded/ Released	Retained	Discarded/ Released	Retained	Discarded/ Released	Retained	Discarded/ Released	Retained	Discarded/ Released	Retained	Discarded/ Released	Retained	Discarded/ Released	Retained	Discarded/ Released	Retained
Basking shark							5									
Bigeye thresher shark													1		8	
Blue shark	537	33246	1186	27466	4375	34372	2626	58162	1556	56864			1623	38561	186	8329
Great hammerhead							7	3							1	
Hammerhead sharks Not elsewhere included			12	5	48		96		19				1			
Longfin mako														2		5
Mackerel sharks, porbeagles Not elsewhere included									1088							
Mako sharks	7	3010	8	2413	214	1774	81	3991	47	3745			6	1016	1	129
Oceanic whitetip shark					55	5	451		336	9			27	1		
Ocellated angelshark				5		5		49		320						
Pacific sleeper shark							1									
Pelagic thresher shark													32		1	
Porbeagle shark				1	126	2	1182	2	401				2			
Sharks (unidentified)		1628											2			
Shortfin mako							5						1	2264		505
Silky shark		1322	26	649	86	205	978	475	404							
Smalleye hammerhead					5											
Common thresher shark					2								28	1		141
Thresher sharks Not elsewhere included					3			14	3	1000						
Total	**544**	**39206**	**1232**	**30539**	**4914**	**36363**	**5432**	**62696**	**3854**	**61938**	**0**	**0**	**1723**	**41845**	**197**	**9109**

Table 15. Log sheet data of shark interactions from Vanuatu-flagged purse seine vessels by metric tonne caught.

	2017		2018		2019		2020		2021		2022	
	Discarded/ Released	Retained	Discarded/ Released	Retained	Discarded/ Released	Retained	Discarded/ Released	Retained	Discarded/ Released	Retained	Discarded/ Released	Retained
Bronze whaler shark						10						
Oceanic whitetip shark	0.05		0.05			0.15			0.81			
Silky shark	29.82		6.41		3.225				15.425		26.94	
Whale shark					8							
Total	29.87	0	6.46	0	3.225	10.15	0	0	16.235	0	26.94	0

These datasets have been used to report to the RFMOs. It would be easier to follow trends in the data if the data was presented as catch per unit effort rather than absolute numbers. The reports to the RFMOs should also include what shark by-catch mitigation measures are being used by the fishing vessels.

Prior to the NDF for shortfin mako sharks and thresher sharks, and since 2019, Vanuatu CITES authority had issued permits for the export of shortfin mako *(Isurus oxyrinchus)* meat and fins to Taiwan and Korea. An entry stating export to France was an error and should be corrected. There were several issues of concern raised by this. Firstly, these permits were issued after the requirement to have an NDF in place and before the Vanuatu CITES authority had submitted an NDF for this species. Secondly, the quantities that are listed in the permit far exceed what would be expected when comparing to the logbook data submitted by the vessels. The figure appeared erroneously high due to weight of the whole shark being entered as the weight of the fins. Additionally, VFD compliance officers have indicated that the data is hard to analyse, as the vessels off-loading mako sharks often keep the sharks onboard and do not offload them after every trip, choosing to sell them in bulk at a later date. This means that off-loading data and logbook data may not match, and that the CITES permits could be being issued for sharks caught from multiple trips over multiple years. Adding a data field to the logbook and off-loading data sheets for indicating how many sharks are retained on board at the end of any trip could assist in the data analysis. Thirdly, considering that shark finning is not permitted in the WCPFC region, it is unclear what has happened to the bodies of the sharks where the fins have been exported under a CITES permit. This requires investigation. One measure could be to ensure that boats that are landing sharks are required to have an observer on board. However, as many Vanuatu flagged vessels historically have landed sharks, the observer programme would need to be significantly expanded to ensure there were enough observers to carry out the monitoring. Ensuring compliance with shark finning regulations must be a priority. Should Vanuatu choose to create a shark sanctuary in Vanuatu's EEZ and prohibit the landing of sharks on Vanuatu flagged vessels, the management and enforcement of the shark catch would be much simpler in that any vessel with sharks, or parts of sharks on board would be in breach of either the law, if within Vanuatu's EEZ, or of their fishing licence.

Table 16. Data extracted from CITES trade database for the export of sharks from Vanuatu from 2019 and 2020.

Year	App.	Taxon	Importer	Importer reported quantity (Kg)	Exporter reported quantity (Kg)	Term
2019	II	*Isurus oxyrinchus*	TW		34,861	meat
2020	II	*Isurus oxyrinchus*	FR		1,200	fins
2020	II	*Isurus oxyrinchus*	KR		15,796	fins
2020	II	*Isurus oxyrinchus*	KR	15785		meat
2020	II	*Isurus oxyrinchus*	TW		216,259	fins

TW -Taiwan, FR - France, KR - Korea.

To ensure vessels are compliant with the RFMO rules around shark finning, and compliant with CITES requirements, a mechanism is needed to check CITES permits against off-loading and logbook records. More analysis of the data needs to be done by VFD. Report ing the numbers from the logbooks and observers is insufficient without further analysis to understand what is happening on the vessels. Capacity building on how to interpret the data would be beneficial. In addition, a mechanism that triggers further action should be developed so that, should the data show up any red flags, further investigation and, if necessary, enforcement action, can be taken toward any vessels that are not fully complying with the rules.

Sharks in the local coastal fishery

In 2016, the Vanuatu government began a project to collect data from the local and artisanal fishers in Vanuatu's coastal waters by using the Tails application (developed by SPC) to collect tuna and reef fish catch information from small-scale fishers. Prior to this, there is very little data on the catch or by-catch of the coastal fishery. The Tails app allows data collection in the field using a smartphone or tablet without the need for an internet connection. Once back in internet coverage, the data is automatically synchronised, uploading catch information to national datasets through integration with the 'TUFMAN2' data management system, also developed by SPC. Tails was initially introduced to Fisheries Extension officers in the six provinces of Vanuatu in 2015. The second roll out was to 19 communities in eight islands. In each community, a Tails Monitor was appointed to carry out the data collection. The data captured includes:

- The quantity of fish caught.
- The species of fish caught.
- The total costs for the trip.
- The type of fishing technique used.
- The area of fishing operation.
- The end use of the fish caught.

The Tails project is funded under the Asia Development Bank (ADB). VFD is planning to expand the Tails programme to more sites and communities. From 2021, locally registered commercial fishing vessels are required to use the Tails app to report catch and by-catch. Over 4,000 species of fish are on the app, including both marine and freshwater fish and invertebrates from beach, ocean and freshwater.

Table 17 provides the data collected in Tails on sharks caught in the local and artisanal fishery.

Table 17. Shark catches in kilograms reported to Tails by local and artisan fishers fishing in Vanuatu's coastal fisheries.

Shark Species	2016	2017	2018	2019	2020	2021
Blacktip reef shark		70.7	19	94.5	418.5	121.8
Grey reef shark		17	41	156.5	339.26	285.8
Silvertip shark		19	5	180	417.2	114.1
Whitetip reef shark		10		4	38.5	77.5
Blue shark				39.2	135	106
Bronze whaler shark				270	145	
Bigeye thresher shark			6		1.5	10.9
Common thresher shark					30	
Pelagic thresher shark					1.5	
Blacktip shark					6.5	13.1
Silky shark				15	0	
Oceanic whitetip shark					36	
Sandbar shark					26.9	19.4
Winghead shark					89	
Whitecheek shark				20		
Basking shark				9		
Bigeye sand tiger shark						4.3
Sharks (unidentified)	11.5	251.5	268	464.4	381.1	26.7
Total	**11.5**	**368.2**	**339**	**1252.6**	**2065.96**	**779.6**

VFD has not verified the species identification, but training on species identification and identification guides have been provided to the Tails Monitors. However, the drop in proportion of unidentified sharks from 100% in the first year to just 2% in 2021 suggests that some sharks may have been mis-identified. Of concern, shark fins were reported in this data. Clarification was sought by VFD officers and it was established that these were erroneous entries into the app, and shark finning had not taken place. However, there have been anecdotal reports of shark finning for the local Chinese market. This warrants investigation. Several sharks reported in catch in this fishery are threatened with extinction and subject to RFMO CMM, including the silvertip, thresher, sandbar and silky sharks. More research is warranted on take of these sharks in the coastal fishery.

On the Tails app, one data field asks fishers to check a box if a shark has eaten any of their fish. The results from this field are shown in Table 18.

Table 18. Number of times sharks interact with local fish catch captured by the Tails app

Year	Number of reports of shark interaction with catch	% of overall trips where shark interaction was reported
2019	192	6%
2020	1190	10.9%
2021	201	2%
2022	503	10.6%

The Tails data shows that a total of 2,676 kg of sharks were caught in 2022, and 1,715 kg were caught in 2021.

Whilst there is a significant amount of data on the by-catch of sharks in Vanuatu and by Vanuatu flagged vessels, more data verification and analysis would give a clearer picture of the pressure the fisheries are placing on sharks. Research is required on the coastal fishery to better understand the take of sharks and their cultural importance. In the absence of information, the precautionary approach should be used, and more measures should be in place to safeguard sharks within Vanuatu fisheries.

Sharks and tourism in Vanuatu

Bull sharks *(Carcharhinus leucas)* are listed as vulnerable on the IUCN Red List of Threatened Species. **Credit: K.Kassem**

Vanuatu is known as a game fishing location, with blue marlin the major target fish. The number of game boats has declined in recent years and game fishing virtually stopped during the COVID-19 pandemic when the international borders were closed, and tourism was affected. As the borders have reopened, game fishing has resumed.

There are currently no scuba diving operations that conduct shark dives specifically or that attract sharks by feeding or other methods. However, this has been done in the past and is occurring in neighbouring countries. Sharks that are seen by scuba diving tourists are observed in their natural habitat and this is unlikely to have a significant impact on the shark population. Concerns have been raised by communities about shark attacks, particularly with recent shark attacks in New Caledonia. Concerns about shark tourism could pre-empted by creating guidelines for shark tourism, particularly addressing human safety and carefully considering any feeding activities.

Green turtle *(Chelonia mydas)* hatchling making its way down the beach to the ocean. Bamboo Bay, Malekula.
Credit: C.Bartlett/SPREP

TURTLES

Sea turtles can migrate vast distances across oceans between foraging and breeding sites and they use different habitats for different stages of their life cycle, exposing them to multiple threats across their lifespan. Turtles are long-lived animals that take a long time to reach maturity, which means they can take a long time to recover if the population has declined. Centuries of over harvesting and more modern threats such as by-catch in commercial fisheries have resulted in dramatic declines in some turtle populations, globally. As a response to the declining population trends, FAO developed guidelines to reduce sea turtle mortality in fishing operations in 2010. The purpose of the guide is to assist countries and fishing organisations to adhere to the FAO Code of Conduct for Responsible Fishing by offering guidance to reduce by-catch of turtles, and for the development of National Plans of Actions for Sea Turtles. FAO has also produced guidelines for the safe release of turtles that have been caught in fishing gear. The guidance to reduce mortality and for the safe release of turtles has been adopted into the RFMO CMMs.

Conservation measures have reduced the rate of decline, but the population trend for these species is still listed as declining on the IUCN Red List of Threatened Species and as such, all species of sea turtle are at risk of extinction.

Threats to marine turtles

- Turtles are exposed to a variety of threats as they frequent different habitats during the different stages of their life cycle.
- Threats to the nesting environment include:
- Direct take of adults for meat, oils, shells, etc.
- Collection of eggs by humans.
- Predation of eggs by animals such as pigs and dogs.
- Climate change
    - Embryo development feminisation.
    - Sea-level rise and nesting beach habitat loss.
    - Loss of nests due to tropical cyclones or increased storm surge.
- Degradation of nesting habitat
    - Construction and development.
    - Beach furniture and structures.
    - Sand extraction.
    - Indirect effects on thermal profiles and erosion.
- Light pollution.
- Harvesting of hatchlings.

Threats in the marine environment include:

- Fisheries by-catch.
- Entanglement and ingestion of marine debris, including fishing gear.
- Pollution.
- Boat collisions.
- Climate change causing changes in sea temperature, currents and oceanographic processes.
- Habitat degradation of foraging sites.
- Disease.

Turtles in Vanuatu

The Hawksbill turtle *(Eretmochelys imbricata)* is listed as critically endangered on the IUCN Red List of Threatened Species. **Credit: CritterSpotter**

Status

Five species of marine turtles are known from Vanuatu's coastal and marine environments, as listed in Table 19. Green and hawksbill turtles are the most commonly encountered in foraging habitats and nesting beaches throughout the archipelago. An extensive review of the management and conservation of sea turtles in Vanuatu was published in 2023. The findings of that review are summarised here and the reader is encouraged to read that document in conjunction with this NPOA[25]. A regional literature review for turtles was completed in 2021[26].

Table 19. The five species of sea turtle found in Vanuatu and their conservation status (global listing unless regional listing specified).

Common name	Scientific name	IUCN Red List Status
Green turtle	*Chelonia mydas*	Endangered
Hawksbill turtle	*Eretmochelys imbricata*	Critically Endangered
Leatherback turtle	*Dermochelys coriacea*	Critically Endangered*
Olive Ridley turtle	*Lepidochelys olivacea*	Vulnerable
Loggerhead turtle	*Caretta caretta*	Vulnerable

*The west Pacific subpopulation of leatherback turtles. Global listing is Vulnerable.

25 Hickey F., Aromalo D. and Straza T. 2023. A review of the management and conservation of sea turtles in Vanuatu. Apia, Samoa: Secretariat of the Pacific Regional Environment Programme, Apia, Samoa https://library.sprep.org/content/review-management-and-conservation-sea-turtles-vanuatu

26 Pilcher N.J. 2021. Review of the status of sea turtles in the Pacific Ocean 2021. Secretariat of the Pacific Regional Environment Programme, Apia, Samoa. https://library.sprep.org/content/review-status-sea-turtles-pacific-ocean-2021

For the last 27 years, the Wan Smolbag Vanua Tai has coordinated a turtle monitoring network and collected data on multiple nesting beaches. The number of monitors actively monitoring nesting sites is small and the data is mostly inconsistent. No measurement effort accompanies the data, so comparison and analysis are difficult. One beach on Malekula, at Bamboo Bay, has had consistent monitoring data for over two decades and shows an increase in nesting. The data have been uploaded to the TREDS database, hosted by SPREP. Sporadic research projects have added to the knowledge over the years on an ad hoc basis. Limited capacity and a lack of funding have contributed to inconsistent monitoring, resulting in challenges in understanding the status of Vanuatu's sea turtles. Lack of information makes decision making on policies and management action more difficult.

The regional report on the status of turtles[27] reports green turtle nesting occurs on many islands within the Vanuatu group, with the highest reported number in Malekula. Extensive surveys of all Vanuatu's beaches have not occurred, so it is difficult to know how many green turtles nest in Vanuatu. Estimates put the figure at 60 to 100 turtles per year. As data collection from Vanuatu's beaches is not comprehensive, this number is likely to be an underestimate. Similarly, the data for hawksbill turtles is lacking, but best estimates of the number nesting in Vanuatu are at approximately 300. Leatherback and loggerhead turtles are reported as occasional nesters in Vanuatu[28].

Sea turtles are migratory and turtles using Vanuatu's waters are also found in multiple other countries and territories, including Australia, New Caledonia and Solomon Islands. International collaboration is required to effectively manage and conserve sea turtles within the Pacific region. Genetic analysis can be useful to establish the migratory pathways of marine turtles and identify to which management unit a population of turtles belongs. Genetic analysis of Vanuatu's sea turtles has not been extensive but early indications are that Vanuatu's population of green turtles may be genetically distinct from other Pacific green turtles and therefore may constitute a separate management unit.

Key gaps in the knowledge of Vanuatu's sea turtles have been identified as:

- Incomplete or unknown distribution status and trends.
- Incomplete or unknown abundance status and trends.
- Incompletely known social, cultural and economic value. The perception of these values is also not completely known.
- Lack of information on trends in permitted take. Whilst the VFD records permit requests for intentional take of sea turtles, data is limited on actual take versus permitted take.
- Unknown trend in take for tourism and a lack of documentation of harmful or potentially harmful tourism practices.
- Unknown trend in mortality of sea turtles due to by-catch, including the in-shore fishery.
- Unknown trend in mortality of sea turtles due to illegal take of adults and eggs.

The interaction with turtles and the marine environment, and with other marine species is not well understood in Vanuatu. Some communities have expressed concern that a perceived increase in sharks is threatening their turtle population and others consider that a perceived increase in turtles is affecting the seagrass beds, which in turn is affecting their fish resources. Research is needed to understand whether the shark and turtle populations are truly increasing and what impact that may, or may not, have on the interaction with sharks, turtles, seagrass and fish stocks. Other causes of increases or declines in the different species and changes to the ecosystem observed by the communities require investigation. Results from the research will inform community-led and national government-led management of these species of conservation concern.

27 Pilcher N.J. 2021. Review of the status of sea turtles in the Pacific Ocean 2021. Secretariat of the Pacific Regional Environment Programme, Apia, Samoa. https://library.sprep.org/content/review-status-sea-turtles-pacific-ocean-2021

28 Hickey F., Aromalo D. and Straza T. 2023. A review of the management and conservation of sea turtles in Vanuatu. Apia, Samoa: Secretariat of the Pacific Regional Environment Programme, Apia, Samoa https://library.sprep.org/content/review-management-and-conservation-sea-turtles-vanuatu

The presence of turtles is specifically cited within the site justification for 52 Special and Unique Marine Areas (SUMAs) in Vanuatu[29]. In 28 others, coral reefs and/or seagrass meadows are the justification and sea turtles are mentioned in the narrative as species supported by these habitats.

Turtles are listed as important marine species in all six provinces in the NBSAP. Thirteen sites are noted as important areas for conservation in the NBSAP to protect nesting turtles.

In a questionnaire survey conducted in 2018 under the Dugong and Seagrass Conservation Project[30], 98% of respondents said they believed turtles were important. Figure 6 depicts the reasons people cited for turtles being important, with revenue from tourism and other sources being the most common answer. A significant portion of the respondents also cited non-economic reasons but only 18% said turtles were important for custom or religious reasons.

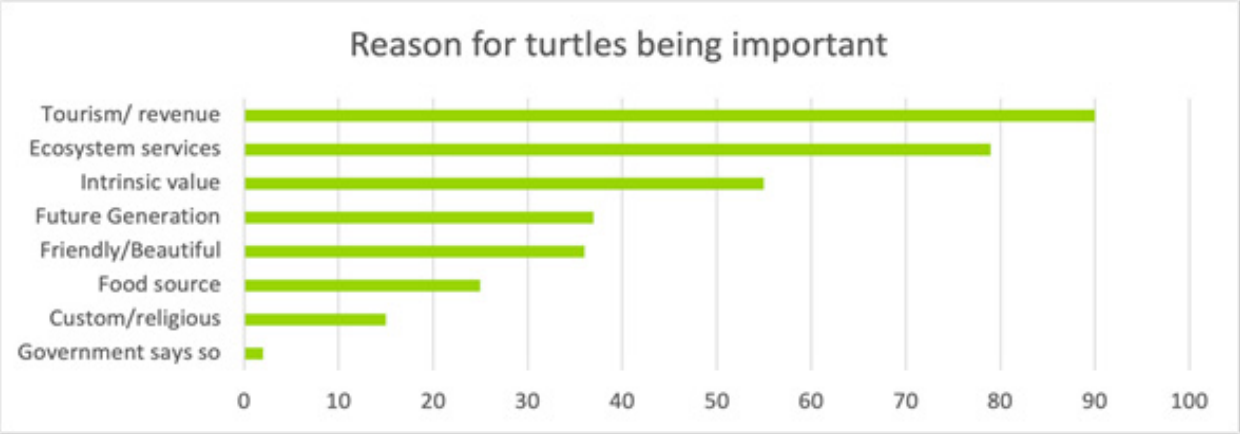


Figure 6: Reasons cited for why turtles are important by number of respondents (total responses 353).

Protection of turtles under Vanuatu legislation

Regulation 59 Marine Turtles of the The Fisheries Regulation Order No. 28 of 2009 states that a person must not:

- Take, kill, have in his or her possession, export, sell or purchase leatherback, hawksbill or green turtles.
- Take, have in his or her possession, sell, purchase or export any shell of leatherback, hawksbill or green turtles.
- Interfere with or disturb in any way a turtle nest or any turtle that is in the process of preparing to nest or laying eggs.
- Take, have in his or her possession, consume, export, sell or purchase any turtle egg.

The maximum penalty for an individual contravening these regulations is VT 200,000, and for a company the maximum penalty is VT 1,000,000.

A person may apply in writing to the Director of Fisheries for an exemption from all or any of the provisions for the purposes of carrying out customary practices, educational and/or research purposes.

29 Biophysically Special, Unique Marine Areas of Vanuatu - MACBIO (macbio-pacific.info)
30 https://www.vanuatuconservation.org/our-projects/past-projects/gef-dugong-and-seagrass-conservation-project/

Global and regional instruments for protection

All the species of turtles are listed on CITES Appendix 1.

In addition to threats facing turtles within Vanuatu's waters, Vanuatu is responsible for mitigating the threats caused by interaction with Vanuatu flagged vessels in other jurisdictions and on the high seas. WCPFC CMM 2018-04 Conservation and Management of Sea Turtles and the IATTC resolution C-19-04 Resolution to Mitigate the Impacts on Sea Turtles give the measures that are required for any fishing vessels operating in the respective RFMO region.

WCPFC requires longline fisheries vessels that fish in a shallow-set manner to use one of three methods to mitigate the capture of turtles:

- large circle hooks,
- only finfish bait, or
- other measures proven to reduce interaction with or increase survivorship of turtles.

Note: This measure does not currently apply to deep set longline fisheries, despite the fact that turtles are also caught in deep-set fisheries. There are also specific requirements for purse seine fisheries.

The CMMs require members to carry and use line cutters and de-hookers and adhere to the safe handling and release guides and to provide turtle data.

These mitigation measures, can reduce by-catch in the longline fisheries. Releasing any turtles caught in the longline or purse seine gear by following guidelines for the handling and safe release of turtles will decrease post-release mortality. Addressing the knowledge gaps will help to guide the conservation effort.

Turtle interactions with fishing in Vanuatu or on Vanuatu flagged vessels.

Within the region of the WCPFC, an average of 285 turtles per year were reported as by-catch in purse seine fisheries from 2003 to 2020, peaking in 2013 with 482 reported individuals.

Two marine turtles were caught by Vanuatu flagged purse seiners in 2020 as reported by observers. One was a leatherback turtle which was Discarded with fate Unknown, and the other was an olive Ridley turtle which was Discarded Alive.

Seven turtles have been reported as by-catch within Vanuatu's EEZ since 2017 on Chinese-flagged vessels as seen in Table 20.

Table 20. Sea turtle interaction with commercial fishing boats operating within Vanuatu's EEZ

Year	Flag	EEZ	Species	Fate	No	Wt
2017	CN	VU	Green turtle	Discarded – other reason	2	0.02
2020	CN	VU	Green turtle	Discarded – SSI handling guidelines followed	3	0.03
2020	CN	VU	Olive Ridley turtle	Discarded – protected species; dead	2	0.16

Coastal Development impacting turtle nesting beaches and foraging habitats

Changing land use along Vanuatu's coast, particularly in the last few decades, has impacted turtle habitat, including both nesting beaches and foraging areas. Development for housing or tourism resorts as well as government infrastructure improvements such as roads, bridges and wharves reduce the suitability of beaches for turtle nesting. Development also increases other threats such as light and noise pollution and obstruction from hard landscaping, waste or beach furniture. Reducing coastal vegetation increases run-off from the land, increasing nutrient content and turbidity of coastal waters and thereby impacting seagrass meadows and coral reefs where turtles forage. Dredging and building structures such as seawalls impacts beaches and can change morphology of the coast. Important turtle habitat is often attractive for new tourism developments as tourist enjoy beaches and coral reefs and like to see wildlife such as turtles. New tourism developments can have significant impacts on the turtle habitat as described above but can also put turtles closer to enterprises that use exploitative activities involving turtles as tourism products (see next page in Turtles and Tourism in Vanuatu section). Therefore, tourism development not only impacts important turtle habitat but can also lead to an increased use of turtles.

Whilst there is a requirement for an environmental impact assessment (EIA) for any development on the coast under the foreshore development act, there is currently no overall land use plan. Special and unique marine areas (SUMAs) have been identified as part of the work towards developing a marine spatial plan for Vanuatu. Turtle nesting beaches trigger a high priority rating for SUMAs. A national plan that pro-actively directs development away from important turtle sites would be preferable to managing individual development requests on a case-by-case basis in the absence of a plan. For all coastal developments, EIAs should consider the impact on turtle habitat. Strengthening the EIA assessment process and more collaboration between government departments involved with the management of developments will ensure detrimental effects on the Vanuatu turtle population are not overlooked.

Sea turtle harvest in Vanuatu

Sea turtles have been traditionally harvested in Vanuatu for 3,000 years since the Lapita people first colonised Vanuatu[31]. Traditional harvest continues to this day in a few communities but is now regulated under a permitting system. It has been estimated that in the past the take of sea turtles was approximately 1,500 turtles per year. Although not documented, a perceived decline in the harvesting of sea turtles in the 1990s and 2000s was attributed to the change in government legislation and policy and the start of the Wan Smolbag Vanua Tai resource monitoring network, which advocated to stop the killing of turtles and began beach monitoring throughout the country. Turtles are traditionally harvested in the Maskelyne islands, off the southeast coast of Malekula, during the yam festival. The Maskelyne communities are the only communities that have their traditional harvest of turtles registered with the Vanuatu Kaljoral Senta (VKS). VFD issues permits for this harvest annually. Requests are made by other communities. Table 21 provides the requests and approvals for traditional turtle take from 2018 to 2021. More details are given in the2022 Review of sea turtle conservation and management in Vanuatu.

31 https://www.jstor.org/stable/42928707

Table 21. Turtle consumption requests made to the Office of the Director of Fisheries, 2018–2021. Approvals were granted for the harvest of 27 turtles in 2018, 8 turtles in 2020, and 5 turtles in 2021. Source: VFD

Date of request (mo/dd/yr)	Name of applicant	Title/ role of Applicant	Village/Island	Reason for request	No. of turtles requested	Decision	Total Approved
3/30/2021	Ameara Liu	Chief	Takara / Efate	Celebration of digging of New Yam at Easter	5	Approved**	5
2/3/2021	Molly A Avock		Buluwai Area / Epi	Celebration of New Yam and Chief's Day	4	Declined*	
2/3/2021	Philip Taun	Chief	Mabfilau / Epi	Celebration of Chief's Day	No Figure	Declined*	
24/03/2021	K. Maripongi	Chief	Paunagisu / Efate	Celebration of digging of new Yam at Easter	6	Declined*	
3/3/2021	Kalo Ameara & Robbie Peter Songomaula	Chief's	Takara / Efate	Celebration of Chief's Day	2	Declined*	
25/03/2021	Marimarak	Chief	Unakap / Nguna	Celebration of New Yam festival and Opening of New Farea	4 male	Declined*	
26/02/2021	Samson Kennreth Parawus	Chief	Laman Bay / Epi	Celebration of Chief's Day	2	Declined*	
7/5/2021	Maserei	Chief	Piliura / Pele Island	Celebrate an Outreach from Piliura Village	1	Declined*	
1/3/2021	Moses Erick	Elder	Laman Bay / Epi	Celebration of New Yam festival	No Figure	Declined*	
2/2/2021	Thomas Shem Arlie	Secretary	Takara / Efate	Celebrations of Chief's Day	No Figure	Declined*	
3/2/2021	John K Batty	Chief	Pele Island	Celebrations of Chief's Day	2	Declined*	
4/28/2020	Farun Counsel of Chiefs	Chief	South Malekula	New Yam Feast Harvest	4	Approved**	4
3/3/2020	Jack Keitadi	Secretary	Anelcauhat / Aneityum	Celebrations of Chief's Day	4	Approved**	4
11/9/2020	Maripu David Roy Mliliu	Chairman of Chiefs	Tongamea / Emae	Closing of Presbyterian Church Emae/Makira Session	3	Declined*	
2/5/2018	Maskelyne Community	Chiefs	Peskarus / Pelongk / Lutes / Avock Isl / Neraniem Village / Haiumb Isl / Okai Village	New Yam Feast Harvest	27	Approved**	27
TOTAL					64		40

*Declined because there is no evidence of customary or traditional practice in the turtle harvesting within the community.

**Approved under conditions of: monitoring of activities by an authorised VFD officer; use of authorised traditional methods for the harvesting of turtles but prohibiting the use of motorised boats and canoes as well as tools such as metal hooks and spear guns; monitoring support by the Vanuatu Cultural Centre for recording and verification purposes.

In recent years the permits have stipulated that turtles should only be hunted with traditional methods and numbers are restricted. VFD is concerned that without a baseline assessment and monitoring of the turtle population in the area, the sustainable level of take is unknown. Research and assessment, similar to a non-detrimental finding that is done for the commercial harvest of sharks as an example, would allow VFD to manage this harvest sustainably. Other measures such as, restricting the harvest to male turtles or prohibiting the take of hawksbills (critically endangered) and only allowing take of green (endangered) turtles may result in fewer negative impacts on the turtle populations. These measures could be discussed with the communities who have traditionally harvested turtles to ensure the custom can be sustained into the future.

A questionnaire survey conducted in 2018 under the Dugong and Seagrass Conservation Project (unpublished), indicates that illegal harvest of sea turtles is ongoing, with 21% of respondents saying they had caught turtles in the previous 12 months. Less than 10% of those who said they had caught turtles said it was only ever by accident. The most common method for capturing a turtle was reported as spear gun or harpoon. The average number of turtles caught by the hunters was 1.2 (±0.77) per year. Illegal take of turtles remains widespread in Vanuatu. Egg harvest has not been researched and therefore the extent of it is unknown. Hatchlings are also harvested from a number of beaches, in particular in Shefa province, and sold to tourism ventures. The trade, whilst it is clearly occurring, has not been quantified.

Turtles and tourism in Vanuatu

The west Pacific sub population of Leatherback turtles *(Dermochelys coriacea)* are listed as critically endangered on the IUCN Red List of Threatened Species. **Credit: Andipantz/Getty Signature/Canva Pro**

Tourists like to see turtles, and it is possible to see turtles in the wild on most islands in Vanuatu. There are several tour companies that take tourists to see turtles either by boat or snorkel tours in their wild habitat. On many other tours, such as scuba diving or island trips, tourists will encounter turtles. Inappropriate tourism has been raised as a potential threat to turtles in Vanuatu.

Despite it being relatively easy to see turtles in the wild and despite it being prohibited by law, several tour operators in Vanuatu keep adult and/or hatchling turtles in captivity for the purposes of tourism. Most of these operators allow tourists to physically interact with the turtles either by handling them, swimming in pools with them

or even “riding” on the back of the turtles. The health impacts on both the turtles and the people are unknown. Some facilities have been known to have high mortality of turtles, often related to poor water quality. Most are fed an inappropriate diet of pawpaw and fish. None have a permit from VFD, however they have been issued tourism permits which are required annually to obtain a business licence to operate. This is despite the minimum standards requiring tourism operators to comply with all laws of Vanuatu, and to adhere to the wildlife minimum standard.

The tourism operators that have head-starting programmes purchase the hatchlings from local communities, creating an illegal market for these turtles and implicating the local communities in illegal activity. Head-starting has not been shown to have a conservation benefit and has the potential to do harm to the turtle population. Unregulated harvesting of the hatchlings takes hundreds of hatchlings out of the wild population. It can cause nest disturbance for turtles that remain in the nest at the time of harvest or in other nests on the beach, potentially affecting the survival of those turtles as well as those directly harvested. Preventing the hatchlings from crawling to the water and completing their “frenzied swim” to the open ocean in the first few days of their lives inhibits their ability to imprint on their natal beach and affects their ability to return to the beach to nest when they reach maturity. Keeping hatchlings in captivity is stressful for the turtles. In addition to this, most are kept in unsuitable over-crowded conditions, with poor water quality, and fed an inappropriate diet by unqualified and untrained personnel. These factors significantly increase the likelihood of disease, which is not only an additional welfare issue for the individual turtles, but risks introducing disease to the wild population when they are released, and also has zoonotic (transfer of disease from animals to people) potential[32].

“Tagging for tourism” programmes also exist in Vanuatu. Some head started turtles are tagged on release. In other programmes, a turtle is caught and can be held for a few hours to overnight, then presented to the tourists. Payment results in the tagging and release of the turtle. Whilst the tagging of turtles (which permanently identifies individual turtles) can be a useful technique for turtle research and conservation, it should be part of a wider turtle conservation programme. If the programme is not overseen and executed properly, safe and optimal tagging and turtle handling procedures may not be practiced. There is potential for exploitation of the turtles and perverse incentives, such as if a turtle is caught again, the tag may be removed so that a second payment can be obtained when re-tagging the turtle. This has been anecdotally reported as happening in some tagging programmes but has not been investigated or verified. This is detrimental to the global tagging programme as turtles tagged elsewhere may have their tags removed instead of being recorded in Vanuatu during their migration.

There are also reports of adult or hatchling turtles being caught and put on display for tourists on an ad hoc basis. Some are displayed in buckets or tubs in tourism areas for tourists and residents to look at. Others have had a hole made in their shell for fishing line to be attached to tether the turtle so it cannot swim away.

Tourism operators should be encouraged to engage in “safe” turtle tourism that does not put turtles (or tourists) at risk. This would be in line with the Sustainable Tourism Policy 2019 to 2030 and accompanying Strategy. Guidelines are being developed with examples of sustainable, welfare friendly turtle programmes that can be developed to replace the current harmful practices, under a current EU-funded project through SPREP. Tourism operators that are currently operating outside the law should be advised that they must comply with the Fisheries Act. It may be prudent to give a short period of grace, for example 12 months, to allow the transition of their business away from illegal harmful practices. Better collaboration between government departments, particularly the Department of Tourism, VFD, DEPC, VFIPA, Rates and Taxes and provincial governments would improve the permitting system and make clear which department has responsibility to uphold the law and to act when laws are broken. Better communication between departments and from government to private sector will reducing the ambiguity amongst operators about what is allowed and what is not. The current review of the tourism minimum standards and the review of fisheries regulations are opportunities to review turtle tourism in Vanuatu and improve management of the tourism sector with respect to protecting turtles.

32 Disease risk analysis in sea turtles: A baseline study to inform conservation efforts | PLOS ONE

It is likely the South Pacific blue shark *(Prionace glauca)* are not being overfished. **Credit: J.Abernethy**

SECTION III

NATIONAL ACTION PLAN FOR SEABIRDS, SHARKS AND TURTLES

The activities in this action plan are divided into eight themes, consisting of six main categories and two cross-cutting themes.

Main Categories

- Research and monitoring
- Threat reduction
- Legislation
- Compliance
- Protection of critical ecosystem and habitat
- Tourism.

Cross-cutting themes

- Education, awareness and communications
- Collaboration.

Each activity in this plan is assigned a lead organisation responsible for actioning the activity as well as a priority rating of very high, high or medium. The responsibility for delivering this plan lies with the Vanuatu Fisheries Department, however some activities overlap with the responsibilities of other government departments, and these are listed in the plan. It is recognised that VFD does not have the capacity in terms of human resources or funding to complete all the activities laid out in the plan. Limiting the plan to only the activities that VFD alone can complete will not achieve significant improvements in the protection and conservation of these important species. Therefore, this plan is more ambitious and is assuming that funding and collaborations with other organisations will deliver better outcomes. Other government departments as well as partners such as intergovernmental organisations, NGOs, academic institutions and donors have been listed as potential collaborators against each activity. As an absolute minimum, the activities that have been designated a very high priority rating are expected to be completed within the timeframe of the plan. It is hoped that the high and medium priority activities will also be achieved. Timeframes given for completion of activities have been set with the assumption that workplans are not interrupted by natural disasters.

1. Sharks

1.1. Research and monitoring (Sharks)

Research and monitoring are critical to understanding the population status, trends and threats that marine species face. Without this knowledge, taking action, and knowing that it is effective, is harder. Whilst there is research on a global level that can be extrapolated to Vanuatu, many data gaps exist in our Vanuatu-specific knowledge about seabirds, sharks and turtles. Filling these data gaps will enable Vanuatu to better protect and manage these species. In the absence of complete research, the Precautionary Principle should always be observed.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Understand the extent and causes of mortality in sharks by improving data collection.	All shark interactions with fishing are reported to species level.	Add fields to logbooks and Tails app to record shark interactions. Include data fields for size (lengths), sex, maturity and condition upon release. Prioritise shark species listed in CITES Appendix II for this data collection.	VFD	SPC and Taiwanese company assisting with logbook reporting.	Data fields added to all logbooks and to Tails app by mid 2024.	Highest
		Identification guides for sharks, in the common languages of the vessels, are carried on all fishing vessels.	Observers, vessel operators, Fisheries Authorised Officers (AOs), fishers and Tails monitors. VFD to provide guides in different languages, including but not limited to Bislama, Chinese languages and dialects, Tagalog and Bahasa Indonesia.	SPC and/or NGOs to assist VFD and DEPC to develop and print identification guides.	Identification guides on all fishing vessels by end 2024.	Highest
		Training and equipment provided to aid the identification of species.	VFD to improve training of observers, AOs and Tails monitors and to provide equipment such as binoculars and digital cameras.	SPC and/or NGO projects to assist with technical advice and funds.	Training conducted and reported annually.	Highest
	Level of by-catch of sharks in all Vanuatu fisheries and by Vanuatu flagged vessels is known.	Data from all sources is analysed to calculate catch per unit effort and assessed for trends and the results used to inform regional stock assessments, better handling practices and possible by-catch mitigation measures.	VFD	SPC, NGOs, Projects.	Initial assessment report by end 2024. Thereafter reported annually.	High
	Identify the level of illegal harvest of sharks.	Surveys of fishers and markets.	VFD	NGOs	Report on illegal harvesting of sharks by end 2025.	Medium

To better understand species range, breeding status, population trends, ecology, and foraging distributions of sharks in Vanuatu.	Accurate checklist of shark species of Vanuatu. Important areas for sharks are identified. Threats and impacts on essential ecosystems utilised by sharks are identified.	Collaborate on projects such as Shark Search Indo-Pacific (SSIP) programme at James Cook University.	VFD, JCU, IUCN Shark Specialist Group.	NGOs, Projects.	Ongoing. Engagement with SSIP by end 2024. Engagement with IUCN-SSG by end 2024.	Medium
		Identify, map and monitor important shark nurseries, aggregating sites and other critical habitat.	VFD, NGOs, Projects.	NGOs, Projects.	Map of important shark areas by end 2028.	Medium
	Population status and trends are known for all species of shark in Vanuatu.	Encourage citizen science reporting of shark observations, including in tourism settings, to databases such as iNaturalist.	NGOs, Projects	VFD, DEPC	Databases have at least 100 new occurrence records by 2025.	Medium
		Location catch data collected from different fisheries to separate the level of effort/catch between the southwest/southeast Pacific for shortfin mako shark and east and west Pacific for thresher sharks to allow separate NDFs for these regions.	VFD	SPC, NGOs	Report on analysis for catch data annually.	High
		Collate data from all sources and assess population where enough data exists.	VFD, DEPC	NGOs, projects	Report on population status and trend for all shark species listed on Appendix II of CITES, by end 2026.	High
Understand the threats faced by sharks in Vanuatu.	Understand the impact of climate change on sharks in Vanuatu and implement mitigation measures to ensure their survival.	Research and monitor the impact of climate change on sharks in Vanuatu.	NGOs, Regional academic organisations	VFD, DEPC, WSB	Report on impact of climate change on sharks in Vanuatu by end 2026. Monitoring report every 3 years.	Medium
		Trial mitigation measures that will increase the likelihood of Vanuatu's sharks surviving in the face of climate change, to ensure they are effective in Vanuatu or on Vanuatu flagged vessels.	NGOs, Regional academic institutions, ACAP, projects	VFD, DEPC, WSB	Report on trial by end 2027. Put in place Plan for mitigation measures to protect these species by end 2028.	Medium

	Understand traditional take of sharks and assess the sustainability of this.	Conduct surveys to establish population status and establish a sustainable take level.	VFD	NGOs, projects	Levels of sustainable take have been established for each population where there is traditional take by end 2026.	High
		Monitor sustainable take against the established baselines from the studies above.	VFD, DEPC	NGOs, projects	Annual report on intentional take of sharks.	High
		Conduct research to establish the level, if any, of domestic and international trade in sharks.	NGOs, projects	VFD, DEPC	Report on domestic and international trade in sharks by end 2025.	Medium
		Research and document whether any communities engage or have engaged in traditional take of any shark species in Vanuatu.	VFD	NGO's Projects, regional academic institutions	Report on traditional take and uses of sharks in Vanuatu by 2026.	Medium
	Evaluate the threat from illegal harvest.	Investigate if there is any illegal shark finning in Vanuatu's waters or on Vanuatu flagged vessels.	VFD	NGO's Projects, regional academic institutions	Report on shark finning in Vanuatu by 2025.	High

1.2. Threat Reduction (Sharks)

Many of the threats facing seabirds, sharks and turtles are known, and taking direct action to mitigate these threats, as part of an international effort or on a national or local level, will result in a lower risk of species extinction both locally and globally.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
By-catch mitigation.	Reduce by-catch in Vanuatu fisheries and by Vanuatu flagged vessels to levels that do not impact species survival.	Enforcement action to ensure all vessels are implementing conservation and management measures (CMMs) listed in Table 21.	VFD	RFMOs and SPC, projects	Annual report by VFD compliance division indicating number of enforcement activities and % of vessels checked. Ongoing.	Highest
		Phase in requirement that all FADs are non-entangling, and to the extent possible, are made from biodegradable materials.	VFD, fishers, projects	SPC, NGOs	Evidence all FADs in Vanuatu waters or deployed by Vanuatu flagged vessels are non-entangling and, to the extent possible, are made from biodegradable materials by 2028.	Medium
		Promote the guidelines on safe handling and release of by-catch species.	VFD	SPC	Evidence all vessels have copies of guidelines on board vessels by 2025 and are using them, as evidenced by observer data.	High
	Reduce by-catch in Vanuatu artisanal fisheries and inshore commercial fisheries.	Promote good practice in the gillnet fishery such as gillnet-free zone in high turtle areas not leaving nets unattended, setting gillnets taut and not loose.	VFD	NGOs, SPC, Projects	Awareness raising activities conducted, fishers trained, and booklet produced depicting good practice in gillnet fishery.	High

		Develop specific guidelines and licence conditions for longline fishers and for game fishers operating in the coastal fishery addressing CMMs to protect sharks.	VFD	NGOs, SPC, Projects	Awareness raising activities conducted, fishers trained, and booklet produced with guidelines and good practice in long line and game fishery by end 2024.	High
Reduce direct impact of pollution, coastal development and compromised water quality on habitat critical for sharks, such as coral reefs, seagrass meadows and mangroves.	Ensure EIAs adequately consider the impact on sharks.	Refer developers and consultants conducting EIAs to SPREP EIA guidelines for coastal tourism development and strategic Environmental Assessment guidelines .	DEPC, VFIPA, VPMU, DUAP Dept of Urban Affairs and Planning, DLA (Dept of Local Authorities)	SPREP	All developers and consultants are made aware of guidelines from 2024 onwards.	Highest
		Create national guidelines for EIAs, developed from regional guidelines such as SPREP and JICA.	DEPC, SLO, DUAP, DLA		Guideline completed by end 2026.	Medium
		Specifically request assessment of impact on sharks in all EIAs and increase capacity of DEPC EIA department to assess EIAs for impacts to sharks.	DEPC, VFIPA, VPMU, DUAP, DLA	SPREP	All coastal developments have EIAs conducted and all EIAs report on potential impacts on sharks from 2024.	Medium
		Audit of current projects to include assessment of impact on sharks.	DEPC	SPREP, VFIPA, VPMU, DUAP, DLA	All current projects have been assessed by end 2024.	Medium
Reduce the impact of pollution on sharks in the coastal and pelagic ocean.	Reduce marine plastic pollution.	Enforce compliance with international regulations on vessel discharges both at sea and in port - MARPOL . Ensure disposal at port is appropriate and expected quantities for the trip.	VFD, DEPC, VMSA	Maritime branch of police.	Report on enforcement actions taken. 100% of vessels in compliance by end 2024.	High

		Address land-based sources of plastic pollution with initiatives such as container deposit scheme legislation and enforce littering regulations, volunteer clean-ups and recycling projects.	DEPC	Municipalities and provincial officers	Report on enforcement actions taken and initiatives by end 2024 and annually.	High
Reduce impact of invasive species and domestic animals.	Invasive species and domestic animals are not a threat to Vanuatu's sharks.					
To have management plans, including NDFs where appropriate, for all threatened species of sharks that are harvested and/or traded.	The take of threatened species is planned, monitored and measured against sustainability thresholds.	Write management plans for threatened species of sharks that are harvested or traded. Implement actions recommended in the NDF reports for Mako and thresher sharks.	VFD, DEPC	NGOs, Projects	10 management plans are in place and being implemented by end of 2025. All threatened species of sharks that are harvested or traded have a management plan in place by end of 2027.	Medium

1.3. Legislation (Sharks)

Having legislation in place to protect seabirds, sharks and turtles gives a clear message as to how people and businesses should behave with respect to these species, and outlines consequences should they not comply.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Ensure national legislation captures requirements and obligations placed upon Vanuatu by international conventions and agreements are met.	National legislation is aligned with Vanuatu's regional and international obligations.	Publish gazette of conservation and management measures, as prescribed under the Fisheries Act 2014. Set up mechanism for revising CMMs annually.	VFD	SLO, SPC, RFMOs, NGOs, Projects	Gazette of conservation and management measures is published by end 2024.	Highest
		Distribute circulars when CMMs are updated.	VFD		Circulars published and distributed to affected parties whenever there is a requirement to update CMMs.	High
		Ensure by-catch mitigation measures are incorporated into the revised regulations under the Fisheries Management Act 2014 for the off-shore and in-shore fisheries.	VFD	SLO	Fisheries regulations include by-catch mitigation measures by end 2024.	High
		Update International Trade (Fauna and Flora) Act to reflect changes to the CITES treaty and ensure new species added to CITES Appendices are captured within the Act.	VFD, DEPC and SLO	SPREP, CITES secretariat, Projects	Trade (Fauna and Flora) Act is updated by end 2024.	High
		Review the Fisheries Act 2014 to recognise the requirement to provide for CITES requirements including NDFs to ensure complementarity between CITES legislation and fisheries legislation (refer to FAO guideline).	VFD and SLO	DEPC, SPREP, CITES secretariat, Projects	Fisheries Act is updated to reflect CITES requirements by end 2024.	High
		Ensure CITES legislation also recognises role of Fisheries Act.	VFD, DEPC and SLO	SPREP, CITES secretariat, Projects	Trade (Fauna and Flora) Act is updated to reflect role of Fisheries Act by end 2024.	High

Ensure sharks are adequately protected under national legislation.	Species regulations under the Environmental Protection Act, which are currently being drafted, include measures to protect sharks.	Ensure sharks are recognised in the protected species regulations.	DEPC	SLO, VFD	Draft of legislation specifically mentions sharks by end 2025.	High
	Declare Vanuatu a Shark Sanctuary and prohibit the possession, sale, trade, import, and export of sharks and shark products within Vanuatu's EEZ and/or by Vanuatu flagged vessels.	Carry out consultations throughout Vanuatu and with all stakeholders.	VFD	NGOs, projects	Report on consultation by end 2024.	High
		Investigate if there are cultural or traditional practices involving sharks and if they would be impacted by a shark sanctuary.	VFD	NGOs, Projects	Report on cultural links on sharks in Vanuatu and the impact of a shark sanctuary by end 2024.	High
		Calculate the value of the blue shark catch to Vanuatu.	VFD	SPC, NGOs, Projects	Report on the value of blue sharks to Vanuatu at end 2024	Medium
		Use results of consultation and expert advice to decide if Vanuatu should declare a shark sanctuary within its EEZ.	VFD	SPC, regional universities, NGOs, projects	Decision on whether to declare a shark sanctuary made by mid-2025.	High
		Draft legislation under the Fisheries Act for Vanuatu's EEZ to be recognised as a shark sanctuary.	VFD	SLO	Regulation gazetted by end 2024.	Medium
	Protect sharks from invasive tourism activities.	Add a regulation to the fisheries regulation to prohibit the keeping of sharks in captivity.	VFD	SLO	Regulation gazetted by end 2024.	Medium
Vanuatu is a responsible global citizen with respect to protecting sharks.	Vanuatu is a signatory to all relevant international agreements and conventions that protect sharks.	Consider benefits and obligations of becoming a signatory to the CMS.	VFD, DEPC, SLO	CMS secretariat	Meeting of departments for discussion on joining CMS by end 2024.	Medium

1.4. Compliance and Enforcement (Sharks)

Whilst it is paramount to have good legislation in place to protect seabirds, sharks and turtles, if those laws are not being enforced their credibility is undermined. Compliance and enforcement action ensures that the species are managed and protected, but also give assurances to businesses and individuals that they are on a level playing field and that adhering to the law does not put them at a disadvantage to those that do not.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Ensure vessels are complying with conditions of licences and laws of Vanuatu.	All vessels are compliant with the laws of Vanuatu and conditions of licence.	Make sure all vessels submit logbook data within the correct timeframe and implement enforcement action for those that don't.	VFD	SPC, Taiwanese agent	100% compliance with e-logbook data requirements by mid 2024. Ongoing with annual report.	Highest
		Ensure all other conditions of licences are adhered to.	VFD	SPC, Taiwanese agent	100% compliance. Ongoing with annual report.	Highest
		To implement a longline-vessel-day-scheme within the EEZ to better manage effort in the longline fishery.	VFD	SPC	Longline vessel day scheme in place by 2024.	High
Improve communication about Conservation and Management Measures between VFD and the commercial fishing industry.	All vessels are aware of their obligations and are up to date with any new rules.	Circulate NPOA-SST to all vessels after launch.	VFD	Taiwanese agent	New NPOA-SST circulated to all fishing companies and vessels by end-2024.	Highest
		Circulate information after new measures come into force, such as new resolutions from RFMOs or new species are added to CITES appendices.	VFD	SPC, RFMOs, CITES secretariat, Taiwanese agent	Ongoing. Circular written and dispersed within one month of any change to CMMs.	Highest
Improve observer coverage.	Targets for observer coverage set in government policies are achieved.	Re-instate observer programme to pre-pandemic levels after interruption due to the COVID-19 pandemic.	VFD, regional observer programme	VFD, fishing vessels, Taiwanese Agent	5% observer coverage of longline vessels and 100% coverage of purse seine vessels and locally-based foreign vessels by end 2024.	Highest

		Increase Observer coverage to: 20% for Vanuatu flagged longline vessels, 100% all purse seine vessels, and 100% for locally based foreign fishing vessels.	VFD, regional observer programme	VFD, fishing vessels, Taiwanese Agent	20% observer coverage of longline vessels by end 2024. 100% of coverage of purse seine vessels and locally-based foreign vessels by end-2024.	Highest
		Instigate the long line vessel day licencing scheme to assist with observer coverage.	VFD	Regional Observer programme	Day Vessel scheme introduced by end 2025.	High
	The costs of the observer programme are borne by the fishing industry.	Continue development of cost recovery programme to fund increased observer coverage.	VFD, regional observer programme	Projects, SPC, NGOs	Cost recovery programme in place by end 2024.	High
	Technology is being used to reduce costs and risks to observers.	Reinstate the electronic monitoring as an adjunct to human observers in collaboration with partners.	VFD and pilot programme partners	Projects	Report on pilot programme by end 2024.	High
		Training for fisheries officers for analysis of electronic monitoring data.	VFD and pilot programme partners	NGOs, SPC, Projects	Report of training by end 2025.	High
		Set targets for level of review of vessel activity undergoing electronic monitoring.	VFD and pilot programme partners	SPC	Target of level of review for each vessel type set by end 2024.	High
		Improve infrastructure needed for electronic monitoring, such as increased IT monitoring stations.	VFD and pilot programme partners	Projects	6 monitoring stations for e-observing in place by 2026.	Medium
		Increase number of observers at electronic monitoring station.	VFD and pilot programme partners	Projects	6 additional observers employed and trained as electronic monitoring observers by 2026.	Medium
		Develop a sustainable financing mechanism to fund electronic monitoring including staff, hardware, software and maintenance.	VFD	Projects	Sustainable funding that covers cost of all electronic monitoring costs in place by 2026.	High

Observers are deployed on vessels where sharks are landed.	Shark regulations including for finning and CITES are being adhered to.	Vessels that land sharks listed in CITES Appendix II are identified and are required to have observers on board as a condition of their licence.	VFD	Regional observer programme	All vessels landing sharks on Appendix II of CITES have had at least one trip observed by end of 2024.	High
		Cross check CITES permits and catch data and landing data from port inspections.	VFD	SPC	100% of CITES permits are cross-checked with catch data by end 2024 and ongoing.	Highest
Improve and strengthen port inspections.	Port inspections are carried out on all Vanuatu flagged vessels wherever they land their catch.	Finalise and strengthen Port State Management Agreements with countries where Vanuatu flagged vessels land their catch, in particular: Fiji, Samoa, American Samoa, Taiwan, Thailand, Panama, Solomon Islands, Papua New Guinea and other countries where fish are off-loaded from Vanuatu flagged vessels.	VFD and port countries where Vanuatu flagged vessels off-load.	SPC	Port State Management Agreements with all countries where Vanuatu flagged vessels off-load to be in place by end 2024.	Highest
		Make arrangements with Fiji to place a Ni-Vanuatu national as Port Observer in Suva to inspect all Vanuatu flagged vessels, as well as foreign vessels that are licensed to fish in Vanuatu waters. Continue discussion on the PSMA port state measure agreement with Fiji for them to carry our inspections on Vanuatu's behalf.	VFD and Fiji	SPC, regional observer programme	Ni-Vanuatu observer in position in Suva by mid-2024.	Highest
		Dedicate one VFD staff member as officer to coordinate port inspections.	VFD	SPC	Permanent port inspection officer recruited and in employment at VFD by end 2024.	Medium
Improve quality of by-catch data reporting.	Data can be used to make decisions at a national level and contribute to the global knowledge on by-catch.	Revise training of observers on species identification and by-catch mitigating devices.	VFD observer programme	SPC, NGOs, projects	Revised training materials by end 2024, report on training annually.	High

		Include CMMs on sharks in all pre-departure briefings for observers.	VFD		Included in report on pre-departure training. Ongoing.	High
		Supply equipment to assist identification to species level such as identification guides, binoculars and digital cameras.	VFD, Projects	NGOs, Projects	Included in annual report on observer programme. Ongoing.	Medium
		Report geographic spread of observer coverage.	VFD	SPC	Included in annual report on CMMs.	High
		Calculate catch per unit effort for each species, and use the same format for observer, logbook and port inspections to allow comparisons between data sources and to identify trends over time.	VFD	SPC	Included in annual report on CMMs.	High
		Port inspections to include the validation of off-loading data, checking CITES permits, checking that gear and documents on board comply with CMMs.	VFD, Port states	SPC	Annual Report on port inspections.	Highest
		Port inspections should check compliance with no finning and/or no landing of shark requirements.	VFD, Port states	SPC	Annual Report on port inspections.	High
		Data field for which mitigation devices are carried by vessels to be included in Port inspection data sheets for pre- and post-trip inspections both for Vanuatu and overseas inspections.	VFD, Port states	SPC	Revised port inspection data sheets being used by end 2024.	High
	Data can be used to ensure Vanuatu is 100% compliant with reporting requirements to RFMOs.	Ensure reporting to all RFMOs is on time and complete.	VFD	SPC, RFMOs	Annual reports are 100% compliant.	High

		Report observer coverage using % of hooks or sets.	VFD	SPC, RFMOs	Internal VFD annual reports and annual reports to RFMOs to report observer coverage as % of hooks or sets.	Medium
		Report by-catch in dedicated reports for each species group, using formats compatible with those required by CMMs.	VFD	SPC, RFMOs	Dedicated reports of by-catch for each species group within each annual VFD internal report and annual reports to RFMOs. Ongoing.	High
		Include mitigation measures used by vessels in the reports.	VFD	SPC, RFMOs	Mitigation measures used are included within each annual VFD internal report and annual reports to RFMOs. Ongoing.	High
Ensure action is taken when data suggests infringement of regulations.	Any infringement of fisheries regulations and international commitments are discovered and acted upon and included in SOPs.	Capacity is built within the VFD compliance team for analysing by-catch data.	VFD, SPC	NGOs, SPREP, CITES	At least 4 VFD officers have had training on by-catch data analysis by end of 2024.	High
		Mechanism and protocol developed to assess by-catch data and triggers for action set.	VFD	NGOs, SPREP, CITES	Protocol in place and triggers identified by end 2024.	Highest
Increase compliance of near-shore and coastal fishers.	All commercial fishing to be licenced and compliant with laws of Vanuatu.	Continue roll out of vessel tracking system in coastal fishing.	VFD and project partners	SPC	100% coverage by 2030.	High
		Run education and awareness campaigns to ensure fishers and vessels operators are aware of laws and regulations, and best practice fishing methods.	VFD	NGOs, SPC	2 campaigns run by end of 2024 and 4 by end of 2026.	Medium

		Find funding for and implement project to provide fishers with tablets to enable data entry into the TAILS and online vessel registration and payment system.	VFD, Projects	Projects	1000 tablets distributed to fishers by 2024. 50% of all commercial fishing vessels registered by end 2024. 80% of commercial fishing vessels registered by 2026.	Medium
		Conduct training of fisheries extension officers, fisheries authorised officers, local government officers at provincial and area council level and rangers of CCAs.	VFD, Projects	Projects and NGOs	Training conducted in at least 3 provinces by end 2024 and all 6 provinces by 2025.	Medium
Ensure commercial take of shark species is sustainable and complies with CITES regulations.	All international trade of shark species on Appendix II is accompanied by correct CITES permits.	Write non-detrimental findings for shark species listed on CITES Appendix II, caught in Vanuatu fisheries of by Vanuatu flagged vessels, where the take has been found to be sustainable.	VFD and DEPC	SPC, Projects, NGOs.	NDFs submitted to CITES secretariat: blue sharks by end 2024. All other shark species landed by commercial fleet by end 2024.	Highest
		Convene a meeting between DEPC, VFD, and Vanuatu Customs and Rates and Taxes to identify and develop a suitable inter-departmental procedure to adopt for the issuing of CITES permits.	VFD, DEPC	Customs Department, Rates andTaxes Department	Meeting held by end 2024.	High
		Contact the CITES Secretariat to correct the information on the CITES trade database and inform CITES secretariat of export prohibitions (including zero quotas) and request all Parties receive a notification of the restriction/quota.	DEPC	VFD	Data in CITES trade database is correct by end 2024.	Highest

Implement enforcement fines or other punishments for failure to abide by legislative requirements.	Legal protections for sharks are effective because law enforcement agencies are ensuring compliance.	Workshop for law enforcement agencies and government departments to foster collaboration on enforcing laws protecting sharks.	VFD/DEPC	State Law Office, Police, Maritime Polices, Ports and Harbours, Municipalities, Provincial officers	Workshop report including guide to responsibilities of each agency with respect to the legal responsibility to protect these species by end 2024.	High
		Enforcement activities implemented by law enforcement agencies.	VFD	State Law Office, Police, Maritime Polices, Ports and Harbours, Municipalities, Provincial officers	Annual report on enforcement activities. Ongoing.	Highest
		Create a guide for public for reporting infringements.	VFD	State Law Office, Police, Maritime Polices, Ports and Harbours	Guide for reporting of infringements by end 2028.	Medium
		Create a guide for public for reporting infringements.	VFD	State Law Office, Police, Maritime Polices, Ports and Harbours	Guide for reporting of infringements by end 2028.	Medium

1.5. Protection of critical ecosystems and habitat (Sharks)

Whilst direct action to mitigate known threats is vitally important, not all threats are known. Protecting important ecosystems and habitat used by seabirds, sharks and turtles throughout their life-stages will increase their chances of future survival.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Support existing or encourage creation of new Community Conservation Areas (CCAs) in areas important for sharks within sites that have been identified as important, for example, in the NBSAP or identified as a SUMA.	Critical habitats for sharks are protected within CCAs.	Continue or initiate discussions with communities about strengthening or setting up CCAs in all sites listed in the NBSAP or designated a SUMA, that mention sharks.	DEPC	NGOs, Projects	Discussions have been had with communities in all listed sites by end 2026.	Medium
		Ensure all management plans for CCAs have specific measures to protect sharks. CCA management plans should be registered with DEPC and reviewed regularly.	Communities, DEPC	NGOs, projects, VFD	100% of management plans for registered CCAs specifically mention sharks by 2026.	Medium
		Create species specific management plans in important breeding and foraging areas for sharks.	DEPC, VFD, NGOs, Projects	DEPC, VFD, NGOs, Projects	5 species-specific management plans written and being implemented by 2026.	Medium
		Establish if there are other key habitats for sharks in Vanuatu along the coast or at sea.	DEPC, VFD, NGOs, Projects	DEPC, VFD, NGOs, Projects	Report on other potential sites by end 2025.	Medium
Ensure Vanuatu's Key Biodiversity Areas (KBAs) triggered by sharks are assessed and monitored.	All sites in Vanuatu that contain habitat for sharks that meet the global KBA criteria are recognised and registered on the global KBA database.	Validate Vanuatu KBAs using the new global criteria.	Vanuatu KBA National Committee, DEPC, VFD	NGOs, KBA secretariat.	All current KBAs are re-validated by end 2025.	Medium
		Ensure population data on sharks that are trigger species in KBAs is up to date and can be used to validate a KBA.	DEPC, VFD, NGOs	NGOs, Projects	Data collected by end 2025.	Medium

		Identify any potential new sites that would be triggered by sharks.	DEPC, VFD, NGOs	NGOs, Projects	List of potential new sites by end 2026.	Medium
		Identify any important sites for sharks that would qualify as Ramsar sites and apply for recognition.	DEPC, VFD	Projects, NGOs	Potential Ramsar sites identified by end 2025.	Medium
Protect critical habitat for sharks in Vanuatu.	Important Shark and Ray Areas (ISRAs) identified and designated.	Identify any areas that meet the criteria for a potential Important Shark and Ray Areas (ISRAs).	NGOs, VFD, IUCN Shark Specialist Group	NGOs, VFD, IUCN Shark Specialist Group	All potential ISRAs identified by end 2025.	Medium
		Collaborate with IUCN Shark Specialist Group to designate (ISRAs) in Vanuatu waters.	NGOs, VFD, IUCN Shark Specialist Group	NGOs, VFD, IUCN Shark Specialist Group	Any ISRA that meeting the global criteria registered by end 2026.	Medium

1.6. Tourism (Sharks)

Tourism is an important part of the economy in Vanuatu and cross-cuts society from local grass-roots tourism operators to large foreign investments. Iconic species such as sharks and turtles are attractions for tourists, and seabirds can appeal to the niche markets of birders. Other tourism activities, such as fishing, boating and developments along the coast have potential to impact, both directly and indirectly, the survival of many species of seabirds, sharks and turtles found in Vanuatu waters and on the shore. However, tourism done well has the potential to educate, gather vital information about these species, and increase the value of the tourist's experience. The following actions are designed to move tourism interacting with seabirds, sharks and turtles from exploitative or potentially harmful to a sustainable model with potential to benefit these species and Vanuatu's reputation as a sustainable tourism destination. Goal 4 of Vanuatu's Sustainable Tourism Policy specifically recognises the role of biodiversity and Key Biodiversity Areas in promoting and sustaining Vanuatu's tourism industry and vice-versa.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Develop sustainable tourism using best practice methods and avoid captive animals.	No tourism business holds captive sharks.	No new tourism permits are issued to new ventures that propose business activities that hold captive sharks.	DoT, VFD	VFIPA, DLA	From beginning of 2024.	Highest
		Create brochure for distribution at the Department of Tourism (DoT) and Vanuatu Foreign Investment Promotion Agency (VFIPA) for new investors or tourism operators, describing obligations to safeguard species of conservation concern, and laws and policies to be aware of before beginning development or starting a new business.	VFD, DoT, VFIPA	NGOs, projects	Brochure available online and at DoT and VFIPA by end 2024.	High
		Ensure businesses that are non-compliant are not featured in campaigns or endorsed by government agencies such as VTO.	DoT, VTO	VFD, DEPC	No non-compliant businesses featured in campaigns by end 2024.	High
	All tourism involving sharks is sustainable and non-invasive.	Develop best practice guidelines for responsible shark and ray tourism as a pre-emptive initiative to ensure any new ventures are run sustainably and responsibly. Include guidance for game fishing interactions with sharks.	NGOs, Projects	DoT, VFD, DEPC, SPREP	Best practice guideline written and published by end 2024	Medium

		Add a minimum standard for shark tourism with Department of Tourism's accreditation programme or revise wildlife activities minimum standard to incorporate measures/criteria specific to protect these species.	DoT	NGOs, VFD, DEPC, projects	New minimum standard published within the accreditation scheme by end 2024.	High
		Encourage tourism operators to engage in accredited citizen science programmes that gather data and contribute to education and awareness of sharks.	NGOs, Projects	DoT, VCCI, VTO	Ongoing. At least 2 tourism businesses offering a tourism product with a citizen science component by end 2026.	Medium

Cross cutting themes:

1.7. Education, awareness, and communications (Sharks)

Education and awareness raising about seabirds, sharks and turtles and their plight is essential to achieve buy-in from businesses, institutions and individuals to make a collective effort to ensure these species are protected and managed sustainably and survive into the future. Good communication is essential to successful outcomes for many of the activities listed in each theme above. Education, awareness raising and communications that are intrinsically linked to activities in the rest of the plan are listed with those activities. However, there are stand-alone education, awareness raising and communications activities that will contribute to the conservation of these species, and those are listed in this section.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Inform the public of the new NPOA for seabirds, sharks and turtles (NPOA-SST).	Although the NPOA-SST is a government policy there are many actors who can assist in achieving the objectives within it, and making them aware of the role they can play will assist VFD identifying those that can help.	Launch event.	VFD, VESS, Savvy Vanuatu	DEPC, DoT, SPREP	Event held by July 2024.	Highest
		Newspaper, radio and social media stories about the launch of the new NPOA-SST.	VFD, VESS, Savvy Vanuatu	DEPC, DoT, SPREP	At least one newspaper article, social media story and radio show on the new NPAO-SST by mid-2024.	Highest
Communicate to other government departments about their role in achieving the aims of the NPOA-SST.	The NPOA-SST is a policy of the VFD, however there are many activities where other departments can and should play a role. Communicating this improves the outcomes from the policy.	Conduct workshops to bring the government stakeholders together to improve coordination for the protection, conservation and management of seabirds, sharks and turtles, including but not restricted to: VFD, DEPC, DoT, DCC, Customs, Ports and Harbours, Vanuatu Maritime Safety Authority (VMSA), the Police, the Police Maritime Wing, the Cultural Centre and provincial governments.	VFD	NGOs, other government departments, SPREP	Workshop conducted by end 2024.	High

Communicate to NGOs, community conservation networks, regional academic institutions and donors about their role in achieving the aims of the NPOA-SST.	The aims of the NPOA-SST are ambitious and VFD does not have either the financial or the human resources to achieve all the goals. Communicating where donors and NGOs can play a role will improve outcomes.	Host a workshop for NGOs, community conservation networks, regional academic institutions and donors to present the NPOA-SST and areas where assistance is needed.	VFD	VESS, other NGOs, Projects	Workshop conducted by end 2024.	High
Increase the general knowledge of sharks within the Vanuatu population.	By being more aware of the status of sharks and the threats they face, more people in Vanuatu will be motivated to take action to conserve them.	Design and implement education programmes for schools, local communities and the public to increase knowledge of Vanuatu's sharks.	NGOs, VFD, DEPC	Projects, NGOs	At least one programme rolled out by end 2024 and two by end 2027.	High
		Create field guides for species of sharks found in Vanuatu, using resources such as from SPC and CITES secretariat and NGOs.	NGOs, SPC	Projects, NGOs, academic institutions, CITES, RFMOs	Field guides designed and available by end of 2025.	Medium
		Encourage people to engage in citizen science programmes to gather information on sharks.	NGOs, Tourism operators, VFD, DEPC	Projects, NGOs, Local government, conservation networks (e.g. Vanua Tai) DEPC rangers, Tails monitors	At least two citizen science programmes being actively used by end 2026.	Medium
Increase awareness on the effect of plastic pollution on sharks.	Behaviour changes by general Vanuatu population to reduce littering and inappropriate disposal of plastics.	Design and roll out awareness campaigns on the effect of plastic pollution on sharks and effective measures that will reduce plastic pollution of the oceans and beaches.	NGOs, DEPC, VFD, Oceans Office	Projects, NGOs, Conservation networks	At least one campaign rolled out by end 2024 and two by end of 2027.	Medium

1.8. Collaboration (Sharks)

Seabirds, sharks and turtles cross jurisdictions, and they can be found throughout the archipelago of Vanuatu's islands as well as in the pelagic ocean. To effectively reduce the extinction risk of these species that play such an important role in the ecosystem requires collaboration at many levels. Whilst specific or potential collaborations are listed against the actions within this plan, there are some general overarching collaborations between the Vanuatu government and others acting to conserve seabirds, sharks and turtles in Vanuatu that would facilitate achieving the aims of this NPOA-SST, including:

1. Continue to be an active member of regional and global organisations.
   - Participate in RFMO meetings and actively engage on seabird, shark and ray and turtle matters at WCPFC and IATTC.
   - Attend meetings of CMS-Shark MoU, CITES, Ramsar, CBD (and CMS and ACAP if Vanuatu becomes a member).
   - Designate named focal points for long-term engagement on the conventions and find funding to send delegations of knowledgeable experts to COP meetings.
   - Consider becoming members of committees of international conventions such as the standing committee for animals of CITES.
   - Attend FAO meetings.
2. Work with neighbouring countries and through regional fisheries management bodies such as FFA and WCPFC to ensure migratory species are more effectively managed throughout their range and not just within Vanuatu national waters by:
   - Requesting stock-wide regional scientific advice from RFMOs and FFA to support future NDFs across all CITES Appendix II listed sharks andrays.
   - Encouraging species-specific data collection by designating them as species of special interest.
   - Identifying opportunities for conducting regional NDFs to more effectively manage migratory sharks and rays.
   - Developing proposals or advice at WCPFC and IATTC Working Groups, Scientific Committees, and Commission meetings and obtaining support from other members for adoption.
3. Participate in global or regional programmes for species conservation where their range overlaps multiple jurisdictions, such as working with New Zealand to protect Antipodean Albatross and becoming a signatory to the CMS Agreement for the Conservation of Albatrosses and Petrels (ACAP).
4. Consider becoming a party to the CMS convention.
5. Collaboration with other fishing nations to effectively monitor activity of the commercial fishing fleet, such as with Australia, New Zealand, and USA on piloting electronic monitoring of fishing vessels or regional enforcement efforts.
6. Collaborate on research programmes such as with WCPFC, Institute of Research for Development (IRD), SPC, regional science and academic institutions or NGOs.
7. VFD to promote, encourage and work with universities and other (including private or independent) research agencies for research and data collection that informs regional stock assessments, particularly for shark catch/by-catch.
8. Collaborate with the international community for the effective management of the High Seas, including High Seas Pocket number 4, between Fiji Solomon Island and Vanuatu.
9. Strengthen the collaboration between government departments and ministries to ensure a clear unified message is communicated to the public, and all government entities play their part in preserving these species.
10. Continue and strengthen collaboration of government departments, particularly VFD and DEPC, with local NGOs and the National University of Vanuatu.
11. Continue collaboration between government and local communities and conservation networks for the protection and conservation of sharks, seabirds, and turtles.

2. Seabirds

2.1. Research and monitoring (Seabirds)

Research and monitoring are critical to understanding the population status, trends and threats that marine species face. Without this knowledge, taking action, and knowing that it is effective, is harder. Whilst there is research on a global level that can be extrapolated to Vanuatu, many data gaps exist in our Vanuatu-specific knowledge about seabirds, sharks and turtles. Filling these data gaps will enable Vanuatu to better protect and manage these species. In the absence of complete research, the Precautionary Principle should always be observed.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Understand the extent and causes of mortality in seabirds by improving data collection.	All seabird interactions with fishing are reported to at least family level, if species identification difficult.	Add fields to logbooks and Tails app to record seabird interactions. Include data fields for size (lengths), sex, maturity and condition upon release.	VFD	SPC and Taiwanese company assisting with logbook reporting.	Data fields added to all logbooks and to Tails app by mid 2024.	Highest
		Identification guides for seabirds, in the common languages of the vessels, are carried on all fishing vessels.	Observers, vessel operators, Fisheries Authorised Officers (AOs), fishers and Tails monitors. VFD to provide guides in different languages, including but not limited to Bislama, Chinese languages and dialects, Tagalog and Bahasa Indonesia.	SPC and/or NGOs to assist VFD and DEPC to develop and print identification guides.	Identification guides on all fishing vessels by end 2024.	Highest
		Training and equipment provided to aid the identification of species.	VFD to improve training of observers, AOs and Tails monitors and to provide equipment such as binoculars and digital cameras.	SPC and/or NGO projects to assist with technical advice and funds.	Training conducted and reported annually.	Highest
	Level of by-catch of seabirds in all Vanuatu fisheries and by Vanuatu flagged vessels is known.	Data from all sources is analysed to calculate catch per unit effort and assessed for trends and the results used to inform regional stock assessments, better handling practices and possible by-catch mitigation measures.	VFD	SPC, NGOs, projects	Initial assessment report by end 2024. Thereafter reported annually.	High

	Identify the level of illegal harvest of seabirds.	Surveys of fishers and markets.	VFD	NGOs	Report on illegal harvesting of seabirds by end 2025.	Medium
To better understand species range, breeding status, population trends, ecology, and foraging distributions of seabirds in Vanuatu.	All breeding colonies of seabirds have been identified, surveyed and are regularly monitored.	Survey known colonies of seabirds to establish population baselines.	VFD/DEPC	NGOs (e.g., BirdLife International),	Half of all known colonies surveyed by end of 2025. All surveyed by end of 2027.	Medium
		Confirm colony status of suspected breeding sites for seabirds.	VFD/DEPC	NGOs (e.g., BirdLife International),	All seabird colonies mapped and documented by end of 2027.	Medium
		Perform studies to identify breeding locations and other critical habitat for species such as Vanuatu petrel, where breeding locations in Vanuatu are currently unknown.	VFD/DEPC	NGOs (e.g., BirdLife International)	At least one study conducted by 2027.	Medium
	Population status and trends are known for all species of seabird in Vanuatu.	Encourage communities living close to seabird colonies to monitor seabirds.	VFD, DEPC, WSB, NGOs, Projects	VFD, DEPC, WSB, NGOs, Projects	10 communities actively engaged in monitoring seabirds and/or turtles by end of 2026. 20 communities actively engaged in monitoring seabirds and/or turtles by end of 2028.	Medium
		Encourage citizen science reporting of seabird observations, including in tourism settings, to databases such as eBird and iNaturalist.	NGOs, Projects	VFD, DEPC	Databases have at least 100 new occurrence records by 2025.	Medium
		Collate data from all sources and assess population where enough data exists.	VFD, DEPC	NGOs, projects	Report on population status and trend for all endemic seabird species listed on Appendix II of CITES, by end 2026.	High

Understand the threats faced by seabirds in Vanuatu.	Understand the impact of climate change on seabirds in Vanuatu and implement mitigation measures to ensure their survival.	Research and monitor the impact of climate change on seabirds in Vanuatu such as the effects of storm damage, nest wash-out, beach morphology changes and sand temperature.	NGOs, Regional academic organisations	VFD, DEPC, WSB	Report on impact of climate change on seabirds in Vanuatu by end 2026. Monitoring report every 3 years.	Medium
		Trial mitigation measures that will increase the likelihood of Vanuatu's seabirds surviving in the face of climate change, to ensure they are effective in Vanuatu or on Vanuatu flagged vessels.	NGOs, Regional academic institutions, ACAP, projects	VFD, DEPC, WSB	Report on trial by end 2027. Put in place Plan for mitigation measures to protect these species by end 2028.	Medium
	Understand traditional take of seabirds and assess the sustainability of this.	Conduct surveys to establish population status and establish a sustainable take level.	VFD	NGOs, projects	Levels of sustainable take have been established for each population where there is traditional take by end 2026. Accurate records of traditional take of seabirds and their eggs are kept.	High
		Monitor sustainable take against the established baselines from the studies above.	VFD, DEPC	NGOs, projects	Annual report on intentional take of seabirds.	High
		Conduct research to establish the level, if any, of domestic and international trade in seabirds.	NGOs, projects	VFD, DEPC	Report on domestic and international trade in seabirds by end 2025	Medium
	Evaluate the threat from invasive species.	Identify predator species where seabirds are nesting and prioritise sites for eradication or control.	NGO's Projects, regional academic institutions.	DEPC, communities	Report on predation of seabird nests with list of priority sites for intervention by 2025.	Medium
		Conduct feasibility studies for control or eradication of invasive species.	NGO's Projects, Regional academic institutions.	VFD, DEPC, communities	Report on invasive species control or eradication feasibility study by 2027.	High
		Conduct research to establish the best mitigation methods to prevent predation of nests without causing other harm to seabirds.	NGO's Projects, Regional academic institutions.	VFD, DEPC, communities	Best practice guide to preventing predation by invasive species by end 2026.	High

2.2. Threat Reduction (Seabirds)

Many of the threats facing seabirds, sharks and turtles are known, and taking direct action to mitigate these threats, as part of an international effort or on a national or local level, will result in a lower risk of species extinction both locally and globally.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
By-catch mitigation.	Reduce by-catch in Vanuatu fisheries and by Vanuatu flagged vessels to levels that do not impact species survival.	Enforcement action to ensure all vessels are implementing conservation and management measures (CMMs) listed in Table 21.	VFD	RFMOs and SPC, projects	Annual report by VFD compliance division indicating number of enforcement activities and % of vessels checked. Ongoing.	Highest
		Phase in requirement that all FADs are non-entangling, and to the extent possible, are made from biodegradable materials.	VFD, fishers, projects	SPC, NGOs	Evidence all FADs in Vanuatu waters or deployed by Vanuatu flagged vessels are non-entangling and, to the extent possible, are made from biodegradable materials by 2028.	Medium
		Promote the guidelines on safe handling and release of by-catch species.	VFD	SPC	Evidence all vessels have copies of guidelines on board vessels by 2025 and are using them, as evidenced by observer data.	High
	Reduce by-catch in Vanuatu artisanal fisheries and inshore commercial fisheries.	Promote good practice in the gillnet fishery such as gillnet-free zone in high turtle areas not leaving nets unattended, setting gillnets taut and not loose.	VFD	NGOs, SPC, Projects	Awareness raising activities conducted, fishers trained, and booklet produced depicting good practice in gillnet fishery.	High
		Develop specific guidelines and licence conditions for longline fishers and for game fishers operating in the coastal fishery addressing CMMs to protect seabirds.	VFD	NGOs, SPC, Projects	Awareness raising activities conducted, fishers trained, and booklet produced with guidelines and good practice in long line and game fishery by end 2024.	High

Ensure the traditional take of seabird eggs, chicks or adults is sustainable.	The future survival of Vanuatu's seabirds is not threatened by traditional take.	Set target rates for intentional take of seabird eggs, chicks or adults, informed by scientific research and Indigenous knowledge.	VFD, DEPC, VKS	NGOs	Targets set for sustainable take of 1 species of seabird by 2026 and 3 species of seabirds by 2028	Medium
		Consultation with communities that are traditionally harvesting, to introduce measures that can decrease the impact of the take on the population.	VFD, VKS	WSB, NGOs, projects	Report on consultation by end 2026.	Medium
		Consider banning the use of slingshots to kill seabirds coming to land to nest.	DEPC	VFD, NGOs Projects	Decision on whether to ban slingshots for killing seabirds by end 2024.	Medium
Reduce direct impact of pollution, coastal development and compromised water quality on habitat critical for seabirds, such as coral reefs, seagrass meadows and mangroves.	Ensure EIAs adequately consider the impact on seabirds.	Refer developers and consultants conducting EIAs to SPREP EIA guidelines for coastal tourism development and strategic Environmental Assessment guidelines .	DEPC, VFIPA, VPMU, DUAP Dept of Urban Affairs and Planning, DLA (Dept of Local Authorities)	SPREP	All developers and consultants are made aware of guidelines from 2024 onwards.	Highest
		Create national guidelines for EIAs, developed from regional guidelines such as SPREP and JICA.	DEPC, SLO, DUAP, DLA		Guideline completed by end 2026.	Medium
		Specifically request assessment of impact on seabirds in all EIAs and increase capacity of DEPC EIA department to assess EIAs for impacts to seabirds.	DEPC, VFIPA, VPMU, DUAP, DLA	SPREP	All coastal developments have EIAs conducted and all EIAs report on potential impacts on seabirds from 2024.	Medium
		Audit of current projects to include assessment of impact on seabirds.	DEPC	SPREP, VFIPA, VPMU, DUAP, DLA	All current projects have been assessed by end 2024.	Medium
		Require assessment of the effects of sewers, drainage, runoff, rubbish disposal, light pollution and power lines on seabirds in new developments.	DEPC, VFIPA, VPMU, DUAP, DLA	SPREP	All new development EIAs to report on the potential impacts of sewers, drainage, runoff, rubbish disposal, light pollution and power lines on seabirds.	Medium

Reduce the impact of pollution on seabirds in the coastal and pelagic ocean.	Reduce marine plastic pollution.	Enforce compliance with international regulations on vessel discharges both at sea and in port - MARPOL . Ensure disposal at port is appropriate and expected quantities for the trip.	VFD, DEPC, VMSA	Maritime branch of police	Report on enforcement actions taken. 100% of vessels in compliance by end 2024.	High
		Address land-based sources of plastic pollution with initiatives such as container deposit scheme legislation and enforce littering regulations, volunteer clean-ups and recycling projects.	DEPC	Municipalities and provincial officers	Report on enforcement actions taken and initiatives by end 2024 and annually.	High
Reduce impact of invasive species and domestic animals.	Invasive species and domestic animals are not a threat to Vanuatu's seabirds.	Control or eradicate the predation of seabird nests by dogs, cats and ants, informed by scientific research and indigenous knowledge.	Department of Biosecurity, DEPC, VFD	Community members, NGOs	Eradication programmes or control measures are in place on 50% of breeding colonies where invasive species have been identified as a threat by 2026 and 100% of colonies by 2028.	Medium
To have management plans, including NDFs where appropriate, for all threatened species of seabirds that are harvested and/or traded.	The take of threatened species is planned, monitored and measured against sustainability thresholds.	Write management plans for threatened species of seabirds that are harvested or traded.	VFD, DEPC	NGOs, Projects	10 management plans are in place and being implemented by end of 2025. All threatened species of seabirds that are harvested or traded have a management plan in place by end of 2027.	Medium

2.3. Legislation (Seabirds)

Having legislation in place to protect seabirds, sharks and turtles gives a clear message as to how people and businesses should behave with respect to these species, and outlines consequences should they not comply.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Ensure national legislation captures requirements and obligations placed upon Vanuatu by international conventions and agreements are met.	National legislation is aligned with Vanuatu's regional and international obligations.	Publish gazette of conservation and management measures, as prescribed under the Fisheries Act 2014. Set up mechanism for revising CMMs annually.	VFD	SLO, SPC, RFMOs, NGOs, Projects	Gazette of conservation and management measures is published by end 2024.	Highest
		Distribute circulars when CMMs are updated.	VFD		Circulars published and distributed to affected parties whenever there is a requirement to update CMMs.	High
		Ensure by-catch mitigation measures are incorporated into the revised regulations under the Fisheries Management Act 2014 for the off-shore and in-shore fisheries.	VFD	SLO	Fisheries regulations include by-catch mitigation measures by end 2024.	High
		Update International Trade (Fauna and Flora) Act to reflect changes to the CITES treaty and ensure new species added to CITES Appendices are captured within the Act.	VFD, DEPC and SLO	SPREP, CITES secretariat, Projects	Trade (Fauna and Flora) Act is updated by end 2024.	High
		Review the Fisheries Act 2014 to recognise the requirement to provide for CITES requirements including NDFs to ensure complementarity between CITES legislation and fisheries legislation (refer to FAO guideline).	VFD and SLO	DEPC, SPREP, CITES secretariat, Projects	Fisheries Act is updated to reflect CITES requirements by end 2024.	High
		Ensure CITES legislation also recognises role of Fisheries Act.	VFD, DEPC and SLO	SPREP, CITES secretariat, Projects	Trade (Fauna and Flora) Act is updated to reflect role of Fisheries Act by end 2024.	High

Ensure seabirds are adequately protected under national legislation.	Species regulations under the Environmental Protection Act, which are currently being drafted, include measures to protect seabirds.	Ensure seabirds are recognised in the protected species regulations.	DEPC	SLO, VFD	Draft of legislation specifically mentions seabirds by end 2025.	High
		Include measures in the regulations to ensure the traditional take of seabirds is sustainable.	DEPC	SLO, VFD, NGOs such as Birdlife International	Draft regulation on measures to ensure sustainability of take of seabirds by end 2025.	Medium
Vanuatu is a responsible global citizen with respect to protecting seabirds.	Vanuatu is a signatory to all relevant international agreements and conventions that protect seabirds.	Consider benefits and obligations of becoming a signatory to the CMS.	VFD, DEPC, SLO	CMS secretariat	Meeting of departments for discussion on joining CMS by end 2024.	Medium
		Consider benefits and obligations of becoming a signatory to the Agreement on the Conservation of Albatrosses and Petrels (ACAP).	VFD, DEPC, SLO	ACAP secretariat	Meeting of departments for discussion on joining ACAP by end 2024.	Medium

2.4. Compliance and Enforcement (Seabirds)

Whilst it is paramount to have good legislation in place to protect seabirds, sharks and turtles, if those laws are not being enforced their credibility is undermined. Compliance and enforcement action ensures that the species are managed and protected, but also give assurances to businesses and individuals that they are on a level playing field and that adhering to the law does not put them at a disadvantage to those that do not.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Ensure vessels are complying with conditions of licences and laws of Vanuatu.	All vessels are compliant with the laws of Vanuatu and conditions of licence.	Make sure all vessels submit logbook data within the correct timeframe and implement enforcement action for those that don't.	VFD	SPC, Taiwanese agent	100% compliance with e-logbook data requirements by mid 2024. Ongoing with annual report.	Highest
		Ensure all other conditions of licences are adhered to.	VFD	SPC, Taiwanese agent	100% compliance. Ongoing with annual report.	Highest
		To implement a longline-vessel-day-scheme within the EEZ to better manage effort in the longline fishery.	VFD	SPC	Longline vessel day scheme in place by 2024.	High
Improve communication about Conservation and Management Measures between VFD and the commercial fishing industry.	All vessels are aware of their obligations and are up to date with any new rules.	Circulate NPOA-SST to all vessels after launch.	VFD	Taiwanese agent	New NPOA-SST circulated to all fishing companies and vessels by end-2024.	Highest
		Circulate information after new measures come into force, such as new resolutions from RFMOs or new species are added to CITES appendices.	VFD	SPC, RFMOs, CITES secretariat, Taiwanese agent	Ongoing. Circular written and dispersed within one month of any change to CMMs.	Highest
Improve observer coverage.	Targets for observer coverage set in government policies are achieved.	Re-instate observer programme to pre-pandemic levels after interruption due to the COVID-19 pandemic.	VFD, regional observer programme	VFD, fishing vessels, Taiwanese Agent	5% observer coverage of longline vessels and 100% coverage of purse seine vessels and locally-based foreign vessels by end 2024.	Highest

		Increase Observer coverage to:20% for Vanuatu flagged longline vessels, 100% all purse seine vessels, and 100% for locally based foreign fishing vessels.	VFD, regional observer programme	VFD, fishing vessels, Taiwanese Agent	20% observer coverage of longline vessels by end 2024. 100% of coverage of purse seine vessels and locally-based foreign vessels by end-2024.	Highest
		Instigate the long line vessel day licencing scheme to assist with observer coverage.	VFD	Regional Observer programme	Day Vessel scheme introduced by end 2025.	High
	The costs of the observer programme are borne by the fishing industry.	Continue development of cost recovery programme to fund increased observer coverage.	VFD, regional observer programme	Projects, SPC, NGOs	Cost recovery programme in place by end 2024.	High
	Technology is being used to reduce costs and risks to observers.	Reinstate the electronic monitoring as an adjunct to human observers in collaboration with partners.	VFD and pilot programme partners	Projects	Report on pilot programme by end 2024.	High
		Training for fisheries officers for analysis of electronic monitoring data.	VFD and pilot programme partners	NGOs, SPC, Projects	Report of training by end 2025.	High
		Set targets for level of review of vessel activity undergoing electronic monitoring.	VFD and pilot programme partners	SPC	Target of level of review for each vessel type set by end 2024.	High
		Improve infrastructure needed for electronic monitoring, such as increased IT monitoring stations.	VFD and pilot programme partners	Projects	6 monitoring stations for e-observing in place by 2026.	Medium
		Increase number of observers at electronic monitoring station.	VFD and pilot programme partners	Projects	6 additional observers employed and trained as electronic monitoring observers by 2026.	Medium
		Develop a sustainable financing mechanism to fund electronic monitoring including staff, hardware, software and maintenance.	VFD	Projects	Sustainable funding that covers cost of all electronic monitoring costs in place by 2026.	High

Improve and strengthen port inspections.	Port inspections are carried out on all Vanuatu flagged vessels wherever they land their catch.	Finalise and strengthen Port State Management Agreements with countries where Vanuatu flagged vessels land their catch, in particular: Fiji, Samoa, American Samoa, Taiwan, Thailand, Panama, Solomon Islands, Papua New Guinea and other countries where fish are off-loaded from Vanuatu flagged vessels.	VFD and port countries where Vanuatu flagged vessels off-load.	SPC	Port State Management Agreements with all countries where Vanuatu flagged vessels off-load to be in place by end 2024.	Highest
		Make arrangements with Fiji to place a Ni-Vanuatu national as Port Observer in Suva to inspect all Vanuatu flagged vessels, as well as foreign vessels that are licensed to fish in Vanuatu waters. Continue discussion on the PSMA port state measure agreement with Fiji for them to carry our inspections on Vanuatu's behalf.	VFD and Fiji	SPC, Regional observer programme	Ni-Vanuatu observer in position in Suva by mid-2024.	Highest
		Dedicate one VFD staff member as officer to coordinate port inspections.	VFD	SPC	Permanent port inspection officer recruited and in employment at VFD by end 2024.	Medium
Improve quality of by-catch data reporting.	Data can be used to make decisions at a national level and contribute to the global knowledge on by-catch.	Revise training of observers on species identification and by-catch mitigating devices.	VFD observer programme	SPC, NGOs, projects	Revised training materials by end 2024, report on training annually.	High
		Include CMMs on seabirds in all pre-departure briefings for observers.	VFD		Included in report on pre-departure training. Ongoing.	High
		Supply equipment to assist identification to species level such as identification guides, binoculars and digital cameras.	VFD, Projects	NGOs, Projects	Included in annual report on observer programme. Ongoing.	Medium
		Report geographic spread of observer coverage.	VFD	SPC	Included in annual report on CMMs.	High

		Calculate catch per unit effort for each species, and use the same format for observer, logbook and port inspections to allow comparisons between data sources and to identify trends over time.	VFD	SPC	Included in annual report on CMMs.	High
		Port inspections to include the validation of off-loading data, checking CITES permits, checking that gear and documents on board comply with CMMs.	VFD, Port states	SPC	Annual Report on port inspections.	Highest
		Port inspections should check compliance with mitigation measures for seabirds.	VFD, Port states	SPC	Annual Report on port inspections.	High
		Data field for which mitigation devices are carried by vessels to be included in Port inspection data sheets for pre- and post-trip inspections both for Vanuatu and overseas inspections.	VFD, Port states	SPC	Revised port inspection data sheets being used by end 2024.	High
	Data can be used to ensure Vanuatu is 100% compliant with reporting requirements to RFMOs.	Ensure reporting to all RFMOs is on time and complete.	VFD	SPC, RFMOs	Annual reports are 100% compliant.	High
		Report observer coverage using % of hooks or sets.	VFD	SPC, RFMOs	Internal VFD annual reports and annual reports to RFMOs to report observer coverage as % of hooks or sets.	Medium
		Report by-catch in dedicated reports for each species group, using formats compatible with those required by CMMs.	VFD	SPC, RFMOs	Dedicated reports of by-catch for each species group within each annual VFD internal report and annual reports to RFMOs. Ongoing.	High

		Include mitigation measures used by vessels in the reports.	VFD	SPC, RFMOs	Mitigation measures used are included within each annual VFD internal report and annual reports to RFMOs. Ongoing.	High
Ensure action is taken when data suggests infringement of regulations.	Any infringement of fisheries regulations and international commitments are discovered and acted upon and included in SOPs.	Capacity is built within the VFD compliance team for analysing by-catch data.	VFD, SPC	NGOs, SPREP, CITES	At least 4 VFD officers have had training on by-catch data analysis by end of 2024.	High
		Mechanism and protocol developed to assess by-catch data and triggers for action set.	VFD	NGOs, SPREP, CITES	Protocol in place and triggers identified by end 2024.	Highest
Increase compliance of near-shore and coastal fishers.	All commercial fishing to be licenced and compliant with laws of Vanuatu.	Continue roll out of vessel tracking system in coastal fishing.	VFD and project partners	SPC	100% coverage by 2030.	High
		Run education and awareness campaigns to ensure fishers and vessels operators are aware of laws and regulations, and best practice fishing methods.	VFD	NGOs, SPC	2 campaigns run by end of 2024 and 4 by end of 2026.	Medium
		Find funding for and implement project to provide fishers with tablets to enable data entry into the TAILS and online vessel registration and payment system.	VFD, Projects	Projects	1000 tablets distributed to fishers by 2024. 50% of all commercial fishing vessels registered by end 2024. 80% of commercial fishing vessels registered by 2026.	Medium
		Conduct training of fisheries extension officers, fisheries authorised officers, local government officers at provincial and area council level and rangers of CCAs.	VFD, Projects	Projects and NGOs	Training conducted in at least 3 provinces by end 2024 and all 6 provinces by 2025.	Medium

Implement enforcement fines or other punishments for failure to abide by legislative requirements.	Legal protections for seabirds are effective because law enforcement agencies are ensuring compliance.	Workshop for law enforcement agencies and government departments to foster collaboration on enforcing laws protecting seabirds.	VFD/DEPC	State Law Office, Police, Maritime Polices, Ports and Harbours, Municipalities, Provincial officers	Workshop report including guide to responsibilities of each agency with respect to the legal responsibility to protect these species by end 2024.	High
		Enforcement activities implemented by law enforcement agencies.	VFD	State Law Office, Police, Maritime Polices, Ports and Harbours, Municipalities, Provincial officers	Annual report on enforcement activities. Ongoing.	Highest
		Create a guide for public for reporting infringements.	VFD	State Law Office, Police, Maritime Polices, Ports and Harbours	Guide for reporting of infringements by end of 2028.	Medium

2.5. Protection of critical ecosystems and habitat (Seabirds)

Whilst direct action to mitigate known threats is vitally important, not all threats are known. Protecting important ecosystems and habitat used by seabirds, sharks and turtles throughout their life-stages will increase their chances of future survival.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Support existing or encourage creation of new Community Conservation Areas (CCAs) in areas important for seabirds within sites that have been identified as important, for example, in the NBSAP or identified as a SUMA.	Critical habitats for seabirds are protected within CCAs.	Continue or initiate discussions with communities about strengthening or setting up CCAs in all sites listed in the NBSAP or designated a SUMA, that mention seabirds.	DEPC	NGOs, Projects	Discussions have been had with communities in all listed sites by end 2026.	Medium
		Ensure all management plans for CCAs have specific measures to protect seabirds. CCA management plans should be registered with DEPC and reviewed regularly.	Communities, DEPC	NGOs, projects, VFD	100% of management plans for registered CCAs specifically mention seabirds by 2026.	Medium
		Create species specific management plans in important breeding and foraging areas for seabirds.	DEPC, VFD, NGOs, Projects	DEPC, VFD, NGOs, Projects	5 species-specific management plans written and being implemented by 2026.	Medium
		Establish if there are other key habitats for seabirds in Vanuatu on land, along the coast or at sea.	DEPC, VFD, NGOs, Projects	DEPC, VFD, NGOs, Projects	Report on other potential sites by end 2025.	Medium
Ensure Vanuatu's Key Biodiversity Areas (KBAs) triggered by seabirds are assessed and monitored.	All sites in Vanuatu that contain habitat for seabirds that meet the global KBA criteria are recognised and registered on the global KBA database.	Validate Vanuatu KBAs using the new global criteria.	Vanuatu KBA National Committee, DEPC, VFD	NGOs, KBA secretariat.	All current KBAs are re-validated by end 2025.	Medium
		Ensure population data on seabirds that are trigger species in KBAs is up to date and can be used to validate a KBA.	DEPC, VFD, NGOs	NGOs, Projects	Data collected by end 2025.	Medium
		Identify any potential new sites that would be triggered by seabirds.	DEPC, VFD, NGOs	NGOs, Projects	List of potential new sites by end 2026.	Medium
		Identify any important sites for seabirds that would qualify as Ramsar sites and apply for recognition.	DEPC, VFD	Projects, NGOs	Potential Ramsar sites identified by end 2025.	Medium

2.6. Tourism (Seabirds)

Tourism is an important part of the economy in Vanuatu and cross-cuts society from local grass-roots tourism operators to large foreign investments. Iconic species such as sharks and turtles are attractions for tourists, and seabirds can appeal to the niche markets of birders. Other tourism activities, such as fishing, boating and developments along the coast have potential to impact, both directly and indirectly, the survival of many species of seabirds, sharks and turtles found in Vanuatu waters and on the shore. However, tourism done well has the potential to educate, gather vital information about these species, and increase the value of the tourist's experience. The following actions are designed to move tourism interacting with seabirds, sharks and turtles from exploitative or potentially harmful to a sustainable model with potential to benefit these species and Vanuatu's reputation as a sustainable tourism destination. Goal 4 of Vanuatu's Sustainable Tourism Policy specifically recognises the role of biodiversity and Key Biodiversity Areas in promoting and sustaining Vanuatu's tourism industry and vice-versa.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Develop sustainable tourism using best practice methods and avoid captive animals.	No tourism business holds captive seabirds.	No new tourism permits are issued to new ventures that propose business activities that hold captive seabirds.	DoT, VFD	VFIPA, DLA	From beginning of 2024.	Highest
		Create brochure for distribution at the Department of Tourism (DoT) and Vanuatu Foreign Investment Promotion Agency (VFIPA) for new investors or tourism operators, describing obligations to safeguard species of conservation concern, and laws and policies to be aware of before beginning development or starting a new business.	VFD, DoT, VFIPA	NGOs, projects	Brochure available online and at DoT and VFIPA by end 2024.	High
		Ensure businesses that are non-compliant are not featured in campaigns or endorsed by government agencies such as VTO.	DoT, VTO	VFD, DEPC	No non-compliant businesses featured in campaigns by end 2024.	High
	All tourism involving seabirds is sustainable and non-invasive.	Develop a best practice guideline for responsible seabird tourism.	NGOs, Projects	DoT, VFD, DEPC, SPREP	Best practice guideline written and published by end 2024.	Medium
		Add a minimum standard for seabird tourism with Department of Tourism's accreditation programme or revise wildlife activities minimum standard to incorporate measures/ criteria specific to protect these species.	DoT	NGOs, VFD, DEPC, projects	New minimum standard published within the accreditation scheme by end 2024.	High
		Encourage tourism operators to engage in accredited citizen science programmes that gather data and contribute to education and awareness of seabirds.	NGOs, Projects	DoT, VCCI, VTO	Ongoing. At least 2 tourism businesses offering a tourism product with a citizen science component by end 2026.	Medium

Cross cutting themes:

2.7. Education, awareness, and communications (Seabirds)

Education and awareness raising about seabirds, sharks and turtles and their plight is essential to achieve buy-in from businesses, institutions and individuals to make a collective effort to ensure these species are protected and managed sustainably and survive into the future. Good communication is essential to successful outcomes for many of the activities listed in each theme above. Education, awareness raising and communications that are intrinsically linked to activities in the rest of the plan are listed with those activities. However, there are stand-alone education, awareness raising and communications activities that will contribute to the conservation of these species, and those are listed in this section.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Inform the public of the new NPOA for seabirds, sharks and turtles (NPOA-SST).	Although the NPOA-SST is a government policy there are many actors who can assist in achieving the objectives within it, and making them aware of the role they can play will assist VFD identifying those that can help.	Launch event.	VFD, VESS, Savvy Vanuatu	DEPC, DoT, SPREP	Event held by July 2024.	Highest
		Newspaper, radio and social media stories about the launch of the new NPOA-SST.	VFD, VESS, Savvy Vanuatu	DEPC, DoT, SPREP	At least one newspaper article, social media story and radio show on the new NPAO-SST by mid-2024.	Highest
Communicate to other government departments about their role in achieving the aims of the NPOA-SST.	The NPOA-SST is a policy of the VFD, however there are many activities where other departments can and should play a role. Communicating this improves the outcomes from the policy.	Conduct workshops to bring the government stakeholders together to improve coordination for the protection, conservation and management of seabirds, sharks and turtles, including but not restricted to: VFD, DEPC, DoT, DCC, Customs, Ports and Harbours, Vanuatu Maritime Safety Authority (VMSA), the Police, the Police Maritime Wing, the Cultural Centre and provincial governments.	VFD	NGOs, other government departments, SPREP	Workshop conducted by end 2024.	High

Communicate to NGOs, community conservation networks, regional academic institutions and donors about their role in achieving the aims of the NPOA-SST.	The aims of the NPOA-SST are ambitious and VFD does not have either the financial or the human resources to achieve all the goals. Communicating where donors and NGOs can play a role will improve outcomes.	Host a workshop for NGOs, community conservation networks, regional academic institutions and donors to present the NPOA-SST and areas where assistance is needed.	VFD	VESS, other NGOs, Projects	Workshop conducted by end 2024.	High
Increase the general knowledge of seabirds within the Vanuatu population.	By being more aware of the status of seabirds and the threats they face, more people in Vanuatu will be motivated to take action to conserve them.	Design and implement education programmes for schools, local communities and the public to increase knowledge of Vanuatu's seabirds.	NGOs, VFD, DEPC	Projects, NGOs	At least one programme rolled out by end 2024 and two by end 2027.	High
		Create field guides for species of seabirds found in Vanuatu, using resources such as from SPC and CITES secretariat and NGOs.	NGOs, SPC	Projects, NGOs, academic institutions, CITES, RFMOs	Field guides designed and available by end of 2025.	Medium
		Encourage people to engage in citizen science programmes to gather information on seabirds.	NGOs, Tourism operators, VFD, DEPC	Projects, NGOs, Local government, conservation networks (e.g. Vanua Tai) DEPC rangers, Tails monitors	At least two citizen science programmes being actively used by end 2026.	Medium
Increase awareness on the effect of plastic pollution on seabirds.	Behaviour changes by general Vanuatu population to reduce littering and inappropriate disposal of plastics.	Design and roll out awareness campaigns on the effect of plastic pollution on seabirds and effective measures that will reduce plastic pollution of the oceans and beaches.	NGOs, DEPC, VFD, Oceans Office	Projects, NGOs, Conservation networks	At least one campaign rolled out by end 2024 and two by end of 2027.	Medium

2.8 Collaboration (Seabirds)

Seabirds, sharks and turtles cross jurisdictions, and they can be found throughout the archipelago of Vanuatu's islands as well as in the pelagic ocean. To effectively reduce the extinction risk of these species that play such an important role in the ecosystem requires collaboration at many levels. Whilst specific or potential collaborations are listed against the actions within this plan, there are some general overarching collaborations between the Vanuatu government and others acting to conserve seabirds, sharks and turtles in Vanuatu that would facilitate achieving the aims of this NPOA-SST, including:

1. Continue to be an active member of regional and global organisations.
   - Participate in RFMO meetings and actively engage on seabird, shark and ray and turtle matters at WCPFC and IATTC.
   - Attend meetings of CMS-Shark MoU, CITES, Ramsar, CBD (and CMS and ACAP if Vanuatu becomes a member).
   - Designate named focal points for long-term engagement on the conventions and find funding to send delegations of knowledgeable experts to COP meetings.
   - Consider becoming members of committees of international conventions such as the standing committee for animals of CITES.
   - Attend FAO meetings.
2. Work with neighbouring countries and through regional fisheries management bodies such as FFA and WCPFC to ensure migratory species are more effectively managed throughout their range and not just within Vanuatu national waters by:
   - Requesting stock-wide regional scientific advice from RFMOs and FFA to support future NDFs across all CITES Appendix II listed sharks andrays.
   - Encouraging species-specific data collection by designating them as species of special interest.
   - Identifying opportunities for conducting regional NDFs to more effectively manage migratory sharks and rays.
   - Developing proposals or advice at WCPFC and IATTC Working Groups, Scientific Committees, and Commission meetings and obtaining support from other members for adoption.
3. Participate in global or regional programmes for species conservation where their range overlaps multiple jurisdictions, such as working with New Zealand to protect Antipodean Albatross and becoming a signatory to the CMS Agreement for the Conservation of Albatrosses and Petrels (ACAP).
4. Consider becoming a party to the CMS convention.
5. Collaboration with other fishing nations to effectively monitor activity of the commercial fishing fleet, such as with Australia, New Zealand, and USA on piloting electronic monitoring of fishing vessels or regional enforcement efforts.
6. Collaborate on research programmes such as with WCPFC, Institute of Research for Development (IRD), SPC, regional science and academic institutions or NGOs.
7. VFD to promote, encourage and work with universities and other (including private or independent) research agencies for research and data collection that informs regional stock assessments, particularly for shark catch/by-catch.
8. Collaborate with the international community for the effective management of the High Seas, including High Seas Pocket number 4, between Fiji Solomon Island and Vanuatu.
9. Strengthen the collaboration between government departments and ministries to ensure a clear unified message is communicated to the public, and all government entities play their part in preserving these species.
10. Continue and strengthen collaboration of government departments, particularly VFD and DEPC, with local NGOs and the National University of Vanuatu.
11. Continue collaboration between government and local communities and conservation networks for the protection and conservation of sharks, seabirds, and turtles.

3. Turtles

3.1. Research and monitoring (Turtles)

Research and monitoring are critical to understanding the population status, trends and threats that marine species face. Without this knowledge, taking action, and knowing that it is effective, is harder. Whilst there is research on a global level that can be extrapolated to Vanuatu, many data gaps exist in our Vanuatu-specific knowledge about seabirds, sharks and turtles. Filling these data gaps will enable Vanuatu to better protect and manage these species. In the absence of complete research, the Precautionary Principle should always be observed.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Understand the extent and causes of mortality in turtles by improving data collection.	All turtle interactions with fishing are reported to species level.	Add fields to logbooks and Tails app to record turtle interactions. Include data fields for size (lengths), sex, maturity and condition upon release.	VFD	SPC and Taiwanese company assisting with logbook reporting.	Data fields added to all logbooks and to Tails app by mid 2024.	Highest
		Identification guides for turtles, in the common languages of the vessels, are carried on all fishing vessels.	Observers, vessel operators, Fisheries Authorised Officers (AOs), fishers and Tails monitors. VFD to provide guides in different languages, including but not limited to Bislama, Chinese languages and dialects, Tagalog and Bahasa Indonesia.	SPC and/or NGOs to assist VFD and DEPC to develop and print identification guides.	Identification guides on all fishing vessels by end 2024.	Highest
		Training and equipment provided to aid the identification of species.	VFD to improve training of observers, AOs and Tails monitors and to provide equipment such as binoculars and digital cameras.	SPC and/or NGO projects to assist with technical advice and funds.	Training conducted and reported annually.	Highest
	Level of by-catch of turtles in all Vanuatu fisheries and by Vanuatu flagged vessels is known.	Data from all sources is analysed to calculate catch per unit effort and assessed for trends and the results used to inform regional stock assessments, better handling practices and possible by-catch mitigation measures.	VFD	SPC, NGOs, projects	Initial assessment report by end 2024. Thereafter reported annually.	High

	Identify the level of illegal harvest of turtles.	Surveys of fishers and markets.	VFD	NGOs	Report on illegal harvesting of turtles by end 2025.	Medium
To better understand species range, breeding status, population trends, ecology, and foraging distributions of turtles in Vanuatu.	All nesting beaches and important foraging areas for marine turtles in Vanuatu are known and monitored, and threats and impacts on essential ecosystems utilised by turtles are identified.	Strengthen the Vanua Tai resource monitor network and support network community members to continue, and expand, the monitoring of nesting beaches.	VFD, DEPC, SPREP, NGOs and projects to provide training, equipment and technical expertise.	SPREP hosts TREDS database and provide training and support to users.	Ongoing. 5 index beaches regularly monitored by 2025. 10 nesting beaches regularly monitored by 2028.	Highest
		Improve oversight of tagging programmes to ensure best practice standards.	VFD	SPREP has developed a regional monitoring and tagging manual and will provide training and support. NGOs.	Training on best practice for monitoring and tagging by 2025.	High
		Update maps of important nesting sites and important foraging grounds.	NGOs, Projects, WSB.	VFD, DEPC	Updated map by end 2025.	High
	Population status and trends are known for all species of turtle in Vanuatu.	SPREP to ensure all relevant parties and authorities have access to Vanuatu turtle data on TREDS database.	SPREP	WSB, VFD, DEPC, NGOs	Training and access to all relevant authorities by mid- 2024.	High
		Encourage communities living close to turtles nesting beaches and foraging grounds to monitor turtles.	VFD, DEPC, WSB, NGOs, Projects	VFD, DEPC, WSB, NGOs, Projects	10 communities actively engaged in monitoring seabirds and/or turtles by end of 2026. 20 communities actively engaged in monitoring seabirds and/or turtles by end of 2028.	Medium
		Encourage citizen science reporting of turtle observations, including in tourism settings, to databases such as iNaturalist.	NGOs, Projects	VFD, DEPC	Databases have at least 100 new occurrence records by 2025.	Medium

		Collate data from all sources and assess population where enough data exists.	VFD, DEPC	NGOs, projects	Report on population status and trend for all sea turtle species listed on Appendix II of CITES, by end 2026.	High
	Geographical relationships of turtles in Vanuatu to other jurisdictions are known.	Participate in genetic research by engaging with the Asia-Pacific Marine Turtle Genetic Working Group to identify Vanuatu turtle stock and migration pathways. For example by contributing genetic data to Shellbank.	NGOs, Regional academic institutions	VFD, DEPC, WSB	Genetic samples have been collected and analysed from 3 populations of Vanuatu turtles by end 2025.	High
		Establish if Vanuatu's green turtles are a distinct management unit.	NGOs, Regional academic institutions	VFD, DEPC, WSB	Whether Vanuatu's green turtles are a distinct management unit has been answered by end 2025.	High
Understand the threats faced by turtles in Vanuatu.	Understand the impact of climate change on turtles in Vanuatu and implement mitigation measures to ensure their survival.	Research and monitor the impact of climate change on turtles in Vanuatu such as the effects of storm damage, nest wash-out, beach morphology changes and sand temperature.	NGOs, Regional academic organisations	VFD, DEPC, WSB	Report on impact of climate change on turtles in Vanuatu by end 2026. Monitoring report every 3 years.	Medium
		Trial mitigation measures that will increase the likelihood of Vanuatu's turtles surviving in the face of climate change, to ensure they are effective in Vanuatu or on Vanuatu flagged vessels.	NGOs, Regional academic institutions, ACAP, Projects	VFD, DEPC, WSB	Report on trial by end 2027. Put in place Plan for mitigation measures to protect these species by end 2028.	Medium
	Understand traditional take of turtles and assess the sustainability of this.	Conduct surveys to establish population status and establish a sustainable take level.	VFD	NGOs, Projects	Levels of sustainable take have been established for each population where there is traditional take by end 2026. Accurate records of traditional take of turtles and their eggs are kept.	High
		Monitor sustainable take against the established baselines from the studies above.	VFD, DEPC	NGOs, Projects	Annual report on intentional take of turtles.	High

	Evaluate the threat from illegal harvest.	Conduct research into the level of illegal take of turtles.	VFD, NGOs	NGO's, Projects, Regional academic institutions	Report on illegal take of turtles by 2026.	Medium
	Evaluate the threat from invasive species.	Identify predator species where turtles are nesting and prioritise sites for eradication or control.	NGO's Projects, regional academic institutions.	DEPC, communities	Report on predation of turtle nests by 2027.	Medium
		Conduct feasibility studies for control or eradication of invasive species.	NGO's Projects, Regional academic institutions.	VFD, DEPC, communities	Report on invasive species control or eradication feasibility study by 2027.	High
		Conduct research to establish the best mitigation methods to prevent predation of nests without causing other harm to turtles.	NGO's Projects, Regional academic institutions.	VFD, DEPC, communities	Best practice guide to preventing predation by invasive species by end 2026.	High

3.2. Threat Reduction (Turtles)

Many of the threats facing seabirds, sharks and turtles are known, and taking direct action to mitigate these threats, as part of an international effort or on a national or local level, will result in a lower risk of species extinction both locally and globally.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
By-catch mitigation.	Reduce by-catch in Vanuatu fisheries and by Vanuatu flagged vessels to levels that do not impact species survival.	Enforcement action to ensure all vessels are implementing conservation and management measures (CMMs) listed in Table 21.	VFD	RFMOs and SPC, projects	Annual report by VFD compliance division indicating number of enforcement activities and % of vessels checked. Ongoing.	Highest
		Phase in requirement that all FADs are non-entangling, and to the extent possible, are made from biodegradable materials.	VFD, fishers, projects	SPC, NGOs	Evidence all FADs in Vanuatu waters or deployed by Vanuatu flagged vessels are non-entangling and, to the extent possible, are made from biodegradable materials by 2028.	Medium
		Promote the guidelines on safe handling and release of by-catch species.	VFD	SPC	Evidence all vessels have copies of guidelines on board vessels by 2025 and are using them, as evidenced by observer data.	High
	Reduce by-catch in Vanuatu artisanal fisheries and inshore commercial fisheries.	Promote good practice in the gillnet fishery such as gillnet-free zone in high turtle areas not leaving nets unattended, setting gillnets taut and not loose.	VFD	NGOs, SPC, Projects	Awareness raising activities conducted, fishers trained, and booklet produced depicting good practice in gillnet fishery.	High
		Develop specific guidelines and licence conditions for longline fishers and for game fishers operating in the coastal fishery addressing CMMs to protect turtles.	VFD	NGOs, SPC, Projects	Awareness raising activities conducted, fishers trained, and booklet produced with guidelines and good practice in long line and game fishery by end 2024.	High

Ensure the traditional take of turtles is sustainable.	The future survival of Vanuatu's turtles is not threatened by traditional take.	Set target rates for intentional take of turtles informed by scientific research and Indigenous knowledge.	VFD, DEPC, VKS	NGOs	Targets set for sustainable take of sea turtles by 2026.	Medium
		Consultation with communities that are traditionally harvesting, to introduce measures that can decrease the impact of the take on the population.	VFD, VKS	WSB, NGOs, projects	Report on consultation by end 2026.	Medium
Reduce direct impact of pollution, coastal development and compromised water quality on habitat critical for turtles, such as coral reefs, seagrass meadows and mangroves.	Ensure EIAs adequately consider the impact on turtles.	Refer developers and consultants conducting EIAs to SPREP EIA guidelines for coastal tourism development and strategic Environmental Assessment guidelines .	DEPC, VFIPA, VPMU, DUAP Dept of Urban Affairs and Planning, DLA (Dept of Local Authorities)	SPREP	All developers and consultants are made aware of guidelines from 2024 onwards.	Highest
		Create national guidelines for EIAs, developed from regional guidelines such as SPREP and JICA.	DEPC, SLO, DUAP, DLA		Guideline completed by end 2026.	Medium
		Specifically request assessment of impact on turtles in all EIAs and increase capacity of DEPC EIA department to assess EIAs for impacts to turtles.	DEPC, VFIPA, VPMU, DUAP, DLA	SPREP	All coastal developments have EIAs conducted and all EIAs report on potential impacts on turtles from 2024.	Medium
		Audit of current projects to include assessment of impact on turtles.	DEPC	SPREP, VFIPA, VPMU, DUAP, DLA	All current projects have been assessed by end 2024.	Medium
		Require assessment of the effects of sewers, drainage, runoff, rubbish disposal, light pollution and power lines on turtles in new developments.	DEPC, VFIPA, VPMU, DUAP, DLA	SPREP	All new development EIAs to report on the potential impacts of sewers, drainage, runoff, rubbish disposal, light pollution and power lines on turtles.	Medium

Reduce the impact of pollution on turtles in the coastal and pelagic ocean.	Reduce marine plastic pollution.	Enforce compliance with international regulations on vessel discharges both at sea and in port - MARPOL . Ensure disposal at port is appropriate and expected quantities for the trip.	VFD, DEPC, VMSA	Maritime branch of police	Report on enforcement actions taken. 100% of vessels in compliance by end 2024.	High
		Address land-based sources of plastic pollution with initiatives such as container deposit scheme legislation and enforce littering regulations, volunteer clean-ups and recycling projects.	DEPC	Municipalities and provincial officers	Report on enforcement actions taken and initiatives by end 2024 and annually.	High
Reduce impact of invasive species and domestic animals.	Invasive species and domestic animals are not a threat to Vanuatu's turtles.	Use mitigation measures to stop the predation of sea turtle nests by dogs and pigs, informed by scientific research and indigenous knowledge.	Department of Biosecurity, DEPC, VFD	Community members, NGOs	Mitigation measures are in place on 50% of nesting beaches where invasive species have been identified as a threat by 2026 and 100% of beaches by 2028.	High
		Control domestic animal access to nesting turtle beaches to reduce nests being crushed under foot.	Communities, CCA management committees	DEPC, VFD, NGOs, Projects	Control of domestic animal access to nesting beaches included in CCA management plans by 2026.	Medium
To have management plans, including NDFs where appropriate, for all threatened species of turtles that are harvested and/or traded.	The take of threatened species is planned, monitored and measured against sustainability thresholds.	Write management plans for threatened species of turtles that are harvested or traded.	VFD, DEPC	NGOs, Projects	10 management plans are in place and being implemented by end of 2025. All threatened species of turtles that are harvested or traded have a management plan in place by end of 2027.	Medium

3.3. Legislation (Turtles)

Having legislation in place to protect seabirds, sharks and turtles gives a clear message as to how people and businesses should behave with respect to these species, and outlines consequences should they not comply.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Ensure national legislation captures requirements and obligations placed upon Vanuatu by international conventions and agreements are met.	National legislation is aligned with Vanuatu's regional and international obligations.	Publish gazette of conservation and management measures, as prescribed under the Fisheries Act 2014. Set up mechanism for revising CMMs annually.	VFD	SLO, SPC, RFMOs, NGOs, Projects	Gazette of conservation and management measures is published by end 2024.	Highest
		Distribute circulars when CMMs are updated.	VFD		Circulars published and distributed to affected parties whenever there is a requirement to update CMMs.	High
		Ensure by-catch mitigation measures are incorporated into the revised regulations under the Fisheries Management Act 2014 for the off-shore and in-shore fisheries.	VFD	SLO	Fisheries regulations include by-catch mitigation measures by end 2024.	High
		Update International Trade (Fauna and Flora) Act to reflect changes to the CITES treaty and ensure new species added to CITES Appendices are captured within the Act.	VFD, DEPC and SLO	SPREP, CITES secretariat, Projects	Trade (Fauna and Flora) Act is updated by end 2024.	High
		Review the Fisheries Act 2014 to recognise the requirement to provide for CITES requirements including NDFs to ensure complementarity between CITES legislation and fisheries legislation (refer to FAO guideline).	VFD and SLO	DEPC, SPREP, CITES secretariat, Projects	Fisheries Act is updated to reflect CITES requirements by end 2024.	High
		Ensure CITES legislation also recognises role of Fisheries Act.	VFD, DEPC and SLO	SPREP, CITES secretariat, Projects	Trade (Fauna and Flora) Act is updated to reflect role of Fisheries Act by end 2024.	High

Ensure turtles are adequately protected under national legislation.	Species regulations under the Environmental Protection Act, which are currently being drafted, include measures to protect turtles.	Ensure turtles are recognised in the protected species regulations.	DEPC	SLO, VFD	Draft of legislation specifically mentions turtles by end 2025.	High
	Regulations under the Fisheries Act are adequate to protect turtles.	Consult on amending regulation for turtles to prohibit the take of hawksbill and leatherback turtles, including traditional take, whilst still allowing the issuing of permits for traditional take of green turtles and consider limiting take to males only.	VFD	SLO, DEPC, NGOs	Report on consultation with communities that are permitted to traditionally harvest turtles by end of 2024. Draft regulation by end 2025.	Medium
		Amend regulation for the traditional take of turtles to only permit the harvest where the take has been recorded as a tradition, is associated with a recognised ceremony, uses traditional hunting methods, and the take is proven sustainable.	VFD	VKS, DEPC, SLO, DLA	Fisheries regulations amended by end 2024.	Medium
Vanuatu is a responsible global citizen with respect to protecting turtles.	Vanuatu is a signatory to all relevant international agreements and conventions that protect turtles.	Consider benefits and obligations of becoming a signatory to the CMS.	VFD, DEPC, SLO	CMS secretariat	Meeting of departments for discussion on joining CMS by end 2024.	Medium

3.4. Compliance and Enforcement (Turtles)

Whilst it is paramount to have good legislation in place to protect seabirds, sharks and turtles, if those laws are not being enforced their credibility is undermined. Compliance and enforcement action ensures that the species are managed and protected, but also give assurances to businesses and individuals that they are on a level playing field and that adhering to the law does not put them at a disadvantage to those that do not.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Ensure vessels are complying with conditions of licences and laws of Vanuatu.	All vessels are compliant with the laws of Vanuatu and conditions of licence.	Make sure all vessels submit logbook data within the correct timeframe and implement enforcement action for those that don't.	VFD	SPC, Taiwanese agent	100% compliance with e-logbook data requirements by mid 2024. Ongoing with annual report.	Highest
		Ensure all other conditions of licences are adhered to.	VFD	SPC, Taiwanese agent	100% compliance. Ongoing with annual report.	Highest
		To implement a longline-vessel-day-scheme within the EEZ to better manage effort in the longline fishery.	VFD	SPC	Longline vessel day scheme in place by 2024.	High
Improve communication about Conservation and Management Measures between VFD and the commercial fishing industry.	All vessels are aware of their obligations and are up to date with any new rules.	Circulate NPOA-SST to all vessels after launch.	VFD	Taiwanese agent	New NPOA-SST circulated to all fishing companies and vessels by end-2024.	Highest
		Circulate information after new measures come into force, such as new resolutions from RFMOs or new species are added to CITES appendices.	VFD	SPC, RFMOs, CITES secretariat, Taiwanese agent	Ongoing. Circular written and dispersed within one month of any change to CMMs.	Highest
Improve observer coverage.	Targets for observer coverage set in government policies are achieved.	Re-instate observer programme to pre-pandemic levels after interruption due to the COVID-19 pandemic.	VFD, regional observer programme	VFD, fishing vessels, Taiwanese Agent	5% observer coverage of longline vessels and 100% coverage of purse seine vessels and locally-based foreign vessels by end 2024.	Highest

		Increase Observer coverage to: 20% for Vanuatu flagged longline vessels, 100% all purse seine vessels, and 100% for locally based foreign fishing vessels.	VFD, regional observer programme	VFD, fishing vessels, Taiwanese Agent	20% observer coverage of longline vessels by end 2024. 100% of coverage of purse seine vessels and locally-based foreign vessels by end-2024.	Highest
		Instigate the long line vessel day licencing scheme to assist with observer coverage.	VFD	Regional Observer programme	Day Vessel scheme introduced by end 2025.	High
	The costs of the observer programme are borne by the fishing industry.	Continue development of cost recovery programme to fund increased observer coverage.	VFD, regional observer programme	Projects, SPC, NGOs	Cost recovery programme in place by end 2024.	High
	Technology is being used to reduce costs and risks to observers.	Reinstate the electronic monitoring as an adjunct to human observers in collaboration with partners.	VFD and pilot programme partners	Projects	Report on pilot programme by end 2024.	High
		Training for fisheries officers for analysis of electronic monitoring data.	VFD and pilot programme partners	NGOs, SPC, Projects	Report of training by end 2025.	High
		Set targets for level of review of vessel activity undergoing electronic monitoring.	VFD and pilot programme partners	SPC	Target of level of review for each vessel type set by end 2024.	High
		Improve infrastructure needed for electronic monitoring, such as increased IT monitoring stations.	VFD and pilot programme partners	Projects	6 monitoring stations for e-observing in place by 2026.	Medium
		Increase number of observers at electronic monitoring station.	VFD and pilot programme partners	Projects	6 additional observers employed and trained as electronic monitoring observers by 2026.	Medium
		Develop a sustainable financing mechanism to fund electronic monitoring including staff, hardware, software and maintenance.	VFD	Projects	Sustainable funding that covers cost of all electronic monitoring costs in place by 2026.	High

Improve and strengthen port inspections.	Port inspections are carried out on all Vanuatu flagged vessels wherever they land their catch.	Finalise and strengthen Port State Management Agreements with countries where Vanuatu flagged vessels land their catch, in particular: Fiji, Samoa, American Samoa, Taiwan, Thailand, Panama, Solomon Islands, Papua New Guinea and other countries where fish are off-loaded from Vanuatu flagged vessels.	VFD and port countries where Vanuatu flagged vessels off-load.	SPC	Port State Management Agreements with all countries where Vanuatu flagged vessels off-load to be in place by end 2024.	Highest
		Make arrangements with Fiji to place a Ni-Vanuatu national as Port Observer in Suva to inspect all Vanuatu flagged vessels, as well as foreign vessels that are licensed to fish in Vanuatu waters. Continue discussion on the PSMA port state measure agreement with Fiji for them to carry our inspections on Vanuatu's behalf.	VFD and Fiji	SPC, regional observer programme	Ni-Vanuatu observer in position in Suva by mid-2024.	Highest
		Dedicate one VFD staff member as officer to coordinate port inspections.	VFD	SPC	Permanent port inspection officer recruited and in employment at VFD by end 2024.	Medium
Improve quality of by-catch data reporting.	Data can be used to make decisions at a national level and contribute to the global knowledge on by-catch.	Revise training of observers on species identification and by-catch mitigating devices.	VFD observer programme	SPC, NGOs, projects	Revised training materials by end 2024, report on training annually.	High
		Include CMMs on turtles in all pre-departure briefings for observers.	VFD		Included in report on pre-departure training. Ongoing.	High
		Supply equipment to assist identification to species level such as identification guides, binoculars and digital cameras.	VFD, Projects	NGOs, Projects	Included in annual report on observer programme. Ongoing.	Medium
		Report geographic spread of observer coverage.	VFD	SPC	Included in annual report on CMMs.	High

		Calculate catch per unit effort for each species, and use the same format for observer, logbook and port inspections to allow comparisons between data sources and to identify trends over time.	VFD	SPC	Included in annual report on CMMs.	High
		Port inspections to include the validation of off-loading data, checking CITES permits, checking that gear and documents on board comply with CMMs.	VFD, Port states	SPC	Annual Report on port inspections.	Highest
		Data field for which mitigation devices are carried by vessels to be included in Port inspection data sheets for pre- and post-trip inspections both for Vanuatu and overseas inspections.	VFD, Port states	SPC	Revised port inspection data sheets being used by end 2024.	High
	Data can be used to ensure Vanuatu is 100% compliant with reporting requirements to RFMOs.	Ensure reporting to all RFMOs is on time and complete.	VFD	SPC, RFMOs	Annual reports are 100% compliant.	High
		Report observer coverage using % of hooks or sets.	VFD	SPC, RFMOs	Internal VFD annual reports and annual reports to RFMOs to report observer coverage as % of hooks or sets.	Medium
		Report by-catch in dedicated reports for each species group, using formats compatible with those required by CMMs.	VFD	SPC, RFMOs	Dedicated reports of by-catch for each species group within each annual VFD internal report and annual reports to RFMOs. Ongoing.	High
		Include mitigation measures used by vessels in the reports.	VFD	SPC, RFMOs	Mitigation measures used are included within each annual VFD internal report and annual reports to RFMOs. Ongoing.	High

Ensure action is taken when data suggests infringement of regulations.	Any infringement of fisheries regulations and international commitments are discovered and acted upon and included in SOPs.	Capacity is built within the VFD compliance team for analysing by-catch data.	VFD, SPC	NGOs, SPREP, CITES	At least 4 VFD officers have had training on by-catch data analysis by end of 2024.	High
		Mechanism and protocol developed to assess by-catch data and triggers for action set.	VFD	NGOs, SPREP, CITES	Protocol in place and triggers identified by end 2024.	Highest
Increase compliance of near-shore and coastal fishers.	All commercial fishing to be licenced and compliant with laws of Vanuatu.	Continue roll out of vessel tracking system in coastal fishing.	VFD and project partners	SPC	100% coverage by 2030.	High
		Run education and awareness campaigns to ensure fishers and vessels operators are aware of laws and regulations, and best practice fishing methods.	VFD	NGOs, SPC	2 campaigns run by end of 2024 and 4 by end of 2026.	Medium
		Find funding for and implement project to provide fishers with tablets to enable data entry into the TAILS and online vessel registration and payment system.	VFD, Projects	Projects	1000 tablets distributed to fishers by 2024. 50% of all commercial fishing vessels registered by end 2024. 80% of commercial fishing vessels registered by 2026.	Medium
		Conduct training of fisheries extension officers, fisheries authorised officers, local government officers at provincial and area council level and rangers of CCAs.	VFD, Projects	Projects and NGOs	Training conducted in at least 3 provinces by end 2024 and all 6 provinces by 2025.	Medium
Eliminate the illegal take of turtles and turtle eggs.	No illegal take of turtles and turtle eggs.	Conduct enforcement activities.	VFD	Provincial government, DEPC, Police	Annual report on enforcement activities and awareness raising campaigns.	Medium
		Run awareness campaigns on legal protections for turtles.	VFD	NGOs, WSB, Projects	2 awareness campaigns conducted by 2024.	Medium

Eliminate the illegal practice of keeping captive turtles for tourism.	Reduce impact of tourism on turtles by ensuring all tourism operators are operating with the laws of Vanuatu and encouraging viewing of turtles in their natural environment.	No new tourism permits issued for tourism ventures to keep turtles captive.	DoT	VFD	No new tourism business are keeping turtles in captivity from 2023.	Highest
		Notice given to all tourism ventures that have turtles in captivity that no tourism or fisheries permits will be issued for this activity after 2024.	DoT	VFD	No turtles are kept in captivity by end of 2024.	Highest
Implement enforcement fines or other punishments for failure to abide by legislative requirements.	Legal protections for turtles are effective because law enforcement agencies are ensuring compliance.	Workshop for law enforcement agencies and government departments to foster collaboration on enforcing laws protecting turtles.	VFD/DEPC	State Law Office, Police, Maritime Polices, Ports and Harbours, Municipalities, Provincial officers	Workshop report including guide to responsibilities of each agency with respect to the legal responsibility to protect these species by end 2024.	High
		Enforcement activities implemented by law enforcement agencies.	VFD	State Law Office, Police, Maritime Polices, Ports and Harbours, Municipalities, Provincial officers	Annual report on enforcement activities. Ongoing.	Highest
		Create a guide for public for reporting infringements.	VFD	State Law Office, Police, Maritime Polices, Ports and Harbours	Guide for reporting of infringements by end of 2028.	Medium

3.5. Protection of critical ecosystems and habitat (Turtles)

Whilst direct action to mitigate known threats is vitally important, not all threats are known. Protecting important ecosystems and habitat used by seabirds, sharks and turtles throughout their life-stages will increase their chances of future survival.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Support existing or encourage creation of new Community Conservation Areas (CCAs) in areas important for turtles within sites that have been identified as important, for example, in the NBSAP or identified as a SUMA.	Critical habitats for turtles are protected within CCAs.	Continue or initiate discussions with communities about strengthening or setting up CCAs in all sites listed in the NBSAP or designated a SUMA, that mention turtles.	DEPC	NGOs, Projects	Discussions have been had with communities in all listed sites by end 2026.	Medium
		Ensure all management plans for CCAs have specific measures to protect turtles. CCA management plans should be registered with DEPC and reviewed regularly.	Communities, DEPC	NGOs, projects, VFD	100% of management plans for registered CCAs specifically mention turtles by 2026.	Medium
		Create species specific management plans in important breeding and foraging areas for turtles.	DEPC, VFD, NGOs, Projects	DEPC, VFD, NGOs, Projects	5 species-specific management plans written and being implemented by 2026.	Medium
		Establish if there are other key habitats for turtles in Vanuatu on land, along the coast or at sea.	DEPC, VFD, NGOs, Projects	DEPC, VFD, NGOs, Projects	Report on other potential sites by end 2025.	Medium
Ensure Vanuatu's Key Biodiversity Areas (KBAs) triggered by turtles are assessed and monitored.	All sites in Vanuatu that contain habitat for turtles that meet the global KBA criteria are recognised and registered on the global KBA database.	Validate Vanuatu KBAs using the new global criteria.	Vanuatu KBA National Committee, DEPC, VFD	NGOs, KBA secretariat.	All current KBAs are re-validated by end 2025.	Medium
		Ensure population data on turtles that are trigger species in KBAs is up to date and can be used to validate a KBA.	DEPC, VFD, NGOs	NGOs, Projects	Data collected by end 2025.	Medium
		Identify any potential new sites that would be triggered by turtles.	DEPC, VFD, NGOs	NGOs, Projects	List of potential new sites by end 2026.	Medium

		Identify any important sites for turtles that would qualify as Ramsar sites and apply for recognition.	DEPC, VFD	Projects, NGOs	Potential Ramsar sites identified by end 2025	Medium
Protect critical habitat for sharks in Vanuatu.	Important Shark and Ray Areas (ISRAs) identified and designated.	Identify any areas that meet the criteria for a potential Important Shark and Ray Areas (ISRAs).	NGOs, VFD, IUCN Shark Specialist Group	NGOs, VFD, IUCN Shark Specialist Group	All potential ISRAs identified by end 2025.	Medium
		Collaborate with IUCN Shark Specialist Group to designate (ISRAs) in Vanuatu waters.	NGOs, VFD, IUCN Shark Specialist Group	NGOs, VFD, IUCN Shark Specialist Group	Any ISRA that meeting the global criteria registered by end 2026.	Medium

3.6. Tourism (Turtles)

Tourism is an important part of the economy in Vanuatu and cross-cuts society from local grass-roots tourism operators to large foreign investments. Iconic species such as sharks and turtles are attractions for tourists, and seabirds can appeal to the niche markets of birders. Other tourism activities, such as fishing, boating and developments along the coast have potential to impact, both directly and indirectly, the survival of many species of seabirds, sharks and turtles found in Vanuatu waters and on the shore. However, tourism done well has the potential to educate, gather vital information about these species, and increase the value of the tourist's experience. The following actions are designed to move tourism interacting with seabirds, sharks and turtles from exploitative or potentially harmful to a sustainable model with potential to benefit these species and Vanuatu's reputation as a sustainable tourism destination. Goal 4 of Vanuatu's Sustainable Tourism Policy specifically recognises the role of biodiversity and Key Biodiversity Areas in promoting and sustaining Vanuatu's tourism industry and vice-versa.

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Develop sustainable tourism using best practice methods and avoid captive animals.	No tourism business holds captive turtles.	Ensure all tourism operations comply with the law and do not hold turtles in captivity.	VFD, DoT	DEPC, Tourism associations.	No turtles in captivity by end 2024.	Highest
		No new tourism permits are issued to new ventures that propose business activities that hold captive turtles.	DoT, VFD	VFIPA, DLA	From beginning of 2024.	Highest
		Create brochure for distribution at the Department of Tourism (DoT) and Vanuatu Foreign Investment Promotion Agency (VFIPA) for new investors or tourism operators, describing obligations to safeguard species of conservation concern, and laws and policies to be aware of before beginning development or starting a new business.	VFD, DoT, VFIPA	NGOs, projects	Brochure available online and at DoT and VFIPA by end 2024.	High
		Ensure businesses that are non-compliant are not featured in campaigns or endorsed by government agencies such as VTO.	DoT, VTO	VFD, DEPC	No non-compliant businesses featured in campaigns by end 2024.	High
	All tourism involving turtles is sustainable and non-invasive.	Develop a best practice guideline for responsible turtle tourism with guide for businesses to transition from invasive to sustainable turtle tourism.	NGOs, Projects	DoT, VFD, DEPC, SPREP	Best practice guideline written and published by end 2024.	Highest
		Add a minimum standard for turtle tourism with Department of Tourism's accreditation programme or revise wildlife activities minimum standard to incorporate measures/ criteria specific to protect these species.	DoT	NGOs, VFD, DEPC, projects	New minimum standard published within the accreditation scheme by end 2024.	High
		Encourage tourism operators to engage in accredited citizen science programmes that gather data and contribute to education and awareness of turtles.	NGOs, Projects	DoT, VCCI, VTO	Ongoing. At least 2 tourism businesses offering a tourism product with a citizen science component by end 2026.	Medium

Cross cutting themes:

3.7. Education, awareness, and communications (Turtles)

Education and awareness raising about seabirds, sharks and turtles and their plight is essential to achieve buy-in from businesses, institutions and individuals to make a collective effort to ensure these species are protected and managed sustainably and survive into the future. Good communication is essential to successful outcomes for many of the activities listed in each theme above. Education, awareness raising and communications that are intrinsically linked to activities in the rest of the plan are listed with those activities. However, there are stand-alone education, awareness raising and communications activities that will contribute to the conservation of these species, and those are listed in this section

Objective	Aim	Activity	Lead Organisation	Who can support	Deliverable and timeline to achieve it	Priority
Inform the public of the new NPOA for seabirds, sharks and turtles (NPOA-SST).	Although the NPOA-SST is a government policy there are many actors who can assist in achieving the objectives within it, and making them aware of the role they can play will assist VFD identifying those that can help.	Launch event.	VFD, VESS, Savvy Vanuatu	DEPC, DoT, SPREP	Event held by July 2024.	Highest
		Newspaper, radio and social media stories about the launch of the new NPOA-SST.	VFD, VESS, Savvy Vanuatu	DEPC, DoT, SPREP	At least one newspaper article, social media story and radio show on the new NPAO-SST by mid-2024.	Highest
Communicate to other government departments about their role in achieving the aims of the NPOA-SST.	The NPOA-SST is a policy of the VFD, however there are many activities where other departments can and should play a role. Communicating this improves the outcomes from the policy.	Conduct workshops to bring the government stakeholders together to improve coordination for the protection, conservation and management of seabirds, sharks and turtles, including but not restricted to: VFD, DEPC, DoT, DCC, Customs, Ports and Harbours, Vanuatu Maritime Safety Authority (VMSA), the Police, the Police Maritime Wing, the Cultural Centre and provincial governments.	VFD	NGOs, other government departments, SPREP	Workshop conducted by end 2024.	High

Communicate to NGOs, community conservation networks, regional academic institutions and donors about their role in achieving the aims of the NPOA-SST.	The aims of the NPOA-SST are ambitious and VFD does not have either the financial or the human resources to achieve all the goals. Communicating where donors and NGOs can play a role will improve outcomes.	Host a workshop for NGOs, community conservation networks, regional academic institutions and donors to present the NPOA-SST and areas where assistance is needed.	VFD	VESS, other NGOs, Projects	Workshop conducted by end 2024.	High
Increase the general knowledge of turtles within the Vanuatu population.	By being more aware of the status of turtles and the threats they face, more people in Vanuatu will be motivated to take action to conserve them.	Design and implement education programmes for schools, local communities and the public to increase knowledge of Vanuatu's turtles.	NGOs, VFD, DEPC	Projects, NGOs	At least one programme rolled out by end 2024 and two by end 2027.	High
		Encourage people to engage in citizen science programmes to gather information on turtles.	NGOs, Tourism operators, VFD, DEPC	Projects, NGOs, Local government, conservation networks (e.g. Vanua Tai) DEPC rangers, Tails monitors	At least two citizen science programmes being actively used by end 2026.	Medium
Increase awareness on the effect of plastic pollution on turtles.	Behaviour changes by general Vanuatu population to reduce littering and inappropriate disposal of plastics.	Design and roll out awareness campaigns on the effect of plastic pollution on turtles and effective measures that will reduce plastic pollution of the oceans and beaches.	NGOs, DEPC, VFD, Oceans Office	Projects, NGOs, Conservation networks	At least one campaign rolled out by end 2024 and two by end of 2027.	Medium

3.8. Collaboration (Turtles)

Seabirds, sharks and turtles cross jurisdictions, and they can be found throughout the archipelago of Vanuatu's islands as well as in the pelagic ocean. To effectively reduce the extinction risk of these species that play such an important role in the ecosystem requires collaboration at many levels. Whilst specific or potential collaborations are listed against the actions within this plan, there are some general overarching collaborations between the Vanuatu government and others acting to conserve seabirds, sharks and turtles in Vanuatu that would facilitate achieving the aims of this NPOA-SST, including:

1. Continue to be an active member of regional and global organisations.
   - Participate in RFMO meetings and actively engage on seabird, shark and ray and turtle matters at WCPFC and IATTC.
   - Attend meetings of CMS-Shark MoU, CITES, Ramsar, CBD (and CMS and ACAP if Vanuatu becomes a member).
   - Designate named focal points for long-term engagement on the conventions and find funding to send delegations of knowledgeable experts to COP meetings.
   - Consider becoming members of committees of international conventions such as the standing committee for animals of CITES.
   - Attend FAO meetings.
2. Work with neighbouring countries and through regional fisheries management bodies such as FFA and WCPFC to ensure migratory species are more effectively managed throughout their range and not just within Vanuatu national waters by:
   - Requesting stock-wide regional scientific advice from RFMOs and FFA to support future NDFs across all CITES Appendix II listed sharks andrays.
   - Encouraging species-specific data collection by designating them as species of special interest.
   - Identifying opportunities for conducting regional NDFs to more effectively manage migratory sharks and rays.
   - Developing proposals or advice at WCPFC and IATTC Working Groups, Scientific Committees, and Commission meetings and obtaining support from other members for adoption.
3. Participate in global or regional programmes for species conservation where their range overlaps multiple jurisdictions, such as working with New Zealand to protect Antipodean Albatross and becoming a signatory to the CMS Agreement for the Conservation of Albatrosses and Petrels (ACAP).
4. Consider becoming a party to the CMS convention.
5. Collaboration with other fishing nations to effectively monitor activity of the commercial fishing fleet, such as with Australia, New Zealand, and USA on piloting electronic monitoring of fishing vessels or regional enforcement efforts.
6. Collaborate on research programmes such as with WCPFC, Institute of Research for Development (IRD), SPC, regional science and academic institutions or NGOs.
7. VFD to promote, encourage and work with universities and other (including private or independent) research agencies for research and data collection that informs regional stock assessments, particularly for shark catch/by-catch.
8. Collaborate with the international community for the effective management of the High Seas, including High Seas Pocket number 4, between Fiji Solomon Island and Vanuatu.
9. Strengthen the collaboration between government departments and ministries to ensure a clear unified message is communicated to the public, and all government entities play their part in preserving these species.
10. Continue and strengthen collaboration of government departments, particularly VFD and DEPC, with local NGOs and the National University of Vanuatu.
11. Continue collaboration between government and local communities and conservation networks for the protection and conservation of sharks, seabirds, and turtles.

Conservation and Management Measures

Table 22. Conservation and management measures to be implemented in all fisheries in Vanuatu and by Vanuatu flagged vessels, with indication of which species group the measures assist and to which fishery it applies.

LL= longline, PS=Purse seine, CMM = conservation and management measure, Sb=Seabirds, Sh= Shark, T=Turtle, O-S= Off-shore, N-S= Near-shore, Co=coastal. C=compulsory measure, V=voluntary measure

Fishing vessels	CMM	Sb	Sh	T	OS	NS	Co
All vessels	All Vanuatu flagged vessels in all fishing grounds and all vessels fishing in Vanuatu waters: · Must use the three mitigation measures below: · Weighted branch lines · Tori lines · Set all hooks at night. Or · Use hook-shielding devices that meet the minimum line weighting standard prescribed in the best practice guidelines published by FAO on 100% of hooks. (NB. Specifications are outlined in WCPFC CMM 2018-04 CMM to mitigate impacts of fishing on seabirds[33])	x			C	C	
LL	Vessels must not use bait that is still frozen	x			C	C	
LL	Vessels must not discharge fish waste during or immediately before setting	x			C	C	
All vessels	Commercial fishing is prohibited in any area within three nautical miles from the centre of all underwater seamounts located in Vanuatu's fisheries waters. Where two or more seamounts are in close proximity, the distance of three nautical miles shall be measured from the centre of the nearest seamount.			x	C	C	V
All vessels	Vessels shall not target sharks in all Vanuatu waters.		x		C	C	C
LL	Vessels must not use wire leaders		x		C	C	
LL	Vessels must not use "shark lines"		x		C	C	
LL	Vessels must use large circle hooks to standard stipulated in the RFMO CMM		x	x	C	C	
LL	Vessels should only use whole fin fish for bait			x	C	C	
LL	Vessels must remove 2 hooks near buoy			x	C	C	
All vessels	Vessels must carry and use de-hookers, line cutters, dip nets and Turtle Exclusion Devices (TEDs) specifications are outlined in WCPFC CMM CMM 2018-04 - Conservation and Management of Sea Turtles[34]	x	x	x	C	C	V
All vessels	Must have on board a copy of the safe handling and release of sharks, seabirds and turtles	x	x	x	C	C	C
All Vessels	Must have on board a copy of identification guides of all species of concern in the working language of the vessel.						
All Vessels	Make every reasonable effort to release by-catch of seabirds and turtles	x		x	C	C	C

33 https://cmm.wcpfc.int/measure/cmm-2018-03
34 https://cmm.wcpfc.int/measure/cmm-2018-04

All vessels	Make every reasonable effort to release alive by-catch of silky sharks, oceanic whitetip sharks, mobulid rays and whale sharks, shortfin makos, threshers and any species of shark listed on Appendix II without a positive NDF with as little harm to the sharks as possible.		x		C	C	C
All Vessels	Vessels must not retain, tranship or store on a fishing vessel, or landing in whole or in part, any silky sharks, oceanic whitetip sharks, mobulid rays or whale sharks, or any CITES listed species unless a CITES permit has been obtained.		x		C	C	C
PS	Vessels must not set a purse seine on live whale sharks		x		C		
PS	If silky sharks, oceanic whitetip sharks, mobulid rays or sharks listed on CITES are inadvertently caught and frozen in purse seine operations, the carcass must be surrendered whole to authorities where vessel lands the catch.		x		C		
All vessels	Shark finning is banned in all Vanuatu waters and on all Vanuatu flagged vessels. All sharks must be landed with their fins naturally attached to the carcass.		x		C	C	C
All vessels	Shark catches are to be no more than 10% of total catch in any one fishing trip.		x		C	C	C
All fishers	No gillnets to be left in the water unattended. All fishers must stay with any gillnet set and be close enough to respond to any entanglements of non-target animals immediately	x	x	x			C

Appendix 1:
Seabirds confirmed in Vanuatu[35]

Taxonomic group	Scientific Name	Common Name	IUCN Threat class	Lifecycle in Vanuatu
Petrels and Shearwaters	*Pachyptila desolata*	Antarctic prion	Least Concern	Migrant/Vagrant
	Pseudobulweria rostrata	Tahiti petrel	Near Threatened	Migrant/Vagrant
	Pterodroma brevipes	Collared petrel	Vulnerable	Known to Breed
	Pterodroma cervicalis	White-necked petrel *	Vulnerable	Known to Breed
	Pterodroma occulta	Vanuatu petrel *	Vulnerable	Known to Breed
	Pterodroma inexpectata	Mottled petrel	Near Threatened	Migrant/Vagrant
	Pterodroma leucoptera	White-winged petrel	Vulnerable	Known Migrant
	Pterodroma neglecta	Kermadec petrel	Least Concern	Migrant/Vagrant
	Pterodroma nigripennis	Black-winged petrel	Least Concern	Migrant/Vagrant
	Pterodroma pycrofti	Pycroft's petrel	Vulnerable	Migrant/Vagrant
	Pterodroma solandri	Providence petrel	Vulnerable	Migrant/Vagrant
	Puffinus bailloni	Tropical shearwater	Least Concern	Resident
	Ardenna carneipes	Flesh-footed shearwater	Near Threatened	Migrant/Vagrant
	Ardenna grisea	Sooty shearwater	Near Threatened	Migrant/Vagrant
	Ardenna pacifica	Wedge-tailed shearwater	Least Concern	Resident
	Ardenna tenuirostris	Short-tailed shearwater	Least Concern	Known Migrant
Storm Petrels	*Fregetta tropica*	Black-bellied Storm-petrel	Least Concern	Migrant/Vagrant
	Nesofregetta fuliginosa	Polynesian storm-petrel	Endangered	Migrant/Vagrant

35 Adapted from The Pacific Islands Regional Marine Species Programme 2022-2026 and IUCN redlist of threatened species

	Oceanites oceanicus	Wilson's storm-petrel	Least Concern	Migrant/Vagrant
Tropicbirds	*Phaethon lepturus*	White-tailed tropicbird	Least Concern	Resident
	Phaethon rubricauda	Red-tailed tropicbird	Least Concern	Migrant/Vagrant
Frigatebirds	*Fregata ariel*	Lesser frigatebird	Least Concern	Resident
	Fregata minor	Great frigatebird	Least Concern	Resident
Boobies	*Sula leucogaster*	Brown booby	Least Concern	Known to Breed
	Sula sula	Red-footed booby	Least Concern	Resident
Gulls and Terns	*Anous minutus*	Black noddy	Least Concern	Resident
	Anous stolidus	Brown noddy	Least Concern	Migrant/Vagrant
	Chroicocephalus novaehollandiae	Silver gull	Least Concern	Migrant/Vagrant
	Gygis alba	White tern	Least Concern	Resident
	Onychoprion anaethetus	Bridled tern	Least Concern	Resident
	Onychoprion fuscatus	Sooty tern	Least Concern	Known to Breed
	Onychoprion lunatus	Gray-backed tern	Least Concern	Migrant/Vagrant
	Sterna dougallii	Roseate tern	Least Concern	Migrant/Vagrant
	Sterna hirundo	Common tern	Least Concern	Resident
	Sterna sumatrana	Black-naped tern	Least Concern	Resident
	Thalasseus bergii	Great crested tern	Least Concern	Known to Breed
Skuas	*Stercorarius longicaudus*	Long-tailed jaeger	Least Concern	Migrant/Vagrant
	Stercorarius parasiticus	Arctic jaeger	Least Concern	Migrant/Vagrant
	Stercorarius pomarinus	Pomarine jaeger	Least Concern	Migrant/Vagrant

Appendix 2:
Seabirds possibly in Vanuatu but not confirmed by recorded observations

Taxonomic group	Scientific Name	Common Name	IUCN Threat class
Petrels and Shearwaters	*Ardenna bulleri*	Buller's shearwater	Vulnerable
	Calonectris leucomelas	Streaked shearwater	Near Threatened
	Pelagodroma marina	White-faced storm-petrel	Least Concern
	Pseudobulweria becki	Beck's petrel	Critically Endangered
	Pterodroma cookii	Cook's petrel	Vulnerable
	Pterodroma heraldica	Herald petrel	Least Concern
	Puffinus nativitatis	Christmas shearwater	Least Concern
Storm Petrels	*Fregetta grallaria*	White-bellied storm-petrel	Least Concern
	Oceanodroma leucorhoa	Leach's storm-petrel	Vulnerable
Boobies	*Sula dactylatra*	Masked booby	Least Concern
Gulls and Terns	*Anous albivittus*	Grey noddy	Least Concern
	Anous ceruleus	Blue noddy	Least Concern
	Chlidonias hybrida	Whiskered tern	Least Concern

Appendix 3:
SUMAs where seabirds are cited as justification

Name	Number	Off-shore or in-shore	Islands	Justification due to presence of seabirds
Vogtande Island	NO3	Off-shore	Vogtande	An important nesting site for seabirds, notably frigatebirds.
Hunter Island to the Northeast Erromango Seamounts	SO3	Off-shore	Multiple	13 species of seabird, nine of which are known to breed there including brown boobies, blue noddies, and red-tailed tropicbirds.
Vulai Island	M1	In-shore	Malekula	Important for sustaining seabird populations.
Crab Bay	M6	In-shore	Malekula	Area rich in biodiversity and seabirds are on the list of species
Laika Island	TON1	In-shore	Tongoa	Several hundred wedge-tailed shearwaters breed on the island between late October and June each year, and red-tailed tropicbirds have at least attempted to breed there.
Monument Rock	MT1	In-shore	Mataso	Seabirds are known to nest on the island, including brown boobies.

Appendix 4:

Threatened seabirds that occur in the WCPFC region

Taxonomic group	Scientific Name	Common Name	IUCN threat class
Albatrosses	*Diomedea antipodensis*	Antipodean albatross	Endangered
	Diomedea epomophora	Southern royal albatross	Vulnerable
	Diomedea exulans	Wandering albatross	Vulnerable
	Diomedea sanfordi	Northern royal albatross	Endangered
	Phoebastria albatrus	Short-tailed albatross	Vulnerable
	Phoebastria immutabilis	Laysan albatross	Near Threatened
	Phoebastria nigripes	Black-footed albatross	Near Threatened
	Phoebetria palpebrata	Light-mantled albatross	Near Threatened
	Thalassarche bulleri	Buller's albatross	Near Threatened
	Thalassarche cauta	Shy albatross	Near Threatened
	Thalassarche chrysostoma	Grey-headed albatross	Endangered
	Thalassarche eremita	Chatham albatross	Vulnerable
	Thalassarche impavida	Campbell albatross	Vulnerable
	Thalassarche salvini	Salvin's albatross	Vulnerable
	Thalassarche steadi	White-capped albatross	Near Threatened
Frigatebirds	*Fregata andrewsi*	Christmas frigatebird	Critically endangered
Gulls and Terns	*Chlidonias albostriatus*	Black-fronted tern	Endangered
	Sternula nereis	Fairy tern	Vulnerable
Petrels and Shearwaters	*Ardenna bulleri*	Buller's shearwater	Vulnerable
	Ardenna carneipes	Flesh-footed shearwater	Near Threatened
	Ardenna grisea	Sooty shearwater	Near Threatened
	Calonectris leucomelas	Streaked shearwater	Near Threatened
	Procellaria aequinoctialis	White-chinned petrel	Vulnerable
	Procellaria cinerea	Grey petrel	Near Threatened
	Procellaria parkinsoni	Black petrel	Vulnerable
	Procellaria westlandica	Westland petrel	Endangered
	Pseudobulweria becki	Beck's petrel	Critically endangered

	Pseudobulweria macgillivrayi	Fiji petrel	Critically endangered
	Pseudobulweria rostrata	Tahiti petrel	Near Threatened
	Pterodroma alba	Phoenix petrel	Endangered
	Pterodroma atrata	Henderson petrel	Endangered
	Pterodroma axillaris	Chatham petrel	Vulnerable
	Pterodroma brevipes	Collared petrel	Vulnerable
	Pterodroma cervicalis	White-necked petrel	Vulnerable
	Pterodroma cookii	Cook's petrel	Vulnerable
	Pterodroma externa	Juan Fernandez petrel	Vulnerable
	Pterodroma inexpectata	Mottled petrel	Near Threatened
	Pterodroma leucoptera	White-winged petrel	Vulnerable
	Pterodroma longirostris	Stejneger's petrel	Vulnerable
	Pterodroma magentae	Magenta petrel	Critically Endangered
	Pterodroma pycrofti	Pycroft's petrel	Vulnerable
	Pterodroma sandwichensis	Hawaiian petrel	Vulnerable
	Pterodroma solandri	Providence petrel	Vulnerable
	Pterodroma ultima	Murphy's petrel	Near Threatened
	Puffinus bannermani	Bannerman's shearwater	Endangered
	Puffinus bryani	Bryan's shearwater	Critically Endangered
	Puffinus heinrothi	Heinroth's shearwater	Vulnerable
	Puffinus huttoni	Hutton's shearwater	Endangered
	Puffinus myrtae	Rapa shearwater	Critically Endangered
	Puffinus newelli	Newell's shearwater	Endangered
Storm Petrels	*Fregetta maoriana*	New Zealand storm-petrel	Critically Endangered
	Hydrobates leucorhous	Leach's storm-petrel	Vulnerable
	Hydrobates matsudairae	Matsudaira's storm-petrel	Vulnerable
	Hydrobates monorhis	Swinhoe's storm-petrel	Near Threatened
	Nesofregetta fuliginosa	Polynesian storm-petrel	Endangered

Appendix 5: Shark species confirmed or suspected to be in Vanuatu waters with confidence category

(CV = confirmed and taxonomically verified, RV = requires verification, P = plausible, U = unlikely. Adapted from Archibald and Chin)

Taxonomic group	Scientific Name	Common name	Family	Confidence
Skates and Rays	*Aetobatus ocellatus*	Spotted eagle ray	Aetobatidae	CV
	Mobula alfredi	Reef manta ray	Mobulidae	RV
	Mobula birostris	Giant manta ray	Mobulidae	RV
	Mobula mobular	Giant devilray	Mobulidae	P
	Mobula tarapacana	Chilean devilray	Mobulidae	P
	Mobula thurstoni	Bentfin devilray	Mobulidae	P
	Neotrygon kuhlii	Bluespotted maskray	Dasyatidae	CV
	Notoraja alisae	Alis' velvet skate	Arhynchobatidae	CV
	Notoraja inusitata	Strange skate	Arhynchobatidae	CV
	Notoraja longiventralis	Longlobe velvet skate	Arhynchobatidae	CV
	Pteroplatytrygon violacea	Pelagic stingray	Dasyatidae	RV
	Taeniura lessoni	Oceania fantail ray	Dasyatidae	CV
	Taeniura lymma	Bluespotted fantail ray	Dasyatidae	P
	Taeniurops meyeni	Blotched fantail ray	Dasyatidae	RV
	Urogymnus asperrimus	Porcupine whipray	Dasyatidae	RV
	Urogymnus granulatus	Mangrove whipray	Dasyatidae	P
Thresher sharks	*Alopias pelagicus*	Pelagic thresher	Alopiidae	RV
	Alopias superciliosus	Bigeye thresher	Alopiidae	RV
	Alopias vulpinus	Thresher shark	Alopiidae	CV
Mako sharks	*Isurus oxyrinchus*	Shortfin mako	Lamnidae	RV
	Isurus paucus	Longfin mako	Lamnidae	RV
Requiem sharks	*Carcharhinus albimarginatus*	Silvertip shark	Carcharhinidae	CV
	Carcharhinus amblyrhynchos	Grey reef shark	Carcharhinidae	CV
	Carcharhinus brachyurus	Bronze whaler	Carcharhinidae	RV
	Carcharhinus falciformis	Silky shark	Carcharhinidae	CV
	Carcharhinus longimanus	Oceanic whitetip	Carcharhinidae	RV
	Carcharhinus plumbeus	Sandbar shark	Carcharhinidae	RV
	Galeocerdo cuvier	Tiger shark	Carcharhinidae	CV

	Loxodon macrorhinus	Sliteye shark	Carcharhinidae	RV
	Negaprion acutidens	Sharptooth lemon shark	Carcharhinidae	CV
	Prionace glauca	Blue shark	Carcharhinidae	RV
	Triaenodon obesus	Whitetip reef shark	Carcharhinidae	CV
Hammerhead sharks	*Sphyrna lewini*	Scalloped hammerhead	Sphyrnidae	RV
	Sphyrna mokarran	Great hammerhead	Sphyrnidae	CV
	Sphyrna zygaena	Smooth hammerhead shark	Sphyrnidae	RV
Chimaera	*Chimaera monstrosa*	Ghost shark	Chimaeridae	U
Other sharks	*Carcharodon carcharias*	White shark	Lamnidae	RV
	Centrophorus moluccensis	Smallfin gulper shark	Centrophoridae	RV
	Cephaloscyllium signourum	Flagtail swellshark	Scyliorhinidae	P
	Cetorhinus maximus	Basking shark	Cetorhinidae	P
	Cirrhigaleus barbifer	Mandarin dogfish	Squalidae	RV
	Deania quadrispinosa	Longsnout dogfish	Centrophoridae	RV
	Etmopterus splendidus	Splendid lanternshark	Etmopteridae	RV
	Galeorhinus galeus	Tope	Triakidae	U
	Galeus priapus	Phallic catshark	Scyliorhinidae	P
	Heptranchias perlo	Sharpnose sevengill shark	Hexanchidae	RV
	Hexanchus nakamurai	Bigeye sixgill shark	Hexanchidae	RV
	Iago garricki	Longnose houndshark	Triakidae	RV
	Lamna nasus	Porbeagle shark	Lamnidae	RV
	Mustelus manazo	Starspotted smoothhound	Triakidae	RV
	Pseudocarcharias kamoharai	Crocodile shark	Pseudocarchariidae	P
	Rhincodon typus	Whale shark	Rhincodontidae	CV
	Scyliorhinus torazame	Cloudy catshark	Scyliorhinidae	U
	Squalus megalops	Shortnose spurdog	Squalidae	RV
	Squalus melanurus	Blacktail spurdog	Squalidae	RV
	Squalus mitsukurii	Shortspine spurdog	Squalidae	RV
	Squalus rancureli	Cyrano spurdog	Squalidae	RV
	Stegostoma tigrinum	Zebra shark	Stegostomatidae	CV

Appendix 6:
Conservation status of Vanuatu sharks by listing on the IUCN Red List of Threatened species, CITES appendices, CMS appendices and listed by the WCPFC as key species

(Adapted from Archibald and Chin)

Taxonomic group	Scientific name	Common name	IUCN	CITES	CMS	WCPFC
Skates and Rays	*Aetobatus ocellatus*	Spotted eagle ray	Vulnerable			
	Mobula alfredi	Reef manta ray	Vulnerable	II	I & II	Yes
	Mobula birostris	Giant manta ray	Endangered	II	I & II	Yes
	Mobula mobular	Giant devilray	Endangered	II	I & II	Yes
	Mobula tarapacana	Chilean devilray	Endangered	II	I & II	Yes
	Mobula thurstoni	Bentfin devilray	Endangered	II	I & II	Yes
	Neotrygon kuhlii	Bluespotted maskray	Data Deficient			
	Notoraja alisae	Alis' velvet skate	Least Concern			
	Notoraja inusitata	Strange skate	Least Concern			
	Notoraja longiventralis	Longlobe velvet skate	Least Concern			
	Pteroplatytrygon violacea	Pelagic stingray	Least Concern			
	Taeniura lessoni	Oceania fantail ray	Data Deficient			
	Taeniura lymma	Bluespotted fantail ray	Least Concern			
	Taeniurops meyeni	Blotched fantail ray	Vulnerable			
	Urogymnus asperrimus	Porcupine whipray	Vulnerable			
	Urogymnus granulatus	Mangrove whipray	Vulnerable			
Thresher sharks	*Alopias pelagicus*	Pelagic thresher	Endangered	II	II	Yes
	Alopias superciliosus	Bigeye thresher	Vulnerable	II	II	Yes
	Alopias vulpinus	Thresher shark	Vulnerable	II	II	Yes
Mako sharks	*Isurus oxyrinchus*	Shortfin mako	Endangered	II	II	Yes
	Isurus paucus	Longfin mako	Endangered	II	II	Yes
Requiem sharks	*Carcharhinus albimarginatus*	Silvertip shark	Vulnerable	II		
	Carcharhinus amblyrhynchos	Grey reef shark	Endangered	II		
	Carcharhinus brachyurus	Bronze whaler	Vulnerable	II		
	Carcharhinus falciformis	Silky shark	Vulnerable	II	II	Yes
	Carcharhinus longimanus	Oceanic whitetip	Critically Endangered	II	I	Yes

	Carcharhinus plumbeus	Sandbar shark	Endangered	II		
	Galeocerdo cuvier	Tiger shark	Near Threatened			
	Loxodon macrorhinus	Sliteye shark	Near Threatened	II		
	Negaprion acutidens	Sharptooth lemon shark	Endangered	II		
	Prionace glauca	Blue shark	Near Threatened	II	II	Yes
	Triaenodon obesus	Whitetip reef shark	Vulnerable	II		
Hammerhead sharks	*Sphyrna lewini*	Scalloped hammerhead	Critically Endangered	II	II	Yes
	Sphyrna mokarran	Great hammerhead	Critically Endangered	II	II	Yes
	Sphyrna zygaena	Smooth hammerhead shark	Vulnerable	II	II	Yes
Chimaera	*Chimaera monstrosa*	Ghost shark	Vulnerable			
Other sharks	*Carcharodon carcharias*	White shark	Vulnerable	II	I & II	
	Centrophorus moluccensis	Smallfin gulper shark	Vulnerable	II		
	Cephaloscyllium signourum	Flagtail swellshark	Data Deficient			
	Cetorhinus maximus	Basking shark	Endangered	II	I & II	
	Cirrhigaleus barbifer	Mandarin dogfish	Least Concern			
	Deania quadrispinosa	Longsnout dogfish	Vulnerable			
	Etmopterus splendidus	Splendid lanternshark	Least Concern			
	Galeorhinus galeus	Tope	Critically Endangered		II	
	Galeus priapus	Phallic catshark	Least Concern			
	Heptranchias perlo	Sharpnose sevengill shark	Near Threatened			
	Hexanchus nakamurai	Bigeye sixgill shark	Near Threatened			
	Iago garricki	Longnose houndshark	Least Concern			
	Lamna nasus	Porbeagle shark	Vulnerable	II	II	Yes
	Mustelus manazo	Starspotted smoothhound	Endangered			
	Pseudocarcharias kamoharai	Crocodile shark	Least Concern			
	Rhincodon typus	Whale shark	Endangered	II	I & II	Yes
	Scyliorhinus torazame	Cloudy catshark	Least Concern			
	Squalus megalops	Shortnose spurdog	Least Concern			
	Squalus melanurus	Blacktail spurdog	Data Deficient			
	Squalus mitsukurii	Shortspine spurdog	Endangered			
	Squalus rancureli	Cyrano spurdog	Near Threatened			
	Stegostoma tigrinum	Zebra shark	Endangered			

Appendix 7:
List of SUMAs where sharks appear in the justification

Name of SUMA	Number	Offshore/ inshore	Province	Island	Justification
Northwest Part of Santo	NO1	Offshore	Sanma	Santo	Seamounts
East Epi	NO2	Offshore	Shefa	Epi	Seamounts
West Efate Island Seamount	CO1	Offshore	Shefa	Efate	Seamounts
Central Vanuatu	CO2	Offshore	Sanma	Santo	Seamounts
Eastern Vanuatu Canyons	CO3	Offshore	Multiple	Multiple	Seamounts and Canyons
Futuna Trench	SO1	Offshore	Tafea	Multiple	Canyons
East and Northeast Erromango Canyons	SO2	Offshore	Tafea	Erromango	Canyons
Hunter Island to the Northeast Erromango Seamounts	SO3	Offshore	Tafea	Multiple	Seamounts
Vanuatu Trench	SO4	Offshore	Multiple	Multiple	
Southernmost Vanuatu Seamounts	SO5	Offshore	Hunter & Matthew	Multiple	Seamounts
Mota Lava	T9	Inshore	Torba	Banks Group	Grey reef sharks
Palekula to Turtle Bay	S1	Inshore	Sanma	Santo	Potential nursery
Vathe-Loathe Urerure	S3	Inshore	Sanma	Santo	Bull sharks
Laika Island	TON1	Inshore	Shefa	Tongoa	Shark catches
Lupalea (Tongoa Wall)	TON2	Inshore	Shefa	Tongoa	White-tipped reef sharks
Kurumambe	TON3	Inshore	Shefa	Tongoa	Canyons
Monument Rock	MT1	Inshore	Shefa	Mataso	Canyons
Port Vila Harbour	EF15	Inshore	Shefa	Efate	Reef sharks
Eretoka Island	EF17	Inshore	Shefa	Efate	Seamounts
Paul's Rock	EF18	Inshore	Shefa	Efate	Seamounts
Scott Reef	EF19	Inshore	Shefa	Efate	Seamounts
Eton Plateau	EF20	Inshore	Shefa	Efate	Seamounts
Port Resolution	TAF1	Inshore	Tafea	Tanna	Large shark as predators

Appendix 8:
List of Acronyms and Abbreviations

AA	Antipodean Albatross
ACAP	Agreement for the Conservation of Albatrosses and Petrels
BFA	Bilateral Fishing Access
CBD	Convention on Biological Diversity
CCA	Community Conservation Area
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CIR	Department of Customs and Inland Revenue
CMS	Convention on Migratory Species
CITES	Convention on International Trade in Endangered Fauna and Flora
CMM	Conservation management measure
DEPC	Department of Environmental Protection and Conservation
DLA	Department of Local Authorities
DoT	Department of Tourism
DUAP	Department of Urban Affairs and Planning
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organization of the United Nations
FFA	Pacific Islands Forum Fisheries Agency
IATF	International authorization to fish certificate
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
IOTC	Indian Ocean Tuna Commission
IPOA	International Plan of Action
IUCN	International Union for the Conservation of Nature
KBA	Key Biodiversity Area
MARPOL	International Convention for the Prevention of Pollution from Ships
MOU	Memorandum of Understanding
MSC	Marine Stewardship Council
NBSAP	National Biodiversity Strategy and Action Plan
NDF	Non-detrimental finding
NGO	Non-Governmental Organisation
NPFC	Northern Pacific Fisheries Commission
NPOA	National Plan of Action
PNA	Parties to Nauru Agreement
RFMOs	Regional Fisheries Management Organisations
RTMP	Revised Tuna Management Plan
SLO	State Law Office
SPC	Pacific Community

SPREP	Secretariat of the Pacific Regional Environmental Programme
SPRFMO	South Pacific Regional Fisheries Management Organization
SPTO	Pacific Tourism Organisation
SSI	Species of Special Interest
SUMA	Special and Unique Marine Areas
TAC	Total Allowable Catch
TED	Turtle Exclusion Device
TUFMAN	Tuna Fisheries Database Management System
UNCLOS	United National Convention on the Law of the Sea
VESS	Vanuatu Environmental Science Society
VFD	Vanuatu Fisheries Department
VFIPA	Vanuatu Foreign Investments Promotion Agency
VKS	Vanuatu Kaljoral Senta
VISR	Vanuatu International Shipping Registry
VMSA	Vanuatu Maritime Safety Authority
VNPOA-SST	Vanuatu National Plan of Action for Seabirds, Sharks and Turtles
VPMU	Vanuatu Project Management Unit
WCPFC	Western and Central Pacific Fisheries Commission
WCPO	Western and Central Pacific Ocean
WSB	Wan Smolbag

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