Pacific Islands Regional Marine Species Programme

2022-2026

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# ABBREVIATIONS AND ACRONYMS

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| **ACAP** | Agreement for the Conservation of Albatrosses and Petrels |
| **ACPMEA** | Multilateral Environmental Agreements in Africa, Caribbean, and Pacific countries. |
| **ALDFG** | Abandoned, Lost and Discarded Fishing Gear |
| **AS** | American Samoa |
| **AU** | Australia |
| **BIEM** | Bycatch and Integrated Ecosystem Management |
| **CBD** | Convention on Biological Diversity |
| **CEFAS** | Centre for Environment, Fisheries and Aquaculture Science |
| **CI** | Cook Islands |
| **CITES** | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| **CMM** | Conservation and Management Measure |
| **CMS** | Convention on the Conservation of Migratory Species of Wild Animals |
| **CR** | Critically Endangered |
| **CROP** | Council of Regional Organisations of the Pacific |
| **DD** | Date Deficient |
| **EEZ** | Exclusive Economic Zone |
| **EIA** | Environmental Impact Assessment |
| **EN** | Endangered |
| **FAD** | Fish Aggregating Device |
| **FAO** | Food and Agriculture Organisation of the United Nations |
| **FFA** | Pacific Islands Forum Fisheries Agency |
| **FI** | Fiji |
| **FP** | French Polynesia |
| **FSM** | Federated States of Micronesia |
| **GEF** | Global Environment Facility |
| **GU** | Guam |
| **IGO** | Intergovernmental Organisation |
| **IMMA** | Important Marine Mammal Areas |
| **ISRA** | Important Shark and Ray Areas |
| **IUCN** | International Union for Conservation of Nature |
| **IWC** | International Whaling Commission |
| **KBA** | Key Biodiversity Area |
| **KI** | Kiribati |
| **LMMA** | Locally Managed Marine Area |
| **MEA** | Multilateral Environmental Agreement |
| **MI** | Marshall Islands |
| **MOU** | Memorandum of Understanding |
| **MPA** | Marine Protected Area |
| **MSP** | Marine Spatial Plans |
| **NA** | Nauru |
| **NC** | New Caledonia |
| **NGO** | Non-governmental Organisation |
| **NI** | Niue |
| **NMI** | Commonwealth of the Northern Mariana Islands |
| **NT** | Near Threatened |
| **NZ** | New Zealand |
| **PA** | Palau |
| **PCARAP** | Pacific Coral Reef Action Plan |
| **PI** | Pitcairn Islands |
| **PNG** | Papua New Guinea |
| **RFMO** | Regional Fisheries Management Organisation |
| **SA** | Samoa |
| **SI** | Solomon Islands |
| **SPC** | The Pacific Community |
| **SPREP** | Secretariat of the Pacific Regional Environment Programme |
| **SSIP** | Shark Search Indo-Pacific |
| **TK** | Traditional Knowledge |
| **TO** | Tonga |
| **TOK** | Tokelau |
| **TREDS** | Turtle Research and Monitoring Database System |
| **TU** | Tuvalu |
| **UK** | United Kingdom |
| **UNCCD** | United Nations Convention to Combat Desertification |
| **UNDP** | United Nations Development Programme |
| **UNFCCC** | United Nations Framework Convention on Climate Change |
| **USA** | United States of America |
| **VA** | Vanuatu |
| **VU** | Vulnerable |
| **WCPFC** | Western Central Pacific Fisheries Commission |
| **WCPO** | Western and Central Pacific Ocean |
| **WF** | Wallis and Futuna |
| **WWF** | World Wide Fund for Nature |

# OVERALL VISION

The Marine Species Programme of the Secretariat of the Pacific Regional Environment Programme (SPREP) outlines a regional strategy for the cooperative conservation and management of dugongs, marine turtles, whales and dolphins, sharks and rays, and seabirds. The Programme, which will be implemented through Action Plans during 2022–2026, will enable Pacific Islanders to take a primary role in achieving the following vision:

#### A healthy Pacific Ocean with thriving populations of whales, dolphins, marine turtles, dugongs, sharks and rays, and seabirds and the associated ecosystems on which they depend and meets the aspirations of Pacific Island peoples and protects their natural and cultural heritage.

# INTRODUCTION

The Pacific Islands region that is served by SPREP covers 32 million km2 and is in the middle of the largest continuous marine habitat on the planet, the Pacific Ocean. This region is home to a diverse range of large marine animals, including cetaceans (whales and dolphins), sirenians (dugongs), marine turtles, sharks and rays and seabirds. Over half of the world’s known species of cetaceans are found in the region, 7 are threatened with extinction, many of them interacting with tuna fisheries. The Pacific Ocean supports some of the world’s largest remaining populations of dugongs (VU), and green (EN), hawksbill (CR) and loggerhead turtles (VU). Sharks and rays are increasingly threatened globally, particularly from overexploitation. Only around 500 species have been assessed by the IUCN, but over half are threatened (VU, EN, CR) or near threatened (NT). Seabirds have most recently been added to the suite of migratory marine species covered by this programme. Around 40 species are known to breed across the Pacific with many more breeding outside the region and migrating through. Eleven species are threatened with extinction (VU, EN, CR) and one is near threatened (NT). For some species, the location of their breeding grounds is unknown.

Dugongs, turtles, whales, dolphins, sharks, rays, seabirds and other large marine species play a significant ecological role in the functioning of coastal and oceanic habitats and systems. The life history characteristics of many of these species are long-lived with low reproductive potential. This makes them quite vulnerable to direct and indirect harvesting and environmental changes. Some species are widely regarded as flagship species for Pacific marine ecosystems and often feature prominently in promotional tourist materials for many Pacific Island countries and territories. The contribution of these species to ecosystem services and livelihoods is increasingly under threat. Rebuilding populations of migratory species is critical for maintaining a healthy Pacific Ocean.

## CULTURAL IMPORTANCE

These marine creatures are also recognised as being a fundamental element of Pacific Islanders’ culture and heritage. Many Pacific Island cultures have legends and traditional uses of marine mammals, turtles, sharks and rays, and seabirds, which indicates the importance of these creatures to people’s identities, way of life and heritage.

Dugongs and turtles have been hunted extensively in the region, both for traditional and subsistence purposes, and more recently for commercial gain. They are now considered endangered throughout their range and many small and/or isolated populations are vulnerable to extinction. Dolphins have also been sought after for food e.g., through local drive hunts. These species remain a highly valued food item (meat and oil) and medicine (oil), and their shells (turtles) and skin and bones (dugongs and cetaceans) are often used for jewellery and ornaments. Dugong bone and the teeth of small cetaceans have been important in certain ceremonies (e.g. marriages and funerals) in New Caledonia, Papua New Guinea (Manus Province), and the Solomon Islands (Malaita). In Fiji, tabua (sperm whale teeth) are a highly valued commodity in cultural ceremonies and exchanges.

While subsistence hunting of dugongs and turtles may have been sustainable in the past, the combination of increasing human populations, pressure from other threats, and the introduction of new harvesting technologies (e.g. outboard motors and gill nets) has severely impacted several species, resulting in fragmentation of populations and even local extinctions. For many species of large whales, commercial whaling during the nineteenth and twentieth centuries, largely by countries from outside the region, has reduced the breeding populations of South Pacific whales to extremely low levels, possibly to local extinction for some species. Now there are also increasing threats to smaller whales and dolphins from fisheries interactions. Seabirds also have a valued place in the cultures of the Pacific for example as oceanic guides to fish schools and for navigational support. For all marine species, there is a growing awareness of their non-consumptive values and benefits to local communities (e.g. boat or shore-based tourism activities, such as whale watching).

Most of these species have distribution and migratory pathways that extend across and beyond international boundaries, further contributing to their vulnerability. Thus, Pacific Island countries and territories have a shared responsibility to ensure the recovery and maintenance of viable populations of these species and their habitats, including under the provisions of various international agreements such as the Convention on Biological Diversity (CBD), Convention on the Conservation of Migratory Species of Wild Animals (CMS), and the Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES). In recent years, there has been a growing awareness of the increasingly threatened status of many of these iconic species and of the need for a concerted and coordinated approach among Pacific Island countries to arrest and reverse declining population trends.

## CONSERVATION CHALLENGES

In addition to the above-mentioned threats to these species, the overarching problems and challenges surrounding conservation efforts in the Pacific islands region include:

* Lack of data and information, including basic population parameters and long-term data sets.
* Absence and lack of ongoing and long-term research, survey and monitoring programmes.
* Limited public awareness and education programmes.
* Limited in-country skills / capacity to provide leadership in marine species conservation management.
* Limited national management mechanisms to protect marine animals and their habitats.
* Lack of resources, including accessing sustained funding.
* Limited information exchange, linkages and collaboration at the national and regional levels.
* Lack of enforcement capacity.

## STRATEGIC APPROACH

Pacific Island peoples are stewards of their marine environment and depend on these resources for their way of life. The 2022–2026 Marine Species Programme supports them by:

* Increasing knowledge, awareness and understanding of these species and their habitats, and their ecological and cultural values.
* Building capacity and securing human and financial resources to enable implementation of the Action Plans.
* Identifying and mitigating threats.
* Improving the condition of marine species and their habitats through improved management.
* Promoting appropriate customary management practices and traditional stewardship.
* Ensuring that marine species populations recover and continue to fulfil their ecological roles.
* Fostering the sustainable use of marine species, including non-consumptive uses (e.g. tourism).
* Enhancing cooperation and coordinated action at national, regional and international levels.
* Fostering opportunities for multi-species approaches.

## ROLES AND RESPONSIBILITIES

These Action Plans and their implementation are the collective responsibility of SPREP member states, the SPREP Secretariat, partner non-governmental and inter-governmental organisations and private sector organisations.

The SPREP Secretariat will continue to play an important role in facilitating the exchange of information, coordinating efforts, building capacity, securing resources, and regularly monitoring and reporting on Action Plan implementation.

## COMMITMENT, FUNDING AND HUMAN RESOURCES

It is recognised that, beyond existing in-country capacity, significant additional resources will continue to be needed to achieve the aims and objectives of these Action Plans. We in the Pacific islands region call upon all donor partners and supporters to assist in providing the necessary resources for implementing the Action Plans at regional and national levels.

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| **Objective A: Ensure resources are available to effectively implement the Marine Species Programme** | | |
| **Number** | **Actions** | **Responsibility** |
| A.1 | Continue to identify and seek opportunities to secure funding through universities, NGOs, Institutions and Initiatives and prepare funding proposals that specifically address marine species issues identified in these action plans. | SPREP, Partners, Members |
| A.2 | Continue the regular provision of information related to upcoming funding opportunities. | SPREP |
| A.3 | Continue to identify through appropriate mechanisms (e.g. CMS Dugong MoU, Pacific Cetacean MOU) technical advisors and secure opportunities for their support of the Marine Species Action Plans. | SPREP |
| A.4 | Continue to actively support marine species biodiversity conservation by committing appropriate resources including staffing, funds etc. | Members |
| A.5 | Continue to seek members’ commitment via fora such as the annual SPREP meeting and other marine focused regional meetings for marine species and biodiversity conservation. | SPREP |
| **INDICATORS:**   1. Funding is secured and available to support marine species programmes identified in this programme. 2. Opportunities for funding are communicated to contact points via Listservs. 3. Appropriate technical advisors are identified for each species group. 4. Projects addressing marine species issues and priority actions identified in the Action Plans are implemented. | | **TIMEFRAME:**   1. 2026 2. Ongoing 3. 2022 4. 2026 |

## IMPLEMENTATION AND COORDINATION

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| **Objective B: Ensure successful Marine Species Programme implementation through effective and sustained management, coordination and communication** | | |
| **Number** | **Actions** | **Responsibility** |
| B.1 | Continue to provide sustained regional and national facilitation and coordination of the Marine Species Programme via a regional advisor. | SPREP |
| B.2 | Identify contact points/national officers for implementation and reporting on the Marine Species Programme. | Members |
| B.3 | Develop and implement a Communication Strategy for the Marine Species Programme that ensures effective outreach and support at the national, regional and international levels targeted appropriately at politicians, local communities, donor agencies, IGOs, NGOs, technical experts etc. | SPREP |
| B.4 | Promote the integration of the Marine Species Programme and Action Plans priorities into regional and international strategies, plans and projects as appropriate and relevant to regional and international needs. | Members, SPREP,  Partners |
| B.5 | Facilitate an informal and open-ended technical working group, comprising scientists, policy-makers and managers, to provide technical advice on Action Plans implementation as required. As part of this technical working group, promote linkages with the relevant groups of the IUCN Species Survival Commission. | SPREP |
| INDICATORS:   1. The Threatened and Migratory Species Advisor is retained as a permanent position and is supported as required by temporary or permanent staff. 2. Each member has identified at least one contact point for the Marine Species Programme. 3. A Communication Strategy is produced and available on the SPREP website and is used to guide engagement on the Programme. 4. Relevant technical working groups are established and members know how to reach experts for support while implementing the Programme. | | TIMEFRAME:   1. Ongoing 2. 2022 3. 2023 4. 2024 |

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## NETWORKING, REPORTING AND INFORMATION MANAGEMENT

The SPREP Secretariat will take the primary responsibility for networking, information management, archiving and regional reporting. SPREP will continue to rely on reporting and information from members and partners to achieve this.

To support this process there will be an annual review/reporting system so that SPREP, members, partners and donors can keep track of progress. This will be set up as an online reporting form on SPREPs Inform portal. This will enable SPREP to report on achievements over the life of this plan much more comprehensive and effective way. Link to come.

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| **Objective C: Implementation of the plan is supported by networks and accessible resources, and progress is measured through reporting.** | | |
| **Number** | **Actions** | **Responsibility** |
| C.1 | Set up a knowledge resource (information portal) through SPREP’s virtual library for each species group to assist with easy access to resources. | SPREP |
| C.2 | Develop and maintain information management systems that are accessible and promotes information sharing by:   * Maximizing online access to Action Plans information and databases. * Securing archiving of reports and information through the SPREP Library and Information Centre. * Ensuring the information management system is readily available and easily accessible. * Ensuring that any restrictions on source information should be respected. | SPREP |
| C.3 | Continue to build and strengthen marine species networks, consisting of SPREP members and partners including intergovernmental organisations (IGOs), nongovernmental organisations (NGOs), donors, technical experts and other interested parties by:   * Maintaining listservs. * Maintaining a contacts database. * Disseminating relevant information related to the Action Plans to the network list of contacts on a regular basis. * Keeping the SPREP website up to date. * Encouraging in-country networks. * Facilitating access to information and resources including scientific and technical reports. | SPREP |
| C.4 | Use the SPREP reporting tool to provide annual updates on implementation of the actions in the Marine Species Programme. | Members, Partners, SPREP |
| C.5 | Incorporate information from Action Plans reports into other national reporting mechanisms, where possible and appropriate (e.g. CBD, CMS, UNFCCC, CITES, UNCCD). | Members |
| C.6 | Using information provided by members via the reporting tool, prepare an annual report on Marine Species Programme implementation for SPREP meetings, with a focus on in-country progress, including successes and constraints, and also implementation of arrangements under CMS; strengthen the need for producing annual progress reports (as opposed to end of plan report). | SPREP |
| C.7 | Undertake mid-term and final review of Marine Species Programme implementation, including lessons learned, and providing status report to SPREP members and partners. | SPREP, Partners, Members |
| **INDICATORS:**   1. Relevant information is accessible to partners and members. 2. Reports and information are securely stored with appropriate security. 3. Listservs are created or reinstated for each species group to enable knowledge sharing and networking and are used to disseminate relevant information regularly. 4. A contacts database is available. 5. 90% of members are using the online reporting tool to record progress against actions. 6. Progress on marine species conservation in the Pacific islands region is presented annually to the SPREP meetings. 7. The Marine Species Programme is reviewed at the end of the term to capture progress on actions, feedback on the plans, and lessons learnt. This information is captured for use in developing the next series of plans. | | **TIMEFRAME:**   1. 2022 2. 2022 3. 2022 and ongoing 4. 2022 5. 2026 6. Annually 7. 2026 |

# MULTI-SPECIES ACTION PLAN

Many actions that can be undertaken to support the conservation of our target marine species (dugong, whales and dolphins, marine turtles, sharks and rays and seabirds) and their habitats are of a more general nature and implementing them will provide benefits across ecosystems, such as managing pollution and coastal development. Additionally, there are actions that need to be completed for each species group and are not specific to just one or two of these taxa. These are outlined in this multi-species action plan to reduce redundancy across the programme.

## THEMES AND OBJECTIVES

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| **THEMES** | **OBJECTIVES** |
| 1. Research and Monitoring | 1. Collect data and improve understanding of marine species distribution, populations and trends. |
| 2. Climate Change | 1. Monitor and reduce the impact of climate change on marine species. |
| 3. Ecosystems and Habitat Protection | 1. Critical habitat and migratory pathways for marine species are protected. |
| 4. Threat Reduction | 1. Quantify and prioritise threats to marine species and habitats.  2. Reduce impact of pollution and coastal development on marine species and habitats.  3. Reduce impact of tourism and watercraft on marine species.  4. Reduce impact of bycatch and entanglement on marine species.  5. Reduce trade of marine species and their parts. |
| 5. Cultural Significance and Value | 1. Recognise the value of traditional knowledge, customs and marine tenure and ensure it informs and is incorporated into management. |
| 6. Legislation, Policy and Management | 1. Improve protection of marine species through enforcement and compliance with legal frameworks and national action plans. |
| 7. Ecotourism and Livelihoods | 1. Ensure the development of marine species tourism is sustainable and conducted responsibly, with minimum impact and maximum education and economic returns. |
| 8. Capacity Building and Collaboration | 1. Capacity at national and community level for monitoring and management of marine species populations is increased.  2. Increase national, regional and international collaboration and partnership. |
| 9. Education, Awareness and Communication | 1. Improve awareness and understanding about marine species conservation issues, and importance of marine species in ecosystems and culture. |

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| **THEME 1: RESEARCH AND MONITORING** | | |
| **Objective 1: Collect data and improve understanding of marine species distribution, populations and trends** | | |
| **Number** | **Action** | **Responsibility** |
| 1.1.1 | Identify and prioritise gaps in knowledge of each marine taxa. | SPREP, Partners |
| 1.1.2 | Develop dissection and sampling protocols for response to marine species strandings, including for investigation into plastics ingestion. Provide response kit to members. | SPREP, Partners |
| 1.1.3 | Identify repositories for genetic samples of each marine taxa, form agreements for transporting and processing samples and provide guidance and equipment for submitting these. | SPREP, Partners |
| **INDICATORS**:   1. Gaps in knowledge are identified and prioritised and available to potential research providers and managers. 2. Stranding protocols are produced for each taxa and include standard data, measurements, photos, and samples to collect and where to submit, store, or send these. 3. Repositories for samples from each taxa are identified along with appropriate protocols. | | **TIMEFRAME:**   1. 2024 2. 2024 3. 2025 |

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| **THEME 2: CLIMATE CHANGE** | | |
| **Objective 1: Monitor and reduce the impact of climate change on marine species** | | |
| **Number** | **Action** | **Responsibility** |
| 2.1.1 | Support global action to keep global temperature rise to 1.5oC to protect biodiversity including marine species. | All |
| 2.1.2 | Marine species are key indicators of environmental change driven by climate change. Promote and support research and monitoring of key marine species to track the impact of climate change on biodiversity. | SPREP, Members, Partners |
| 2.1.3 | Develop innovative options to build resilience to climate change impacts to marine species and implement, monitor and share results widely. | Members, Partners |
| **INDICATORS:**   1. The Pacific continues to present a single strong voice at international forums for a target of 1.5oC. 2. Research and monitoring of at least one Pacific marine species is tracking the impact of climate change. 3. Ways to minimise the impact of climate change on marine species are being implemented in Pacific member states. | | **TIMEFRAME:**   1. 2022 2. 2023 3. 2022 |

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| **THEME 3: ECOSYSTEMS AND HABITAT PROTECTION** | | |
| **Objective 1: Critical habitat and migratory pathways for marine species are protected.** | | |
| **Number** | **Action** | **Responsibility** |
| 3.1.1 | Identify and map priority foraging habitats for marine species to inform creation of [Key Biodiversity Areas](http://www.keybiodiversityareas.org/) for protection and as inputs into development of Marine Protected Areas and Marine Spatial Plans. | SPREP, Members, Partners |
| 3.1.2 | Provide links to resources to assist with designing MPAs and MSPs such as produced by SPREP e.g [coastal tourism environmental impact guidelines](https://library.sprep.org/sites/default/files/coastal-tourism-eia-guidelines-poster.pdf) and [marine spatial planning toolkit.](https://library.sprep.org/sites/default/files/2021-04/marine-spatial-toolkit.pdf) | SPREP |
| **INDICATORS:**   1. Key Biodiversity Areas are identified and used in development of MPAs and MSPs. 2. A resource list for marine protection is available on the SPREP website. | | **TIMEFRAME:**   1. 2026 2. 2022 |

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| **THEME 4: THREAT REDUCTION** | | |
| **Objective 1: Quantify and prioritise threats to marine species and habitats.** | | |
| **Number** | **Action** | **Responsibility** |
| 4.1.1 | Identify, assess, and prioritise threats to marine species groups and their habitats in the Pacific at the national and regional level. | SPREP, Partners, Members |
| **INDICATORS:**   1. A review of known threats is produced for each marine species group and are available on the SPREP website for use in national and regional research and management planning, national scale information is included where possible. | | **TIMEFRAME:**   1. 2026 |
| **Objective 2: Reduce impact of pollution and coastal development on marine species and habitats**. | | |
| 4.2.1 | Protect water quality by promoting sustainable land use practices (e.g. [ridge-to-reef](https://www.pacific-r2r.org/sites/default/files/2020-03/Booklet_final.pdf) and community-based management) to protect and conserve coastal marine species habitats and foraging grounds such as seagrass meadows. | SPREP, Members |
| 4.2.2 | Environmental impact assessment (EIA) processes for coastal development to take account of and avoid, reduce or mitigate any impacts to dugong, turtle, shark and ray, seabird, and whale and dolphin habitat and foraging grounds, especially coral reefs and seagrass beds, including impacts of run-off. | SPREP, Members |
| 4.2.3 | Consider the impacts of other development, such as seabed mining, in national legislative and EIA processes. [Strategic Environmental Assessment Guidelines for Pacific Island countries and territories](https://www.sprep.org/sites/default/files/documents/publications/SEA-Guidelines.pdf) are available. This provides guidance for Pacific island governments in ensuring environmental and social considerations are integrated in national and sectorial development plans, policies, strategies and programmes. | Members, Partners |
| 4.2.4 | Enforce compliance with international and national regulations regarding vessel discharges containing oil and other toxic substances including plastic. | SPREP, Members, Partners |
| 4.2.5 | Implement the [Pacific marine litter action plan](https://www.sprep.org/publications/pacific-regional-action-plan-marine-litter) and the [International Maritime Organisations’ Marine Litter Action Plan](https://www.imo.org/en/MediaCentre/HotTopics/Pages/marinelitter-default.aspx). | Members |
| **INDICATORS:**   1. SPREP’s EIA and strategic EIA guidelines have been shared and promoted to members and are being used to assist with policy development and EIA processes. 2. Examples of effective EIAs are available for reference. 3. There has been no instances of vessels discharging oil or other toxic substances. 4. Appropriate policies are in place and enforced in at least two Pacific Island countries and territories to reduce impact of waste and pollution on marine species. | | **TIMEFRAME:**   1. 2023 2. 2023 3. 2026 4. 2026 |
| **Objective 3: Reduce impact of tourism and watercraft on marine species** | | |
| 4.3.1 | Promote SPREP’s [EIA guidelines for Coastal Tourism Development](https://library.sprep.org/sites/default/files/eia-guidelines-tourism-development_0.pdf) as best practice for developments in Pacific island countries or territories. See also lessons learned and best practices in environmental management resources on the [SPREP website](https://www.sprep.org/lessons-learned-and-best-practices-environment-management). | SPREP |
| 4.3.2 | Review and promote guidelines for responsible watercraft operations, consider reductions in boat speed or spatial/temporal closures where needed to prevent injury and death of marine species. | SPREP, Members |
| **INDICATORS:**   1. Up to date guidelines for responsible watercraft operations are available on the SPREP website. 2. There are regulations regarding the operation of watercraft around marine species in areas where this is deemed to be a significant problem. | | **TIMEFRAME:**   1. 2022 2. 2026 |
| **Objective 4: Reduce impact of bycatch and entanglement on marine species.** | | |
| 4.4.1 | Prohibit the discarding of fishing gear, especially nets (ghost nets). Encourage ghost net clearing programmes in important marine species habitat areas and on beaches/reefs. | Members, SPREP, CMS Secretariat, WCPFC |
| 4.4.2 | Require fishery licence holders to have management plans for each vessel for dealing with old fishing gear including the fate of drifting Fish Aggregating Devices (dFADs) used in the tuna fishery. | Members |
| 4.4.3 | Encourage the expansion of observer programmes, including through electronic monitoring programmes, and improve documentation, identification and reporting of marine species bycatch. Promote opportunity to use observers to record observations of marine species at sea. | SPREP, Members, WCPFC |
| 4.4.4 | Identify the key sources of fisheries mortality for marine species and advise governments on ways to reduce to the greatest extent practicable the incidental capture and mortality of marine species during fishing activities (e.g., spatial and temporal closures and gear modifications). | SPREP, Members, CMS Secretariat, NGOs |
| 4.4.5 | Promote best practice guidelines for use of gillnets in collaboration with partners such as FAO/SPC/UNDP. Support use of non-entangling and biodegradable FADs. | SPREP, Members, WCPFC |
| 4.4.6 | Encourage adoption of best practice mitigation methods in WCPFC to reduce interactions and mortality with fishing gear. | SPREP, SPC, FFA, Members, Partners |
| **INDICATORS:**   1. Members support measures to reduce fishing vessels as sources of marine litter including derelict fishing gear. 2. Ghost net clearing programmes have occurred. 3. Policies in place requiring waste management plans for each vessel dealing with old unwanted fishing gear including dFADs. 4. Documentation of marine species bycatch is occurring and recorded in relevant databases, understanding of levels of bycatch is improved. 5. Best practice guidelines for use of gillnets are adopted throughout fisheries in the Pacific. 6. Use of non-entangling and biodegradable FADs are required to be used in the WCPO. 7. Key sources of fisheries mortality are identified and options for reducing incidental captures and mortality are promoted. 8. Recommended bycatch mitigation methods are employed by all fisheries and bycatch of marine species is reduced. | | **TIMEFRAME:**   1. 2026 2. 2026 3. 2026 4. 2026 5. 2024 6. 2026 7. 2023 8. 2026 |
| **Objective 5: Reduce trade of marine species and their parts.** | | |
| 4.5.1 | Promote compliance with relevant international regulations and Conventions/Agreements such as CITES. | SPREP, Partners, Members |
| **INDICATORS:**   1. Illegal trade in marine species and their parts is reduced. | | **TIMEFRAME:**   1. 2026 |

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| **THEME 5: CULTURAL SIGNIFICANCE AND VALUE** | | |
| **Objective 1: Recognise the value of traditional knowledge, customs and marine tenure and ensure it informs and is incorporated into management.** | | |
| **Number** | **Action** | **Responsibility** |
| 5.1.1 | Enable local communities to contribute their cultural knowledge and traditions when conducting research and when developing management and action plans for marine species management. | Members, Partners |
| 5.1.2 | Ensure gender and other social inclusion considerations are considered when working with local communities when undertaking research or protection of marine species. | Members, Partners |
| 5.1.3 | Centre indigenous knowledge in solutions to threats to marine species. | Members, Partners, SPREP |
| **INDICATORS:**   1. Cultural knowledge and traditions are acknowledged in national action plans. 2. The representation of female, youth, and other under-represented demographics in community research, monitoring and management is increased. 3. Traditional knowledge is acknowledged when creating and implementing solutions to marine species threats. | | **TIMEFRAME:**   1. Ongoing 2. 2026 3. Ongoing |

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| **THEME 6: LEGISLATION, POLICY AND MANAGEMENT** | | |
| **Objective 1:  Improve protection of marine species through enforcement and compliance with legal frameworks and national action plans.** | | |
| **Number** | **Action** | **Responsibility** |
| 6.1.1 | Encourage the creation or review of national action plans for each of the marine species group. | Members |
| 6.1.2 | Support the development of management plans for established/declared marine sanctuaries, Marine Protected Areas and other ecosystem-based protection mechanisms that include marine species. | SPREP, Partners, Members |
| 6.1.3 | Ensure that the needs of threatened and migratory marine species are taken into account when developing new legislation or policy and when reviewing existing legislation look for inconsistencies between different acts and policies relating to these species e.g. between fisheries and environment. | Members |
| 6.1.4 | Proactively strengthen marine species and habitat protection in national legislation and policy including National Biodiversity Strategies and Action Plans. Ensure collaboration between agencies to achieve cross sectoral integration. | Members |
| 6.1.5 | Incorporate relevant traditional knowledge, customary marine tenure and practices into policy, legislation and management plans where appropriate. | Members, Partners |
| **INDICATORS:**   1. Half of members have national action plans completed or drafted for two or more species groups. 2. Existing national action plans are updated based on the Regional Marine Species Programme 2022-2026. 3. Management plans for marine sanctuaries etc that include effective measures to protect marine species are developed in Pacific island countries/territories. 4. Marine Species actions are incorporated into National Implementation Plans, Action Plans, Strategies or other National Programmes or projects. | | **TIMEFRAME:**   1. 2026 2. 2023 3. 2025 4. 2026 |

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| **THEME 7: ECOTOURISM AND LIVELIHOODS** | | |
| **Objective 1: Ensure the development of marine species tourism is sustainable and conducted responsibly, with minimum impact and maximum education and economic returns.** | | |
| **Number** | **Action** | **Responsibility** |
| 7.1.1 | Develop alternative livelihoods as ways to support and protect marine species. | Members, Partners |
| 7.1.2 | Collaborate with Pacific Regional Tourism Organisation to develop Regional Marine Tourism Guidelines building on international work e.g. [UNEP species-specific guidelines for boat-based wildlife watching](https://www.cms.int/dugong/sites/default/files/document/cms_cop12_res.11.29%28rev.cop12%29_annex_e.pdf). | SPREP, Pacific Regional Tourism Organisation |
| 7.1.3 | Organise a regional workshop for range states on responsible marine species tourism. | SPREP |
| **INDICATORS:**   1. Regional Marine Tourism Guidelines exist for marine species tourism in the Pacific region and are available on the SPREP website. 2. A virtual workshop has been held to promote responsible marine tourism for the different marine species with updates from members and partners on local management of marine wildlife tourism. | | **TIMEFRAME:**   1. 2024 2. 2025 |

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| **THEME 8: CAPACITY BUILDING AND COLLABORATION** | | |
| **Objective 1: Capacity at national and community level for monitoring and management of marine species populations is increased.** | | |
| **Number** | **Action** | **Responsibility** |
| 8.1.1 | Investigate opportunities/scholarships to support programmes/development for relevant national personnel to obtain further training and education (postgraduate/masters degree) in marine conservation management | Partners, Members, SPREP |
| 8.1.2 | Provide training for national coordinators to effectively use and communicate information, including support for language translation. | SPREP |
| **INDICATORS:**   1. Training and education opportunities are identified and communicated via listservs. 2. Virtual communications training has been offered to members and conducted. | | **TIMEFRAME:**   1. Ongoing 2. Ongoing |
| **Objective 2: Increase national, regional and international collaboration and partnership** | | |
| 8.2.1 | Continue to identify and strengthen communication between relevant laboratories and universities and members to conduct genetic analyses for marine species biopsy samples. | SPREP, Partners |
| 8.2.2 | Encourage CMS Members and Non-Party members to become signatories to the [CMS Migratory Sharks MOU](https://www.cms.int/sharks/en), the [Pacific Cetacean MOU](https://www.cms.int/en/legalinstrument/pacific-islands-cetaceans) and [Dugong MOU](https://www.cms.int/dugong/). | SPREP, Members |
| 8.2.3 | Encourage Non-Party Members to accede to CITES and/or adhere to CITES requirements to increase protection for traded marine species. | SPREP, Members |
| 8.2.4 | Through training workshops and other capacity building opportunities, enable members to comply with CITES regulations concerning marine species trade, export/import, including training on identifying parts. | SPREP, Members |
| 8.2.5 | Where scientific sampling for DNA analysis is required, assist in establishing permitting requirements under CITES. | SPREP |
| 8.2.6 | Initiate dialogue and collaboration with the fisheries, tourism and transport sectors at the regional and national levels in relation to information, awareness raising and management actions to address impacts. | SPREP, Partners, Members |
| 8.2.7 | Foster NGO partnerships at the national, regional and international levels. | SPREP, Partners, Members |
| 8.2.8 | Foster interagency collaboration at the national level and engagement with the private sector. | Members |
| 8.2.9 | Continue to foster collaboration with the CMS and CITES Secretariats as well as other relevant species conventions and Multi-lateral Environmental Agreements. | SPREP |
| **INDICATORS:**   1. Laboratories and universities are identified for genetic analysis of each marine species group. 2. Membership to marine species MOUs has increased. 3. At least one additional Member becomes a Party to CITES 4. At least one addition member becomes a party to CMS. 5. Import and export for DNA analysis is unimpeded by CITES | | **TIMEFRAME:**   1. 2022 2. 2023 3. 2026 4. 2026 5. 2026 6. 2024 |

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| **THEME 9: EDUCATION, AWARENESS, AND COMMUNICATION** | | |
| **Objective 1: Improve awareness and understanding about marine species conservation issues, and importance of marine species in ecosystems and culture.** | | |
| **Number** | **Action** | **Responsibility** |
| 9.1.1 | Promote Pacific island achievements in international fora and engage with international media. | All |
| 9.1.2 | Develop regionally and nationally tailored education and awareness tools and resources (e.g. brochures, posters, documentaries) incorporating scientific and traditional knowledge (known threats; species diversity, distribution and status; key conservation projects; traditional knowledge and customs; role in climate change) for all marine species groups. Translate into French and local languages where relevant. | SPREP, Partners, Members |
| 9.1.3 | Disseminate education and awareness tools for use by government, schools, community groups, media agencies, private industry and NGOs. | SPREP, Members, Partners |
| 9.1.4 | Develop, or update, an educational toolkit to assist range states to deliver curriculum on key marine species groups e.g. 2006 SPREP turtle education kit. | SPREP, Partners, Members |
| 9.1.5 | Assist government agencies, community trainers, and educators to deliver outreach programmes. | SPREP/Members |
| 9.1.6 | Support and strengthen the Lui Bell scholarship and other scholarships in marine science for tertiary students in the region. | All |
| 9.1.7 | Undertake outreach using informal/traditional methods of education (e.g. talanoa sessions, turtle calling) involving elders within communities where appropriate. | SPREP, Partners, Members |
| **INDICATORS:**   1. The SPREP website contains a section for marine species education and awareness tools and resources. 2. Education tools and resources are available in English, French, and local languages as appropriate. 3. Printed resources are maintained and distributed by SPREP. 4. Educational toolkits to support school curriculum are available for two species groups. 5. Scholarships are issued to Pacific Island tertiary students working on marine species projects. | | **TIMEFRAME:**   1. 2022 2. 2024 3. Ongoing 4. 2026 5. Ongoing |

# DUGONG ACTION PLAN

Goal: To protect dugongs and their habitats allowing Pacific Island populations to recover and thrive recognising their strong cultural importance to the people of the Pacific.

## INTRODUCTION

Dugong (*Dugong dugon)* are herbivorous, long-lived, and slow-moving marine mammals. Dugong spend most of their time feeding on seagrass beds in shallow waters generally less than 10 metres deep. Dugong play an important ecological role in the structure of seagrass ecosystems as they are mostly dependent on seagrass. If a particular seagrass habitat is lost, dugong may postpone their breeding and move to another area. Dugong populations are slow to recover when they are lost from a particular area because of their life history characteristics. Furthermore, without the influence of dugong grazing activities, seagrass communities in an area may change to less favourable species for dugong, thus discouraging their return. Without careful management of the human activities that threaten the dugong and their habitat, it will be vulnerable to local extinction and range contraction, increasing their overall risk of extinction.

Delegates from four of the six SPREP Members who are dugong range states (New Caledonia, Palau, Solomon Islands, and Vanuatu) convened in the Solomon Islands in March 2018, to discuss the status of dugong and seagrass conservation in the region and plan the next steps that need to be undertaken to effectively address the region’s conservation needs. Range states also provided feedback on a new draft action plan.

## SPECIES DISTRIBUTION

It is generally believed that throughout much of its range, the dugong is represented by relict populations separated by large areas where its numbers have been greatly reduced or already extirpated. Dugong occur in six countries and territories in the Pacific that are members of SPREP: Australia, New Caledonia, Palau, Papua New Guinea, Solomon Islands and Vanuatu. Palau’s dugong population is considered to be the most isolated in the world and unlikely to be supplemented by recruitment from any other area. Dugong are highly mobile so are capable of moving across the exclusive economic zones of different countries. New Caledonia, Palau, Papua New Guinea, Solomon Islands and Vanuatu participated in a dugong catch and bycatch questionnaire (Final 2017 report) which provides the latest information on the distribution and abundance of dugong populations and seagrass, also data on catch and bycatch and areas of fishing pressure, and potential conservation hotspots.

## SPECIES STATUS

The global population of dugong has declined precipitously over the previous few decades to the point of local extinction across large parts of its former range. The largest populations in the region occur between northern Australia and Papua New Guinea. Dugong was classified in 2019 by the IUCN Red List as Vulnerable with a decreasing trend. This is consistent with the status during the previous Dugong Action Plan. In the Pacific Islands region, the status of dugong populations is generally unknown (with the exception of Torres Strait) but are considered to be of very high concern. If assessments were made on the basis of Regional Management Units then Oceania populations may quality as Critically Endangered.

It is important that each range state assesses their own local extinction risk to dugong. The low reproductive rate in dugongs requires that a very high proportion (greater than 95%) of adult animals have to survive each year for a dugong population to be maintained. All dugong populations are also listed on Appendix 1 of CITES, prohibiting commercial international trade of the species. Dugong are additionally listed on Appendix II of the CMS.

## TRADITIONAL KNOWLEDGE AND CUSTOMS

The dugong plays a significant role in the culture of Pacific Island communities. In some societies, the dugong is considered to be an important totem (because of its large size and strength) and features prominently in stories and legends. The activities associated with hunting dugong and the preparation of the meat also have great significance and are an expression of long cultural traditions.

Specific parts of the dugong are used in customary events (e.g. weddings, funerals and traditional feasts) as well as for making traditional items, including drums, spoons, scrapers, hooks, laces and necklaces. Although dugong meat is a traditional and sometimes highly prized meat in some societies, some cultures place traditional taboos against killing them.

## INCOME GENERATING OPPORTUNITIES

Similar to other tourism activities that are based on marine animals (e.g. whales and dolphin watching), several countries have dugong watching (e.g. Australia and Vanuatu). Vanuatu also offers “swim with dugong” operations**.**

## THREATS

Due to their long lifespan and slow reproduction rate, dugong are particularly vulnerable to human-induced threats.

Threats to dugong have been broadly categorised into two areas: those that cause direct mortality to dugong, and those that result in loss or degradation to their habitats.

Threats that cause direct dugong mortality include:

* Harvesting for food, medicine and artefacts: Dugong make an easy target for coastal hunters and they have been long sought after for their meat, oil, skin, bones and teeth. Given the low numbers or unknown status of dugong populations in some areas, this is perhaps the greatest threat in the Pacific Islands region. For most countries, it is unknown whether the level of harvest is sustainable, and there is concern over the use of modern equipment for hunting them.
* Incidental by-catch, destructive fishing methods and vessel strikes: The incidental drowning of dugongs caught in fisheries gear, such as nets, is considered to be the predominant threat and has contributed to the decline of dugongs in some areas of the Pacific range states. The increase in vessel traffic also increases the likelihood of dugong being killed by vessel strikes.

Because of their dependence on seagrasses, dugong are very vulnerable to habitat loss and disturbance. Threats to their habitat include:

* Coastal development including reclamation: These activities increase sedimentation and turbidity in coastal waters where seagrasses are found. Sedimentation and turbidity not only smother seagrasses, but also reduce the amount of light reaching them, resulting in the degradation of seagrasses and a reduction in their density and productivity.
* Nutrient runoff from land: Nutrients from human activities (e.g. those found in sewage water and agricultural fertilisers) can alter the marine habitat, making it unsuitable for seagrass and promoting algal growth instead.
* Agricultural pollution: Herbicide runoff from agricultural activities also presents a potential risk to seagrass habitats.
* Extreme weather events such as cyclones and storms can destroy or degrade seagrass beds either directly via wave action or indirectly via increases in turbidity.
* Climate change: increased frequency of storm events, floods and droughts affecting water salinity and turbidity and increased temperatures are likely to impact seagrass habitats and might lead to a poleward shift in distribution.

## THEMES AND OBJECTIVES

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| **THEMES** | **OBJECTIVES** |
| 1. Research and Monitoring | 1. Data is collected, centralised and accessible.  2. Improve our understanding of dugong populations and habitats through research and monitoring. |
| 2. Climate Change | 1. Identify exposure, consequence and vulnerability of dugongs and seagrass to climate change. |
| 3. Ecosystems and Habitat Protection | 1. Critical habitat for dugongs are protected. |
| 4. Threat Reduction | 1. Reduce direct and indirect threats to dugong populations. |
| 5. Cultural Significance and Value | 1. Recognise the value of traditional knowledge, customs and marine tenure and ensure it informs and is incorporated into management. |
| 6. Legislation, Policy and Management | 1. Improve protection of dugongs through enforcement and compliance with legal frameworks and action plans. |
| 7. Ecotourism and Livelihoods | 1. Encourage best international practice related to dugong interactions. |
| 8. Capacity Building and Collaboration | 1. Build in-country capacity to strengthen dugong conservation.  2. National, regional and international collaboration is enhanced. |
| 9. Education, Awareness and Communication | 1. Improve awareness about the importance of dugongs and their habitats and relevant conservation issues. |

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| **THEME 1: RESEARCH AND MONITORING** | | |
| **Objective 1: Data is collected, centralised and accessible** | | |
| **Number** | **Action** | **Responsibility** |
| 1.1.1 | Encourage public to report all dugong strandings and mortalities to the appropriate management authority. | Members |
| 1.1.2 | Include dugong response in national stranding networks. Conduct necropsies and collect data for inclusion in Strandings of Oceania database ([www.flukebook.org](http://www.flukebook.org)), including information relating to impacts of plastics and fishing gear**.** | Members, Partners |
| 1.1.3 | Collect and archive genetic samples for analysis (including from strandings) following the CMS MoU protocol for collecting samples. | Members, Partners |
| 1.1.4 | Support use of the CMS Dugong MOU Standardised Dugong Catch and Bycatch Questionnaire, [Dugong Questionnaire Survey Project Manual](https://www.cms.int/dugong/sites/default/files/publication/standardised-dugong-questionnaire_project-manual_sep2012.pdf), and other dugong habitat and vessel interaction mapping tools, including through training opportunities within country or online. Disseminate information gathered to relevant parties targeting identified conservation hotspots in conservation and research efforts. | SPREP, CMS Secretariat, Members, Partners |
| **Objective 2: Improve our understanding of dugong populations and habitats through research and monitoring** | | |
| **Number** | **Action** | **Responsibility** |
| 1.2.1 | Promote the use of the [Dugong and Seagrass Research Toolkit](http://www.conservation.tools/) to facilitate standardised and comparable research in all range states. | SPREP, CMS |
| 1.2.2 | Prioritise baselines surveys and mapping in areas where assessments have not been undertaken | Members |
| 1.2.3 | Promote regular (at least every 5 years), replicable surveys, including incorporating traditional knowledge and using participatory scientific assessments, to determine national dugong population status, abundance, distribution and trend. | SPREP, CMS Secretariat,  Members, Partners |
| 1.2.4 | Support research into and monitoring of dugong habitats. | Members, Partners |
| **INDICATORS:**   1. Dugong mortalities are regularly reported. 2. Dugong necropsies are conducted, when possible, in two range states. 3. The Strandings of Oceania database contains dugong mortality data up to 2021 from all range states. 4. Genetic sampling continued or initiated in all range states. 5. CMS Dugong MOU Standardised Dugong Catch and Bycatch Questionnaires continuing in all range states, including relevant training to stakeholders and incorporated into conservation planning by all range states. 6. Analysis of questionnaires contributes to population assessments and mortality assessments. 7. Dugong and Seagrass Research Toolkit is used by all range states. 8. Complete baseline surveys for distribution and abundance for all Pacific range states 9. Relevant information on dugong population status summarized and made widely available. | | **TIMEFRAME:**   1. Ongoing 2. 2024 and ongoing 3. 2022 and ongoing 4. 2023 and ongoing 5. Ongoing 6. Ongoing 7. 2022 and ongoing 8. 2024 9. 2025 |

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| **THEME 2: CLIMATE CHANGE** | | |
| **Objective 1: Identify exposure, consequence and vulnerability of dugongs and seagrass to climate change** | | |
| **Number** | **Action** | **Responsibility** |
| 2.1.1 | Identify seagrass sites that are most at risk from climate change and protect. | SPREP, Partners |
| 2.1.2 | Include risk assessments for seagrass sites that are identified as being at high risk from climate change impacts as part of seagrass mapping and monitoring. | SPREP, Partners, Members |
| 2.1.3 | Assess what impact climate change may have on the distribution of seagrass and dugong populations. | SPREP, Partners |
| 2.1.4 | Support actions to include seagrass protection which takes account of contribution to blue carbon and supports alternative livelihoods | SPREP, Partners, Members |
| **INDICATORS:**   1. Seagrass sites that are vulnerable to climate change impacts are identified and prioritised for protection. 2. Possible distribution changes of seagrass beds under future climate change scenarios are mapped. | | **TIMEFRAME:**   1. 2024 2. 2026 |

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| **THEME 3: ECOSYSTEMS AND HABITAT PROTECTION** | | |
| **Objective 1: Critical habitat for dugongs are protected.** | | |
| **Number** | **Action** | **Responsibility** |
| 3.1.1 | Identify, map and monitor important seagrass areas for dugongs to prioritise for protection and dugong threat reduction efforts. | Members, Partners |
| 3.1.2 | Develop effective relationships with local indigenous communities and collaborate to protect dugongs and seagrass habitat. | Members |
| 3.1.3 | Identify and restore degraded seagrass habitat sites. | Members |
| 3.1.4 | Integrate coastal ecosystem services of seagrasses into local decision-making and support customary marine tenure protection approaches. | Members |
| 3.1.5 | Contribute data on globally and regionally significant sites for dugong and seagrass in the region and designation as Key Biodiversity Areas. | Members, Partners, SPREP |
| 3.1.6 | Logging operations resulting in sedimentation and degradation of seagrass areas are a key threat. Ensure important seagrass areas are protected from these activities by protecting catchments from logging. | Members |
| **INDICATORS:**   1. Important seagrass areas are identified and mapped and communicated with Members. 2. Local communities are engaged in habitat protection and seagrass restoration. 3. Management plans for degraded seagrass beds are developed and restoration activities started. Reasons for degradation are identified and addressed. 4. Key Biodiversity Areas for dugong and seagrass are identified across the Pacific. 5. Sedimentation from logging operations do not impact seagrass beds. | | **TIMEFRAME:**   1. 2024 2. 2024 3. 2024 4. 2026 5. 2026 |

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| **THEME 4: THREAT REDUCTION** | | |
| **Objective 1: Reduce direct and indirect threats to dugong populations.** | | |
| **Number** | **Action** | **Responsibility** |
| 4.1.1 | Work with communities where harvesting of dugong is continuing, to collaboratively develop dugong management plans recognising traditional knowledge and cultural practice. | Members |
| 4.1.2 | Promote alternative livelihood programmes, such as through sustainable tourism opportunities for communities who currently take dugongs. | SPREP, Members |
| 4.1.3 | Prohibit the use of destructive fishing practices and gears (e.g. blasting and gillnets) in known dugong habitat. Support use of traditional taboo systems of protection where there is customary marine tenure. | Members |
| **INDICATORS:**   1. Areas with known cultural harvest are identified and management plans are collaboratively developed in all range states. 2. Options for alternative livelihoods are developed with communities who take dugongs. 3. Blast fishing and gill netting does not occur in identified dugong habitat. | | **TIMEFRAME:**   1. 2024 2. 2024 3. 2026 |

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| **THEME 5: CULTURAL SIGNIFICANCE AND VALUE** | | |
| **Objective 1: Recognise the value of traditional knowledge, customs and marine tenure and ensure it informs and is incorporated into management.** | | |
| **Number** | **Action** | **Responsibility** |
| 5.1.1 | Ensure that traditional knowledge is documented, held by the appropriate authorities and adequately protected and shared where appropriate/possible. | Members, Partners |
| 5.1.2 | Incorporate relevant traditional knowledge, resource management, and customary marine tenure into dugong and associated habitat management. | Members |
| **INDICATORS:**   1. Traditional knowledge in at least two dugong Pacific Island range states documented, maintained and, where appropriate, incorporated into management. | | **TIMEFRAME:**   1. 2026 |

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| **THEME 6: LEGISLATION, POLICY AND MANAGEMENT** | | |
| **Objective 1: Improve protection of dugongs through enforcement and compliance with legal frameworks and national action plans.** | | |
| **Number** | **Action** | **Responsibility** |
| 6.1.1 | Establish a mechanism for reporting illegal activities and a clear protocol for the implementing agency. | Members |
| 6.1.2 | Review regulations regarding the protection of dugongs in all range states and promote compliance with legal frameworks prohibiting the take of dugongs. | SPREP, Members |
| 6.1.3 | Support states to provide community awareness of regulations to support compliance – e.g. Solomon Islands new legal protection for dugongs. | SPREP, Members |
| 6.1.4 | Strengthen enforcement and penalties; engage local communities in monitoring, surveillance, and reporting of illegal activities. | Members |
| **INDICATORS:**   1. Protocols for responding to reports of illegal activity are established and implemented. 2. Regulations are fit for purpose to protect dugongs. 3. Information about regulations are easily available, widely communicated and included in public awareness campaigns. 4. Compliance with regulations is monitored and enforced with sufficient incentive to discourage illegal activities. | | **TIMEFRAME:**   1. 2023 2. 2024 3. Ongoing 4. Ongoing |

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| **THEME 7: ECOTOURISM AND LIVELIHOODS** | | |
| **Objective 1: Encourage best international practice related to dugong interactions.** | | |
| **Number** | **Action** | **Responsibility** |
| 7.1.1 | Monitor the impact of eco-tourism related activities. | Members, Partners |
| 7.1.2 | Promote sustainable wildlife tourism in collaboration with local communities and other stakeholders. | SPREP, CMS Secretariat, Members, Partners |
| 7.1.3 | Promote best practice guidelines for responsible dugong watching and other related activities e.g. as developed in Vanuatu with resources available online in English, Bislama and French. Including how to interact with dugongs and a code of conduct for tourism operators. <https://www.vanuatuconservation.org/guidelines-for-interacting-with-dugongs/> | SPREP, Members |
| 7.1.4 | Encourage development of a permitting system to regulate dugong watching operations and other related activities. | SPREP, Members |
| **INDICATORS:**   1. Data/research is collected and available on impact of eco-tourism on dugongs. 2. Guidelines for responsible dugong watching and other related activities disseminated and effectively implemented in at least two range states. 3. Policy/legislation in place for issuance of permits where necessary to regulate dugong watching operations and other related activities on at least one Range State. | | **TIMEFRAME:**   1. 2026 2. 2023 3. 2026 |

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| **THEME 8: CAPACITY BUILDING AND COLLABORATION** | | |
| **Objective 1: Build in-country capacity to strengthen dugong conservation** | | |
| **Number** | **Action** | **Responsibility** |
| 8.1.1 | Build national capacity at all levels, including communities, to participate in dugong management, research and monitoring (access to expertise/resources). | SPREP, Members, Partners |
| 8.1.2 | Encourage Pacific Island nationals to undertake post graduate studies on dugong conservation/management. | SPREP, Members, Partners |
| **Objective 2: National, regional and international collaboration is enhanced** | | |
| **Number** | **Action** | **Responsibility** |
| 8.2.1 | Encourage range states to collaborate with other range states in dugong work (e.g., Australia/PNG partnerships, New Caledonia/Vanuatu), for example assist with technical support with monitoring and tracking. | SPREP, CMS Secretariat, Members |
| 8.2.2 | Build relationships with international seagrass mapping organisations to share their data for assistance in management actions (Centre for Environment, Fisheries and, Aquaculture Science CEFAS). | Members, Partners, SPREP |
| 8.2.3 | Encourage and support Pacific range states to actively implement the [Conservation and Management Plan for the MOU of Dugongs.](https://www.cms.int/dugong/en/documents/action-plans) | SPREP, CMS Secretariat, Members |
| **INDICATORS:**   1. The skills required for dugong management, research and monitoring are held in each dugong range state or possible out-sourcing opportunities have been identified. Skills gaps are identified, and training opportunities sought. 2. At least one post-graduate study on dugongs is in place by a Pacific national. 3. Partnerships are formed between relevant range states and areas of collaboration are identified. 4. International seagrass data is available for use in management of key habitat areas in Pacific range states. 5. The Dugong MOU action plan is implemented. | | **TIMEFRAME:**   1. 2026 2. 2026 3. 2023 4. 2023 5. 2022 |

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| **THEME 9: EDUCATION, AWARENESS, AND COMMUNICATION** | | |
| **Objective 1: Improve awareness about the importance of dugongs and their habitats and relevant conservation issues.** | | |
| **Number** | **Action** | **Responsibility** |
| 9.1.1 | Collate existing public awareness and educational resources that have already been developed in the region and globally to share, such as through a link on the SPREP website. | SPREP |
| 9.1.2 | Increase awareness about the ecosystem services of seagrass (e.g. mitigating ocean acidification, carbon sequestration, storm surge mitigation, sediment trapping) to increase funding and support for seagrass conservation. | SPREP, CMS Secretariat, Seagrass Watch Secretariat, Members |
| 9.1.3 | Develop regional education and public awareness resources using existing global resources such as fact sheets provided through the Dugong MOU e.g. [Dugong Fact Sheet](https://www.cms.int/dugong/sites/default/files/publication/dugong_mou_0.pdf) | SPREP, Partners |
| 9.1.4 | Facilitate and encourage networking and linkages to relevant community monitoring groups, such as Seagrass Watch (<http://www.seagrasswatch.org>) and Strandings of Oceania for reporting, and other NGOs, in information exchange. | SPREP, CMS Secretariat |
| **INDICATORS:**   1. Regional resources are available on the SPREP website. 2. Resources outlining the importance of dugongs and seagrass are available and used in awareness campaigns and communications. | | **TIMEFRAME:**   1. 2022 2. 2024 |

# SEABIRD ACTION PLAN

Goal: Conserve seabirds and their habitats, in keeping with the traditions and aspirations of the people of the Pacific Ocean and Islands.

## INTRODUCTION

Of the 11,000 species of birds worldwide, remarkably, only 370 are ‘seabirds’ (i.e. birds that spend most of their lives at sea). Of those, 42 are known to breed within Oceania, with 17 unique to our region. Seabirds are more threatened than any other comparable group of birds and their status continues to deteriorate globally. Across the Pacific, petrels, shearwaters, and storm-petrels (family Procellariidae) in particular, have experienced greater population declines than any other bird family. The loss of Oceania’s seabirds also represents a loss of cultural values for Oceanic Peoples. Restoring healthy populations of seabirds will help build ecosystem resilience and support terrestrial, and nearshore habitats as important carbon sinks, and rebuild and retain Pacific people’s cultural connections with seabirds and the ocean.

## SPECIES DISTRIBUTION

*Species breeding within the region*

The distribution of seabirds across Oceania is imperfectly known. Breeding sites are often difficult to access due to remoteness or natural barriers, and there is a lack of regional capacity for widespread systematic surveys. Forty-two species are known or suspected to breed in the Pacific (Table 1). Seabirds’ breeding habitats range in altitude from high inland to coastal fringes and atoll islands. They occur on the large mountainous islands (e.g. New Ireland (PNG), Bougainville (PNG), Kolambangara (SI), Vanua Lava (V), Grande Terre (NC), Taveuni (FI), Gau (FI), Tahiti (FP)); to medium and small-sized islands, including (e.g. Mathew and Hunter Islands (NC), Ata (Tonga), Rarotonga (CI), Ta’u (AS) and Rapa islets (FP),); raised atoll islands (makatea) (e.g. Walpole Island (NC) and Henderson Island (PI)) and to low-lying atoll islands (e.g. Marshall Islands, Kiritimati and Rawaki, Line Islands (K), Chesterfield Reef (NC), Oeno (PI), Ducie (PI)).

Table 1. Species of seabirds breeding or potentially breeding within the region.

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|  |  | PACIFIC ISLAND COUNTRY OR TERRITORY | | | | | | | | | | | | | | | | | | | | | |
| SEABIRD SPECIES | IUCN  Threat Class. | AS | CI | FSM | FI | FP | Gu | KI | MI | NA | NC | NI | NMI | PA | PNG | PI | SA | SI | TOK | TO | TU | VA | WF |
| Murphy’s Petrel | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Kermadec Petrel | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Phoenix Petrel | EN |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Herald Petrel | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Henderson Petrel | EN |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| White-necked Petrel1 | VU |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Collared Petrel1 | VU |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black-winged Petrel | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| White-winged Petrel 1 | VU |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fiji Petrel | CR |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Bulwer’s Petrel | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tahiti Petrel | NT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Beck’s Petrel | CR |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Wedge-tailed Shearwater | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Christmas Island Shearwater | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Heinroth’s Shearwater | VU |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tropical Shearwater1 | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Rapa Shearwater | CR |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| White-bellied Storm-petrel1 | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Polynesian Storm-petrel | EN |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Red-tailed Tropicbird | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| White-tailed Tropicbird | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Brown Booby | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Masked Booby | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Red-footed Booby | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Great Frigatebird | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lesser Frigatebird | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Little White Tern | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Silver Gull | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Brown Noddy | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black Noddy | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Blue Noddy | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Grey Noddy | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| White Tern | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Little White Tern | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sooty Tern | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Grey-backed Tern | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Roseate Tern | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Bridled Tern | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black-naped Tern | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fairy Tern1 | VU |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Great Crested Tern | LC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1 See section on Species Status below

Confirmed breeding Suspected breeding (not confirmed)

*Species breeding outside the region*

Birds migrating across the Pacific equator number in the millions, and their passage through the region each year is a major ecological event. While the timing of passage of birds returning to their southern breeding colonies varies with species, with September and October peak months. Sixty species of seabirds that breed outside the region have been recorded within the Pacific island countries and territories (Table 2). Several species are annual trans-equatorial migrants, which breed mainly in Aotearoa New Zealand and Australia and spend their non-breeding months north of the equator.

Table 2. Species that annually migrate into the region and/or across the Equator.

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|  | | | | PACIFIC ISLAND COUNTRY OR TERRITORY | | | | | | | | | | | | | | | | | | | | | | |
| SEABIRD SPECIES | IUCN  Threat Class. | Origin | AS | | CI | FSM | FI | FP | GU | KI | MI | NA | NC | NI | NMI | PA | PNG | PI | SA | SI | TOK | TO | TU | VA | WF |
| Black-footed Albatross | NT | Haw |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black Petrel | VU | NZ |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black-winged Petrel \* | LC | NZ/ Aus |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Mottled Petrel | NT | NZ |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cook's Petrel | VU | NZ |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pycroft's Petrel | VU | NZ |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Stejneger's Petrel | VU | Ch |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| White-necked Petrel \* | VU | NZ/ Aus |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Streaked Shearwater | NT | Jap |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Wedge-tailed shearwater \* | LC | NZ/ Aus |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Buller's Shearwater | VU | NZ |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Flesh-footed Shearwater | NT | NZ/ Aus |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sooty Shearwater | NT | NZ |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Short-tailed Shearwater | LC | Aus |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Wilson's Storm-petrel | LC | Ant |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Black-bellied Storm-petrel | LC | NZ |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| White-bellied Storm-petrel \* | LC | NZ/ Aus |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Band-rumped Storm-petrel | LC | Haw /Jap |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Arctic Jaeger | LC | Ar |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Long-tailed Jaeger | LC | Ar |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Little Tern | LC | Ar |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

\* Species that also breed outside the region, but which may migrate or forage within the region (e.g., Wedge-tailed Shearwater, White-necked Petrel, Black-winged Petrel and White-bellied Storm-petrel from Aotearoa New Zealand and Australia).

## SPECIES STATUS

Of the 42 species breeding within the region, three are listed as Critically Endangered (Fiji and Beck’s Petrel, Rapa Shearwater), three Endangered (Phoenix and Henderson Petrels, Polynesian Storm Petrel), five are Vulnerable (White-necked Petrel, Collared Petrel, White-winged Petrel, Heinroth’s Shearwater, Fairy Tern), and one is Near Threatened (Tahiti Petrel) (Table 1). There is also taxonomic uncertainty over several taxa (Tropical Shearwater (Melanesian, Micronesian and Polynesian (Tropical) Shearwaters), White-necked Petrel (White-necked and Vanuatu Petrel), Collared Petrel (Magnificent Petrel and Collared Petrel), White-winged (Gould’s) Petrel (New Caledonian and Gould’s Petrel), White-bellied Storm Petrel (Titan Storm-petrel and White-bellied Storm-petrel), Fairy Tern). In addition, there are at least three potentially undescribed streaked storm petrel taxa (‘Coral Sea’ or ‘New Caledonian’ Storm-petrel, ‘Marquesas’ Storm-petrel and ‘Samoan’ storm petrel).

## TRADITIONAL KNOWLEDGE AND CUSTOMS

Seabirds are highly important to the heritage, folklore, totemism, and provide a subsistence resource for many Pacific Peoples. Seabirds played a critical role in the settlement and navigation of the Pacific, including the long-distance voyages that are known to follow the paths of migrating seabirds. Some seafaring peoples used shore-sighting birds, such as tropicbirds and white terns, to indicate when they were close to land. Seabird behaviour assists people to this day in finding fish at sea (tuna birds) and providing information on oceanic weather patterns. Annual harvesting of chicks, adults and eggs continue to be important traditional activities for several Pacific cultures and communities.

## INCOME GENERATING OPPORTUNITIES

Seabirds play a major role in shaping the ecology of terrestrial communities by acting as links between the land and sea via the deposition of marine-derived nutrients into terrestrial communities. Run-off from seabird colonies can provide nutrients to nearshore marine environments supporting marine food chains, including enhancing coral reef productivity. For example, fish biomass in coral reefs adjacent to a seabird colony increased by 48% when introduced predator species were removed from the colony as seabird activity increased. Evidence indicates that rebuilding healthy seabird populations increases ecosystem resilience and supports livelihoods through fishing.

To witness the spectacle of seabirds massing over Kiritimati and Rawaki (KI), Chesterfield Reefs (NC), Morotiri (FP), and Oeno and Henderson Islands (PI) is to appreciate how seabirds serve as a conduit linking marine and terrestrial ecosystems. Like whale-watching, seabirds can provide eco-tourism opportunities for ‘birders’ from around the world to see the unique and rare seabird species of the Pacific.

## THREATS

Seabirds are exposed to threats both on land where they breed, and at-sea where they feed and migrate. These threats vary in intensity across space and time. For the most part, the threats at sea are common to all marine groups covered by these action plans (whales and dolphins, dugongs, sharks and rays, and marine turtles), whereas those on land relate more directly to seabirds. See supporting documents for more detail on these threats.

Key land-based threats include:

* Invasive predator species
* Habitat modification
* Unsustainable harvesting of chicks, adults, and eggs
* Light pollution (causing disorientation and collisions)
* Climate change
* Disease

The key marine-based threats include:

* Incidental bycatch in fisheries
* Disruption to foraging opportunities induced by fisheries
* Pollution (plastic, oil spills, deep sea mining, and light)
* Climate change

## THEMES AND OBJECTIVES

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| **THEMES** | **OBJECTIVES** |
| 1. Research and Monitoring | 1. Data is collected, centralised and accessible.  2. Knowledge on seabird breeding, population, trends, diet and foraging distributions, ecosystem impacts, and threats is improved. |
| 2. Climate Change | 1. Vulnerable seabird breeding sites are protected.  2. Seabird conservation is incorporated into nature-based solutions to build ecosystem resilience. |
| 3. Ecosystems and Habitat Protection | 1. Critical habitat and migratory pathways for seabirds are protected.  2. Prioritise marine areas for protection to align with seabird foraging and migration hotspots. |
| 4. Threat Reduction | 1. Reduce direct and indirect land-based threats to seabirds.  2. Reduce marine-based threats to seabirds, including in Areas Beyond National Jurisdiction. |
| 5. Cultural Significance and Value | 1. Traditional knowledge, stories and customs about seabirds and their place in the cultural landscape is captured.  2. Traditional knowledge informs management systems. |
| 6. Legislation, Policy and Management | 1. Legislation, policy and management plans include measurable outcomes for seabird conservation. |
| 7. Ecotourism and Livelihoods | 1. Seabird related marine-based eco-tourism contributes to the local economy.  2. Restored seabird colonies improve local fisheries. |
| 8. Capacity Building and Collaboration | 1. Capacity at national and community level for monitoring and management of seabird populations is increased.  2. National, regional and international collaboration is enhanced. |

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| **THEME 1: RESEARCH AND MONITORING** | | |
| **OBJECTIVE 1: Data is collected, centralised, and accessible.** | | |
| **Number** | **Actions** | **Responsibility** |
| 1.1.1 | Identify existing datasets on Pacific Seabirds and ensure these links are made available through SPREP’s [Pacific Environment Portal](https://pacific-data.sprep.org/). | SPREP, Members, Partners |
| 1.1.2 | Develop a seabird node through the [Pacific Environment Portal](https://pacific-data.sprep.org/) allowing access to the database for all members and partners. | SPREP |
| 1.1.3 | Promote access and data submission to the portal amongst members and partners. | SPREP, Partners |
| **INDICATORS:**   1. Online regional colony and tracking database (through the Pacific Environment Portal) created, maintained, updated and used by members. 2. Links to relevant online seabird databases established/maintained (e.g., Threatened Island Biodiversity Database, BirdLife International’s Seabird Tracking Database). | | **TIMEFRAME:**   1. 2022 2. 2023 |
| **OBJECTIVE 2: Knowledge on seabird breeding, population, trends, diet and foraging distributions, ecosystem impacts, and threats is improved.** | | |
| **Number** | **Actions** | **Responsibility** |
| 1.2.1 | Survey known colonies for population estimates and confirm colony status of suspected breeding sites. | SPREP, Members, Partners |
| 1.2.2 | Develop projects to locate breeding locations for species where currently unknown to assess threats and develop management and population monitoring plans. | SPREP, Members, Partners |
| 1.2.3 | Identify priority species for tracking projects to determine at-sea foraging distribution and migration using bird-borne tracking technology. | SPREP, Members, Partners |
| 1.2.4 | Identify priority species for demographic and diet studies. | SPREP, Members, Partners |
| 1.2.5 | Assess colony-scale threats. | SPREP, Members, Partners |
| 1.2.6 | Develop and publish a guide on standardised research and monitoring methodology. | SPREP, Partners |
| 1.2.7 | Encourage Pacific Island nationals to undertake post graduate studies on seabird conservation/ management. | Members |
| **INDICATORS:**   1. Partnerships developed for seabird research between stakeholders. 2. Breeding locations found and confirmed for highly threatened or data deficient species. 3. Pacific Regional Research and Monitoring guide published. 4. Tracking and diet studies initiated for five species, selected from at least three different groups. 5. Peer-reviewed articles and reports published on distribution, diet, and demography of five species. 6. Long-term monitoring program established for threatened species. 7. Number of students from Pacific Island range states enrolled in post-graduate studies on seabirds and island ecosystems. | | **TIMEFRAME:**   1. 2023 2. 2025 3. 2024 4. 2026 5. 2026 6. 2026 7. 2026 |

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| **THEME 2: CLIMATE CHANGE** | | |
| **OBJECTIVE 1: Vulnerable seabird breeding sites are protected.** | | |
| **Number** | **Actions** | **Responsibility** |
| 2.1.1 | Investigate options for protection of species breeding on low-lying islands at risk from rising sea level and storm events. | SPREP, Members, Partners |
| **OBJECTIVE 2: Seabird conservation is incorporated into nature-based solutions to build ecosystem resilience.** | | |
| **Number** | **Actions** | **Responsibility** |
| 2.2.1 | Develop evidence-based management plans incorporating seabird conservation to build ecosystem resilience in both terrestrial and near-shore/coral reef environments. | SPREP, Members |
| **INDICATORS:**   1. Species at risk from climate change impacts identified and sites for protection or translocation investigated. 2. Conservation management plans for 3 members developed that are designed to exploit the benefits obtained by conserving seabirds and so providing nature-based solutions to climate change. | | **TIMEFRAME:**   1. 2023 2. 2025 |

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| **THEME 3: ECOSYSTEMS AND HABITAT PROTECTION** | | |
| **OBJECTIVE 1: Critical habitat and migratory pathways for seabirds are protected.** | | |
| **Number** | **Actions** | **Responsibility** |
| 3.1.1 | Identify and/or restore suitable alternative seabird colony sites to mitigate urban and agricultural impacts, and climate change (see 2.1.1). | SPREP, Members, Partners |
| 3.1.2 | Identify and prioritise critical habitats (e.g. breeding sites, foraging areas, migratory pathways) as nationally protected areas and/or Key Biodiversity Areas (KBAs), and target for protection through national planning processes (e.g., National Biodiversity Strategies and Action Plans). | SPREP, Members, Partners |
| 3.1.3 | Develop capacity within local communities to undertake and monitor conservation management and restoration work. | SPREP, Members, Partners |
| 3.1.4 | Ensure that Environmental Impact Assessment (EIA) processes take account of seabird breeding sites and flyways to avoid or mitigate adverse effects from rural and urban development (including lighting), conversion to plantations, agricultural expansion, mining, and logging. | SPREP, Members, Partners |
| 3.1.5 | Encourage and support Pacific range states to actively implement the Conservation and Management Plan of the Convention on Migratory Species (CMS) for seabirds and their habitats. | SPREP, Members |
| **OBJECTIVE 2: Prioritise marine areas for protection to align with seabird foraging and migration hotspots** | | |
| 3.2.1 | Identify priority marine areas for protection using information from seabird tracking projects (1.2.2). | SPREP, CMS Secretariat/Members, Partners |
| 3.2.2 | Develop a network of dynamic marine protection zones for key seabird foraging periods (e.g., investigate feasibility of short temporal fishing closures in key areas). | SPREP, Members, Partners |
| **INDICATORS:**   1. Critical habitats for seabirds are both recognised and protected through national planning processes. 2. Marine areas covering seabird foraging hotspots defined and gazetted for temporal and/or spatial protection. | | **TIMEFRAME:**   1. 2025 2. 2026 |

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| **THEME 4: THREAT REDUCTION** | | |
| **OBJECTIVE 1: Reduce direct and indirect land-based threats to seabirds** | | |
| **Number** | **Actions** | **Responsibility** |
| 4.1.1 | Control or eradicate invasive alien species at targeted/priority seabird breeding sites. | SPREP, Members, Partners |
| 4.1.2 | Set seabird harvest levels under appropriate traditional or legislative frameworks to promote recovery of depleted/declining populations. | SPREP, Members, Partners |
| 4.1.3 | Development of infrastructure and industry to take account of seabird attraction to lights and avoid or mitigate as appropriate. | SPREP, Members, Partners |
| 4.1.4 | Investigate potential stressors on seabird populations that can contribute to outbreaks of disease. | SPREP, Members, Partners |
| **OBJECTIVE 2: Reduce marine-based threats to seabirds, including in Areas Beyond National Jurisdiction** | | |
| 4.2.1 | Build on existing compliance systems in-country to enforce regulations around seabird bycatch in Regional Fisheries Management Organisations (RFMOs), e.g., Western Central Pacific Fisheries Commission. | Members, Partners |
| 4.2.2 | Undertake port-based outreach with fishing vessels providing information/education on required conservation and management measures for mitigation of seabird bycatch and safe handling and release guidelines. | SPREP, Members, Partners |
| 4.2.3 | Continuously monitor the effectiveness of provisions within RFMOs to reduce seabird bycatch and allow impacted populations to recover. | Members, Partners |
| 4.2.4 | Investigate potential indirect effects from fisheries on seabird populations and using seabirds to further our understanding of predator prey dynamics and the health of marine ecosystems. | SPREP, Members, Partners |
| 4.2.5 | Establish a region-wide programme using several indicator species to monitor the nature and incidence of plastic ingestion in seabirds. | SPREP, Members, Partners |
| 4.2.6 | Quantify the impacts of lights on seabirds attracted to vessels and marine structures operating at night and develop methods of mitigation. | SPREP, Members, Partners |
| **INDICATORS:**   1. Eradication or control programmes established for critical habitats for seabirds. 2. Sustainable harvest management plan in place where traditional harvest takes place. 3. Mitigation implemented that reduces light pollution impacts. 4. Compliance and observer coverage increased in relevant RFMOs 5. Port-based outreach extension programmes operating in at least three PI countries to improve awareness and compliance of seabird bycatch mitigation measures. 6. Identification of seabird indicator species of plastic pollution (ingestion), and management plan developed. 7. Promotional material on the impact of light on seabirds at sea developed, and if appropriate, mitigation options produced and circulated. | | **TIMEFRAME:**   1. 2024 2. 2024 3. 2023 4. 2025 5. 2023 6. 2024 7. 2024 |

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| **THEME 5: CULTURAL SIGNIFICANCE AND VALUE** | | |
| **OBJECTIVE 1: Traditional knowledge, stories and customs about seabirds and their place in the cultural landscape is captured.** | | |
| **Number** | **Actions** | **Responsibility** |
| 5.1.1 | Work with traditional knowledge holders to understand historical and current distribution of seabirds and potential for restoration. | SPREP, Members |
| 5.1.2 | Preserve and protect the traditional knowledge and values associated with seabirds in artforms and publications. | SPREP, Members, Partners |
| 5.1.3 | Encourage contemporary artists and artisans within the region to incorporate the significance of Pacific seabirds within their work. | SPREP, Members |
| **OBJECTIVE 2: Traditional knowledge informs management systems.** | | |
| 5.2.1 | Integrate cultural practices, values and knowledge associated with seabirds into management plans, national policies, and legislation. | SPREP, Members |
| **INDICATORS:**   1. Traditional knowledge and customs relating to seabirds integrated into policies, legislation, community-based conservation projects and development of education resources. 2. Traditional knowledge and cultural practices are recorded and included in research guidance documents, educational materials, artworks, and legislation. | | **TIMEFRAME:**   1. 2025 2. 2025 |

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| **THEME 6: LEGISLATION, POLICY AND MANAGEMENT** | | |
| **OBJECTIVE 1: Legislation, policy and management plans include measurable outcomes for seabird conservation.** | | |
| **Number** | **Actions** | **Responsibility** |
| 6.1.1 | Legislative mechanisms for conservation are reviewed to assess where seabird conservation actions can be applied within existing frameworks and identify gaps. | SPREP, Members |
| 6.1.2 | Integrate seabird conservation into regional and international initiatives including the Convention of Migratory Species (CMS). | SPREP, Members, Partners |
| **INDICATORS:**   1. Report of the outcomes of the legislative review and recommendations for changes published. 2. Seabirds explicitly included in national plans of action and advocated for at international fora. | | **TIMEFRAME:**   1. 2024 2. Ongoing |

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| **THEME 7: ECOTOURISM AND LIVELIHOODS** | | |
| **OBJECTIVE 1: Seabird related marine-based eco-tourism contributes to the local economy.** | | |
| **Number** | **Actions** | **Responsibility** |
| 7.1.1 | Review marine-based tourism including economic benefits/value and level of interest in the region’s seabirds. | SPREP, Members |
| 7.1.2 | Identify opportunities to support wildlife tourism for seabirds at the community level. | SPREP, Members, Partners |
| 7.1.4 | Encourage tour operators to train and employ PI nationals as nature guides, and as boat drivers with respect to seabirds. | SPREP, Members |
| 7.1.5 | Encourage and support Pacific Island nationals to start and run marine wildlife ventures. | SPREP, Members |
| **OBJECTIVE 2: Restored seabird colonies improve local fisheries** | | |
| 7.2.1 | Establish collaborations with fishers to develop adaptive fishing practices where seabird restoration is occurring to demonstrate impacts on nearshore/reef fish productivity. | SPREP, Members, Partners |
| **INDICATORS:**   1. Nearshore/Reef-based fisheries sustainably increasing catch. 2. Pacific Island nationals are employed in wildlife tourism. 3. Ventures are owned and operated by Pacific Island nationals. | | **TIMEFRAME:**   1. 2026 2. 2024 3. 2025 |

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| **THEME 8: CAPACITY BUILDING AND COLLABORATION** | | |
| **OBJECTIVE 1: Capacity at national and community level for monitoring and management of seabird populations is increased.** | | |
| **Number** | **Actions** | **Responsibility** |
| 8.1.1 | Help communities build skills and knowledge in mapping, recording, and monitoring of seabird populations, and participate in conservation programmes (access to expertise/resources). | SPREP, Members |
| 8.1.2 | Develop practical training modules and/or workshops for survey methods, including searches for breeding sites, data collection and monitoring of colonies, based on regional priorities. | SPREP, Members, Partners |
| 8.1.3 | Investigate options for providing scholarships in marine science relating to Pacific seabird ecology for tertiary students; and support internship and training on seabirds through research centres, universities, and other agencies throughout the region and with major partners (e.g., Aotearoa New Zealand, Australia, France, USA, and UK). | SPREP, Members, Partners |
| 8.1.4 | Develop workshop programmes for effective research, conservation, and management drawing on expertise from throughout the region. | SPREP, Members, Partners |
| 8.1.5 | Develop in-country capacity to monitor existing harvesting of seabirds to ensure sustainability. | SPREP, Members, Partners |
| **OBJECTIVE 2: National, regional, and international collaboration is enhanced** | | |
| 8.2.1 | Encourage the transfer of knowledge and expertise about seabirds between projects through exchange opportunities for conservation workers. | SPREP, Members, Partners |
| 8.2.2 | Establish a Pacific seabird expert advisory group who can assist with provision of advice (e.g., ListServ); and negotiate and advocate for regional policies at international fora. | SPREP, Members, Partners |
| 8.2.3 | Enhance international cooperation for the protection of Pacific seabirds through the Convention on Migratory Species (CMS) and the Agreement for the Conservation of Albatrosses and Petrels (ACAP). | SPREP, CMS Secretariat, Members, Partners |
| **INDICATORS:**   1. Exchange opportunities provided for conservation workers. 2. Participation in CMS/ACAP discussions and priority setting to promote the consideration of the requirements of Pacific Seabirds. 3. Communities supported to build skills and knowledge to manage conservation of seabird colonies. 4. At least one regional training workshop for survey and monitoring of colonies is held. 5. A scholarship for tertiary students on Pacific seabird ecology has been awarded. 6. At least two students/interns from Pacific countries enrolled in tertiary study or research programmes. 7. Sustainability of seabird harvest investigated in at least three countries. | | **TIMEFRAME:**   1. 2024 2. Ongoing 3. 2025 4. 2025 5. 2024 6. 2025 7. 2026 |

# TURTLE ACTION PLAN

Goal: To conserve marine turtles and their habitats, in keeping with the traditions of the people of the Pacific Islands region.

## INTRODUCTION

There are a total of seven marine turtle species in the world, six are found in the Pacific region. All turtle species exhibit highly migratory behaviour, traveling thousands of kilometres, readily crossing jurisdictional boundaries to reach mating, nesting, and feeding grounds. Marine turtles are considered ecologically important since they take many years to reach maturity making them very good indicators of coastal and marine ecosystem health. They are also long-lived species with low reproductive potential. All six turtle species found in the Pacific are listed on the IUCN Red List as either Vulnerable (VU), Endangered (EN), Critically Endangered (CR) or Data deficient (DD) (Table1).

The main challenges to effective conservation of marine turtles in the region include unsustainable take including illegal take, interactions with coastal and pelagic fishing activities, and climate change. Lack of data on populations and limited research and monitoring of fisheries activities create additional challenges.

A coordinated regional effort towards the conservation of marine turtles through collaborative efforts, linkages between members and the healthy exchange of information at the national, regional, and global stages is needed if turtles are to survive into the future. A major constraint is limited resources, both financially and in terms of human resources (including skills) available for implementing management actions in the region. This Regional Marine Turtle Action Plan is intended to focus on the most important actions required to conserve marine turtles in the region.

## SPECIES DISTRIBUTION

Of the six marine turtle species that occur in the Pacific region, the green and hawksbill turtles are the most widely recorded species, with confirmed records in nearly all countries and territories (refer to Table 1). These two marine turtle species also nest in most Pacific Island countries and territories. The flatback turtle is known to occur only in Australia and southern Papua New Guinea.

**Table 1:** Marine Turtle Species Occurrence in the Pacific Islands Region[[1]](#footnote-2) (X = nesting, \* occur in EEZ waters)

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| **Species** | AS | AU | CI | FSM | FI | FP | GU | KI | MI | NA | NC | NZ | NI | NMI | PA | PNG | SA | SI | TOK | TO | TU | VA | WF |
| Flatback |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  | \* |  |  |  |  |  |  |  |
| Green | X | X | X | X | X | X | X | X | X | \* | X | \* | \* | X | X | X | \* | X | X | X | X | X |  |
| Hawksbill | X | X | \* | \* | X | X | \* | \* | X | \* | \* | \* | \* | \* | X | X | X | X | X | X | \* | X |  |
| Leatherback | \* | X | \* | \* | \* | \* | \* |  | \* |  | \* | \* |  |  | \* | X | \* | X |  | \* | \* | X |  |
| Loggerhead |  | X | \* |  | \* | \* |  |  | \* |  | X | \* | \* |  |  | \* | \* |  | X | \* | \* | X |  |
| Olive Ridley | \* | X |  | \* |  | \* |  |  | \* |  | \* | \* |  |  | \* | X |  | X |  |  |  | \* |  |

## SPECIES STATUS

Marine turtles are recognised internationally as species of conservation concern. The 2017 IUCN Red List of Threatened Species lists marine turtles found in the Pacific as follows:

***Table 1:*** *IUCN Red List status for marine turtle species that are found in the Pacific Ocean* (2020-3)

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| TURTLE SPECIES | IUCN RED LIST STATUS |
| Flatback (*Natator depressus*) | Data Deficient |
| Green (*Chelonia mydas*) | Endangered |
| Hawksbill (*Eretmochelys imbricata*) | Critically Endangered |
| Leatherback (*Dermochelys coriacea*) | Critically Endangered (Western Pacific Regional Listing) |
| Loggerhead (*Caretta caretta*) | Vulnerable |
| Olive Ridley (*Lepidochelys olivacea*) | Vulnerable |

All species of marine turtles are listed in Appendix I of CITES, which means that all marine turtle species are considered to be threatened with extinction, and commercial international trade in specimens of these species is generally prohibited. Under the Convention on the Conservation of Migratory Species of Wild Animals (CMS), marine turtle species are listed in Appendix I (migratory species that are categorised as being in danger of extinction throughout all or a significant proportion of their range) and Appendix II (migratory species that have an unfavourable conservation status or would benefit significantly from international cooperation organised by tailored agreements).

Hawksbill and leatherback turtles are especially threatened in the Pacific and concerted action is required to prevent their extinction in the Pacific. The Western Pacific subpopulation of leatherback turtles has decreased by more than 80% over 28 years and is now facing extinction in our region. Papua New Guinea and Solomon Islands are the main nesting areas in the Pacific for the largest turtle in the world.

The overall status of marine turtles in the Pacific Islands region remains largely uncertain. However, in response to growing concern for the plight of marine turtles in the region, particularly in the light of emerging threats such as climate change, several countries have undertaken concerted conservation efforts which have been ongoing over many years, including community management and monitoring of local turtle populations. If we want to prevent extinction of marine turtle species in our region, however, we will need to significantly increase efforts to conserve these iconic creatures.

## TRADITIONAL KNOWLEDGE AND CUSTOMS

Marine turtles have long held economic, cultural and spiritual value for Pacific Island peoples. The spiritual and cultural importance of turtles is illustrated through stories, traditions and customs, including contemporary ceremonies.

Marine turtles have been an important food source for many coastal people for hundreds of years. Many communities continue to eat marine turtles and use their shell for traditional crafts. Many Pacific Islanders are extremely knowledgeable about marine turtles and are able to provide information on the biology of the species found in their areas (such as information on where they occur and at what time of year, habitat preferences, etc.). Greater use needs to be made of traditional knowledge to inform scientific research and management approaches, particularly in the face of new threats such as climate change. Local communities are the most important stakeholders in improving the conservation status of turtles. Traditionally, many communities took only what was needed for subsistence and would only take turtles at particular times of the year or from particular areas, thus ensuring that this resource would be available to them in the future.

Unfortunately, the context of sustainable traditional use has changed significantly as populations are confronted with a myriad of other threats, making populations less robust. Traditional knowledge is also being lost. This Action Plan recognises the fundamental role that traditional knowledge and customs play in turtle conservation, and the importance of community-based stewardship.

## INCOME GENERATING OPPORTUNITIES

In some places, marine turtles are fast becoming an ecotourism attraction, whether it is watching nesters on the beach or watching them swim while on a dive. Responsible ecotourism with turtles can generate income for local communities in a positive way, while also conserving turtles and their habitats.

Local fishermen are often well placed to provide information on the local marine environment, and they can make skilled and knowledgeable guides. There is potential for local fishermen to earn more as guides than they may make from hunting turtles.

Ecotourism can provide direct employment as well as indirect employment through a trickle-down effect to jobs in other businesses such as hotels, restaurants and taxis. This can become an incentive for entire communities to safeguard their natural environment, thus creating an economy where turtles are worth more alive than dead.

## THREATS

The IUCN Marine Turtle Specialist Group (<https://www.iucn-mtsg.org/>) has identified the five most significant threats to marine turtles as follows:

* Direct take: Marine turtles and their eggs are killed by people in the Pacific islands region for food, and for products including oil, leather and shell. The taking of turtles is still permitted within the legislation of many Pacific island countries. Hawksbill turtles are the source of the beautiful shell known as “tortoise shell” used to create jewellery and trinkets. The historical hunting and killing of hawksbill for their shell nearly drove the species to extinction. CITES forbids the trade of turtle products on the international market but illegal hunting continues to present a major threat to the species.
* Fisheries impacts: Marine turtles are especially affected by longlines, gill nets and trawls. The most severe of these impacts are by-catch mortality, habitat destruction, and entanglement.
* Coastal development: This includes both shoreline and seafloor alterations, such as nesting beach degradation, seafloor dredging, vessel traffic, construction, and alteration of vegetation. Sedimentation from coastal and catchment developments can impact sensitive marine habitats such as coral reefs and seagrass beds.
* Pollution and pathogens: Marine pollution, including plastics, discarded fishing gear, petroleum by-products, and other debris directly impact sea turtles through ingestion and entanglement. Light pollution disrupts nesting behaviour and hatchling orientation and leads to hatchling mortality. Chemical pollutants can weaken sea turtles’ immune systems, making them susceptible to pathogens.
* Global warming: This is known to impact natural sex ratios of hatchlings, because as the sand on nesting beaches gets warmer, the number of males successfully hatching is reduced. Increased severity and frequency of extreme weather events also causes loss of nesting beaches and foraging habitat – for example bleached coral reefs reduces foraging habitat for hawksbill turtles - and may increase the likelihood of disease outbreaks for marine turtles. Rising sea level will also result in loss of nesting beaches.

## THEMES AND OBJECTIVES

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| **THEMES** | **OBJECTIVES** |
| 1. Research and Monitoring | 1. Data is collected, centralised and accessible.  2. Identify and monitor major marine turtle nesting beaches.  3. Genetically profile all major hawksbill breeding beaches in the region.  4. Identify and monitor important marine turtle foraging grounds. |
| 2. Climate Change | 1. Identify vulnerability of turtles to climate change. |
| 3. Ecosystems and Habitat Protection | 1. Critical habitat for turtles are protected. |
| 4. Threat Reduction | 1. Reduce direct and indirect threats to turtle populations. |
| 5. Cultural Significance and Value | 1. Recognise the value of traditional knowledge, customs and marine tenure and ensure it informs and is incorporated into management. |
| 6. Legislation, Policy and Management | 1. Ensure a cohesive but proactive approach in policy and legislation that incorporates traditional knowledge and customary marine tenure. |
| 7. Ecotourism and Livelihoods | 1. Ensure turtle tourism is sustainable and conducted responsibly, with minimum impact on turtles or the environment and maximum education and economic outcomes. |
| 8. Capacity Building and Collaboration | 1. Improve capacity for marine turtle protection, management, population research and monitoring as well as resourcing.  2. Increase national, regional and international collaboration and partnership for turtle conservation and management. |
| 9. Education, Awareness, and Communication | 1. Improve awareness and understanding about the importance of turtles and relevant conservation issues. |

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| **THEME 1: RESEARCH AND MONITORING** | | |
| **Objective 1: Data is collected, centralised, and accessible.** | | |
| 1.1.1 | Maintain and administer the Turtle Research and Monitoring Database System (TREDS) and facilitate training. Produce an annual report on data submitted**.** | SPREP, Partners |
| 1.1.2 | Develop a regional tagging/monitoring protocol as part of a regional monitoring manual. This will include a system of training standards for tagging and monitoring turtles**.** | SPREP |
| 1.1.3 | Continue to distribute tags and applicators to members undertaking monitoring and research projects. Maintain an inventory of stock and distribution. Tag data should be submitted as soon as possible after tagging and annual returns of tag deployments and remaining holdings made to TREDS. | SPREP, Members, Partners |
| **INDICATORS:**   1. Members effectively using upgraded TREDS and reporting annually to SPREP. 2. SPREP produce annual reports of summary data which are accessible on the SPREP website. 3. A Monitoring Manual for Oceania is produced. 4. Increased return of tags and reporting of tagging information. 5. Information from TREDS used to provide a picture of turtle distribution and migration at regional level and input into regional population trend assessments. | | **TIMEFRAME:**   1. 2023 and ongoing 2. 2022 and ongoing 3. 2023 4. 2022 and ongoing 5. 2023 |
| **Objective 2: Identify and monitor major marine turtle nesting beaches** | | |
| **Number** | **Action** | **Responsibility** |
| 1.2.1 | Support turtle nesting beach surveys for existing and new sites to collect baseline data and continue surveys for those already initiated, encourage participation from community and NGOs. | Members, Partners, SPREP (BIEM) |
| 1.2.2 | Continue to identify and map major turtle nesting beaches and prioritise index sites for long term monitoring. (See maps of currently known turtle nesting sites). | Members, Partners, SPREP (BIEM) |
| 1.2.3 | Assess impact of human take where it occurs, especially on nesting beaches. | Members, SPREP |
| **INDICATORS:**   1. Index sites are identified. 2. Long-term monitoring programmes for index nesting beaches is established in the region including at least one in each country/territory. 3. Estimates and trends have been obtained for at least 50% of current major nesting beach populations. 4. Produce an updated map of key turtle nesting sites across the Pacific. 5. Level of human take at nesting beaches is quantified in at least 50% of current major nesting beaches. 6. Level of human take of adults at sea is investigated and quantified in at least 50% of countries/territories. | | **TIMEFRAME:**   1. 2022 2. 2024 3. 2026 4. 2024 5. 2026 6. 2026 |
| **Objective 3: Genetically profile all major hawksbill breeding beaches in the region.** | | |
| 1.3.1 | Work with appropriate partners to enable genetic sampling and analysis with provision of appropriate training including facilitation of CITES permits for research purposes, where necessary. | SPREP, Partners, Members, WWF |
| 1.3.2 | Report regularly the results of genetic sampling to TREDS to support identification of major hawksbill turtle stocks in the region. | Partners, SPREP |
| 1.3.3 | Use TREDS and other mechanisms to establish shared turtle stocks. | SPREP |
| **INDICATORS:**   1. Training in genetic sampling is provided for the region. 2. Genetic samples are exported where necessary and analysed. 3. Analysed samples are used to identify Pacific stocks of hawksbill turtles and results reported and published. | | **TIMEFRAME:**   1. 2022 2. 2022 and ongoing 3. 2022 |
| **Objective 4: Identify and monitor important marine turtle foraging grounds.** | | |
| 1.4.1 | Assess information on marine turtle foraging grounds, including in TREDS, and identify important sites for monitoring. | SPREP/Partners |
| 1.4.2 | Encourage and support community monitoring to undertake long term surveys at selected major marine turtle foraging sites. | Members, Partners, SPREP |
| 1.4.3 | Undertake long term surveys at major marine turtle foraging sites for abundance and trend estimates at these sites. Utilise community knowledge, e.g., from community use surveys, about historic status and trends. | Members, SPREP |
| 1.4.4 | Undertake seagrass mapping and monitoring where possible, in association with the [Centre for Environment, Fisheries and Aquaculture Science (CEFAS),](https://www.cefas.co.uk/) [Seagrass Watch](https://www.seagrasswatch.org/), [Allen Coral Atlas](https://allencoralatlas.org/) and other partners. | Members, SPREP, Partners |
| 1.4.5 | When opportunities arise, promote aerial and/or drone surveys to include turtles at foraging grounds. | SPREP, Partners, Members |
| 1.4.6 | Promote satellite tagging to fill information gaps on turtle distribution and migrations. | SPREP, Partners |
| **INDICATORS:**   1. Long term foraging sites ground surveys initiated at major sites in region. 2. Results of turtle tracking distributed to members through the SPREP websites and the marine turtle network (centralised repository of information). | | **TIMEFRAME:**   1. 2023 2. 2026 |

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| **THEME 2: CLIMATE CHANGE** | | |
| **Objective 1: Identify vulnerability of turtles to climate change** | | |
| **Number** | **Action** | **Responsibility** |
| 2.1.1 | Monitor specific impacts of climate change and responses of marine turtles, in selected long-term turtle nesting monitoring sites, and submit to TREDS, including:   * Nests’ sand temperature using data loggers (to provide an indication of likely hatchling sex ratio) * Hatchling success (70% hatch success indicates a good sign of a recovering population) * Nesting population each year * Temporal changes of beach morphology. | Members, Partners, SPREP |
| 2.1.2 | Undertake a review of the potential impacts of climate change on turtle species, populations, or nesting and feeding sites in the Pacific and identify the most at-risk species/populations and likely effects on distribution. | SPREP, Partners |
| 2.1.3 | Undertake detailed risk assessments for turtle species or populations that are identified as being at high risk from climate change impacts. | SPREP, Partners |
| 2.1.4 | Identify, promote, and adopt adaptation and mitigation measures. | SPREP, Members, Partners |
| **INDICATORS:**   1. Long-term turtle nesting monitoring sites are identified. 2. Nesting data is submitted to TREDS, analysed, and the information used to assess the current and possible future impacts of climatic changes on turtle nesting success. 3. Turtle species, populations or sites that are vulnerable to climate change impacts are identified and prioritised for protection. 4. Adaption and mitigation measures being applied at key sites across the region. | | **TIMEFRAME:**   1. 2022 2. 2024 and ongoing 3. 2025 4. 2024 and ongoing. |

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| **THEME 3: ECOSYSTEMS AND HABITAT PROTECTION** | | |
| **Objective 1: Critical habitat for turtles are protected.** | | |
| **Number** | **Action** | **Responsibility** |
| 3.1.1 | Support and implement the Pacific Coral Reef Action Plan (PCARAP) 2020-2030 including Action 5: Conserve Reef Habitat and Biodiversity:  To improve the protection of coral reef habitats against local threats, build the resilience of coral reef ecosystems to climate change, and halt biodiversity loss. | Members, Partners |
| 3.1.2 | Implement PCRAP Action 6: Prioritise Habitat Restoration:  Restore critical reef habitats to increase ecosystem health, functionality, connectivity and climate change resilience. | Members, Partners |
| **INDICATORS:**   1. Specific actions undertaken by all members to protect coral reef habitats. 2. Specific actions undertaken by all members to restore at least one critical reef habitat. | | **TIMEFRAME:**   1. 2024 2. 2026 |

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| **THEME 4: THREAT REDUCTION** | | |
| **Objective 1: Reduce direct and indirect threats to turtle populations** | | |
| **Number** | **Action** | **Responsibility** |
| 4.1.1 | Quantify the impact of all threats to turtle populations through an extinction risk analysis which will identify and rank each threat. | SPREP |
| 4.1.2 | Coastal developments take account of effects of light pollution on turtles and avoid or mitigate as appropriate. Ensure appropriate EIA processes are used. | Members |
| 4.1.3 | Control, eradicate or protect from invasive alien species predation at turtle nesting sites where appropriate. | Members, Partners |
| 4.1.4 | Work to improve the WCPFC sea turtle Conservation and Management Measure (CMM) to include use of circle hooks, fin fish bait and removal of 2 hooks near buoy and apply to both shallow and deep-set fisheries. | SPREP, Members, WCPFC |
| 4.1.5 | Promote trials of mitigation devices such as hook pods. | SPREP, Members, Partners |
| 4.1.6 | Ensure vessels which interact with turtles have turtle dehookers and receive training in safe handling and turtle release guidelines. | SPREP, Members, Partners |
| 4.1.7 | Prohibit the commercial harvesting of marine turtles and their eggs, and commercial trade of their parts and derivatives. | Members |
| 4.1.8 | Discourage or prohibit the take of critically endangered leatherback and hawksbill turtles for local consumption. | Members, Partners, SPREP |
| 4.1.9 | Where traditional take is allowed for other species under national legislation, promote the establishment of both minimum and maximum size limits for all species (as recommended by experts), so that adult turtles are not taken, and promote regulations/taboo to prohibit the take of turtle eggs and nesters, to ensure that there is adequate recruitment to the population to promote recovery of depleted populations; ongoing monitoring and compliance is required. | Members, Partners, SPREP |
| 4.1.10 | Work with CITES, TRAFFIC and national governments to support implementation of CITES turtle decisions and resolutions relating to turtles; and encourage governments which are Parties to CITES to enforce and comply with Appendix 1 listing requirements which will prevent the export of turtle products. | SPREP, CITES, TRAFFIC, WWF |
| 4.1.11 | Support genetic profiling of marine turtle nesting sites in Oceania especially hawksbill turtles, to assist with tracking illegal international trade. | SPREP, Partners, Members, WWF |
| **INDICATORS:**   1. An extinction risk analysis of turtles throughout the Pacific is published and available on the SPREP website. 2. Developments are avoided in key nesting areas and mitigation implemented in other areas that reduces light pollution impacts. 3. Light pollution impacts on turtles and appropriate mitigation is included in relevant EIA processes. 4. All known major nesting beaches are protected from invasive animals, and appropriate mitigation measures are implemented to promote the objective of 70% of nests being fully productive. 5. CMM includes the listed mitigation measures to improve protection of turtles from fisheries interactions. 6. Trials on use of hookpods as a mitigation device on longline fishing vessels has been undertaken and results shared. 7. Turtle de-hookers have been made available and training on safe turtle release and use of mitigation measures has been undertaken in at least 3 countries/territories. 8. Pacific Island countries and territories where turtle harvesting is not prohibited are documenting reliable information on turtle harvesting and turtle egg collection; and countries with a prohibition on turtle take are reporting on compliance. 9. All members where turtle harvesting is permitted for traditional and subsistence use have introduced strategies to promote sustainable levels of take. 10. Improved compliance with CITES resolutions, especially amongst CITES Parties in the Region. 11. The genetic profiles of major hawksbill nesting sites in Oceania is mapped and is being utilised to track illegal trade | | **TIMEFRAME:**   1. 2022 2. 2022 3. Ongoing 4. 2026 5. 2026 6. 2023 7. 2023 8. 2026 9. 2026 10. 2026 11. 2026 |

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| **THEME 5: CULTURAL SIGNIFICANCE AND VALUE** | | |
| **Objective 1: Recognise the value of traditional knowledge, customs and marine tenure and ensure it informs and is incorporated into management.** | | |
| **Number** | **Action** | **Responsibility** |
| 5.1.1 | Support communities to undertake monitoring of marine turtles rather than harvest, through training opportunities which incorporate Traditional Knowledge (TK) and custom. | Members, SPREP |
| 5.1.2 | Facilitate the use of TK and customary practices to be an integral part of the recovery of turtle populations in the Pacific, e.g., establishing Indigenous protected areas. | Members |
| 5.1.3 | Facilitate the documentation of TK and customary practices as part of the process of moving to monitoring instead of harvest. | Members, SPREP |
| 5.1.4 | Encourage communities to share their traditional knowledge and customs in culturally appropriate ways, e.g. through ecotourism ventures, as alternative livelihood options. | Members |
| **INDICATORS:**   1. Community monitors are trained to monitor and protect their turtle nesting beaches. 2. TK and customary practices are documented during training and appropriately protected. 3. Training in ecotourism which enables communities to incorporate story telling relating to TK and custom has been undertaken in at least one country. 4. At least one community has transitioned from customary take to monitoring or ecotourism. | | **TIMEFRAME:**   1. 2023 2. 2023 3. 2026 4. 2026 |

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| **THEME 6: LEGISLATION, POLICY AND MANAGEMENT** | | |
| **Objective 1: Ensure a cohesive but proactive approach in policy and legislation that incorporates traditional knowledge and customary marine tenure.** | | |
| **Number** | **Action** | **Responsibility** |
| 6.1.1 | Encourage and support national governments in promoting compliance mechanisms that are effective at the community level. | SPREP, Partners, Members |
| 6.1.2 | Strongly consider reviewing regulations to prohibit any take of leatherback and hawksbill turtles and eggs and consider similar regulations for other species. | SPREP, Members |
| **INDICATORS:**   1. Legislation reform has occurred in at least one country/territory to include prohibition on take of leatherback and hawksbill turtles and their eggs. | | **TIMEFRAME:**   1. 2026 |

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| **THEME 7: ECOTOURISM AND LIVELIHOODS** | | |
| **Objective 1: Ensure turtle tourism is sustainable and conducted responsibly, with minimum impact on turtles or the environment and maximum education and economic outcomes** | | |
| **Number** | **Action** | **Responsibility** |
| 7.1.1 | Support member countries to ensure sustainable ecotourism businesses based on turtles and other marine attractions to provide alternative livelihoods to harvesting of turtles. | SPREP, Partners |
| 7.1.2 | Develop best practice guidelines for marine turtle-based ecotourism. | SPREP |
| **INDICATORS:**   1. Best practice guidelines for marine turtle-based ecotourism is developed and shared. | | **TIMEFRAME:**   1. 2023 |

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| **THEME 8: CAPACITY BUILDING AND COLLABORATION** | | |
| **Objective 1: Improve capacity for marine turtle protection, management, population research and monitoring as well as resourcing** | | |
| **Number** | **Action** | **Responsibility** |
| 8.1.1 | Facilitate the delivery of identified training tools and materials, including ranger/monitor exchanges, to provide technical assistance and expertise. Prioritise the involvement of women and youth. | SPREP, Partners |
| 8.1.2 | Build in country capacity to enforce policies and legislation relating to turtle conservation. Support governments seeking to develop or revise legislation to improve the conservation status of all marine turtles. | Members, SPREP |
| 8.1.3 | Undertake in-country turtle monitoring/survey training workshops. | SPREP, BIEM, SPC, Partners |
| 8.1.4 | Extend the regional network of marine turtle monitors. | SPREP, SPC, LMMA |
| **INDICATORS:**   1. At least 50% of rangers trained in monitoring and compliance activities are female. 2. One Regional Enforcement training workshop to support CITES/CMS. 3. At least one regional/sub-regional and one in-country nesting beach and foraging ground monitoring/survey training workshop as requested by members. | | **TIMEFRAME:**   1. 2023 2. 2023 3. 2023 |
| **Objective 2: Increase national, regional and international collaboration and partnership for turtle conservation and management.** | | |
| 8.2.1 | Identify and confirm experts to be Marine Turtle Technical Advisors for the region. | SPREP |
| 8.2.2 | Establish contact list of national, regional and international stakeholders. | SPREP |
| 8.2.3 | Use information on shared turtle stocks to promote collaboration on regional conservation actions. | SPREP, Partners, Members |
| **INDICATORS**   1. Technical advisory group is formed and information available on SPREP website. 2. Communications with agencies working on turtle conservation established and active, contact list is available. 3. Number of SPREP members actively participating and collaborating in the regional network is improved. | | **TIMEFRAME:**   1. 2022 2. 2022 3. 2026 |

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| **THEME 9: EDUCATION, AWARENESS, AND COMMUNICATION** | | |
| **Objective 1: Improve awareness and understanding about the importance of turtles and relevant conservation issues** | | |
| **Number** | **Action** | **Responsibility** |
| 9.1.1 | Update key messages about the tag recovery programme as a mechanism for promoting tag return and turtle conservation in general e.g., [Return Tag Data poster](https://library.sprep.org/sites/default/files/000932_Tag.pdf). Develop materials to promote the programme and make materials available in local languages. | SPREP |
| 9.1.2 | Conduct a turtle public awareness campaign in Papua New Guinea, share outputs throughout the region. | SPREP |
| **INDICATORS:**   1. Flipper tag recovery programme active in 15 member countries and territories. 2. Materials about the tag recovery programme and how it supports turtle conservation are available in English, French, and Bislama and information available on the SPREP website. 3. Awareness campaign conducted in PNG and outcomes and lessons learnt recorded and available for future campaigns. | | **TIMEFRAME:**   1. 2025 2. 2023 3. 2023 |

# SHARK AND RAY ACTION PLAN

Goal: To conserve sharks, rays and their habitats, ensuring healthy populations in the long term, in keeping with the traditions and aspirations of the people of the Pacific Islands region.

## INTRODUCTION

Sharks and rays, skates and chimaeras (collectively known as sharks and rays), have been in our oceans for more than 400 million years. More than 1080 species of sharks and rays are found today in all oceans and habitats - coastal, estuaries, pelagic and deep waters. Despite their widespread distribution throughout the world’s oceans and brackish waters, sharks and rays have come under considerable pressure in recent decades, particularly from habitat loss and commercial fishing operations – approximately 100 million sharks are caught annually worldwide. Consequently, many species are now threatened or endangered. Pacific island governments have responded to threats to sharks by establishing sanctuaries and protected areas, covering a total area of over 26 million square kms (Figure 1).

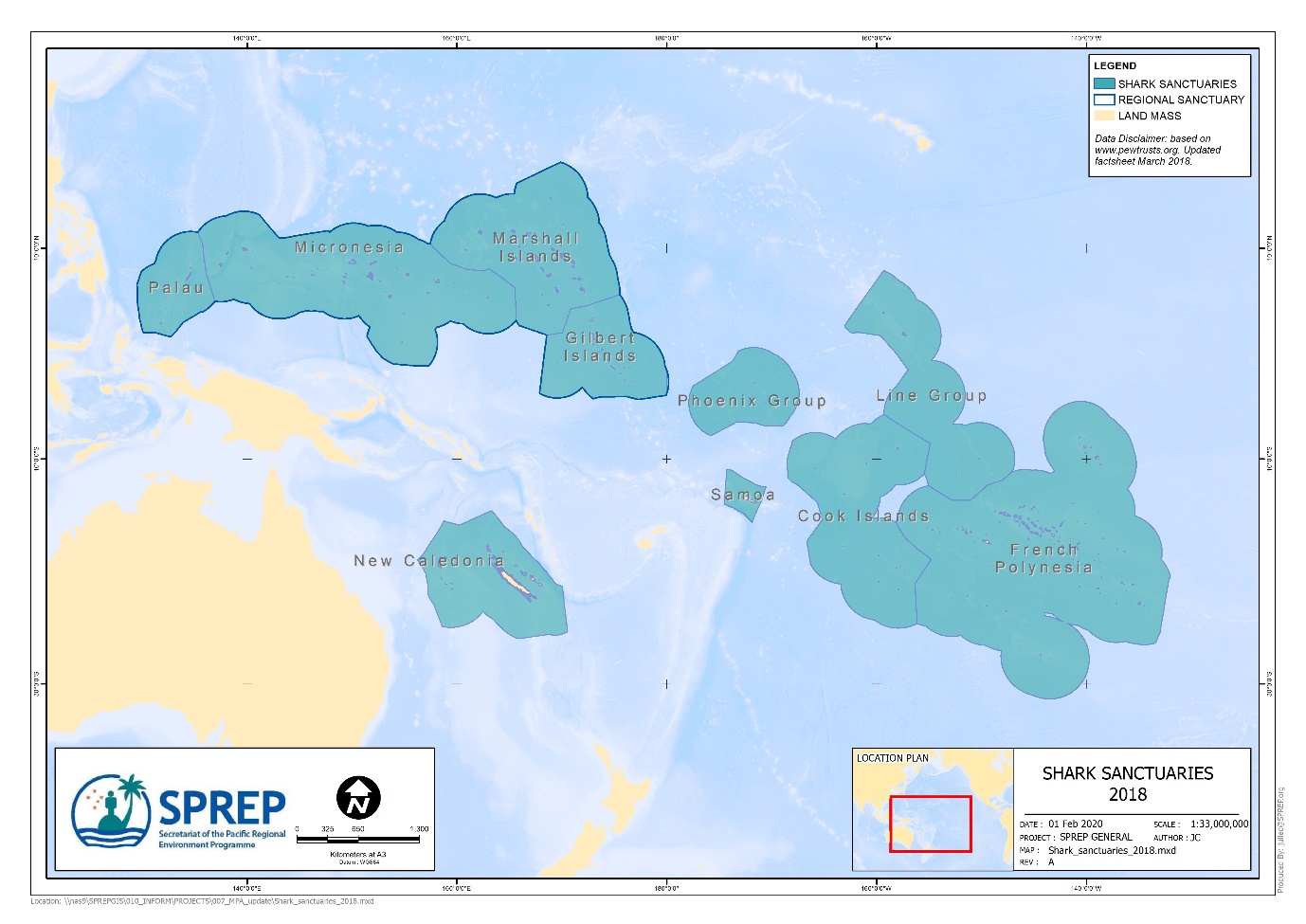


Figure 1. Shark sanctuaries throughout the Pacific islands region.

Although sharks are fishes, they have very different life histories to bony fish (teleosts). Sharks are more similar to larger mammals in that they generally grow slowly, mature late and have few offspring. Some sharks, such as the thresher sharks, produce two to four pups once a year, compared for example to a swordfish that produces millions of eggs in her lifetime. Most sharks have very low rates of population increase due to these life history characteristics and are not as readily able as teleosts to recover from overexploitation (direct or indirect) and other threats and pressures.

In their role as apex predators, sharks play a vital role in Pacific island ecosystems, both coastal and oceanic. The demand for shark fins in China and North Asia, and growing market for shark meat and products, has led to a huge increase in shark catches in the past 25 years. As most sharks are long-lived and slow-breeding, producing only a few offspring each year, the impacts of increased fishing pressure have been very severe for many species, and concerns have been repeatedly expressed about the status and trends of a number of sharks and rays in the Pacific islands region.

## SPECIES DISTRIBUTION

Understanding of the Pacific’s sharks and rays is still very limited and focus of research has generally been on species taken in fisheries. [Shark Search Info-Pacific](https://www.sharksearch-indopacific.org/) (SSIP) is a programme started in 2017 with a focus on establishing diversity catalogues for the Indo-Pacific region. The programme’s specialists are working with in-country expertise, slowly assembling a checklist of sharks and rays for every country in the Pacific along with a *Status Overview* which provides information on the diversity, values, threats and management aspects specific to that country. The first species list and overview report was created for the [Solomon Islands in 2017](https://www.publish.csiro.au/PC/PC17012) which included 50 confirmed, provisionally confirmed, or likely species present in the country. Draft reports have been prepared for Fiji, Vanuatu, New Caledonia, Federated States of Micronesia, Palau, Kiribati, Niue, Tuvalu, Tonga, and French Polynesia. The programme utilises information and photos taken by SCUBA divers, acting as citizen scientists. This work will help countries and territories develop and update their National Plans of Action for conserving sharks and rays and assist with reporting obligations to international agreements such as the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species (CITES), and the Convention on Migratory Species (CMS).

## SPECIES STATUS

Of the roughly 1080 species of sharks and rays that have been assessed, 39% are estimated to be threatened or near-threatened with extinction on the IUCN Red List. A further 17% are data deficient as of April 2021.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) lists a number of sharks and rays on Appendix II and one group in Appendix I. Appendix I species are highly threatened and cannot generally be traded except in special circumstances. Species listed on Appendix II are considered not currently threatened with extinction, but population trajectories are declining and may become threatened unless trade is regulated for these species. Under the Conservation of Migratory Species of Wild Animals (CMS), certain species of sharks and rays are listed in Appendix I (migratory species that are categorised as being in danger of extinction throughout all or a significant proportion of their range) and Appendix II (migratory species that have an unfavourable conservation status or would benefit significantly from international cooperation organised by tailored agreements).

**Table 1:** Shark and Ray Species found in the Pacific and listed on CITES and CMS

|  |  |  |
| --- | --- | --- |
| **Species** | **CITES Appendix** | **CMS Appendix** |
| Whale sharks | II | I and II |
| Oceanic whitetip sharks | II | I |
| Sawfishes | I | I and II |
| Hammerhead sharks (scalloped, great, smooth) | II | II |
| Manta rays (reef and oceanic) | II | I and II |
| Silky sharks | II | II |
| Thresher sharks (bigeye, common, pelagic) | II | II |
| Devil rays | II | I and II |
| Shortfin mako sharks | II | II |
| White sharks | I and II | I and II |

## TRADITIONAL KNOWLEDGE AND CUSTOMS

Like several species of marine megafauna, sharks have economic, cultural and spiritual value to the people of the Pacific Islands. The cultural and traditional importance of sharks and rays is demonstrated in Pacific stories, legends, customs, artifacts, chants/calling as well as traditional tattoo designs and weapons.

Sharks and rays are also an important protein source - protein that has sustained many Pacific Islanders for generations. There are even specialized traditional fishing methods that were once used by ancestors to catch sharks to feed families and their communities. Traditionally, people took only what was needed for their community and/or families, thus ensuring that marine resources would be available to them in the future.

## INCOME GENERATING OPPORTUNITIES

As the populations of many shark species have declined, there has been a surge in the market for well-managed shark and ray eco-tourism in the Pacific which can provide an attractive alternative revenue for countries compared to commercial fishing. A study conducted in Palau in 2010 showed that the value of an individual reef shark over its lifetime was estimated at US$1.9 million compared to a one-time value of US$108 for the carcass. Similarly, in 2011 in Fiji, the value of the shark and ray tourism contributed approximately US$42 million annually to the economy.

Sustainable and best-practice eco-tourism provides employment opportunities for the communities and other operators such as hotels and restaurants. In some circumstances, shark and ray eco-tourism can be used as an incentive for communities to protect and conserve sharks, rays and their habitats for the enjoyment of future generations.

## THREATS

Many shark and ray populations in the Pacific have been severely depleted due to overfishing. The high bycatch of sharks and rays, the demand for shark fins in the Asian markets and demand for shark and ray meat and products has resulted in the capture of more than 100 million sharks and rays globally every year in commercial fisheries, many of them in the Pacific where oceanic whitetip has declined to around 7% of its original biomass before fishing and the silky shark has declined to less than 28%. Sharks and rays are also caught accidentally as bycatch in fishing gears targeting commercial species such as tuna and swordfish. Observer coverage in longline fisheries in the Western Central Pacific Fisheries Commission (WCPFC) area is low (generally less than 5%), but according to the WCPFC, the species that are currently most frequently caught include blue shark, pelagic stingray, silky shark, bigeye thresher, short-fin and longfin mako, porbeagle, hammerhead sharks, mantas and mobulids and the whale shark. There has been a requirement for 100% observer coverage on purse seine vessels since 2010, providing reliable estimates of captures. It is estimated that 80,000 sharks were bycaught in 2017, mostly silky sharks (88%) but also mantas and mobulid rays, and oceanic whitetip. Increasing use of Fish Aggregation Devices (FAD) sets may result in an increased likelihood of catching silky sharks.

WCPFC have recently reviewed and consolidated the [Conservation and Management Measure for Sharks 2019-04](https://www.wcpfc.int/doc/cmm-2019-04/conservation-and-management-measure-sharks) and the [Conservation and Management Measure for Mobulid Rays 2019-05](https://www.wcpfc.int/doc/cmm-2019-05/conservation-and-management-measure-mobulid-rays-caught-association-fisheries-wcpfc). These measures prohibit the targeting and retention of mobulid rays, oceanic whitetip and silky sharks in the Convention Area and require live release. Other measures include not using wire trace or shark lines. No specific no retention requirements are included for other CITES/CMS listed species such as thresher, hammerhead or mako sharks. It continues to be prohibited to set purse seines on whale sharks, not retain any unintentionally caught and ensuring safe release. Guidelines are available to support safe release of [whale sharks](https://www.wcpfc.int/doc/supplcmm-2012-04/guidelines-safe-release-encircled-animals-including-whale-sharks), [sharks](https://www.wcpfc.int/doc/supplcmm-2010-07/best-handling-practices-safe-release-sharks-other-whale-sharks-and), [mantas and mobulids](https://www.wcpfc.int/doc/supplcmm-2019-04/best-handling-practices-safe-release-mantas-mobulids).

Pacific Island members have recognised the threat to sharks and rays in the Pacific and many have established shark sanctuaries in their waters which prohibit the commercial fishing of all shark species throughout the countries EEZ and the possession, sale, trade, and import/export of sharks and shark products. (See Map Shark and Ray Sanctuaries in the Pacific)

Other threats include pollution, marine debris, habitat loss/degradation, coastal development and climate change.

## THEMES AND OBJECTIVES

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| **THEMES** | **OBJECTIVES** |
| 1. Research and Monitoring | 1. Improve understanding of shark and ray populations. |
| 2. Climate Change | 1. Identify vulnerability of sharks and rays to climate change. |
| 3. Ecosystems and Habitat Protection | 1. Critical habitat for sharks and rays are protected. |
| 4. Threat Reduction | 1. Reduce direct and indirect threats to shark and ray populations. |
| 5. Cultural Significance and Value | 1. Recognise the value of traditional knowledge, customs and marine tenure and ensure it informs and is incorporated into management. |
| 6. Legislation, Policy and Management | 1. Improve the management and protection measures for sharks and rays. |
| 7. Ecotourism and Livelihoods | 1. Ensure shark and ray tourism is sustainable and conducted responsibly, with minimum impact on sharks and rays or the environment and maximum education and economic outcomes. |
| 8. Capacity Building and Collaboration | 1. Build in-country capacity to strengthen implementation of shark and ray management and conservation measures.  2. National, regional and international collaboration is enhanced. |

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| **THEME 1: RESEARCH AND MONITORING** | | |
| **Objective 1: Improve understanding of shark and ray populations** | | |
| **Number** | **Action** | **Responsibility** |
| 1.1.1 | Support and contribute to country-specific species checklists and overviews created by [Shark Search Indo-Pacific](https://www.sharksearch-indopacific.org/) (SSIP). | SPREP, Members, Partners, SSIP |
| 1.1.2 | Encourage countries to support and fully participate in existing/future regional research initiatives concerning sharks and rays e.g. post release survival, stock assessments, status of sharks, abundance, diversity e.g. through WCPFC and other organisations, including the [Global Fin Print project](https://globalfinprint.org/index.html). | Members, Partners, SPREP, WCPFC, SPC |
| 1.1.3 | Undertake a qualitative risk assessment for the region based on existing knowledge, and checklists prepared by SSIP (excluding pelagic shark species which are already managed through RFMOs and SPC). | SPREP, Members, Partners, SSIP |
| 1.1.4 | Encourage universities to offer, and students to undertake, national research projects on shark and ray species on topics such as inventory, critical habitats, abundance, life history/age and growth. | Partners, Members,  University of Newcastle, Victoria University Wellington, USP,  James Cook Uni |
| 1.1.5 | Encourage the development / use, of existing databases (e.g. [Pacific Environment Portal](https://pacific-data.sprep.org/)) and expand them where necessary to include information on traditional knowledge on sharks and rays. | Partners, SPREP |
| 1.1.6 | Encourage necropsies to explore impact of marine debris on sharks and rays. | Members, Partners,  SPREP, Universities |
| **INDICATORS:**   1. Draft qualitative species checklists and overviews are available for every Pacific island country/territory 2. A centralised research programme on sharks is established such as through WCPFC 3. A qualitative risk assessment is conducted with sub-regional expert groups and published with the idea of working towards a quantitative risk assessment in the future. 4. The [Pacific Environment Portal](https://pacific-data.sprep.org/) contains a shark and ray specific node for data collection. 5. Records collected from necropsies of sharks and submitted by Members to relevant agencies. | | **TIMEFRAME:**   1. 2024 2. 2024 3. 2026 4. 2022 5. Ongoing |

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| **THEME 2: CLIMATE CHANGE** | | |
| **Objective 1: Identify vulnerability of sharks and rays to climate change** | | |
| **Number** | **Action** | **Responsibility** |
| 2.1.1 | Assess the potential impacts of climate change on shark and ray species in the Pacific and identify the most at-risk species/populations, including potential changes in distribution | SPREP |
| 2.1.2 | Undertake detailed risk assessments for shark and ray species or populations that are identified as being at high risk from climate change impacts and consider mitigation strategies and how the potential changes could affect current management strategies. | SPREP, Partners |
| 2.1.3 | Encourage research projects into the impact of climate change on sharks, e.g. thermal tolerances. | SPREP, Partners, Members |
| **INDICATORS:**   1. Shark and ray populations/species that could be vulnerable to climate change are identified. 2. Potential changes in shark and ray distribution are assessed and mapped where necessary and possible impacts on management strategies are understood. 3. An improved understanding of biological responses to changes in climate. | | **TIMEFRAME:**   1. 2024 2. 2026 3. 2026 |

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| **THEME 3: ECOSYSTEMS AND HABITAT PROTECTION** | | |
| **Objective 1: Critical habitat for sharks and rays are protected** | | |
| **Number** | **Action** | **Responsibility** |
| 3.1.1 | Support efforts to determine important coastal breeding sites for sharks and rays for prioritising protection, for example through Key Biodiversity Area (KBA) processes or develop concept of Important Shark and Ray Areas (ISRA). | SPREP, Members, Partners |
| 3.1.2 | Encourage and support the establishment of conservation measures, through legislation or regulation and policies for priority sites such as KBAs, including through customary measures, to protect and conserve sharks, rays and their habitats. | Members, SPREP |
| 3.1.3 | Support continued efforts to establish EEZ-wide shark sanctuaries and/or to include sharks and rays in established or proposed marine protected areas. | Members, SPREP |
| 3.1.4 | Support the use of data collected on sharks and rays in established or proposed MPAs and Local Marine Managed Areas to inform effective management. | Members, Partners |
| **INDICATORS:**   1. Important coastal breeding locations for sharks and rays identified through a process such as KBAs assessments for at least two countries/territories. 2. Protection for Shark and rays through identification and protection of critical habitats established in at least 2 countries/territories. | | **TIMEFRAME:**   1. 2025 2. 2026 |

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| **THEME 4: THREAT REDUCTION** | | |
| **Objective 1: Reduce direct and indirect threats to shark and ray populations** | | |
| **Number** | **Action** | **Responsibility** |
| 4.1.1 | Support and strengthen the development, dissemination and implementation of effective shark and ray by-catch mitigation techniques and safe handling and release guidelines. Support work on the post release survival (PRS)to improve mitigation and safe handling techniques | Partners, Members, SPREP (BIEM project) |
| 4.1.2 | Collect information on the scale of shark and ray by-catch from fisheries operations in order to better assess impacts and possible mitigation actions. | Partners, Members, SPREP (BIEM project) |
| 4.1.3 | Work through WCPFC to improve by-catch documentation of shark and ray species (species-specific) | Members, SPREP through BIEM project, FAO, FFA, Partners |
| 4.1.4 | Encourage more Pacific Islands countries to develop legislation and policy and then implement mechanisms to prohibit shark and ray finning and eliminate targeted shark fishing for commercial purposes. (note: many members are already doing this with shark sanctuaries in place across the Pacific) | Members, Partners, SPREP, CITES, WCPFC |
| **INDICATORS:**   1. Known shark and ray by-catch mitigation and safe handling and release techniques implemented through outreach programmes to fisheries. 2. Data on post release survivorship is being collected in fisheries in WCPFC. 3. National shark by-catch levels established/documented in at least two countries/territories. 4. Shark finning is prohibited in all countries and territories. | | **TIMEFRAME:**   1. 2023 2. 2025 3. 2025 4. 2026 |

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| **THEME 5: CULTURAL SIGNIFICANCE AND VALUE** | | |
| **Objective 1: Recognise the value of traditional knowledge, customs and marine tenure and ensure it informs and is incorporated into management.** | | |
| **Number** | **Action** | **Responsibility** |
| 5.1.1 | Document traditional knowledge and customs with regards to sharks, rays (and their management) that can be used in education and awareness raising activities. | Members, Partners, SPREP |
| 5.1.2 | Promote and support appropriate community-based conservation approaches which protects sharks and rays. | Members |
| **INDICATORS:**   1. Traditional knowledge and customs on sharks documented and integrated into conservation and management schemes by at least two members. 2. Appropriate community-based conservation approaches for sharks supported in at least two countries/territories. | | **TIMEFRAME:**   1. 2026 2. 2026 |

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| **THEME 6: LEGISLATION, POLICY AND MANAGEMENT** | | |
| **Objective 1: Improve the management and protection measures for sharks and rays** | | |
| **Number** | **Action** | **Responsibility** |
| 6.1.1 | Encourage and support countries to develop National Plans of Action for Sharks to guide policy and legislation development to effectively implement CITES, CMS and WCPFC rules. | Members, SPREP (through BIEM project), Partners, WCPFC |
| 6.1.2 | Consider EEZ wide sanctuaries to protect sharks and rays from commercial fishing | Members, |
| **INDICATORS:**   1. NPOA-sharks developed and/or amended to guide policy and legislation development in at least two countries/territories. 2. EEZ wide shark sanctuaries are implemented in additional Pacific countries | | **TIMEFRAME:**   1. 2026 2. 2026 |

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| **THEME 7: ECOTOURISM AND LIVELIHOODS** | | |
| **Objective 1: Ensure shark and ray tourism is sustainable and conducted responsibly, with minimum impact on sharks and rays or the environment and maximum education and economic outcomes** | | |
| **Number** | **Action** | **Responsibility** |
| 7.1.1 | Evaluate and monitor the growth of shark and ray-based tourism including economic benefits/value. | Partners, Members, SPREP, Pacific Regional Tourism Organisation (PRTO) |
| 7.1.2 | Promote the use of [region-wide shark and ray tourism guidelines](https://issuu.com/projectaware/docs/sharkandrays_bestpracticeguide_2017) (ensuring best practices/sustainability) and support development of more guidelines such as for the dive industry. | SPREP, Partners, PRTO |
| 7.1.3 | Promote licensing/permitting of shark and ray watching/diving, tourism operations as a tool for safe management. | Members, Partners |
| 7.1.4 | Support programmes for shark and ray watching/diving operators to collect species-specific data. | Members, Partners, NGOs |
| **INDICATORS:**   1. Shark-based tourism industry evaluated regionally at least once during the course of this plan. 2. Shark watching/diving/feeding guidelines developed and promoted to all Members. 3. Licensing/permitting system for eco-tourism activities based on sharks and rays promoted to all Members. 4. System developed and implemented for operators to collect useable species-specific data. | | **TIMEFRAME:**   1. 2026 2. 2024 3. 2026 4. 2025 |

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| **THEME 8: CAPACITY BUILDING AND COLLABORATION** | | |
| **Objective 1: Build in-country capacity to strengthen implementation of shark and ray management and conservation measures** | | |
| **Number** | **Action** | **Responsibility** |
| 8.1.1 | Identify skills (e.g. database management, surveys and enforcement) required by relevant government agencies and local communities for shark and ray management and protection. | Members, SPREP |
| 8.1.2 | Collaborate with other relevant CROP agencies SPC/FFA to deliver on identified training needs relating to CITES/CMS listed species. | SPREP, Members, Partners |
| **INDICATORS:**   1. Skill requirements for shark and ray management/conservation identified. 2. Trainings, including for research, conducted in at least three countries/territories. 3. At least three enforcement and compliance workshops conducted. | | **TIMEFRAME:**   1. 2023 2. 2026 3. 2026 |
| **Objective 2: National, regional and international collaboration is enhanced** | | |
| **Number** | **Action** | **Responsibility** |
| 8.2.1 | Encourage Non-Party Members to become signatories to the CMS Migratory [sharks MOU](https://www.cms.int/sharks/en) . | Members, CMS Secretariat, SPREP |
| 8.2.2 | Support Member countries to report on the progress of the implementation of shark and ray obligations, Conservation Management Measures (CMM) and best practice handling and release guidelines under WCPFC, CITES, and CMS and other environmental agreements as appropriate. | SPREP, Members |
| 8.2.3 | Provide support and assistance to CITES/CMS Oceania Parties to recognise and implement new shark and ray Appendix listings. | SPREP, Partners, Members |
| 8.2.4 | Support development of Pacific positions for shark and ray conservation at international and regional forums by provision of technical advice as required. | SPREP, Members, Partners |
| 8.2.5 | Collaborate to combat the illegal trade of sharks, rays and their products at national and international level. | SPREP, Partners, Members, CITES |
| 8.2.6 | Strengthen partnerships amongst government and other existing and new stakeholders in research, conservation and management efforts for sharks and rays. | Members, SPC, FFA, SPREP (through BIEM), CMS, CITES,  Universities, WCPFC, NGOs |
| 8.2.7 | Encourage countries to attend international symposia which include research and management of sharks and rays. | Members |
| **INDICATORS:**   1. At least one additional SPREP Member signs the CMS Shark MoU. 2. Reporting obligations are completed. 3. New shark and ray listings are made to CITES and CMS where appropriate. 4. Illegal trade in shark and ray products is reduced. 5. At least two partnerships with relevant stakeholders fostered to combat illegal trade of sharks and shark products and in research and management initiatives. 6. At least one international symposia has representatives from the Pacific islands region. | | **TIMEFRAME:**   1. 2025 2. Ongoing 3. 2026 4. 2026 5. 2026 |

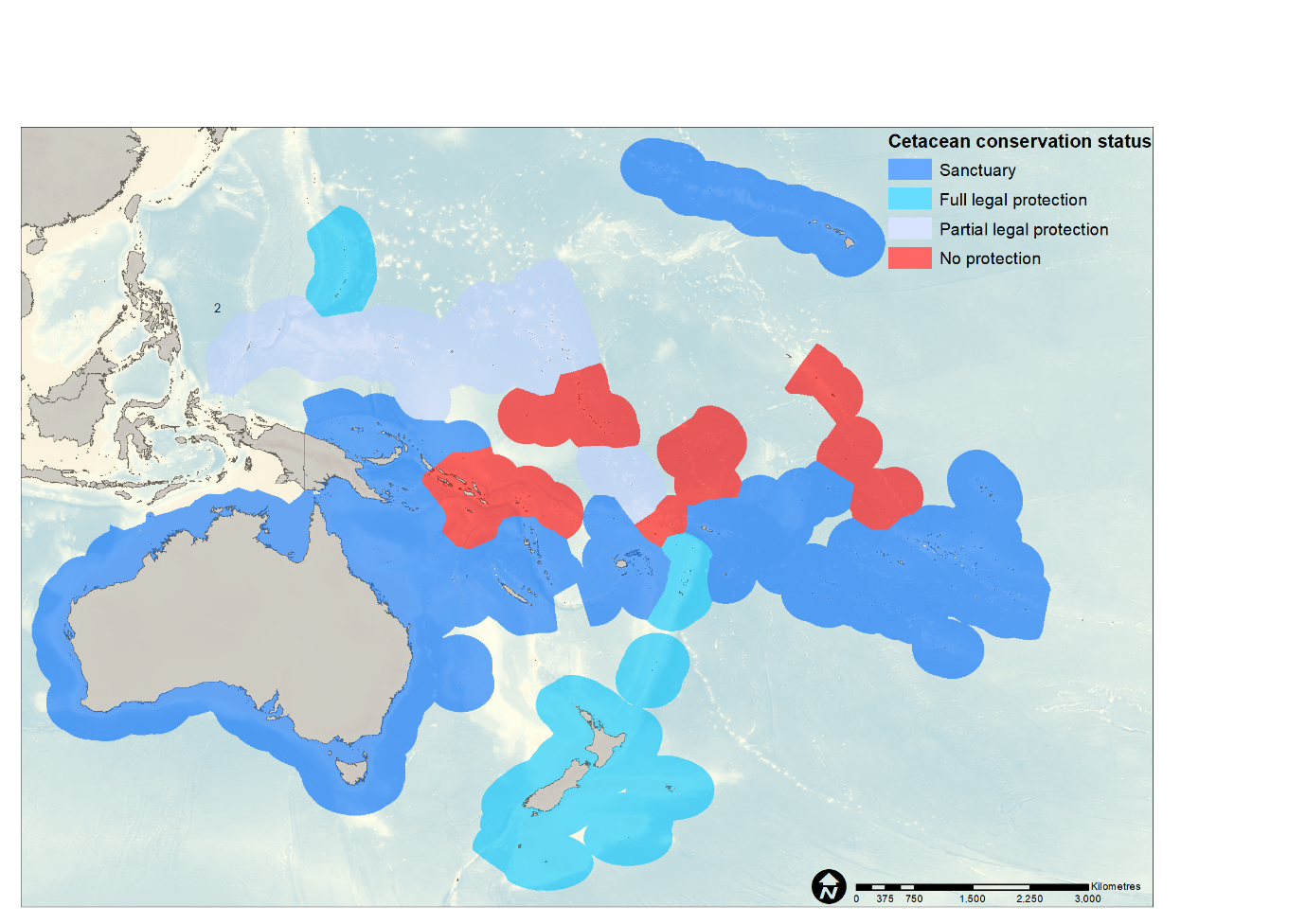
# WHALE AND DOLPHIN ACTION PLAN

Goal: To protect whales and dolphins and their habitats allowing Pacific Island populations to recover and thrive recognising their strong cultural importance to the people of the Pacific.

## INTRODUCTION

The Pacific Islands region is home to half of the world’s species of whales and dolphins. The great baleen whales are highly migratory, travelling thousands of kilometres each year between tropical breeding grounds and summer feeding grounds. Some dolphins have relatively small home ranges, whilst others travel between the EEZs of several SPREP Members. The great whales were brought to the brink of extinction last century, but with over 36 million sq km of SPREP Members’ EEZs now declared as whale sanctuaries (Figure 2), humpback and other species are now recovering, although still far from their abundance in 1900. Whale-watching is now becoming an important tourist attraction for many countries and territories, including Tonga, Niue and French Polynesia.

Figure 2. Map of whale and dolphin protected areas and sanctuaries.



SPREP members designated 2017 and 2018 as the Year of the Whale, which featured the Whales in a Changing Ocean conference, the region’s first inter-governmental conference focused on whales. The conference was held in Nuku’alofa Tonga in April 2017 and was attended by representatives from 16 governments. Many of the recommendations in this Action Plan have their origins in this meeting.

## SPECIES DISTRIBUTION

A comprehensive understanding of whale and dolphin diversity and distribution in the Pacific Islands Region is considered to be incomplete as there are many locations that have not been surveyed. Based on largely opportunistic records, at least 30 different whale and dolphin species are known to migrate or reside (on either an occasional or year-round basis) within the Economic Exclusive Zones (EEZs) of the 22 Pacific island countries and territories, this number is even higher when you consider rare and vagrant species.

Given the current state of information the most commonly reported species across the region include the sperm whale, short-finned pilot whale, spinner dolphin and the migratory humpback whale. Many species, particularly the beaked whales, will only be known from stranding data, highlighting the importance of collecting this data throughout the region. Stranding data can tell you more about the fauna of an area than live surveys, particularly for offshore, deep-diving species. The limited research efforts in the PIR, coupled with the very large expanse of marine area, make it plausible that there may also be many unreported species that inhabit these waters.

The Science Research Working Group at the Whales in a Changing Ocean conference in 2017 recommended the establishment of a validated inventory of whale and dolphin species, genetic distinctiveness and habitat use for each Pacific Island country and territory of the SPREP region to improve understanding of ecological roles, economic and cultural values to better inform management.

NOTE: A table will be provided of a checklist of species presence as indicated in the latest review of cetaceans from the Pacific Region by Cara Miller (in prep 2021).

### Important Marine Mammal Areas

In March 2017 a Regional Workshop was held in Samoa, to identify Important Marine Mammal Areas (IMMAs) for the Pacific Region. These are areas of habitat that are considered globally important for key cetacean species and could be effectively managed for conservation. The report of the IMMA Regional Workshop for the Pacific Islands can be [downloaded here.](https://www.marinemammalhabitat.org/download/report-regional-workshop-pacific-islands-important-marine-mammal-areas/) Importantly it was recognised that there are substantial data gaps for marine mammals across the region, so that designation of sites as globally important is not final. Each site was reviewed by an expert panel and 18 IMMAs were accepted for full status. A further five candidate sites and 19 Areas of Interest remain requiring further monitoring or survey effort to confirm in the future.

## SPECIES STATUS

Cetacean species in the Pacific Island Region(PIR) vary in conservation status according to the IUCN system of species classification. Endangered species present in the PIR include the sei whale (*Balaenoptera borealis*), blue whale (*Balaenoptera musculus*), and the Oceania subpopulation of the humpback whale (*Megaptera novaeangliae*). Vulnerable species include the fin whale (*Balaenoptera physalus*), snubfin dolphin (*Orcaella heinsohni*), Indo-Pacific humpback dolphin (*Sousa chinensisi*)and sperm whale (*Physeter macrocephalus*). Near Threatened species include the Antarctic minke whale (*Balaenoptera bonaerensis*), false killer whale (*Pseuorca crassidens*), and the Indo-Pacific bottlenose dolphin (*Tursiops aduncus*). Of the remaining species, 17 are Least Concern and 2 are Data Deficient. Since the previous Whale and Dolphin Action Plan was published, 12 cetacean species have changed in conservation status, many of which were a reclassification of Data Deficient to Least Concern (not due to substantial new information becoming available but due to interpretation of the categories) as well as three species moving from Data Deficient to Near Threatened. Of note, fin whales moved from Endangered to Vulnerable and snubfin dolphin moved from Near Threatened to Vulnerable.

Pacific island cetacean species listed on CMS Appendix I are sei, blue, fin, humpback and sperm whales. Several Pacific island cetacean species are also listed on CMS Appendix II including Antarctic minke whale, Bryde’s whale, snubfin dolphin, orca, and Indo-Pacific humpback dolphin.

## TRADITIONAL KNOWLEDGE AND CUSTOMS

Whales and dolphins are important to the cultures, legends, traditions and heritage of many Pacific Island peoples. The history of some cultures includes the role of whales in traditional navigation. Whales and dolphins are associated with identity, lifestyle and wellbeing. Migrations of whales are used as an environmental cue on some islands, and ceremonies and ritual surround cetaceans across the region. The regular appearance of whales to breed and give birth is still a significant event in many places. In some traditions, they are viewed as incarnations of humans. The myths, stories and legends surrounding cetaceans in the Pacific are passed down from generation to generation via song, dance and oral traditions.

Cultural harvesting has existed in most Pacific islands to varying degrees at some point in time. This has ranged from harvesting from deceased beach cast animals to direct or opportunistic hunting. The meat is sometimes harvested to sustain the local village, but more sought after are the bones and particularly the teeth. The teeth of cetaceans were likely important in historical trade. Some traditional/subsistence harvesting is likely to still exist in some communities.

## INCOME GENERATING OPPORTUNITIES

A regional review of the status of marine mammal tourism activities showed that whale watching is becoming an important component of tourism development in the region with a total estimated direct economic value of USD $7.5 million and USD $21 million in total value in 2005.

The growth potential and economic benefits of cetacean-based tourism has proved an effective argument against the killing of whales throughout the Pacific. However, the industry grew at 45% per year in the period 1998 – 2005 which is raising questions about the sustainability of the activity. Issues related to the growth of the industry include the potential impacts on marine mammal populations and the need for management measures. Several management tools exist in the region to assist the sustainable development of the industry and aim to reduce impacts and increase the educational values of the activity: The Pacific Regional Guidelines for Whale and Dolphin Watching (SPREP, 2008), the Whales Alive Whale Watching Operator and Guide Training Program, and the IWC Whale Watching Handbook.

## THREATS

Although whales are no longer hunted commercially in the Southern Hemisphere, they are exposed to a wide range of other hazards. Key species involved, geographic location of the coverage of the threats, and the time of year (or regularity) of different threats varies across the region.

Key threats to cetaceans in the Pacific Islands Region include:

* fisheries interactions including bycatch and entrapment in Abandoned Lost and Disgarded Fishing Gear including Fish Aggregation Devices.
* tourism and vessel activity
* ship strike
* pollution (plastic, heavy metals etc)
* habitat degradation
* anthropogenic noise
* climate change
* direct take including drive hunts
* ecotourism, and
* lack of scientific information.

### Fisheries

More than 30 species of cetaceans are reported interacting in tuna fisheries in the Western Central Pacific Ocean. False killer whale (*Pseudorca crassidens*) interacts the most in both longline and purse seine fisheries. Baleen whales including threatened species such as blue, fin and humpback whales and sperm whales are also recorded interacting. Dolphins such as Risso’s (*Grampus griseus*), rough-toothed (*Steno bredanensis*), Indo-Pacific bottlenose (*Tursiops aduncus*) and pantropical spotted dolphin (*Stenella attenuata*) are also highly bycaught. Survivorship from interactions with fishing gear is poorly understood, particularly where gear remains attached to animals that survive the interaction. Interactions with Abandoned, Lost and Discarded Fishing Gear (ALDFG) are also a significant and increasing concern. High levels of observer coverage in purse seine fisheries provides a good understanding of the level of interactions in that fishery but not so with longline fisheries with very low levels of observer coverage overall in the Western Central Pacific Fisheries Commission (WCPFC). Our paucity of knowledge about the population sizes, distribution, and genetic distinctiveness of many species in the Pacific means it is very difficult to understand the level of threat that these interactions pose to cetacean populations. Filling these data gaps will take many years and we cannot wait. A precautionary approach is required and increased effort to reduce interactions and mitigate harm is essential if we are to guarantee the long-term benefits of whales and dolphins to our ocean health and as important cultural icons.

## THEMES AND OBJECTIVES

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| **THEMES** | **OBJECTIVES** |
| 1. Research and Monitoring | 1. Data is collected, centralised and accessible.  2. Improve knowledge of abundance/distribution of cetaceans.  3. Understand critical habitat and migratory pathways.  4. Understand impact of threats on whale and dolphin species. |
| 2. Climate Change | 1. Identify vulnerability of whales and dolphins to climate change. |
| 3. Ecosystems and Habitat Protection | 1. Critical habitat and migratory pathways for whales and dolphins are protected. |
| 4. Threat Reduction | 1. Reduce direct and indirect threats to whale and dolphin populations. |
| 5. Cultural Significance and Value | 1. Recognise the value of traditional knowledge, customs and marine tenure and ensure it informs and is incorporated into management. |
| 6. Legislation, Policy and Management | 1. Review legal, policy and institutional frameworks relating to the protection of whales and dolphins. |
| 7. Ecotourism and Livelihoods | 1. Ensure the development of whale and dolphin tourism is sustainable and conducted responsibly, with minimum impact and maximum education and economic returns. |
| 8. Capacity Building and Collaboration | 1. Increase in-country expertise and capacity for the conservation and sustainable management of cetaceans.  2. Increase national, regional and international collaboration and partnership for turtle conservation and management. |
| 9. Education, Awareness, and Communication | 1. Improve awareness and understanding about the importance of whales and dolphins and relevant conservation issues. |

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| **THEME 1: RESEARCH AND MONITORING** | | |
| **Objective 1: Data is collected, centralised, and accessible.** | | |
| **Number** | **Action** | **Responsibility** |
| 1.1.1 | Encourage the widespread use of innovative electronic reporting and monitoring tools such as [Happywhale.com](https://happywhale.com/home), [iNaturalist](https://www.inaturalist.org/) and other suitable applications to promote citizen science and collect observational data, including humpback whale fluke IDs. | SPREP, Partners, Members |
| 1.1.2 | Maintain and administer the ‘[Strandings of Oceania](https://www.sprep.org/ioe/strandings-of-oceania-database)’ database on [Flukebook.org](https://www.flukebook.org/)**.** | SPREP |
| 1.1.3 | Encourage public to report all whale and dolphin strandings and mortalities to appropriate management authority. | Members |
| 1.1.4 | Develop national stranding networks that are inclusive of all relevant stakeholders. Implement stranding response and data collection protocols, collect information on the potential impact of plastics and fishing gear on whales and dolphins, with the best-practice goal of full necropsies where possible. | Members, SPREP, SPC |
| 1.1.5 | Submit strandings data and analysis results to the ‘[Strandings of Oceania database](https://www.sprep.org/ioe/strandings-of-oceania-database)’ ([www.flukebook.org](http://www.flukebook.org)), including any DNA results or dissection notes, evidence of entanglement or plastic ingestion. | Members |
| 1.1.6 | Encourage reporting of ship-strikes to local and regional authorities and the IWC’s global ship-strike database. Record in Strandings of Oceania database. | Members |
| 1.1.7 | Encourage documentation of the number of animals, species, location and date of any direct take. | Members/SPREP |
| **INDICATORS**   1. A range of complementary applications are in use in the region to record and disseminate sightings from waters of at least five SPREP member countries. 2. At least one person in each Pacific island country or territory has been trained in data collection protocols at strandings. 3. An electronic fluke ID database (happywhale.com) contains data from 4 member countries or territories. 4. The Strandings of Oceania database ([www.flukebook.org](http://www.flukebook.org)) contains stranding records from 40% of members. | | **TIMEFRAME**   1. 2024 2. 2025 3. 2025 |
| **Objective 2: Improve knowledge of abundance/distribution of cetaceans** | | |
| **Number** | **Action** | **Responsibility** |
| 1.2.1 | Support and promote well-designed and funded surveys to establish distribution, range and habitat information for Pacific Island Region cetacean species and provide information to SPREP members. | SPWRC, Partners,  SPREP |
| 1.2.2 | Look into options for using remote sensing (hydrophones, satelittes, etc) to detect whales and dolphins in the region. Promote the use of cetacean remote sensing systems. | SPREP, Partners |
| 1.2.3 | Conduct surveys to contribute to inventory of whale and dolphin species and research into genetic distinctiveness and habitat use for each Pacific island country and territory. | SPREP, Partners, Members |
| 1.2.4 | Encourage research on subpopulations of false killer whales in the Pacific including assessing genetic distinctiveness to inform risk from industrial fisheries. | SPREP, SPC, Partners,  Members |
| 1.2.5 | Assessment of genetic distinctiveness and isolation of pan tropical dolphin species and where appropriate, taxanomic status, and implications for threat management and survival. | SPREP, Partners |
| **INDICATORS:**   1. A validated inventory of Pacific island region cetacean species has been published and contains information on genetic distinctiveness, range and habitat use for cetaceans found in at least two Pacific island countries and territories. 2. A feasibility study on remote sensing of cetaceans is conducted and a pilot study in one area is planned. | | **TIMEFRAME:**   1. 2023 2. 2026 |
| **Objective 3: Understand critical habitat and migratory pathways** | | |
| **Number** | **Action** | **Responsibility** |
| 1.3.1 | Work to confirm as for Important Marine Mammal Areas (IMMAs), Candidate Sites and Areas of Interest already identified through the Pacific Important Marine Mammal Areas workshop in 2017 in partnership with the IUCN Pacific islands Regional Committee on IMMAs, and others. | SPREP, Partners, Members |
| **INDICATORS:**   1. At least one Pacific IMMA candidate sites has been confirmed. | | **TIMEFRAME:**   1. 2025 |
| **Objective 4: Understand impact of threats on whale and dolphin species** | | |
| 1.4.1 | Assessment of the scale and impact of bycatch on small cetaceans in local fisheries. | SPREP, Partners, Members |
| 1.4.2 | Assessment of the impact of ongoing drive hunts or other direct take in the region on populations of small cetaceans. | SPREP, Partners, Members |
| **INDICATORS:**   1. Assessment of the impact of at least one domestic fishery in the region on small cetaceans has been completed. 2. Assessment of direct take on a population of at least one small cetacean has taken place. | | **TIMEFRAME:**   1. 2024 2. 2025 |

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| **THEME 2: CLIMATE CHANGE** | | |
| **Objective 1: Identify vulnerability of whales and dolphins to climate change.** | | |
| **Number** | **Action** | **Responsibility** |
| 2.1.1 | Promote consideration, by international fora, of climate change issues impacting Pacific cetaceans, in particular the impact on migratory great whales in their foraging grounds in Antarctica. | SPREP, Partners, Members |
| 2.1.2 | Integrate carbon sequestration services provided by whales into national considerations for climate change mitigation and adaptation. | Members, Partners |
| 2.1.3 | Assess the potential impacts of climate change on whale and dolphin species, including their migratory pathways, in the Pacific and identify the most at-risk species/populations. | SPREP |
| 2.1.4 | Undertake detailed risk assessments for whale and dolphin species or populations that are identified as being at high risk from climate change impacts and the impact the possible impacts would have on communities. | SPREP |
| **INDICATORS:**   1. Whale and dolphin populations that are vulnerable to climate change impacts are identified and prioritised for protection. 2. Possible changes to distribution or migration pathways are identified and implications for management noted. | | **TIMEFRAME:**   1. 2025 2. 2025 |

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| **THEME 3: ECOSYSTEMS AND HABITAT PROTECTION** | | |
| **Objective 1: Critical habitat and migratory pathways for whales and dolphins are protected.** | | |
| **Number** | **Action** | **Responsibility** |
| 3.1.1 | Support establishment of MPAs including as national EEZ-wide whale sanctuaries, especially IMMAs, with appropriate management plans which prioritise protection of cetaceans and their habitats and migratory pathways and associated biodiversity. | SPREP, Members, Partners |
| **INDICATORS:**   1. Formally designated/established national EEZ-wide sanctuaries and MPAs, each over at least 50 sq.km, and enhanced protection are established for at least three IMMAs that protect cetaceans. 2. There is a management plan for each established sanctuary/MPA. | | **TIMEFRAME:**   1. 2024 2. 2026 |

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| **THEME 4: THREAT REDUCTION** | | |
| **Objective 1: Reduce direct and indirect threats to whale and dolphin populations** | | |
| **Number** | **Action** | **Responsibility** |
| 4.1.1 | Encourage collaboration between WCPFC and researchers to enable improved collection of data on cetacean species interacting with tuna fisheries, including collecting and analysing species identification including photos and genetic samples. | SPREP, SPC, FFA, Members, Partners |
| 4.1.2 | Foster partnerships to trial suitable mitigation methods relating to cetacean interactions with fishing gear. | SPREP, SPC, FFA, Members, Partners |
| 4.1.3 | Work with local communities to develop management options for addressing small cetacean bycatch and direct take. | Members |
| 4.1.4 | Colloborate with international organisations such as IWC and CMS to provide technical advice and support for reducing bycatch of cetaceans. | SPREP |
| **INDICATORS:**   1. Information is available on species and level of interaction with fishing gear to inform management. 2. Suitable mitigation methods for cetaceans are identified and uptake into fishing fleets has begun. | | **TIMEFRAME:**   1. 2026 and ongoing 2. 2026 |

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| **THEME 5: CULTURAL SIGNIFICANCE AND VALUE** | | |
| **Objective 1: Recognise the value of traditional knowledge, customs and marine tenure and ensure it informs and is incorporated into management.** | | |
| **Number** | **Action** | **Responsibility** |
| 5.1.1 | Support the documentation of traditional knowledge, practice, heritage and values related to whales and dolphins. | Members, Partners |
| 5.1.2 | Encourage socio-cultural research into traditional knowledge and cultural practice relating to dolphin drive hunts to underpin future research and management approaches. | SPREP, Members, Partners |
| 5.1.3 | Collaborate with regional voyaging societies and other cultural groups to promote traditional knowledge related to the conservation and management of whales and dolphins. | Members, Voyaging societies of the Cook Islands, Samoa, Tonga, Fiji, NZ, French Polynesia, Okeanos Foundation |
| **INDICATORS:**   1. Socio-cultural research into cultural practice relating to dolphin drive hunts in one country/territory has taken place. 2. At least one project/initiative has been undertaken in collaboration with regional voyaging societies and other cultural groups across at least one SPREP member country or territory. | | **TIMEFRAME:**   1. 2024 2. 2024 |

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| **THEME 6: LEGISLATION, POLICY AND MANAGEMENT** | | |
| **Objective 1: Review legal, policy and institutional frameworks relating to the protection of whales and dolphins** | | |
| **Number** | **Action** | **Responsibility** |
| 6.1.1 | Review legislative measures for the effective conservation and management of whales and dolphins, including gaps and inconsistencies between fishery and environmental legislation and policy. | Members |
| 6.1.2 | Respond to country/territory legal and policy requirements or requests for support in developing such frameworks to support implementation of the Whale and Dolphin Action Plan. | SPREP, Partners |
| 6.1.3 | Pacific island countries and territories develop national cetacean action plans. | Members, Partners |
| **INDICATORS:**   1. Two SPREP members have enacted new or updated legislative measures regarding conservation and management of whales and dolphins. 2. SPREP has assisted, where requested, with the development of legislative measures. 3. There are five national action plans for whales and dolphins in the SPREP region. | | **TIMEFRAME:**   1. 2026 2. Ongoing 3. 2026 |

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| **THEME 7: ECOTOURISM AND LIVELIHOODS** | | |
| **Objective 1: Ensure the development of whale and dolphin tourism is sustainable and conducted responsibly, with minimum impact and maximum education and economic returns** | | |
| **Number** | **Action** | **Responsibility** |
| 7.1.1 | Document and share lessons learnt from members with sustainably managed whale and dolphin watching industries through regional meetings and fora, in collaboration with the International Whaling Commission Whale Watch Sub-Committee, the South Pacific Tourism Organization and others. | SPREP, Partners, Members |
| 7.1.2 | Encourage whale watch operators and other platforms of opportunity to carry researchers to record sightings and identification features (e.g. tail fluke photos) of cetaceans. | SPREP, Partners, Members |
| 7.1.3 | Review [Pacific Islands Regional Guidelines for Whale and Dolphin Watching](https://www.sprep.org/att/publication/000647_whale_watch_guidelines_en.pdf?__cf_chl_jschl_tk__=df83191e869b0706c7812bfb7481768e4780420f-1622080421-0-AQuQC17IJAnRKSy6UWDuu2avNfaYhZ5rp6DAbEnIMl5cJlF5wbjUl8Q3bZWi1jl1xpOS-madrc0J1hbTAhBhVJX5u_S5YNKBiKwbGc182A3TMglBsmqiIeg-mGh9hzu2PxaZix9BBJ8QJETe3gZMTf2jGw-cTj4xbu78c4jYkNV2wTlwsXqWakO5DZ0AAHEpYayccuxRLCvZ3ACvbscO4x8_AelwbiW0f50rveQ259NY6ud0FJpuvPJppsR34SFEA4gu0PZIRbKGVT2Jji-q-mC_tBubCi97b7tyvqCxxQx3MsrUwRGjclO1EoKrOT4pPkFBCk-Er5Shl-WzxOsV4x_Ee0bus9rcWF7YF-ZovldaDl7qs_Nrb6D-907_1P047dno_OAMZE80w3KO7rV8lJj5NlymuwVRI-fbygbrZOCLSDjFv73Y2b6m6chZZyDJbKt2Tr4fuvQjN6YLY2_w2pM) to ensure relevance and promote sustainability. | Partners, SPREP |
| 7.1.4 | Encourage regular national stakeholder meetings (government, industry, scientists, NGOs) to assess management of the whale watch industry. | Members, Partners |
| 7.1.5 | Encourage licensing and the limiting of licenses or permits, as necessary, as a tool for management. | Members, Partners |
| 7.1.6 | Support countries to develop national regulations in line with the SPREP endorsed regional guidelines for whale & dolphin watching. | SPREP, Partners |
| 7.1.7 | Encourage whale watching operators, yachties and visitors across the Pacific Islands Region to use [happywhale.com](https://happywhale.com/home) to submit humpback fluke photos. | SPREP, Partners, Members |
| 7.1.8 | Examine the potential impacts/localised effects from cetacean-oriented tourism activities, including swim-with activities on whales and dolphins. | SPREP, Partners, Members |
| 7.1.9 | Encourage non-swimming marine tourism opportunities as a low impact alternative. | SPREP, Members |
| **INDICATORS:**   1. At least one Pacific case study on whale and dolphin watching industries has been presented at international fora. 2. The Pacific Islands Regional Guidelines for Whale and Dolphin Watching have been reviewed. 3. At least one regional stakeholder meeting has been conducted in the region, which includes the review of guidelines for members to assess best-practice application and identify regions in need of improvement. Industry partners adopt and practice the regional guidelines. 4. Industry training and certification programmes are a requirement to attain a whale and dolphin watching permit/licence in at least two SPREP member countries or territories. 5. At least three members have adopted or updated national whale watch regulations in line with the SPREP endorsed regional guidelines. 6. At least four whale watch operators have reported humpback sightings to a citizen science platform such as HappyWhale. | | **TIMEFRAME:**   1. 2024 2. 2023 3. 2024 4. 2023 5. 2023 6. 2023 |

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| **THEME 8: CAPACITY BUILDING AND COLLABORATION** | | |
| **Objective 1: Increase in-country expertise and capacity for the conservation and sustainable management of cetaceans.** | | |
| **Number** | **Action** | **Responsibility** |
| 8.1.1 | Compile an online database of potential partners with already-existing best-practice policies, guidelines and educational materials, overlapping goals and potential resources, including trainers, to assist members with capacity building efforts on common regional priorities (stranding response/necropsy, disentanglement, species ID, whale watching protocols, enforcement) | SPREP |
| 8.1.2 | Identify, develop and distribute training packages via brochures, videos and more and convene training workshops on stranding response/necropsy, disentanglement, species ID, whale watching protocols, enforcement. | SPREP, Partners |
| 8.1.3 | Undertake regional strandings and database training and distribute stranding kits with necessary resources for collection and storage of tissues and necropsies (utilising IWC experts and online strandings training resources). | SPREP, Partners, Members, IWC |
| 8.1.4 | In alignment with the online SPREP-endorsed *Pacific Islands Regional Guidelines for Whale and Dolphin Watching* and the online IWC’s *Best Practice Whale Watching Handbook*, develop a national training template (consisting of industry training and certification programmes) for whale watching operators and guides/stakeholders. | SPREP, Partners |
| 8.1.5 | Conduct enforcement training workshops to increase national compliance of whale watch operators with whale watch guidelines/regulations. | SPREP, Members |
| **INDICATORS:**   1. An online up-to-date list of partners with potential resources to assist with prioritised capacity building efforts is live on SPREP website. 2. Training packages in stranding response/necropsy, disentanglement, species ID, whale watching protocols and enforcement developed and distributed in at least three SPREP member countries or territories. 3. Undertake at least two training sessions and workshops on species ID and stranding prevention and response for relevant stakeholders. 4. Regional stranding booklets and stranding kits with necessary resources for sampling and necropsies have been provided to at least five SPREP members. 5. A national training template for whale watching operators and guides/stakeholders has been agreed by SPREP members. 6. Industry training and certification programmes for the whale and dolphin watching industry are underway in at least three SPREP member countries or territories. 7. At least two workshops have been conducted in the Pacific island region for national compliance and enforcement of whale watch guidelines/regulations. | | **TIMEFRAME:**   1. 2022 2. 2023 3. 2024 4. 2023 5. 2023 6. 2024 7. 2024 |

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| **THEME 9: EDUCATION, AWARENESS, AND COMMUNICATION** | | |
| **Objective 1: Improve awareness and understanding about the importance of whales and dolphins and relevant conservation issues.** | | |
| **Number** | **Action** | **Responsibility** |
| 9.1.1 | Celebrate World Whale Day on the third Sunday in February. | All |
| **INDICATORS:**   1. An annual whale celebration event that becomes a focal point for education and promoting best practice occurring in at least three SPREP Pacific island countries or territories. | | **TIMEFRAME:**   1. 2024then annually |

1. [Sea turtles in Oceania: Marine Turtle Specialist Group Annual Regional Report 2020](https://static1.squarespace.com/static/5e4c290978d00820618e0944/t/5fad9eea08f95b782a228444/1605213972015/MTSG+Regional+Report_Oceania_2020.pdf). [↑](#footnote-ref-2)