



MARINE SPECIES  
PROGRAMME  
2008-2012

PACIFIC ISLANDS REGION

## LIST OF ABBREVIATIONS AND ACRONYMS

<b>ABS</b>	Access and Benefit Sharing
<b>CBD</b>	Convention on Biological Diversity
<b>CITES</b>	Convention on International Trade of Endangered Species of Wild Animals and Plants
<b>CMS</b>	Conservation on the Conservation of Migratory Species of Wild Animals
<b>CMT</b>	Customary Marine Tenure
<b>COP</b>	Conference of Parties
<b>CROP</b>	Council of Regional Organisations in the Pacific
<b>DAP</b>	Dugong Action Plan
<b>DWFN</b>	Distant Water Fishing Nation
<b>EEZ</b>	Exclusive Economic Zone
<b>FAO</b>	Food and Agriculture Organization
<b>FFA</b>	Forum Fisheries Agency
<b>FFEM</b>	Fonds Français pour l'Environnement Mondiale (French Global Environment Facility)
<b>IAC</b>	Inter-American Convention for the Protection and Conservation of Sea Turtles
<b>IFAW</b>	International Fund for Animal Welfare
<b>IFREMER</b>	Institut Français de Recherche pour l'Exploitation de la Mer (French Research Institute for Exploitation of the Sea)
<b>IGO</b>	Inter-Governmental Organization
<b>IOSEA</b>	Indian Ocean-South-East Asia Marine Turtle Memorandum of Understanding
<b>IPR</b>	Intellectual Property Rights
<b>IUCN</b>	The World Conservation Union (International Union for the Conservation of Nature)
<b>IUU</b>	Illegal, unreported and unregulated fishing
<b>IWC</b>	International Whaling Commission
<b>MoU</b>	Memorandum of Understanding
<b>MPA</b>	Marine Protected Area
<b>MSO</b>	Marine Species Officer
<b>MSPF</b>	Marine Species Programme Framework
<b>MTAP</b>	Marine Turtle Action Plan
<b>NBSAP</b>	National Biodiversity Strategic Action Plan
<b>NCSA</b>	National Capacity Self Assessment
<b>NGO</b>	Non-Government Organisation
<b>NMFS</b>	National Marine Fisheries Service
<b>NSDS</b>	National Strategies for the Development of Statistics
<b>NZ</b>	New Zealand
<b>PICT</b>	Pacific Island Countries and Territories
<b>PIR</b>	Pacific Islands Region
<b>RFMO</b>	Regional Fisheries Management Organisations
<b>RMTCP</b>	Regional Marine Turtle Conservation Programme
<b>SPC</b>	Secretariat of the Pacific Community
<b>SPREP</b>	Secretariat of the Pacific Regional Environment Programme
<b>SPTO</b>	South Pacific Tourism Organization
<b>SPWRC</b>	South Pacific Whale Research Consortium
<b>TK</b>	Traditional Knowledge
<b>TRM</b>	Traditional Resource Management
<b>UK</b>	United Kingdom
<b>UNCCD</b>	United Nations Convention to Combat Desertification
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>USP</b>	University of the South Pacific, Fiji
<b>WCPFC</b>	Western and Central Pacific Fishery Commission
<b>WDAP</b>	Whale and Dolphin Action Plan
<b>WDCS</b>	Whale and Dolphin Conservation Society
<b>WPRFMC</b>	Western Pacific Regional Fishery Management Council

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## OVERALL VISION

The SPREP<sup>1</sup> Marine Species Programme for the Pacific Islands Region outlines a strategy for the cooperative conservation management of shared dugong, marine turtle, whale and dolphin resources which will be implemented through Action Plans for 2008-2012. This strategy will enable the peoples of the Pacific Islands to take a primary role in achieving the following vision:

*A healthy Pacific Ocean which sustains populations of whales, dolphins, dugongs and marine turtles and meets the aspirations of Pacific Island peoples and protects their natural and cultural heritage.*

## INTRODUCTION

The Pacific Islands region served by SPREP covers 32 million sq km and is situated 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 fauna including cetaceans, sirenians and marine turtles. Over half of the world's known species of cetaceans are found in the region. The area also supports the world's largest remaining populations of dugongs, green, hawksbill, and loggerhead turtles.

The diversity of these marine creatures is recognized as a fundamental element of Pacific Islands' culture and heritage, and maintenance of healthy populations is essential to maintaining a healthy Pacific Ocean.

Dugongs, turtles whales and dolphins play a significant ecological role in the functioning of coastal and oceanic habitats. They are widely regarded as flagship species for Pacific marine ecosystems and often feature prominently in promotional tourist material for many Pacific Island states.

Many Pacific island cultures have legends, stories and traditional uses of marine mammals and turtles, indicating the importance of these creatures in the identities of people, their way of life and their heritage.

Most of these species are long-lived and have low reproductive rates, making them vulnerable to over-harvesting. 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 used as source of food and resources, often through local drive hunts. These species remain a highly valued food (meat and oil), medicine (oil) source and the shells, skin and bones are often used for jewelry and ornaments. Dugong bone and the teeth of small cetaceans have been important in certain ceremonies e.g., in marriages and funerals in New Caledonia, Manus Province (PNG), and Malaita (Solomon Islands). In Fiji, *tabua* (sperm whales teeth) are a highly valued commodity in cultural ceremony and exchanges.

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<sup>1</sup> SPREP Members: American Samoa, Australia, Cook Islands, Federated States of Micronesia, Fiji, France, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, United States of America, Vanuatu, Wallis and Futuna

While subsistence hunting of dugongs and turtles may have been sustainable in the past, the combination of increasing human populations and the introduction of new technologies (e.g. outboard motors and gill nets) has impacted severely on several species resulting in fragmentation of populations and even local extinction.

For many species of large whales, the impacts of commercial whaling during the nineteenth and twentieth centuries, largely by countries from outside the region have reduced the breeding populations of South Pacific whales to extremely low levels, possibly to local extinction for some species.

For all of these species, there is a growing awareness of their non-consumptive values for social, economic and cultural benefit of local communities, e.g. boat or shore-based watching of whales, dolphins, turtles and dugongs as tourism activities.

Most of these species have distribution and migratory pathways that extend across and beyond several jurisdictions. Thus Pacific Islands have a shared responsibility to ensure the recovery and maintenance of viable populations of these species, including under the provisions of various international agreements such as Convention on Biological Diversity (CBD), Conventional on the Conservation on the Conservation of Migratory Species of Wild Animals (CMS) and the Convention on International Trade of Endangered Species of Wild Animals and Plants (CITES).

In our lifetime, 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 amongst Pacific Island nations to arrest and reverse declining population trends.

## **CONSERVATION CHALLENGES**

In addition to threats facing these species, the overarching problems and challenges surrounding conservation effort in the Pacific Islands Region include:

- Lack of data and information including basic population parameters and long-term data sets;
- Absence and lack of on-going 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 these marine animals and their habitats;
- Lack of resources including accessing sustained funding;
- Limited of information exchange, linkages and collaboration.

The implementation and coordination of the 2003-2007 Regional Marine Species Programme Action Plans was significantly constrained by the lack of consistent funding for the SPREP Marine Species Officer (MSO) position to facilitate sourcing of funding for implementation. This will be addressed in the 2008-2012 Action Plans by the development of a resourcing strategy. Despite this situation, substantial progress has been achieved.

#### **STRATEGIC APPROACH**

**Pacific Island peoples are stewards of their marine environment and depend on these resources for their way of life. The Marine Species Programme 2008-2012 supports their role by:**

- **Identifying and mitigating threats;**
- **Promoting customary management practices and traditional stewardship;**
- **Improving the status of these species and their habitats;**
- **Ensuring these species populations recover and continue to fulfill their ecological roles;**
- **Fostering sustainable use, including non-consumptive uses such as tourism;**
- **Building capacity and securing human and financial resources;**
- **Enhancing cooperation and coordinated action at national, regional and international levels; and by**
- **Increasing knowledge, awareness and understanding of these species and their habitats, and their ecological and cultural values.**

#### **ROLES AND RESPONSIBILITIES**

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

#### **COMMITMENT, FUNDING AND HUMAN RESOURCES**

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

It is recognized that, beyond existing in-country capacity, significant additional resources will be needed to achieve the aims and objectives of these Action Plans. We call upon all donor partners and supporters of SPREP's Regional Marine Species Programme to assist in providing the necessary resources to implement the Action Plans at regional and national levels.

## NETWORKING, REPORTING AND INFORMATION MANAGEMENT

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

## IMPLEMENTATION AND COORDINATION

<b>OBJECTIVE: <i>To ensure successful Marine Species Programme implementation through effective and sustained management, coordination and communication.</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<p><b>1</b> Provide sustained regional and national facilitation and coordination:</p> <ul style="list-style-type: none"> <li>• Ensure continuation of MSO position within SPREP;</li> <li>• Facilitate the establishment of an additional SPREP dedicated officer to be recruited at the Associate project level or through other partnership arrangements;</li> <li>• Nominate appropriate national officers for implementation and reporting of the Marine Species Programme Action Plans at the national level.</li> </ul>	<p>SPREP</p> <p>SPREP</p> <p>Members</p>	High
<p><b>2</b> Build and strengthen the Dugong, Marine Turtle, and Whale &amp; Dolphin Networks consisting of SPREP members and partners including IGOs, NGOs, donors, technical experts and other interested parties:</p> <ul style="list-style-type: none"> <li>• Establish list servers;</li> <li>• Maintain contacts database;</li> <li>• Disseminate the Action Plans network list of contacts on a regular basis;</li> <li>• Ensure SPREP has updated information;</li> <li>• Encourage in-country networks;</li> <li>• Facilitate access to information and resources including scientific and technical reports.</li> </ul>	<p>SPREP</p> <p>SPREP</p> <p>SPREP</p> <p>Members</p> <p>Members</p> <p>SPREP/ Partners</p>	High
<p><b>3</b> Develop and implement a Resourcing Strategy (including financial and human resources and associated capacity building required) for the Action Plans:</p> <ul style="list-style-type: none"> <li>• Identify and secure the human and financial resources and partnerships required for the management and coordination of the Action Plans;</li> <li>• Develop proposals and secure resources for the implementation of Action Plan priorities;</li> <li>• Encourage interested parties, individuals and agencies to develop and implement project proposals consistent with Action Plan and national priorities of target countries.</li> </ul>	<p>SPREP</p> <p>SPREP/ Members/ Partners</p> <p>Partners SPREP/ Members/ Partners</p>	High

<p><b>4</b></p>	<p>Develop and implement a Communication Strategy that ensures effective outreach and buy-in at the national, regional and international levels:</p> <ul style="list-style-type: none"> <li>• Develop a communication outreach package in consultation with Members and partners;</li> <li>• Provide training for national coordinators to effectively utilize and communicate information, including support for language translation;</li> <li>• Ensure target audiences include politicians, local communities, donor agencies, IGOs, NGOs, technical experts;</li> <li>• Promote understanding and support buy-in from communities and decision-makers.</li> </ul>	<p>SPREP/ Members SPREP/ Partners/ Members Members Members</p>	<p>High</p>
<p><b>5</b></p>	<p>Develop and implement Monitoring, Evaluation and Reporting mechanisms:</p> <ul style="list-style-type: none"> <li>• Develop a streamlined and simple reporting format for Members and partners, drawing from lessons learnt from other reporting requirements. Further develop this as an on-line reporting mechanism;</li> <li>• Incorporate information from Action Plan reports into other national reporting mechanisms where possible and appropriate (e.g. CBD, CMS, UNFCCC, CITES and UNCCD);</li> <li>• Prepare annual report on Action Plans implementation for SPREP meeting with a focus on in-country progress, including successes and constraints, and also implementation of arrangements under CMS;</li> <li>• Undertake mid-term and final review of Action Plans implementation, including lessons learnt, and provide status report to Members and partners.</li> </ul>	<p>SPREP  Members/ SPREP/ Partners  SPREP  SPREP/ Members</p>	<p>High</p>
<p><b>6</b></p>	<p>Develop and maintain an Information Management System that includes databases covering lessons learnt, achievements and investments that is accessible and promotes information sharing:</p> <ul style="list-style-type: none"> <li>• Maximize on-line access to Action Plans information and databases;</li> <li>• Secure archiving of reports and information through the SPREP Library and Information Center;</li> <li>• Ensure information system is readily available and easily accessible;</li> <li>• Ensure that any restrictions on source information should be respected.</li> </ul>	<p>SPREP  SPREP/ Members SPREP SPREP SPREP</p>	<p>High</p>
<p><b>7</b></p>	<p>Promote the integration of Marine Species Programme and Action Plan priorities into national strategies, plans and projects as appropriate and relevant to national needs.</p>	<p>Members</p>	<p>High</p>

<p><b>8</b> Promote the integration of Marine Species Programme and Action Plan priorities into regional and international strategies, plans and projects as appropriate and relevant to regional and international needs.</p>	Members/ SPREP/ Partners	High
<p><b>9</b> Facilitate an informal and open-ended technical Working Group, comprising scientists, policy developers, managers, etc to provide technical advice on Action Plan implementation as required. As part of this technical working group, promote linkages with the relevant groups of the IUCN Species Survival Commission.</p>	SPREP	High
<p><b>10</b> Continue to foster collaboration with the CMS.</p>	SPREP	High
<p><b>11</b> Further national, regional and international collaboration and cooperation by:</p> <ul style="list-style-type: none"> <li>• Initiating 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</li> <li>• Fostering interagency collaboration at national level and engagement with private sector</li> <li>• Fostering NGO partnerships at the national, regional and international levels</li> </ul>	<p>Members</p> <p>Members</p> <p>Members/ SPREP/ Partners</p>	High
<p><b>12</b> Identify and develop appropriate responses for the conservation needs of other marine species for SPREP Members consideration</p>		
<p><b>Indicators:</b></p> <ul style="list-style-type: none"> <li>⊙ Dugong, Marine Turtle and Whale &amp; Dolphin Networks established/strengthened and fully operational.</li> <li>⊙ Resource Strategy in place and implemented.</li> <li>⊙ Communication Strategy in place and implemented.</li> <li>⊙ Monitoring, Evaluation and Reporting mechanisms in place and implemented.</li> <li>⊙ Information Management System in place and operational.</li> <li>⊙ Marine Species Programme priority actions integrated into national, regional and international plans and projects.</li> </ul>		



# 1. DUGONG ACTION PLAN 2008-2012

## PACIFIC ISLANDS REGION

### GOAL

To maintain and improve the status of dugong populations and their habitats, in keeping with the traditions of the people of the Pacific Islands Range States

### INTRODUCTION

The dugong (*Dugong dugon*) has high biodiversity value as the only member of the family Dugongidae and the only strictly marine herbivorous mammal. Dugongs are long-lived and slow breeders. Dugongs first breed at age 6 to 17 years and suckle their young for up to 18 months. Females produce only one calf every 2.5 to 7 years depending on food supply. They are thought to live for more than 70 years. For dugongs, adult survival is the most critical life history parameter and populations can only be sustained through low levels of human-induced mortality.

Dugongs spend most of their time feeding in shallow waters less than 10m deep where their critical habitats of sea-grass beds occur. Being sea-grass specialists, dugongs play an important ecological role in structuring the sea-grass ecosystem. If sea-grass habitat loss occurs, dugongs may postpone their breeding and move to other areas. Dugongs are capable of undertaking long-distance movements of up to several hundred kilometers over 2 to 3 days.

Given the above life history characteristics, populations of dugongs are slow to recover if they are lost from a particular area. In addition, without the influence of their grazing activities, the sea-grass communities in the area may change to less favourable species for dugongs, discouraging their return.

Dugongs are also highly significant as a subsistence food source, for the maintenance of cultural traditions and for their iconic status and high biodiversity value to the human populations of the Pacific Island States where they occur.

### SPECIES DISTRIBUTION

Dugongs have a large range that spans 140,000 km of coastline across 48 countries and territories and includes tropical and subtropical coastal and island waters from east Africa to Vanuatu.

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. The only large remaining populations of dugongs are those in northern Australia and south-western Papua New Guinea as well as the Arabian Gulf.

Dugong occurs in six countries and territories in the SPREP region: Australia, Papua New Guinea, Solomon Islands, Palau, Vanuatu and New Caledonia. The dugong population in Palau is believed to be the most isolated in the world and unlikely to be supplemented by recruitment from any other area. "The Vanuatu Archipelago is the eastern limit of the dugong's range. Sea-grass beds become less frequent and less diverse progressing eastwards across the Pacific, placing a natural barrier to the eastward extension of the dugong's range"<sup>1</sup>.

Being highly mobile, dugongs are capable of moving across the Exclusive Economic Zones of different countries.

## **SPECIES STATUS**

The 2006 IUCN Red List classifies dugong as vulnerable to extinction at the global scale. All populations of the dugong are also listed on Appendix 1 of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) which prohibits commercial international trade of the species. Dugong is listed in Appendix II of CMS, which means they are considered to have an unfavourable conservation status and require international agreements for their conservation and management.

In the Pacific Islands Region, with the exception of the Torres Strait, the status of dugong populations are generally unknown but of concern, particularly in Palau waters where the population is likely to be facing extinction.

## **TRADITIONAL KNOWLEDGE AND CUSTOM**

The dugong plays a significant part in the culture of communities in the Pacific Islands where they occur. In some societies, the dugong is considered an important totem because of its large size and strength, and it also features prominently in the stories and legends. The activities associated with the hunting of dugongs and preparing the meat also have great significance and are an expression of the continuance of long cultural traditions.

Specific parts of the dugong are used in customary events (such as weddings, funerals and other traditional feasts) as well as for making traditional equipment including drums, spoons, scrapers, hooks, laces, and necklaces. While dugong meat is a traditional, and sometimes highly prized, meat in some societies, others have traditional taboos against killing them.

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<sup>1</sup> Dugong Status Report and Action Plans for Countries and Territories. UNEP/DEWA/RS.02-1. ISBN 92-807-2130-5. Compiled by Helene Marsh, Helen Penrose, Carole Eros and Joanna Hugues.

## **INCOME GENERATING OPPORTUNITIES THROUGH ECO-TOURISM**

Similar to other eco-tourism activities based on marine animals such as whales and dolphins, dugong watching/cruise and “swim with” operations have been established in several countries including Australia and the Philippines. Swimming with dugongs is a tourism activity in Vanuatu.

## **THREATS**

Threats to dugong have been broadly categorised into two areas, those that cause direct mortality to the animals and those that cause their habitat loss or degradation.

Threats that cause direct dugong mortality include:

- Harvesting for food, medicine and artefacts: This is perhaps the greatest threat in the Pacific Islands Region given the low numbers or unknown status of populations in some areas. For most countries, it is unknown whether the level of harvest is sustainable. However, there is concern that the use of modern equipment for hunting is a major threat.
- Incidental by-catch, destructive fishing methods and vessel strikes: The incidental drowning of dugongs caught in fisheries gear, such as nets, is believed to have contributed to the decline of dugongs in some areas of the Pacific Range States. The increase in vessel traffic also increases the likelihood of dugongs being impacted by vessel strikes.

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

- Coastal development including human settlement: These activities increase sedimentation and turbidity in the coastal waters where sea-grass is found. Sedimentation and turbidity not only smother sea-grasses but also reduce light reaching the seagrasses, resulting in degradation of seagrass extent, density and productivity.
- Agricultural pollution: herbicide runoff from agricultural lands also presents a potential risk to the functioning of sea-grass habitats.
- Nutrient run-off from land: This causes nutrient enrichment that leads to increases in epiphytic growth in the water column with the result being reduced light levels for the sea-grass. Nutrient enrichment may also change the community structure of sea-grass habitats.

**THEMES AND OBJECTIVES**

<b>THEMES</b>	<b>OBJECTIVE</b>
<b>1. EDUCATION AND AWARENESS</b>	<ul style="list-style-type: none"> <li>• Raise awareness about the importance of dugongs and their habitats</li> </ul>
<b>2. HABITAT PROTECTION</b>	<ul style="list-style-type: none"> <li>• Enhance protection of dugong foraging and breeding habitats</li> </ul>
<b>3. MANAGEMENT</b>	<ul style="list-style-type: none"> <li>• Improve protection mechanisms for dugongs and their habitats</li> </ul>
<b>4. TRADITIONAL KNOWLEDGE, CUSTOMARY MARINE TENURE &amp; TRADITIONAL RESOURCE MANAGEMENT</b>	<ul style="list-style-type: none"> <li>• To recognize the value of preserving and protecting the integrity of traditional knowledge, TRM and CMT and incorporating into management practices</li> </ul>
<b>5. CAPACITY BUILDING</b>	<ul style="list-style-type: none"> <li>• Build in-country capacity to enhance dugong management</li> </ul>
<b>6. THREATS - KEY DUGONG CONSERVATION ISSUES</b>	<ul style="list-style-type: none"> <li>• Reduce direct and indirect causes of dugong injury and mortality</li> </ul>
<b>7. RESEARCH AND MONITORING - INFORMATION/DATABASES</b>	<ul style="list-style-type: none"> <li>• Improve our understanding of dugong population status through research and monitoring</li> </ul>
<b>8. NATIONAL, REGIONAL, AND INTERNATIONAL COLLABORATION</b>	<ul style="list-style-type: none"> <li>• Enhance national, regional and international cooperation</li> </ul>
<b>9. HUMAN AND FINANCIAL RESOURCES</b>	<ul style="list-style-type: none"> <li>• To ensure on-going and efficient facilitation of implementation, management and coordination of the Dugong Action Plan</li> </ul>

## THEMES AND PRIORITY ACTIONS

<b>THEME 1: EDUCATION AND AWARENESS</b>		
<b>OBJECTIVE: <i>Raise awareness about the importance of dugongs and their habitats</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>1.1</b> Provide assistance to the Pacific Islands range states to enable them to deliver an effective and appropriate education programme to their peoples.	SPREP/ Partners	High
<b>1.2</b> Increase community awareness of threats and the need for conservation of dugongs and their habitats.	Range Members/ Partners	High
<b>1.3</b> Encourage and support the incorporation of dugong life history information and conservation issues into school and other awareness programmes.	Range Members/ Partners	Medium
<b>1.4</b> Facilitate and encourage networking and linkages to community monitoring groups, such as Seagrass Watch ( <a href="http://www.seagrasswatch.org">http://www.seagrasswatch.org</a> ) and other NGOs in information exchange.	SPREP/ Range Members	Medium
<b>1.5</b> Create a dugong web page on the SPREP website and to include inter alia links, with content guidance, on SPREP website for educational materials on dugongs.	SPREP	High
<b>1.6</b> Declare 2010 as the Pacific Year of the Dugong and support the planning, development and implementation of in-country and regional range states conservation campaigns.	SPREP/ Range Members/ Partners	Medium
<b>1.7</b> Encourage the use of informal/traditional methods of education within villages utilising appropriate local knowledge custodians/competent village authorities, as resource people.	Range Members /Partners	High
<b>1.8</b> Work with watercraft users to raise awareness on the importance of dugongs and their habitats in order to encourage responsible boating behaviour (such as slower speeds, anchoring in seagrass etc).	Range Members/ Partners	High
<b>1.9</b> Develop a code of practice for responsible watercraft operation to avoid adverse effects on dugong.	SPREP/ Partners/ Range Members	High
<b>Indicators:</b> <ul style="list-style-type: none"> <li>⊙ Appropriate education programme delivered to Pacific Island dugong range states.</li> <li>⊙ Information sheets on threats produced, translated where necessary, and distributed to communities and all relevant stakeholders.</li> <li>⊙ Dugong conservation issues and information included in school programmes in 3 Pacific range states.</li> <li>⊙ Dugong web-page established on SPREP website by 2010 for the Year of Dugong campaign</li> <li>⊙ Watercraft code of practice developed and implemented.</li> <li>⊙ Year of the dugong campaign celebrated in 2010</li> </ul>		

<b>THEME 2: HABITAT PROTECTION</b>		
<b>OBJECTIVE: <i>Enhance protection of dugong foraging and breeding habitats</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>2.1</b> Facilitate and support review of all levels of relevant legislation to incorporate habitat protection for dugongs.	Range Members	High
<b>2.2</b> Identify and map areas of dugong habitat particularly sea-grass beds, taking note of their condition, e.g. intact, partially disturbed degraded	Range Members/ Partners	High
<b>2.3</b> Encourage and support the establishment of measures, including customary measures, to protect and conserve dugong habitats.	Range Members/ Partners	High
<b>2.4</b> Assess the risk of, and develop measures to mitigate against, the degradation of dugong habitats.	Range Members/ Partners	High
<b>2.5</b> Where appropriate, rehabilitate degraded dugong habitats.	Range Members/ Partners	Medium
<b>2.6</b> Promote protection of water quality and where possible undertake monitoring from impacts of land-based and maritime pollution, including but not limited to, marine debris, sedimentation etc, which may adversely affect dugongs and their habitats.	Range Members/ Partners	Medium
<b>2.7</b> Seek opportunities to strengthen the enforcement and awareness of existing laws against the use of poisonous chemicals, explosives etc in the marine environment.	Range Members/ Partners	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Legislation review completed and other measures for dugong habitat protection incorporated.</li> <li>⊙ Important dugong habitat, particularly sea-grass beds, mapped in at least 2 Pacific Island Range States.</li> <li>⊙ Risk of degradation assessed in at least 2 Pacific Island Range States.</li> <li>⊙ A 5-year monitoring programme of dugong habitat initiated in one Pacific Island Range State</li> </ul>		

<b>THEME 3: MANAGEMENT</b>		
<b>Objective: <i>Improve protection mechanisms for dugongs and their habitats</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>3.1</b> Encourage the establishment of legislation to protect dugongs and their habitats while recognizing and promoting existing traditional management systems.	Range Members	High
<b>3.2</b> Review and strengthen, where necessary, domestic policies and laws to improve dugong conservation e.g. EIA processes for coastal development.	Range Members/ Partners	High
<b>3.3</b> Seek opportunities to strengthen protection mechanisms for dugongs and their habitats e.g. MPA development, traditional closures,, boat speed restrictions etc.	Range Members	High
<b>3.4</b> Strengthen enforcement and engage local communities in monitoring, surveillance and reporting of illegal activities.	Range Members	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Legislation and policies that recognize appropriate traditional management systems to protect dugongs and their habitats in place in all Pacific Island Range States.</li> <li>⊙ Mechanisms, such as MPA and EIA processes in place, to strengthen protection of dugongs, including enforcement of laws relating to dugongs.</li> </ul>		

<b>THEME 4: TRADITIONAL KNOWLEDGE, CUSTOMARY MARINE TENURE &amp; TRADITIONAL RESOURCE MANAGEMENT</b>		
<b>OBJECTIVE:</b> <i>To recognize the value of preserving and protecting the integrity of traditional knowledge, TRM and CMT and incorporating into management practices</i>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>4.1</b> Support the documentation of TK, practices and values based on agreements that respect and protect the rights of knowledge holders.	Range Members/ Partners	High/Med
<b>4.2</b> Ensure that information collected be held and maintained by appropriate in-country authority and the use of traditional knowledge is protected (IPR).	Range Members	High/Med
<b>4.3</b> Incorporate relevant traditional knowledge and TRM, CMT into dugong and habitat management.	Range Members	High
<b>4.4</b> Promote and support appropriate community-based management and conservation.	Range Members/ SPREP/ Partners	High
<b>4.5</b> Provide feedback to local communities on dugong management particularly if the local people are involved in surveys, monitoring and/or enforcement.	Range Members	High
<b>4.6</b> Where appropriate, promote awareness regarding the value of traditional knowledge and practices in the management of dugongs and habitats.	Range Members/ SPREP Partners	High/Med
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Traditional knowledge in all dugong Pacific Island Range States documented, maintained and where appropriate, incorporated into management.</li> <li>⊙ Community-based management supported.</li> <li>⊙ Information and survey results etc disseminated to communities.</li> </ul>		

<b>THEME 5: CAPACITY BUILDING</b>		
<b>OBJECTIVE:</b> <i>Build in-country capacity to enhance dugong management</i>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>5.1</b> Identify skills required by relevant government authorities and local communities to improve capacity for dugong management.	<i>Range Members</i>	High
<b>5.2</b> Build national capacity to participate in dugong management, research and monitoring. (access to expertise/ resources).	<i>SPREP/Partners</i>	High
<b>5.3</b> Build the capacity of communities to participate in dugong management, research and monitoring including the ability of authorities involved in dugong management to work with local communities (e.g. cultural awareness training).	<i>Range Members</i>	High
<b>5.4</b> Secure student scholarships for developing dugong and related marine science expertise in the region.	<i>Partners/ Range Members/SPREP</i>	High
<b>5.5</b> Encourage Australia to strengthen its partnership with Pacific Island range states to increase provision of technical advice and support for effective dugong conservation management e.g. internships in Australian dugong projects.	<i>Australia/SPREP/ Partners</i>	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ At least two scholarship students from the Pacific Island Range States enrolled in post graduate studies on dugong.</li> <li>⊙ Training to build national and community capacity in dugong management conducted.</li> <li>⊙ Internships from Range Island States completed.</li> </ul>		

<b>THEME 6: THREATS - KEY DUGONG CONSERVATION ISSUES</b>		
<b>OBJECTIVE: <i>Reduce direct and indirect causes of dugong injury and mortality</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>6.1</b> Identify, assess and evaluate threats and potential threats to dugong populations.	Range Members with access to expertise/resources if required	High
<b>6.2</b> Develop appropriate management measures to address identified threats.	Range Members	High
<b>6.3</b> Reduce to the greatest extent practicable the incidental injury and mortality of dugongs.	Range Members	High
<b>6.4</b> Reduce to the greatest extent practicable the illegal take of dugong.	Range Members	High
<b>6.5</b> Ensure that subsistence and customary use of dugong is sustainable in areas where it is permitted.	Range Members	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Assessment and report on threats (identification and evaluation) completed in at least three Pacific Island Range States.</li> <li>⊙ Measures to address identified threats to dugongs developed and implemented in at least three Pacific Island Range States</li> </ul>		

<b>THEME 7: RESEARCH AND MONITORING - INFORMATION/DATABASES</b>		
<b>OBJECTIVE: <i>Improve our understanding of dugong population status through research and monitoring</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>7.1</b> Determine the distribution, abundance and trends of dugong populations to provide a base for conservation efforts and actions using traditional knowledge and/or scientific methodologies.	Range Members with access to expertise as required	High
<b>7.2</b> Collect genetic samples through non-lethal means and including from strandings in accordance with procedures (such as the Great Barrier Reef Marine Parks Authority necropsy manual) and undertake genetic analysis to determine the distinctness/connectivity of Pacific Island dugong populations.	Range Members with regional compilation by SPREP supported by Australia	Medium
<b>7.3</b> Where appropriate, undertake satellite tagging to assist in understanding migratory patterns in the region.	Range Members with regional compilation by SPREP supported by Australia	Medium
<b>7.4</b> Distribute book, <i>Sirenian Conservation: Issues and Strategies in Developing Countries</i> , edited by Ellen Hines <i>et al</i> , when published.	SPREP	High
<b>7.5</b> Develop appropriate rescue/stranding protocols for dugong range states.	SPREP/Partners	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Updated baseline surveys completed for distribution and abundance for all Pacific range states by 2012.</li> <li>⊙ Relevant information on dugong population status distributed.</li> <li>⊙ Genetic sampling initiated in all Range States and satellite tagging conducted in at least one.</li> <li>⊙ Rescue/stranding protocol developed.</li> </ul>		

<b>THEME 8: NATIONAL, REGIONAL, AND INTERNATIONAL COLLABORATION</b>		
<b>OBJECTIVE: <i>Enhance national, regional and international cooperation</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>8.1</b> Collaborate with Range States to combat illegal trade, and to cooperate in enforcement activities relating to dugong products.	PNG, Australia, and others as appropriate	High
<b>8.2</b> Encourage Pacific Range States to sign the CMS MOU for the Conservation and Management of Dugongs and their Habitats.	SPREP/Partners/Range Members	High
<b>8.3</b> Develop and implement national databases of relevant information in relation to dugong conservation and management and ensure data is accessible to Range Members.	Range Members as needed	Medium
<b>8.4</b> Encourage and strengthen partnerships amongst governments and all other existing and new stakeholders in research, conservation and management efforts.	Range Members/Partners	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ CMS MoU for the Conservation of Dugongs signed by all Pacific Island Range States.</li> <li>⊙ Collaboration and partnership formalized to eliminate illegal trade of dugong products.</li> <li>⊙ Partnerships developed for research and conservation effort amongst most Range States and stakeholders.</li> </ul>		

<b>THEME 9: HUMAN AND FINANCIAL RESOURCES</b>		
<b>OBJECTIVE: <i>To ensure on-going and efficient facilitation of implementation, management and coordination of the Dugong Action Plan</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>9.1</b> Encourage Member Range States to incorporate dugong actions for implementation as part of other national projects and/or programmes (such as NBSAP)	Range Members	High
<b>9.2</b> Identify and seek opportunities to secure funding through bodies such as universities, NGOs, etc	Range Members	Medium
<b>9.3</b> Encourage Range State Members to develop and prepare funding proposals specifically to address dugong issues	SPREP/Range Members	Medium
<b>9.4</b> Encourage “Developed” Range States to collaborate with other Range States in dugong work e.g. Australia/PNG partnership, Vanuatu/New Caledonia.	Range Members, particularly Australia	High
<b>9.5</b> Request the Government of Australia to provide a technical adviser(s) to the Dugong Action Plan (Dr Donna Kwan and/or Prof Helene Marsh)	SPREP	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Actions incorporated and carried out through national projects/programmes.</li> <li>⊙ Funding proposals submitted and work carried out.</li> <li>⊙ Partnership developed for all Pacific Island Range States.</li> <li>⊙ Technical adviser available.</li> </ul>		



## 2. MARINE TURTLE ACTION PLAN 2008-2012 PACIFIC ISLANDS REGION

### GOAL

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

### INTRODUCTION

Marine turtles have lived in the world's oceans for over 100 million years. Of the world's seven marine turtle species, six occur in the waters of the Pacific as follows:

- Flat back turtle (*Natator depressus*)
- Green turtle (*Chelonia mydas*)
- Hawksbill turtle (*Eretmochelys imbricata*)
- Leatherback turtle (*Dermochelys coriacea*)
- Loggerhead turtle (*Caretta caretta*)
- Olive Ridley turtle (*Lepidochelys olivacea*)

Turtles play an integral ecological role in the functioning of marine habitats throughout the Pacific region. They are very much a part of the traditions of Pacific island people, featuring in legends and traditional uses. Turtles are highly migratory and use a range of habitats at different stages of their life cycle. As a result, they readily cross jurisdictional boundaries and face a range of threats. They are long-lived and slow to mature facing a range of threats over their lifetime. This migratory nature means that their survival and conservation requires a rigorous coordinated regional effort amongst range states and territories. Information exchanges, linkages and collaboration are needed at the national, regional and international levels in order for conservation and management efforts for marine turtles to be effective.

### 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 almost all countries and territories, whilst the flatback turtle is known to occur only in Australia and southern Papua New Guinea. The green and hawksbill turtles also nest in most Pacific countries and territories, whilst the flatback turtle is only known to nest in Australia.

Table 1: Marine Turtle Species Occurrence in the Pacific Islands Region

Species	A M S	A U S	C O K	F S M	F I J	F R P	G U A	K I R	R M I	N A U	N E C	N E Z	N I U	N M I	P A L	P N G	S A M	S O L	T O K	T O N	T U V	V A N	W & F
Leatherback		√			√	√	√ <sup>1</sup> ?		√		√	√			√	√	√ <sup>2</sup>	√		√	√	√	
Green	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√	√	√	√	√
Hawksbill	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√	√	√	√	
Loggerhead		√	√ <sup>3</sup> ?		√			√			√	√			√	√		√	√			√	
Olive Ridley		√			√	√ <sup>4</sup>		√	√			√			√			√		√	?		√
Flatback		√														√						√ <sup>5</sup> ?	

## SPECIES STATUS

Marine turtles are recognised internationally as species of conservation concern. The 2006 IUCN Red List of Threatened Animals lists marine turtle species found in the Pacific as follows:

- Leatherback Turtle - CRITICALLY ENDANGERED
- Hawksbill Turtle - CRITICALLY ENDANGERED
- Olive Ridley Turtle - ENDANGERED
- Loggerhead Turtle - ENDANGERED
- Green Turtle - ENDANGERED
- Flatback Turtle - Data deficient.

All species of sea turtles are listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This means all sea turtle species are listed as threatened with extinction under this convention and CITES generally prohibits commercial international trade in specimens of these species. Under the Convention on the Conservation of Migratory Species of Wild Animals (CMS), sea turtle species are listed in Appendix I (migratory species that have been categorized 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 co-operation organised by tailored agreements).

The status of marine turtles in the Pacific region is generally unknown. In response to growing concern in the last 10 years on the need for conservation and sustainable use in the region, an increasing number of initiatives are being undertaken at local and regional levels.

## **TRADITIONAL KNOWLEDGE AND CUSTOMS**

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

Marine turtles have been an important source of food for many coastal people for hundred of years. Many communities continue to utilise marine turtles for protein on the subsistence level as well as their shell for traditional crafts. In many places in the Pacific, local people are extremely knowledgeable about marine turtles and are able to provide information of the biology of the species in the local areas, for example, where they occur what time of year, their habitat preferences etc. Such information is often lacking within local government wildlife authorities, yet traditional knowledge is often overlooked.

Sometimes local communities are the best conservationists. Traditionally, people would not take more than what was needed for their community and would only take animals at particular times of the year or from particular areas, thus ensuring that this resource was available to them in the future.

Unfortunately, in many places this traditional knowledge and sustainability of resources has been lost or is often ignored. This Action Plan recognises the fundamental role that traditional knowledge and customs play in turtle conservation and aims to address the issue of community based and driven management.

## **TOURISM INCOME GENERATING OPPORTUNITIES**

In some places, marine turtles are fast becoming an eco-tourism attraction whether it is watching nesters on the beach or experiencing their grace whilst on a dive. Responsible eco-tourism with turtles can generate income for local communities in a positive way whilst conserving turtles and their habitats, potentially offsetting the black market trade and overfishing.

Local fishermen are often best placed to provide information on the local marine environment and make skilled and knowledgeable guides. There is potential for local fishermen to earn enough as guides to offset the money that they may otherwise make on the black market or from fishing.

Eco-tourism provides direct employment as well as a trickle-down effect to jobs in other businesses such as hotels, restaurants, and taxis. In this way, it 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 (<http://www.iucn-mtsg.org/hazards>) has identified five major threats to sea turtles as follows:

- Fisheries Impacts
- Direct Take
- Coastal Development
- Pollution and Pathogens
- Global Warming

The above threats are considered to have the most significant impacts to sea turtles and without mitigation, will result in decline, local extinction and/or prevent recovery of sea turtles.

Within the Pacific Region the main threats for marine turtle include:

- Unsustainable harvesting (direct take for meat and handicraft and egg harvesting);
- Feral animal predation on turtle nests (eggs);
- Incidental capture in commercial fishing;
- Degradation of habitat including through coastal development and natural disaster;
- Pollution and marine debris (e.g. plastic bags and fishing gear) and pathogens;
- Boat strikes;
- Climate change.

The main challenges for effective conservation of marine turtles in the region include the lack of information and data on populations, harvesting and interactions with fishing activities due to limited research and monitoring. A major constraint is the limited resources, both financially and in terms of manpower (including skills) that are available for implementing management actions in the region.

**THEMES AND OBJECTIVES**

<b>THEMES</b>	<b>OBJECTIVES</b>
<b>1. COLLABORATION AND PARTNERSHIP</b>	<ul style="list-style-type: none"> <li>• To increase regional collaboration and partnerships for turtle conservation and management.</li> </ul>
<b>2. THREATS</b>	<ul style="list-style-type: none"> <li>• To improve the management and protection of marine turtles and their habitats by reducing threats to marine turtles in the Pacific Islands region.</li> </ul>
<b>3. CAPACITY BUILDING</b>	<ul style="list-style-type: none"> <li>• Improve capacity within each participating country and territory for marine turtle protection, management, and population research and monitoring.</li> </ul>
<b>4. EDUCATION AND AWARENESS</b>	<ul style="list-style-type: none"> <li>• To provide assistance to the participating member agencies to enable them to deliver effective and accurate education and awareness programs to the people of the Pacific Islands region.</li> </ul>
<b>5. POLICY AND LEGISLATION</b>	<ul style="list-style-type: none"> <li>• To ensure a more cohesive approach in policy and legislation in SPREP member countries and territories to support the Regional Marine Turtle Conservation Programme [RMTCP] that incorporates traditional knowledge and CMT.</li> </ul>
<b>6. TRADITIONAL KNOWLEDGE AND CUSTOMARY PRACTICES</b>	<ul style="list-style-type: none"> <li>• To encourage a more cohesive approach in policy and legislation in SPREP member countries and territories which supports, promotes and formally protects traditional knowledge, practices and resource management.</li> </ul>
<b>7. SUSTAINABLE DEVELOPMENT</b>	<ul style="list-style-type: none"> <li>• To promote the sustainable use of marine turtles.</li> </ul>
<b>8. TURTLE DATABASE</b>	<ul style="list-style-type: none"> <li>• Turtle Research and Monitoring Database System (TREDS) is implemented effectively in SPREP member countries and territories</li> </ul>
<b>9. RESEARCH AND MONITORING</b>	<ul style="list-style-type: none"> <li>• Identify all major Turtle Nesting Beaches in the Pacific Islands Region</li> <li>• Identify major turtle stocks in the Pacific</li> <li>• Identify major foraging grounds in the Pacific.</li> </ul>

## THEMES AND PRIORITY ACTIONS

<b>THEME 1: COLLABORATION AND PARTNERSHIP</b>		
<b>OBJECTIVE:</b> <i>To increase regional collaboration and partnerships for turtle conservation and management</i>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>1.1</b> SPREP members decide by 2008 on whether to participate in a CMS arrangement that expands on current SPREP region.	SPREP/CMS/ Members	High
<b>1.2</b> Dr George Balazs (Marine Turtle Research Program, NOAA, Honolulu) and Dr Colin Limpus (Queensland Environment Protection Agency, Australia) to continue as Technical Advisers to SPREP and the RMTCP.		High
<b>1.3</b> Establish direct contact and formal communication with various actors in turtle conservation (IAC, WCPFC, SPC, FFA, USP, IOSEA, NMFS, WPRFMC, IUCN Marine Turtle Specialist Group, collaborating universities, and laboratories (for genetic analysis), and relevant Australian Institutes & Departments).	SPREP	High
<b>1.4</b> Foster partnerships to support MTAP implementation at national and regional levels (including governments, NGOs and the private sector).	Members/ SPREP	High
<b>1.5</b> Develop regular communication with countries/ territories through media such as the Turtle Talk newsletter and MTAP list-server.	SPREP	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ MoU under CMS for the conservation of sea turtles in the Pacific finalized and signed by most members.</li> <li>⊙ Communication with agencies working on turtle conservation established and active.</li> <li>⊙ Partnership established for MTAP implementation.</li> <li>⊙ More than 80% of Members participating and collaborating in the regional network.</li> </ul>		

<b>THEME 2: THREATS</b>		
<b>OBJECTIVE:</b> <i>To improve the management and protection of marine turtles and their habitats by reducing threats to marine turtles in the Pacific Islands region</i>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>2.1</b> Identify and prioritize the threats on turtles regionally including harvest of turtles and eggs, tourism, pollution and waste (plastic debris), fisheries by-catch, habitat destruction, and climate change.	SPREP/SPC	High
<b>2.2</b> Quantify the impacts of threats identified for each PICT, on the national level.	All	High
<b>2.3</b> Develop and implement management and mitigating actions for top 3 regional priority threats identified in 2.1.	All/SPC/FFA/ WCPFC/ WPRFMC	High
<b>2.4</b> Reduce use of non-biodegradable materials (imported plastics) and encourage the development of alternative materials (e.g. cloth bags instead of plastic shopping bags).	All	High
<b>2.5</b> Assess and document information on the level of turtle harvest including collection of turtle eggs on national level, where possible.	Members/ SPC/ SPREP	High

<b>2.6</b>	Strengthen EIA process for coastal development by furthering survey work to identify critical turtle habitat and by building the capacity of policy makers and legislators to understand implications of decisions for turtle conservation management.	Members	High
<b>2.7</b>	Work with the fishing industry, Fisheries authorities, RFMO's and other IGOs/NGOs to reduce turtle by-catch in coastal & oceanic fisheries.	SPC/FFA/ WCPFC/ WPRFMC	High
<b>2.8</b>	Promote observer programs and improve documentation, identification, reporting, and observer coverage for information collection on turtle by-catch.	SPC/FFA/ WCPFC/ WPRFMC	Medium
<b>2.9</b>	Promote protection of nesting beaches and use mitigating measures for impacts to nesting beaches.	Members	High
<b>Indicators:</b>			
<ul style="list-style-type: none"> <li>⊙ All PICTs have identified, quantified and ranked threats.</li> <li>⊙ Management actions and/or mitigation measures of at least 3 prioritized threats are developed and implemented.</li> <li>⊙ At least 50% of PICTs introducing management measures to reduce the use of non-biodegradable materials.</li> <li>⊙ Number of PICTs involved in the observer programme has increased by 25%.</li> <li>⊙ Inventory, maps and protection plans of top 2 critical nesting beaches in each PICTs are produced and implemented.</li> <li>⊙ Inventory, maps and protection plans of critical foraging areas are produced and implemented.</li> <li>⊙ At least 50% of PICTs have started collection of baseline information on nesting populations.</li> <li>⊙ AT least 50% of PICTs documenting information on turtle harvest and turtle egg collection increased.</li> <li>⊙ EIA procedures including legislations have been improved and strengthened.</li> </ul>			

<b>THEME 3: CAPACITY BUILDING</b>		
<b>OBJECTIVE: <i>Improve capacity within each participating country and territory for marine turtle protection, management, and population research and monitoring.</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>3.1</b> Identify skills required by relevant government agencies and local communities for turtle management and protection by utilizing mechanism such as NCSA.	Members	High
<b>3.2</b> Facilitate the provision of appropriate training including attachments, tools, materials, technical assistance and expertise.	SPREP/USP/ Partners	High
<b>3.3</b> Provide a regional workshop for policy and legislation drafters to build capacity in relation to turtle management.	SPREP/ Partners	Medium
<b>3.4</b> Undertake a regional turtle nesting beach monitoring/survey training workshop, including survey methodologies, turtle tagging, best handling practices and genetic sampling.	SPREP/USP/ Partners/	High
<b>3.5</b> Undertaken in-country turtle nesting beach monitoring/survey training workshops for local staff, including survey methodologies, turtle tagging, best handling practices and genetic sampling.	Members/ Partners	High
<b>3.6</b> Provide training to Members in the use of TREDs and in data analysis.	SPREP/ Members	High
<b>3.7</b> Encourage partnerships with tertiary institutions, researchers, government agencies, local communities, NGOs, IGOs etc.	SPREP/ Partners	Medium
<b>3.8</b> Provide training to relevant personnel in relation to cultural awareness.	SPREP/ Partners	Medium

**Indicators:**

- ⊙ National reports by at least 50% of PICTs include documentation of required national skills for turtle conservation.
- ⊙ At least 1 regional and 10 in-country nesting beach monitoring/survey training workshops undertaken.
- ⊙ Policy and legislation workshop conducted.
- ⊙ Tools/materials made readily available to Members.
- ⊙ Partnerships developed with tertiary institutions, IGOs, NGOs to provide technical assistance and expertise.
- ⊙ All members with marine turtle programmes effectively using TREDS.

**THEME 4: EDUCATION AND AWARENESS**

**OBJECTIVE:** *To provide assistance to the participating member agencies to enable them to deliver effective and accurate education and awareness programs to the people of the Pacific Islands region.*

<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>4.1</b> Collate and review existing available education materials on marine turtles, such as those available on Sea Turtle.org, to suit the needs of the region.	SPREP/ Members	High
<b>4.2</b> Provide relevant education materials (e.g. turtle migration, turtle biology and ecology, tagging) to schools, universities, and local communities.	SPREP/ Partners	Medium
<b>4.3</b> Investigate options for including turtle information in school curricula.	Members	Medium
<b>4.4</b> Provide relevant education materials in local languages.	Members	High
<b>4.5</b> Investigate options for providing scholarships in marine science for tertiary students.	Members/ Partners	Medium
<b>4.6</b> Provide feedback to communities regarding the results of turtle research and monitoring and other activities including data sharing in accordance with adopted Policy and Protocols.	Members/ SPREP	High
<b>4.7</b> Promote the tag recovery program and make material available in local languages.	SPREP/ Members	High
<b>4.8</b> Continue the regional 'Turtle Talk' newsletter established under YOST for SPREP members. Include a column in the newsletter, "Notes from the field", to be coordinated by USP (Dr Kenneth MacKay).	SPREP/USP	Medium
<b>4.9</b> Seek opportunities to raise public awareness on marine turtle issues through local media.	Members	High
<b>4.10</b> Develop relevant regional promotional material (e.g. documentary) to be made available to SPREP members.	SPREP/ Partners	Medium
<b>4.11</b> Document traditional knowledge and customs in relation to turtles and their management that can be used in education and awareness raising activities.	Members	High
<b>4.12</b> Develop agreements with cultural groups/leaders/individual knowledge holders regarding intellectual property rights, appropriate use and dissemination of information.	Members	High
<b>4.13</b> Ensure any traditional knowledge and customs documented are properly held and maintained by appropriate in-country authority.	Members	High
<b>4.14</b> Include traditional knowledge in education and awareness programs.	Members	High

<b>4.15</b> Promote the value of TRM, TK, CMT and community rights on IPR and ABS through education and awareness at the community level including the preparation and distribution of materials.	Members	High
<b>4.16</b> Encourage the use of informal/traditional methods of education within villages utilising traditional elders as resource people where appropriate.	Members	High
<b>4.17</b> Encourage community awareness using successful models such as Wan Smolbag's Vanua-tai Monitors network.	Members	Medium
<b>4.18</b> Work closely with the organizing committee for the 2009 Sea Turtle Symposium in Australia to ensure significant Pacific Islands participation.	SPREP/USP	Medium
<b>Indicators:</b> <ul style="list-style-type: none"> <li>⊙ Educational materials collated, reviewed, translated and disseminated.</li> <li>⊙ Tag recovery programme active in most Member countries and territories.</li> <li>⊙ At least two issues of the Turtle Talk newsletter produced and distributed per year.</li> <li>⊙ Educational material available in local languages in at least 50% of PICTs.</li> <li>⊙ Traditional knowledge and customs documented appropriately and report produced and distributed.</li> <li>⊙ Traditional knowledge and customary practices incorporated into information materials developed.</li> <li>⊙ At least 2 students from Member countries and territories on scholarships doing research on turtles in the region.</li> <li>⊙ At least 5 Pacific Island representatives participate in the 2009 Turtle Symposium.</li> </ul>		

### THEME 5: POLICY AND LEGISLATION

**OBJECTIVE:** *To ensure a more cohesive approach in policy and legislation in SPREP member countries and territories to support the Regional Marine Turtle Conservation Programme that incorporates traditional knowledge and CMT.*

<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>5.1</b> Review and identify gaps and conflicts in current policies and legislation in Member countries and territories that supports/limits the RMTCP including conventions, treaties, MoU's, agreements etc.	Members	High
<b>5.2</b> Encourage the need to address gaps and conflicts found in the review of policies and legislation as described in action 5.1 where required.	Members	High
<b>5.3</b> Encourage and support compliance mechanisms that are <i>more</i> effective at the community level, drawing upon and supporting existing laws and controls and conflict resolution systems and utilizing local community members.	Members	High
<b>5.4</b> Amend relevant policies and legislation regarding size limits of turtles taken to better reflect the impact of removing mature females from populations and where possible, to ensure preference be given to utilizing smaller sized animals.	Members	High
<b>5.5</b> Incorporate relevant traditional knowledge CMT, and practices into policy, legislation management plans where appropriate.	Members	Medium
<b>5.6</b> Ensure adequate protection is provided for nesting beaches and other known critical habitats for turtles through policy and legislation.	Members	High
<b>Indicators:</b> <ul style="list-style-type: none"> <li>⊙ Review of current national policies/legislation completed and disseminated.</li> <li>⊙ Policies and legislation in PICTs amended to address gaps for marine turtle conservation which also include the protection of critical habitats and application of minimum size limits that reflect the impact of removing mature female turtles.</li> <li>⊙ Traditional knowledge and management practices incorporated into legislation, policies and plans.</li> <li>⊙ Appropriate compliance mechanisms are put in place.</li> </ul>		

<b>THEME 6: TRADITIONAL KNOWLEDGE AND CUSTOMARY PRACTICES</b>		
<b>OBJECTIVE:</b> <i>To encourage a more cohesive approach in policy and legislation in SPREP member countries and territories which supports, promotes and formally protects traditional knowledge, practices and resource management</i>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>6.1</b> Review and identify gaps and conflicts in relevant policies and legislation that supports/limits the protection and promotion of TRM, TK, IPR, ABS and CMT.	Members	High
<b>6.2</b> Encourage the need to address gaps and conflicts found in the review of policies and legislation as described in action 6.1 where required.	Members/SPREP	High
<b>6.3</b> Promote integration of TRM, TK, CMT into national, provincial and community management plans, including NSDP, NBSAP and other development plans.	Members	High
<b>6.4</b> Promote <b>awareness</b> on the <b>value</b> of TRM, TK, CMT and <b>community rights</b> on IPR and ABS through education and awareness at the community level including the preparation and distribution of awareness materials.	Members	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Review of policies/legislation in relation to TK and other customary management and practices completed.</li> <li>⊙ Traditional knowledge, tenure and management practices integrated into development plans.</li> <li>⊙ Education and awareness of TK and other customary practices material delivered to local communities in each PICT.</li> </ul>		

<b>THEME 7: SUSTAINABLE DEVELOPMENT</b>		
<b>OBJECTIVE:</b> <i>To promote the sustainable use of marine turtles</i>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>7.1</b> Develop regional guidelines for responsible and sustainable eco-tourism in the wild.	SPREP/ Partners	High
<b>7.2</b> Promote best practice eco-tourism in accordance with guidelines.	Members/ SPREP/ Partners	High
<b>7.3</b> Identify and encourage/facilitate alternative livelihoods (including income generating activities) that are not detrimental to marine turtles and their habitats, in consultation with local communities and other stakeholders.	Members/ SPREP/ Partners	High
<b>7.4</b> Prohibit the commercial <sup>1</sup> harvest of marine turtles, parts thereof and their derivatives.	Members	High
<b>7.5</b> Apply sustainable management principles to permitted traditional/subsistence use of turtles for food.	Members	High
<b>7.6</b> Discourage the keeping of marine turtle in captivity (except for rehabilitation purposes).	Members	High
<b>7.7</b> Develop best practice guidelines for turtles permitted to be kept in captivity and make available to SPREP members.	SPREP/ Partners	High
<b>7.8</b> Identify and remove situations where turtles in captivity are not kept in accordance with best practice guidelines.	Members	High
<b>7.9</b> Document the extent of marine turtle eco-tourism and turtle related activities.	Members	Medium

<sup>1</sup> The exchange of turtles and turtle parts for money

**Indicators:**

- ⊙ Guidelines developed and distributed to members on best practice for responsible and sustainable marine turtle eco-tourism and husbandry.
- ⊙ Promotion of responsible eco-tourism ventures for turtles in the wild.
- ⊙ All PICTs have identified, prioritized and implemented some form of alternative livelihoods initiatives.
- ⊙ Policy and legislative frameworks to prohibit commercial use of turtles and products derived from turtles strengthened.
- ⊙ Management principles applied to turtle use permitted for traditional and subsistence use.
- ⊙ The number of marine turtles kept in captivity decreased by 50% with no new undertaking of this nature.

**THEME 8: TURTLE DATABASE**

**OBJECTIVE: *Turtle Research and Monitoring Database System (TREDS) is implemented effectively in SPREP member countries and territories***

<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<p><b>8.1</b> Develop Information and Data Sharing Policy and Protocol for TREDS:</p> <ul style="list-style-type: none"> <li>• In place and used effectively by 2008;</li> <li>• Policy and Protocol to include restrictions to access to data and sharing data with communities;</li> <li>• Members to adopt agreed Policy and Protocol at SPREP Meeting in 2008;</li> <li>• Distribute adopted Policy and Protocol to members.</li> </ul>	SPREP/ Members	High
<p><b>8.2</b> TREDS is distributed to all members by early 2008 with in-country training and follow-up for use and report generation.</p>	SPREP	High
<p><b>8.3</b> All Members are encouraged to use TREDS in accordance with the adopted Policy and Protocols.</p>	SPREP/ Members	Medium
<p><b>8.4</b> Members to submit data annually to TREDS Database Officer.</p>	Members	High
<p><b>8.5</b> Reporting:</p> <ul style="list-style-type: none"> <li>• Members report to SPREP at least annually on tagging records and activities, noting that re-issue of tag will be dependent on reporting;</li> <li>• Report recovered tags immediately to SPREP using appropriate form where available or providing standard information. Provide reward (such a t-shirt, poster etc) for recovered tags;</li> <li>• SPREP to report annually to Members on tags distributed and recovered, results of mapping, and other significant data.</li> </ul>	Members  Members/ SPREP  SPREP	High  High  High
<p><b>8.6</b> Institutional Commitment:</p> <ul style="list-style-type: none"> <li>• SPREP commits to long-term maintenance of the TREDS programme;</li> <li>• Seek long-term funding from Members and partners (including NGOs, IGOs and the private sector) to maintain TREDS Officer and programme.</li> </ul>	SPREP  SPREP	High  High
<p><b>8.7</b> Distribute tags and applicators to Members undertaking tagging activities and engaged in SPREP approved tagging program.</p>	SPREP	High
<p><b>8.8</b> Link to other databases where sea turtle data are collected.</p>	SPREP/ SPC	Medium

**Indicators:**

- ⊙ All members effectively using TREDS and reporting annually to SPREP.
- ⊙ SPREP produce five (5) Annual reports of summary data.
- ⊙ Increased return of tags and reporting of tagging information.
- ⊙ Information from TREDS used to provide a picture of turtle distribution and migration at the regional level.
- ⊙ TREDS programme including responsible officer secured for long-term.
- ⊙ Link to other relevant turtle databases completed.

<b>THEME 9: RESEARCH AND MONITORING</b>		
<b>OBJECTIVE: <i>Identify all major turtle nesting beaches in the Pacific Islands Region</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>9.1</b> Undertake literature search of available information regarding turtle nesting sites in the Pacific Islands region including previous flipper and satellite tagging activities.	USP/SPREP/ WWF/ Members	High
<b>9.2</b> Identify and report known information including TK provided by communities regarding turtle nesting sites.	Members	High
<b>9.3</b> Undertake regional aerial rapid assessment of turtle nesting beaches where feasible.	Multi-agency collaboration	Medium
<b>9.4</b> Identify and map turtle nesting beaches and prioritise index sites for long term monitoring.	SPREP/ Members	High
<b>9.5</b> Undertake turtle nesting beaches surveys (by relevant trained personnel): <ul style="list-style-type: none"> <li>• Initial baseline data collection for at least a 5-year period;</li> <li>• Relevant information is distributed to members via list server and uploaded to SPREP website of relevant information.</li> </ul>	USP/SPREP/ NMFS  Members/ SPREP	High
<b>9.6</b> Initiate long term monitoring at index nesting beaches, to include beach temperature data for climate change baseline information, and beach morphology.	Countries with support of USP/ NMFS/SPREP & other experts	High
<b>9.7</b> Enter beach turtle monitoring data into TREDIS.	SPREP	High
<b>Indicators:</b> <ul style="list-style-type: none"> <li>⊙ Literature search on turtle nesting completed and reported.</li> <li>⊙ Known information and TK identified and reported by all Members.</li> <li>⊙ Key index nesting beaches in all PICTs identified and prioritised.</li> <li>⊙ Long term monitoring initiated at 5 index nesting beaches i the Pacific Region.</li> <li>⊙ Estimates obtained of current nesting beach populations for Pacific.</li> <li>⊙ Baseline data collected &amp; inputted into TREDIS including beach temperatures.</li> <li>⊙ Key turtle nesting sites across the Pacific mapped.</li> </ul>		

<b>OBJECTIVE: <i>Identify major turtle stocks in the Pacific</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>9.8</b> Develop & distribute Regional Procedures & Protocol for genetic sampling that includes using non-lethal techniques and addresses ownership of genetic information and material collected.	USP/SPREP	High
<b>9.9</b> Develop partnerships to undertake genetic sampling and analysis with Members and relevant genetic researchers/laboratories such as N. Fitz Simmons (Aus), IFREMER (Indian Ocean), & P. Dutton (NOAA) to analyse and share data, and to publish & report results.	SPREP/ Members/ NOAA/SPC/AU	Medium
<b>9.10</b> Report to Members results of genetic sampling and identification of major turtle stocks in the region.	USP/SPREP/ NOAA with collaborators	
<b>Indicators:</b> <ul style="list-style-type: none"> <li>⊙ Regional procedures and protocols for genetic sampling developed, distributed and implemented by participating PICTs.</li> <li>⊙ Work towards identifying Pacific stocks of Marine Turtles progressed and results reported and published.</li> <li>⊙ Map of Pacific stock developed and distributed to Members.</li> </ul>		

<b>OBJECTIVE: <i>Identify major foraging grounds</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>9.11</b> Collate known and published information on foraging grounds in the region.	Members/SPREP/ collaborators	Medium
<b>9.12</b> Distribute collated information on foraging grounds to Members.	Members/SPREP/ collaborators	Medium
<b>9.13</b> Identify and map major/critical in-water sites and prioritise foraging habitats for long-term monitoring.	Members/SPREP/ collaborators	High
<b>9.14</b> Undertake long-term foraging surveys at 5 major sites.	Members/SPREP/ collaborators	Medium
<b>9.15</b> Undertake sea grass mapping and monitoring where possible.	Members/SPREP/ collaborators	Medium
<b>9.16</b> Undertake aerial surveys of foraging grounds (eg ultra light) where possible.	Members/SPREP/ collaborators	Medium
<b>9.17</b> Undertake satellite tagging to fill information gaps where it is needed, cost effective and feasible.	SPREP/ NOAA/ Members	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Known and published information of marine turtle foraging grounds in the region collated and distributed to Members.</li> <li>⊙ Major marine turtle foraging sites identified, mapped and prioritised for monitoring.</li> <li>⊙ Long term foraging ground surveys initiated on 5 major sites.</li> <li>⊙ Sea grass mapping and monitoring undertaken in at least 5 sites across the region.</li> <li>⊙ Results of turtle tracking distributed to PICTs through the SPREP website and the Marine Turtle network.</li> </ul>		



### 3. WHALE AND DOLPHIN ACTION PLAN 2008-2012 PACIFIC ISLANDS REGION

#### GOAL

To conserve whales and dolphins and their habitats<sup>1</sup> for the peoples of the Pacific Islands Region

#### INTRODUCTION

Whales and dolphins are an important component of the marine biological diversity of the Pacific Islands Region. Over half the world's known species of whales and dolphins are found in the region, and for some species such as the humpback whale, the Pacific Islands Region is a vital breeding area. Whales and dolphins are widely regarded as flagship species for Pacific marine ecosystems and feature prominently in promotional tourist material. Many Pacific island cultures have legends, stories and traditional uses and values of marine mammals. These species are generally long-lived and have low reproductive rates.

For many species of large whales, the impacts of commercial whaling during the nineteenth and twentieth centuries, largely by countries from outside the region, have reduced the breeding populations of South Pacific whales to extremely low levels, possibly to local extinction for some species

In recent time, many Pacific Island countries and territories have declared whale sanctuaries or marine sanctuaries for marine animals including whales and dolphins.

#### SPECIES DISTRIBUTION

Based on largely opportunistic and anecdotal records, Miller<sup>1</sup> (2007) reported that at least 30 different whale and dolphin species occur within the Pacific Islands, although this number increases to more than 40 species when Hawaii, New Zealand and Australia are also considered. The checklist of country-specific whale and dolphin species records, classified according to the "reliability" of the record, for the 22 Pacific Island countries and territories is given in Table 3.1 attached. The limited research efforts in the region, coupled with the very large expanse of marine area, makes it plausible that there may be still unreported species that inhabit these waters.

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<sup>1</sup> Current State of Knowledge of Cetaceans Threat, Diversity and Habitats in the Pacific Islands Region. A report by the Whale and Dolphin Conservation Society for the First Meeting of the Signatories to the Memorandum of Understanding for the Conservation of Cetaceans and their Habitats in the Pacific Islands Region.

Our current understanding of whale and dolphin diversity and distribution in the Pacific Islands Region is considered incomplete as there are many locations that have not been surveyed. For example, only 5 whale and dolphin species have been reported to occur in Tuvalu waters, however records for additional species have been reported in EEZs of adjacent countries, which suggests that these species may also be part of the Tuvalu whale and dolphin fauna. In addition, as capacity and research within the region is strengthened, data and information that is gathered will produce increasingly accurate records for the Pacific Islands Region.

Sperm whales are the most widely reported cetacean species in the Pacific Islands Region with all 22 PICTs having records of this species. Rare species for the region include the Southern bottlenose whale and the Indo-Pacific humpback dolphin. A relatively high number of records were reported for both Papua New Guinea and Solomon Islands, while very few records were available for the Pitcairn Islands and Wallis and Futuna.

### **SPECIES STATUS**

Population status of virtually all species of whales and dolphins in the Pacific Islands Region is basically unknown. The exception to this is for the South Pacific humpback whale and local population estimates for certain species e.g. spinner dolphins in Moorea, French Polynesia. Widely distributed and were heavily exploited in the 20<sup>th</sup> Century.

The total takes on the humpback whale in the Southern Ocean IWC Management Areas IV, V and VI were approximately 80,000. Recent work by the SPWRC has shown that there are likely to be at least three genetically distinct populations of humpback whales in Eastern Australia, and east Polynesia and two distinct populations in central and west Polynesia. Based on closed population models, Baker *et al* (2006), in a paper submitted for consideration by the Inter-Sessional Workshop for the Comprehensive Assessment of Southern Hemisphere Humpback Whales (Hobart, Tasmania, 3-7 April 2006), estimated regional abundance of humpback whales in Oceania as 472 for the New Caledonia stock, 2311 for the Tonga stock and 1057 for the French Polynesia stock. However, the open-population models yield 15-25% lower estimates. In comparison, the Eastern Australia humpback abundance has been estimated to be approximately 8,000 and this population is increasing by about 10% per annum [re-word to give proper reference]. This difference in abundance could be because the South Pacific populations have been so depleted or were always smaller and/or because some South Pacific whales have shifted migration routes to Australia.

Several whale and dolphin species are listed on Appendix I<sup>2</sup> of the CITES, and the remaining species are listed in Appendix II<sup>3</sup>. The CMS also lists whale and dolphin species needing protection on its Appendices I<sup>4</sup> and II<sup>5</sup>. The IUCN Red List of Threatened Species 2006 lists several whale and dolphin species as endangered and vulnerable with a lot of species having deficient data for categorizing.

## TRADITIONAL KNOWLEDGE AND CUSTOMS

Whales and dolphins are important in the cultures, legends, traditions and heritage of many Pacific Island peoples. In Fiji, sperm whales teeth have particular cultural significance. Whales and dolphins are associated with identity, lifestyle and well-being. Migrations of whales are used as an environmental cue on some islands and ceremonies and ritual surround cetaceans across the region. In some traditions, they are viewed as incarnations of humans.

## TOURISM INCOME GENERATING OPPORTUNITIES

A recent review of the status of marine mammal tourism activities in the Pacific Islands region, commissioned by IFAW in collaboration with SPREP, SPWRC and the SPTO, showed that the industry experienced strong annual growth for the period 1998 – 2005. The study indicates that between 1998 and 2005, both the number of whales watchers and the number of countries offering whale watching significantly increased (Table 3.2). Whale watching is becoming an important component of tourism development in the region with a total estimated direct economic value of \$US 7.5 million and \$US 21 million in total value in 2005.

**Table 3.2:** Growth of whale and dolphin watching in the Pacific Islands Region (EcoLarge, 2006)

Pacific Region Findings	Numbers of Whale Watchers	Countries with whale watch operations	Average annual growth in whale watchers (1998 – 2005)	Estimated Direct Value of whale watching industry	Estimated Total Value of the industry
1998	10,308	9			USD 1,185,000
2005	110,746	14	45%	USD 7,525,500	USD 21,012,000

<sup>2</sup> Appendix I lists species that are the most endangered among CITES-listed animals and plant, which are threatened with extinction and CITES prohibits international trade in specimens of these species except when the purpose of the import is not commercial, for instance for scientific research. In these exceptional cases, trade may take place provided it is authorized.

<sup>3</sup> Appendix II lists species that are not necessarily now threatened with extinction but that may become so unless trade is closely controlled. International trade in specimens of Appendix-II species may be authorized by the granting of an export permit or re-export certificate.

<sup>4</sup> Migratory species that have been categorized as being in danger of extinction throughout all or a significant proportion of their range are listed on Appendix I of the Convention. States strive towards strictly protecting these animals, conserving or restoring the habitats in which they live, mitigating obstacles to migration and controlling other factors that might endanger them

<sup>5</sup> Migratory species that have an unfavourable conservation status or would benefit significantly from international co-operation organised by tailored agreements are listed in Appendix II to the Convention. For this reason, the Convention encourages the Range States to conclude global or regional Agreements for the conservation and management of individual species or, more often, of a group of species listed on Appendix II

## THREATS

Whales and dolphins in the Pacific Islands region face various threats and there are important issues arising for their effective conservation and management.

Fishery Interactions: Depredation and incidental by-catch in long-line fisheries is categorized as a high threat for small and medium toothed whales, and may be a serious concern for small localized populations. Depredation is also recognized as a significant economic threat to long-line fishermen due to loss of catch or bait.

Directed take: Directed take is categorized as a high threat. Scientific whaling on minke, fin, and humpback whales is of specific concern, particularly the take of humpbacks that could directly impact on the recovery of the small vulnerable humpback populations in the waters of SPREP members. An additional issue is the recovery of other large whale species from previous unsustainable commercial harvest.

The drive hunt in the Solomon Islands is categorized as a high threat, as the three species taken may be highly localized and the impacts to these populations are unknown. Capture of animals for public display has also recently occurred and any resumption would be of concern.

Climate Change: Climate change is potentially a high threat to whales and dolphins and their habitats in the region through potential disruption of ocean circulation, changes in the amount and distribution of prey, changes in salinity, temperature and acidity and other parameters. Current climate change models include a wide range of potential scenarios.

Tourism/human interaction: Whales and dolphin watching is an important economic opportunity for many countries and territories in the Pacific Islands. If managed according to responsible wildlife viewing practices it should pose only a low threat to whale and dolphin populations. However, if not managed properly this form of tourism could pose a medium threat to the fitness of animals, and potentially a high threat for specific, localized populations that may be vulnerable to disturbance in certain areas such as resting bays. Recent studies show that in some circumstances whale and dolphin watching can cause impacts upon the individuals and populations being watched.

Habitat Degradation: Habitat degradation includes coastal development, sedimentation, aquaculture, nutrients, and other habitat impacts. Of most significance could be localized point source activities. This threat is categorized overall as medium.

Pollution: Plastics are categorized as a medium threat to whales and dolphins in the region. Species that prey on soft-bodied prey such as squid may be susceptible to plastic ingestion, and this has been shown in necropsy results of stranded animals. Toxic chemicals are considered a largely unknown but low threat, but may be of higher concern in specific areas due to impacts from mining operations, port and urban development and ship groundings.

Ship strikes, acoustics, disease: Ship strikes, acoustics, and disease are considered largely unknown but low threats to whales and dolphin in the region. Ship strikes may be a potential for concern in areas with fast vessels and high whale and dolphin concentrations.

## THEMES AND OBJECTIVES

Theme	Objectives
<b>1. NATIONAL, REGIONAL AND INTERNATIONAL COLLABORATION AND COOPERATION</b>	<ul style="list-style-type: none"> <li>• Promote and enhance national, regional and international coordination, collaboration and partnership for whale and dolphin conservation in the Pacific Islands region</li> </ul>
<b>2. THREAT REDUCTION</b>	<ul style="list-style-type: none"> <li>• To develop, test and disseminate effective mitigation techniques that reduce depredation and incidental by-catch, and to document the impact of Illegal, Unreported and Unregulated fishing on whales and dolphins in the Pacific Islands Region</li> <li>• Limit direct take to sustain populations</li> <li>• Improve our understanding on impacts of climate change on whales and dolphins</li> <li>• Minimize impacts of pollution on whales and dolphins</li> <li>• Support the development of sustainable eco-tourism practices in the region</li> <li>• Ensure coastal developments take account of potential impacts on whale and dolphin populations</li> <li>• Improve information on ship strikes, acoustics, disease (Low but Unknown)</li> </ul>
<b>3. ECOSYSTEM/HABITAT PROTECTION</b>	<ul style="list-style-type: none"> <li>• Support the designation and management of national whale/marine sanctuaries in the EEZs of SPREP members</li> <li>• Identify key critical habitat, hotspots, and migratory pathways that are candidates for improved conservation.</li> </ul>
<b>4. CAPACITY BUILDING</b>	<ul style="list-style-type: none"> <li>• Increase in-country expertise, field capacity and regional cooperation</li> </ul>
<b>5. EDUCATION AND AWARENESS</b>	<ul style="list-style-type: none"> <li>• Develop communication strategies, training programs and protocols for key issues within the Whale and Dolphin Action Plan</li> <li>• Increase awareness and understanding of whales and dolphins in the Pacific Islands Region</li> <li>• Promote awareness regarding the value of traditional knowledge and practices in the management of whales and dolphins</li> </ul>

<b>6. CULTURAL SIGNIFICANCE AND VALUE</b>	<ul style="list-style-type: none"> <li>• To document the range of cultural practices, values and knowledge associated with whales and dolphins and encourage a more cohesive approach in policies and legislation</li> <li>• Preserve and protect the traditional knowledge and values associated with whales &amp; dolphins</li> <li>• Ensure appropriate cultural knowledge, practices, and values inform and underpin management measures</li> </ul>
<b>7. LEGISLATION AND POLICY</b>	<ul style="list-style-type: none"> <li>• Develop country level legal, policy and institutional framework to support the effective implementation of the Whale and Dolphin Action Plan</li> </ul>
<b>8. RESEARCH AND MONITORING</b>	<ul style="list-style-type: none"> <li>• Improve information received on stranding events in the Pacific Islands Region</li> <li>• Identify key species and areas for baseline surveys</li> <li>• Identify significance of and priority for toxicological research</li> </ul>
<b>9. WHALE AND DOLPHIN-BASED TOURISM</b>	<ul style="list-style-type: none"> <li>• Foster sharing of lessons learnt and undertake regular assessment of the industry</li> <li>• Ensure the best practice management of the whale and dolphin watching industry in the Pacific Islands Region</li> <li>• Maximize educational and economic values of whale and dolphin watching</li> </ul>

## THEMES AND PRIORITY ACTIONS

<b>THEME 1: NATIONAL, REGIONAL AND INTERNATIONAL COLLABORATION AND COOPERATION</b>		
<b>OBJECTIVE:</b> <i>Promote and enhance national, regional and international coordination, collaboration and partnership for whale and dolphin conservation in the Pacific Islands region.</i>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>1.1</b> Promote understanding by facilitating effective information sharing mechanisms to assist in addressing cross-sectoral issues and migratory species conservation.	SPREP	High
<b>1.2</b> Encourage and support PICTs to remove internal cross-sectoral barriers to effectively implement the WDAP at the local, island, government level.	Members	High
<b>1.3</b> Facilitate PICTs involvement and participation in relevant international meetings and initiatives for whales and dolphins conservation.	SPREP/ Partners	High
<b>1.4</b> Promote cooperation and highlight achievements and lessons learnt in whale and dolphin conservation at regional and international conferences and fora.	SPREP	High
<b>1.5</b> Ensure whales and dolphins conservation needs are integrated into the development and implementation of the SPREP Environment Ministers Regional MPA framework.	SPREP	High
<b>1.6</b> Develop linkages with relevant regional organizations and processes (such as RFMOs), eg. MoUs information exchange and cross-sectoral integration.	SPREP/ Members	Medium
<b>1.7</b> Develop linkages with relevant private sector organizations to reduce threats to whales and dolphins such as by-catch, depredation and marine debris (such as fishing and tourism industries, NGOs).	Members/ SPREP/ Partners	High
<b>1.8</b> Effect improved integration of whale and dolphin conservation into national, regional and international initiatives including: national - NBSAP, NSDS; regional - Pacific Islands Regional Oceans Policy, Action Strategy for Nature Conservation, CROP Marine Sector Working Group, RFMOs, NBSAP Working Group).	Members/ SPREP/ Partners	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Number of national, regional and international organizations, processes and frameworks incorporating PIR whale and dolphin conservation needs.</li> <li>⊙ Number of national, regional and international partnerships created to support WDAP implementation.</li> </ul>		

<b>THEME 2: THREAT REDUCTION</b>		
<b>OBJECTIVE (i): FISHERIES INTERACTION</b>		
<ul style="list-style-type: none"> <li>• <i>To develop, test and disseminate effective mitigation techniques that reduce depredation and incidental by-catch;</i></li> <li>• <i>To document the impact of Illegal, Unreported and Unregulated fishing on whales and dolphins in the Pacific Islands Region.</i></li> </ul>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b><u>Depredation/fishery interactions</u></b>		
<b>2.1</b> Collaborate with RFMOs and share information on fisheries, marine mammals interactions and successful and unsuccessful tactics for mitigation.	Members, SPREP, RFMO, WCPFC, SPC, FFA, FAO, CBD, DWFNs, Partners	High

<b>2.2</b>	Encourage distant water fishing nations to support PIR in ensuring sustainable and responsible fishing practices and to maintain the health of the ocean and PIR economies.	Members, RFMO, WCPFC, SPC, FFA, FAO, DWFNs, SPREP, Partners	Medium
<b>2.3</b>	Foster industry/research institutions/governments partnerships to develop and test mitigation techniques to reduce by-catch and depredation.	Members, DWFNs, RFMOs	High
<b>2.4</b>	Examine information on IUU to better understand potential impacts on marine mammals including by-catch and depredation.	SPREP, SPC, FFA, FAO, Research Institutions, Partners	High
<b>2.5</b>	Collect and disseminate information on the scale of depredation and by-catch from fishing operations, to better assess level of priority and possible mitigation actions.	FFA, SPC, RFMO, SPREP, Members	High
<b>Fishery Ecological Interactions (Low but regional concern on this issue is High).</b>			
<b>2.6</b>	Support outreach and education programmes that provide understanding of the scientific principles of the low level of competition between whales/dolphins and fisheries in this region.	Partners	Low/High
<b>Indicators:</b>			
<ul style="list-style-type: none"> <li>⊙ Properly tested mitigation technique.</li> <li>⊙ Acceptance and use of a successful technique by long-line fisheries in the region.</li> <li>⊙ System of collecting data from fishing operations on by-catch and depredation developed and used.</li> </ul>			

<b>OBJECTIVE (ii): <i>Limit direct take to sustain populations</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>Direct take: Whaling</b>		
<b>2.7</b> Support non-lethal research on abundance, structure, trends, and assessments of impacts – particularly on humpback, minke and fin whales.	SPREP/Partners/ Members	High
<b>Direct take: Drive hunts and live capture</b>		
<b>2.8</b> Support research on abundance, structure, distribution, trends, and assessments of harvest impacts on the whale and dolphin species targeted.	SPREP/Partners/ Members	High
<b>2.9</b> Ensure the direct take of whales and dolphins does not affect viability of local populations.	Members	High
<b>2.10</b> Ensure any live capture activities in the region comply with international regulations and agreements.	Members	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Non-lethal Research on abundance etc carried out concerning whale and dolphin species targeted in whaling, hunt and live capture.</li> <li>⊙ Sustainable principles applied to any direct take and international regulations/agreements applied to capture activities.</li> </ul>		

<b>OBJECTIVE (iii): <i>Improve our understanding of climate change impacts on whales and dolphins</i></b>		
<b>Actions</b>	<b>Lead</b>	<b>Priority</b>
<b>2.11</b> Facilitate the collation and dissemination of current knowledge on the impacts of climate change on marine mammals and their habitats,	SPREP, scientific institutions, CBD Sec and UNFCCC Sec, partners	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Document/presentation on climate change impacts to whales and dolphins provided to SPREP members by 2009.</li> </ul>		

<b>OBJECTIVE (iv): <i>Minimize impacts of pollution on whales and dolphins</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>Plastics and marine debris</b>		
<b>2.12</b> Encourage improved waste management at community and national levels to reduce plastics and other debris in the marine environment.	Members	Medium
<b>2.13</b> Develop and promote the use guidelines for fishing operations related to discarding of waste.	SPREP/SPC Members/ partners	Medium High
<b>2.14</b> Collect information on the potential impact of plastics and fishing gear on whales and dolphins, including from stranding networks.		
<b>2.15</b> Where possible, request that necropsies include examination for plastic ingestion.	Members	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Better information on the impacts of plastics and other debris to whales and dolphins.</li> <li>⊙ Guidelines developed for proper waste management at all levels including from fishing boats.</li> </ul>		

<b>OBJECTIVE (v): <i>Identify and mitigate any significant impact from marine whale and dolphin based tourism</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>2.16</b> Identify potential for significant impact/localised effects from tourism activities on whales and dolphins.	Partners/ SPREP/ Members	Medium
<b>2.17</b> Develop management and mitigation strategies to reduce identified impact.		
<b>2.18</b> Assess any potential impacts of whale and dolphin watching activities on the animals e.g. <ul style="list-style-type: none"> <li>• Spinner dolphin watching</li> <li>• Swim-with programs</li> <li>• Vessel interactions.</li> </ul>	Partners	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Significant adverse effect from whale and dolphin watching tourism identified and threat mitigated and lessons learnt promoted and widely shared in the region.</li> <li>⊙ Studies on impacts of whale/dolphin watching completed in New Caledonia, Tonga. Studies undertaken in Guam, French Polynesia, Hawaii.</li> </ul>		

<b>OBJECTIVE (vi): <i>Ensure coastal development takes account of impacts on whale and dolphin populations</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>2.19</b> Encourage consultation/consideration of impacts on whales and dolphins in national legislative and EIA processes.	Members	High
<b>2.20</b> Identify particular localized areas and populations – and then develop appropriate monitoring and mitigation of any significant impacts.	Members/ Partners	Medium
<b>2.21</b> Provide information on potential impacts of coastal development to whales and dolphins to decision makers and public.	Members	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Consideration of impacts on whales and dolphin incorporated in national legislation and other processes such as EIA and potential impact information made available.</li> <li>⊙ Monitoring of identified localized populations initiated.</li> </ul>		

<b>OBJECTIVE (vii): <i>Improve understanding of unknown but potential threats to whales and dolphins, including ship strikes, entanglement, acoustics, disease</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>2.22</b> Encourage anecdotal and opportunistic recording and documentation for ship strikes, entanglement and disease.	Members	Low but Unknown
<b>2.23</b> Identify any significant source of acoustic noise pollution that could affect whales and dolphins in the region.	Members	Low
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ System in place and operational to collect anecdotal opportunistic data and to be able to respond if one of these becomes a significant threat at local, national or regional level.</li> </ul>		

<b>THEME 3: ECOSYSTEM/HABITAT PROTECTION<sup>6</sup></b>		
<b>Objectives:</b>		
<ul style="list-style-type: none"> <li>▪ <b><i>Support the designation and management of national whale/marine sanctuaries in the EEZs of SPREP members</i></b></li> <li>▪ <b><i>Identify key critical habitat, hotspots, and migratory pathways that are candidates for improved conservation.</i></b></li> </ul>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>3.1</b> Support the declaration of EEZ wide whale sanctuaries by SPREP members and support these sanctuaries to develop and implement management plans and strategies.	SPREP/ Partners	High
<b>3.2</b> Establish a working group on ecosystem/habitat protection that will identify critical habitats, hotspots and migratory pathways and environmental linkages (spatial and temporal).	SPREP/ Partners/ Members	Medium

<sup>6</sup> There are two general terms often used in regard to whales and dolphins ecosystem protection, these are “sanctuaries” and “marine protected areas”. Typically in the Pacific Islands Region, and for the use in this Plan, “sanctuaries” refer to EEZ-wide whale sanctuary declarations with a principle objective of prohibiting commercial whaling. The other management tool, here referred to as “marine protected areas”, may be smaller in scale and often refer to specific critical habitats, hotspots, or pathways.

<b>3.3</b>	Evaluate and support marine protected areas and networks where they are a suitable method and benefit to the protection of whales and dolphins and their habitats in the identified areas.	SPREP/ Partners	High
<b>3.4</b>	Integrate, where relevant and appropriate, whale and dolphin conservation into the development of MPAs/MMAs and in the region.	Members	High
<b>Indicators:</b>			
<ul style="list-style-type: none"> <li>⊙ Additional SPREP Member designate national EEZ whale sanctuaries.</li> <li>⊙ Management strategies/plans developed, finalized and implemented for existing sanctuaries.</li> <li>⊙ Working group identifies potential areas for marine protected area designation and management.</li> </ul>			

<b>THEME 4: CAPACITY BUILDING</b>		
<b>OBJECTIVE: <i>Increase in-country expertise and capacity</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>4.1</b> Identify training needs and support proposal writing to implement WDAP at the country and regional level, using existing processes such as NCSA.	Members/ SPREP	High
<b>4.2</b> Develop training packages on common priorities (e.g. stranding, data recording, legislation, communication etc) based on regional priorities and convene workshops based on identified needs.	SPREP/ Partners	High
<b>4.3</b> Support internship training on whales and dolphins in existing research centers.	Partners	High
<b>4.4</b> Build in-country capacity to prepare relevant regulation, legislation and policy.	Members/ SPREP	High
<b>4.5</b> Conduct local and/or regional training workshops on necropsy including collection and storage of tissues, skeletal remains and analysis.	SPREP/ Auckland Uni,	High
<b>4.6</b> Conduct training and verification of whale and dolphin sightings and reporting, and develop database complementary to that under Marine Turtle Action Plan.	SPREP/ Partners	Medium
<b>4.7</b> Conduct at least one specialist regional workshop in abundance estimation techniques (sighting surveys) followed by field training cruise.	SPREP/ CMS/ WDCS	High
<b>4.8</b> Develop surveillance and enforcement capacity for implementation of national protection measures including whale and dolphin watching tourism operations.	Members	High
<b>4.9</b> Conduct industry training and certification programs for whale/dolphin watching operators and guides, which should be required to attain a whale & dolphin watching permit/ license where applicable.	Partners	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Training needs identified and addressed.</li> <li>⊙ Training packages prepared and made available.</li> <li>⊙ Increased technical capacity to obtain information and assist in the conservation of whales and dolphins in the region.</li> <li>⊙ Improved capacity to develop and implement policies and legislation.</li> <li>⊙ Whale/dolphin operator training and certification programs are implemented in SPREP nations.</li> </ul>		

<b>THEME 5: EDUCATION AND AWARENESS</b>		
<b>OBJECTIVE (i): <i>Develop communication strategies, training programs and protocols for key issues within the Whale and Dolphin Action Plan</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>5.1</b> Identify key issues for each Member and support development of appropriate education strategies and programs (e.g. known threats, species ID and status).	Members/ Partners	High
<b>5.2</b> Develop appropriate educational and awareness tools for different target audiences at a regional and national level including producing a template to facilitate production in local dialect.	SPREP/ Members/ Partners	High
<b>5.3</b> Up-skilling of government agencies and community trainers to facilitate stewardship, and to develop and deliver outreach programs.	Members	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Community and school education programs implemented.</li> <li>⊙ Regionally relevant facts sheets to inform governments and industry on key issues are produced (e.g. fisheries interactions, cultural practices, regulations, biology &amp; natural history).</li> <li>⊙ Training programs carried out in-country for key government agencies and identified local community stewards.</li> </ul>		

<b>OBJECTIVE (ii): <i>Increase awareness and understanding of whales and dolphins in the Pacific Islands Region</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>5.4</b> Utilize existing community networks and venues to deliver public presentations.	Members	High
<b>5.5</b> Provide materials and information to community media (TV and radio stations) in-country to inform public.	Members/SPREP/ Partners	High
<b>5.6</b> Disseminate educational materials targeted at recreational/ private boaters to ensure minimum impact.	Members/SPREP/ Partners	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Presentations on whales &amp; dolphins are carried out in schools, village halls, and during annual festivities.</li> <li>⊙ Whales &amp; dolphins are profiled through documentaries, interviews and regular spots in local media.</li> <li>⊙ ID guides, fact sheets and guidelines brochures are distributed to boaters, marinas, yacht clubs, through government agencies and NGO's.</li> </ul>		

<b>OBJECTIVE (iii): <i>Promote awareness regarding the value of traditional knowledge and practices in the management of whales and dolphins</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>5.7</b> Integrate traditional knowledge, stories and customs into education and awareness developed.	Members, SPREP	High
<b>5.8</b> Encourage the use of informal/traditional methods of education within villages, e.g. utilizing elders as resource people.	Members, Partners, SPREP	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Education programs implemented in schools, education centres and museums.</li> <li>⊙ Informal/traditional methods of education are employed at community level.</li> </ul>		

<b>THEME 6: CULTURAL SIGNIFICANCE AND VALUE</b>		
<b>OBJECTIVE (i): <i>To document the range of cultural practices, values and knowledge associated with whales and dolphins and encourage a more cohesive approach in policies and legislation.</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>6.1</b> Undertake a review of customary practice and knowledge related to the conservation and management of whales and dolphins.	SPREP/ Partners	High
<b>6.2</b> Promote the adoption and integration of customary practices related to the conservation and management of whales and dolphins, where appropriate.	Members	High
<b>6.3</b> Review and identify gaps and conflicts in relevant policies and legislation that supports/limits the protection and promotion of TRM, TK, IPR, ABS, and CMT.	Members	High
<b>6.4</b> Encourage the need to address gaps and conflicts found in the review where required, in consultation with local communities and relevant stakeholders.	Members/ SPREP	High
<b>6.5</b> Support and promote the introduction of appropriate formal protection of IPR, TK and ABS at a national, regional and international level.	Members/ SPREP	High
<b>6.6</b> Support the documentation of traditional knowledge, practices, heritage and values, using existing networks.	Members/ SPREP	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ TK and other customary practices and values documented and incorporated where relevant.</li> <li>⊙ Review on gaps carried out and report published and disseminated.</li> <li>⊙ Artifacts and narratives (oral histories) documented and conserved in local museums.</li> </ul>		

<b>OBJECTIVE (ii): <i>Preserve and protect the traditional knowledge and values associated with whales and dolphins</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>6.7</b> Identify and empower appropriate in country authorities to hold, maintain and promote traditional knowledge.	Members	High
<b>6.8</b> Establish documentation protocols and agreed partnerships with cultural groups/chiefly bodies and individual knowledge holders regarding appropriate use and dissemination of information.	Members	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Each country has identified appropriate authority to house and promote cultural information.</li> <li>⊙ On going promoting and support for TK, ABS in national, regional and international fora etc.</li> </ul>		

<b>OBJECTIVE (iii): <i>Ensure appropriate cultural knowledge, practices, and values inform and underpin management measures.</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>6.9</b> Assess the sustainability of cultural practices involving whales and dolphins that may represent a threat to whales and dolphins (e.g. Fijian <i>tabua</i> , Solomon Islands dolphin drive).	Members/ SPREP	High
<b>6.10</b> Ensure biological survey designs respect and draw upon Traditional Knowledge.	Members	High
<b>6.11</b> Ensure national and local policies and management respect and draw upon Traditional Knowledge.	Members	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Case studies supported on sustainability of cultural practices in country's interested supporting sustainability assessments.</li> <li>⊙ Relevant whale and dolphin TK and cultural values are utilized and acknowledged in scientific survey design and execution and formulation of national management policies.</li> </ul>		

<b>THEME 7: LEGISLATION AND POLICY</b>		
<b>OBJECTIVE: <i>Develop country-level legal, policy and an institutional framework to support the effective implementation of the Whale and Dolphin Action Plan.</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>7.1</b> Complete legislative and policy review and disseminate the final report. Review to include: <ul style="list-style-type: none"> <li>• Identifying legislative inconsistencies and gaps within PICTs;</li> <li>• Extending to cover US, UK, Pitcairn, France, Australia and NZ;</li> <li>• Assessment of country capacity to implement the WDAP, CMS Cetacean MoU, CITES and CBD where relevant;</li> <li>• Country capacity to implement CITES/CBD;</li> <li>• Habitat and species protection measures;</li> <li>• Sanctuary declaration;</li> <li>• Regulation of distant water and local fleets, including observer programme coverage to document commercial fishing impact on whales and dolphin.</li> </ul>	IFAW/SPREP	High
<b>7.2</b> Further develop policies, regulations and legislation for the effective conservation management of whales and dolphins, including measures to mitigate threat and ensure habitat protection.	Members/ SPREP/Partners	High
<b>7.3</b> Identify and respond to country/territory legal and policy capacity needs.	Members/ SPREP/ Partners	Medium
<b>7.4</b> Assess processes and outcomes used for NCSA and other related biodiversity mechanisms, to address legal and policy capacity needs for whale and dolphin conservation.	Members	Medium
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Regional legislative/management review completed and widely disseminated.</li> <li>⊙ Harmonization of in-country/territory policy and legal instruments.</li> <li>⊙ Capacity strengthened to draft, manage and enforce legislation and policy in-country/territory.</li> <li>⊙ Number of NBSAPs or equivalent strategies integrating WDAP actions.</li> </ul>		

### THEME 8: RESEARCH AND MONITORING

This Action Plan promotes only non-lethal techniques for research

#### OBJECTIVE (i): *Improve information received on stranding events in the Pacific Islands Region.*

Actions:	Lead	Priority
<b>8.1</b> Develop a web-accessible regional stranding database, with verification process for species identification.	SPREP/ Te Papa/ Members	High
<b>8.2</b> Collect community records and knowledge on whales and dolphins and incorporate into the regional stranding database.	Members	High
<b>8.3</b> Produce a regional booklet/stranding manual with species identification, forms and instructions in English, Pidgin and French.	SPREP	High
<b>8.4</b> Encourage an MoU between the University of Auckland and SPREP for processing and storage of tissue samples for genetic work.	SPREP/ CMS	High
<b>8.5</b> Provide basic stranding kits (for genetic samples) to Members.	Auckland Uni/Donors	High
<b>8.6</b> Assist in funding for experts to attend national workshops in regions.	SPREP	Medium
<b>Indicators:</b> <ul style="list-style-type: none"> <li>⊙ Stranding Database and network established and operational.</li> <li>⊙ Stranding manual produced in three languages and distributed.</li> <li>⊙ Tissue archive and protocols for deposition and access established.</li> <li>⊙ Kits for genetic sampling distributed and used.</li> <li>⊙ Improved information on strandings events in all PICTs.</li> </ul>		

#### OBJECTIVE (ii): *Identify key species and areas for baseline surveys*

Actions:	Lead	Priority
<b>8.7</b> Establish web-accessible sighting database.	SPREP	Medium
<b>8.8</b> Improve species inventories for all PICTs, prioritizing those recognised as data deficient.	Members/ Partners/ SPREP	High
<b>8.9</b> Conduct dedicated surveys to estimate abundance and trends of whales and dolphins species.	SPWRC/ Partners/ Members	High
<b>8.10</b> Provide adequate species identification and related information resources for all PICTs e.g. IFAW and SPC identification kit for observer programme.	SPREP/ SPC/ IFAW/ Partners	Medium
<b>8.11</b> Increase use of platforms of opportunity (e.g. fisheries patrols and observers, aerial surveillance, naval and merchant shipping, other marine research programmes) for whale and dolphin sightings.	All	Medium
<b>8.12</b> Increased use of remote sensing devices, especially acoustic.	SPWRC/ NOAA/Partners	Low

<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Online regional sighting database established and operational.</li> <li>⊙ Species inventories for all data deficient SPREP members improved.</li> <li>⊙ Species inventories for at least 3 SPREP members improved by addition of further species.</li> <li>⊙ Cruises to estimate abundance of whales and dolphins species completed in at least 2 SPREP Members.</li> <li>⊙ Species information and id kit assembled and distributed.</li> <li>⊙ Incorporation of whale and dolphin expertise to conduct sightings and research activities in cruises dedicated to other purposes (e.g. Rapid Ecological Assessments).</li> <li>⊙ Increased reporting level for whales and dolphins sighted from fisheries enforcement patrols, fisheries observers, ferries, other commercial vessels and aerial surveillance flights conducted to combat IUU fishing.</li> <li>⊙ At least one remote sensing device deployed in the region for at least six months.</li> </ul>		
<b>OBJECTIVE (iii): <i>Identify significance of and priorities for toxicological research</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>8.13</b> Investigate need and opportunities for toxicological research.	SPREP	Low
<b>8.14</b> Identify suitable laboratories for toxicological analysis.	SPREP	Low
<b>8.15</b> Identify funding sources.	SPREP/ Partners	Low
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Regional expertise in, and laboratories for toxicological analysis identified.</li> <li>⊙ Areas in the region where toxicological analysis would be a high priority identified.</li> </ul>		

<b>THEME 9: WHALE AND DOLPHIN-BASED TOURISM</b>		
To ensure that the development of whale and dolphin based tourism is sustainable and conducted responsibly throughout the Pacific Islands Region		
<b>OBJECTIVE (i): <i>Foster sharing of lessons learnt and undertake regular assessment of the industry</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>9.1</b> Develop a framework to maintain effort to document industry growth (building on SPTO/SPREP/IFAW/SPWRC work).	Partners/SPREP	High
<b>9.2</b> Promote understanding of the industry, the lessons learnt and their implications.	Partners/SPREP	High/ Medium
<b>9.3</b> Foster communication between key in-country stakeholders, in particular industry and government, to promote understanding and assist in the management of the industry.	Members	High/ Medium
<b>9.4</b> Monitor, document and support PICTs where whale watching activities occur as models in addressing licensing, regulation and management issues, ensuring that industry development draws on lessons learned.	SPREP/ Partners	High
<b>Indicators:</b>		
<ul style="list-style-type: none"> <li>⊙ Reporting system developed to gather information on growth of the industry.</li> <li>⊙ Regional whale watching report updated and disseminated to relevant management bodies, industry, media and community.</li> <li>⊙ Industry, Government and key stakeholders (NGO's, researchers, community groups) meet in-country as required to discuss issues and actions.</li> <li>⊙ Key resources and technical support (reports, examples, templates) is available from SPREP.</li> </ul>		

<b>OBJECTIVE (ii): <i>Ensure the best practice management of whale and dolphin based tourism in the Pacific Islands Region</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>9.5</b> Develop region-wide whale and dolphin watching guidelines.	IFAW/ SPREP/Partners	High
<b>9.6</b> Hold regional whale and dolphin watching workshop to promote best practice management and endorse regional guidelines.	Operation Cetaces/ IFAW/SPREP	High
<b>9.7</b> Support collaborative and best practice management of whale and dolphin watching activities involving all stakeholders.	Members	High
<b>9.8</b> Promote licensing/permitting of whale and dolphin watching tourism operations as a tool for management.	Members	High
<b>Indicators:</b> <ul style="list-style-type: none"> <li>⊙ Workshop held, well attended by SPREP members and industry.</li> <li>⊙ Regional guidelines developed, accepted, published and utilized by SPREP members and industry.</li> <li>⊙ Stakeholders are consulted in the development of management measures.</li> <li>⊙ Licensing schemes are implemented in SPREP nations where whale and dolphin based watching tourism occurs.</li> <li>⊙ Management agencies have on-water presence to monitor and enforce in-country licensing and permitting conditions.</li> <li>⊙ Whale and dolphin tourism in the region operating according to responsible wildlife viewing practices</li> </ul>		

<b>OBJECTIVE (iii): <i>Maximize educational and economic values of whale and dolphin based tourism watching</i></b>		
<b>Actions:</b>	<b>Lead</b>	<b>Priority</b>
<b>9.9</b> Develop programs for whale and dolphin watching operators to collect useful data.	Members/ SPREP	High
<b>9.10</b> Support countries to develop an education kit for on-board operations.	SPREP/ Partners	High
<b>9.11</b> Promote socio-economic benefits of whale and dolphin watching to local communities.	Members	High/ Medium
<b>9.12</b> Assist countries to explore the potential for whale and dolphin watching through feasibility studies.	Partners/ SPREP	High/ Medium
<b>Indicators:</b> <ul style="list-style-type: none"> <li>⊙ Data sheet developed and disseminated to operators and reported annually to SPWRC.</li> <li>⊙ Educational Kits developed and disseminated to SPREP nations.</li> <li>⊙ Community outreach program conducted in-country targeted at local media, villages, community groups.</li> <li>⊙ Feasibility studies conducted in relevant SPREP nations.</li> </ul>		

**Table 3.1:** Check-list of Country/Territory-Specific Whale and Dolphin Species Records in the Pacific Islands Region (Miller, 2007).

Cetacean Species	American Samoa	Cook Islands	FSM	Fiji	French Polynesia	Guam	Kiribati	Marshall Islands	Nauru	New Caledonia	Niue	CNMI	Palau	PNG	Pitcairn Islands	Samoa	Solomon Islands	Tokelau	Tonga	Tuvalu	Vanuatu	Wallis and Futuna
Minke whales*	1	2		1	U			2		1	1		U		U	U			1			
Sei whale		U				U				2				1								
"Bryde's-like" whales*		U	1	1	U	U		U	2	1		U	2	U		2	U				U	
Blue whales*		2		U			U	2		1							2					
Fin whale				2	U			2														
Humpback whale	1	1		1	1	2		2		1	1	1		U	U	1	U		1		1	1
Common dolphins*		2		U				2		2		U					U					
Pygmy killer whale					1					1			U	U					1			
Short-finned pilot whale	1	1	1	1	1	2	2	2		1	2	2	U	1	2	1	1		1		2	
Risso's dolphin		U			1	2				1		1	U	1		2	1		1			
Fraser's dolphin		1	1	U	1		1		2				U	1		2	2					
Irrawaddy/snubfin dolphin														2			U					
Orca	2	1	U	U	1	U	2	2		1	1	U	2	2		1	1	U	1	2	2	
Melon-headed whale		1	1		1	U	U	2	2	1		1	U	1		2	2		1		2	
False killer whale	1	U		1	1		U			1	1	U	U	1		1	2		1			
Indo-Pacific humpback dolphin														2								
Pantropical spotted dolphin	2	1	U	1	1	U	2	2		1			U	1			1		1	U	1	
Striped dolphin		U	1			U	U	2				U	2			2	2				U	
Spinner dolphin	2	1	1	1	1	2	1	2		1	1	1	U	1		1	1		1	1	1	
Rough-toothed dolphin	2			U	1		2	U		1		1		U		1	1					
Bottlenose dolphins*	2	U	2	2	1	U	1	2		1		U	U	1		1	1		1	2	2	
Dwarf/pygmy sperm whale	U			U	1	2				1		2		1		1						
Sperm whale	1	1	2	1	1	U	1	U	2	1	2	2	U	1	U	1	1	1	1	2	1	U
Southern bottlenose whale							2															
Blainville's beaked whale		1		2	1		U			1				U			U					
Cuvier's beaked whale	2	1	U		1	U	U		U	1	1	2	U	1		1	U					

1=relatively recent field (or speciesmen record) confirmation of a given species within EEZ

2=potentially Class1 record that is either dated, or may be marginally outside of a given EEZ

U=unconfirmed-record that either was not definitely identified, has not been confirmed by field observations, is from an unobserved stranding event, or is an anecdotal report that for various reasons may be difficult to corroborate