REGIONAL MARINE SPECIES PROGRAMME FRAMEWORK 2003-2007

- Dugong Action Plan
- Whale and Dolphin Action Plan
- Turtle Action Plan

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. The SPREP region is home to a diverse range of large marine fauna including cetaceans, sirenians and marine turtles. Over half 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 oceanic productivity.

Dugongs and turtles are recognized as playing a fundamental ecological role in the functioning of coastal marine habitats, particularly seagrass systems. Whales and dolphins are widely regarded as flagship species for Pacific marine ecosystems and 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 an importance of these creatures in the identities of people, their way of life and their heritage. Polynesian travels throughout the region are often linked with stories of migratory species such as great whales and turtles. Polynesians may have recognized the migratory paths of these species and used these as guides to the seas of the South Pacific.

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 jewellery and ornaments. Dugong 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.

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 (especially dugongs and turtles) resulting in fragmentation of populations and even local extinction. There is an increasing commitment by countries such as PNG and the Solomon Islands to ensure sustainable rates of subsistence use.

Furthermore, for many species of large whales, the impacts of commercial whaling during the nineteenth and twentieth centuries by countries outside the region have reduced the breeding populations of South Pacific whales to extremely low levels, possibly to local extinction for some species. Tonga conducted a subsistence hunt for humpback whales during most of the twentieth century. However, since 1978, when the King of Tonga banned whaling, whales have become an important symbol of conservation and a valuable tourist attraction.

Most of these species have a distribution and migratory pathways that extend across several jurisdictions, thus Pacific Islands have a shared and joint responsibility to ensure the maintenance of viable populations of migratory marine species, including under the provisions of various international agreements such as CBD, CMS and CITES.

These species are generally long-lived and have low reproductive rates. Unsustainable rates of removal have resulted in many populations becoming threatened, endangered, or even locally extinct. There is, however, a growing awareness of their non-consumptive values for the social, economic and cultural benefit of local communities, e.g., whale-watching in Tonga, dolphin-watching in French Polynesia, turtle-watching in PNG and dugong-watching in Vanuatu.

In our lifetime, there has been a growing awareness of the increasingly threatened status of many of these icon species and of the need for a concerted and coordinated approach amongst Pacific Island nations to arrest and reverse declining population trends.

OVERALL VISION

This framework outlines a strategy for the cooperative conservation management of these shared marine resources and gives 2003-2007 Action Plans for Dugongs, Whales and Dolphins, and Turtles. These will enable the peoples of the Pacific to take a primary role in achieving the following vision:

A Pacific Ocean where populations of whales, dolphins, dugongs and marine turtles have recovered to healthy levels of abundance, have recovered their former distribution and continue to meet and sustain the cultural aspirations of Pacific peoples.

ROLES AND RESPONSIBLITIES

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

COMMITMENT, FUNDING AND HUMAN RESOURCES

The SPREP Secretariat continues 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 significant additional resources will need to be marshaled to achieve the aims and objectives of these Action Plans.

Workshop participants called upon all donor partners and supporters of SPREP's Action Plans for dugong, turtles and cetaceans in the SPREP region to assist in providing the necessary resources to achieve these visions at both the regional and national levels.

NETWORKING, REPORTING AND INFORMATION MANAGEMENT

SPREP Secretariat to take primary responsibility for networking, information management and archiving, and annual reporting.

Successful implementation of these Action Plans will result in people of the Pacific Islands being better able to plan, protect, manage and use their marine environment for sustainable development.

DUGONG ACTION PLAN
2003-2007

VISION

We see a future where generations of Pacific Island people will have choices about how they use and interact with dugongs. This can be achieved if we take action now to ensure that dugong populations recover to become healthy, robust and stable, and recover their previous range. A substantial increase will have occurred in research effort to establish basic population parameters and behaviour. Dugongs will be fulfilling their ecological role in the maintenance of seagrass ecosystems. If Pacific Island people take them, it will be on a sustainable basis, to meet their cultural and nutritional needs.

GOAL

To conserve dugongs and their cultural values for the coastal people of the dugong range states in the Pacific.

The goal can be achieved through the following tasks that have been given high priority**.**

2003 – 2007 ACTIONS

Prioritising Key Dugong Conservation Issues.

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Dugong home range in the region includes the waters of Australia, PNG, Solomon Islands, Vanuatu, New Caledonia and Palau. Throughout much of its range in these SPREP member states, relic isolated populations still remain and virtually information on populations and issues is unknown. There is an urgent need to list issues in order of priority to be addressed at the national and regional level.

The meeting noted that there is an urgent need for a sub-regional workshop to bring together representatives from PNG, Solomon Islands, New Caledonia, Australia (Torres Strait), Palau, Vanuatu, Federated State of Micronesia with technical experts and NGOs to develop and prioritise a strategic approach to the research, management and conservation of the dugong in the Pacific region within the framework of the RMMCP.

Action 1.

- Organize and run a sub-regional workshop in the 2nd half of 2003, to prioritise dugong conservation and management issues with participating nations. By December 2003, a network formed at the workshop between dugong range states that allows for exchange of information is up and running.

Action 2.

- Encourage and support members to collate and documentation of information under following categories: Habitat disturbance and loss (e.g., seagrass dieback), Unsustainable harvest (e.g., harvesting: PNG: Western Province, East New Britain; Solomon Islands: Malaita, Western Province, Choiseul & Isabel, use improved modern technology for hunting), Habitat disturbance (e.g., Live rock trade, coastal development, land use impacts: mining, forestry-sedimentation, erosion), boat strikes, Potential toxicity from consumption of dugong meat with high heavy metal or other toxins/pesticides, Incidental catches (e.g., gill nets), Impacts from climate change. At least order of importance rated and prioritized for each of the above threats for each country by 2005

Research and monitoring (National/Regional)

Scientific information on dugong distribution and abundance is outdated or non-existent. Likewise, dugong conservation initiatives are almost non-existent throughout the region despite its threatened status. It is likely that dugongs are widely distributed in small numbers in much of PNG, the Solomon Islands and Vanuatu and that larger numbers occur in Papua New Guinea waters of Torres Strait. The status of dugong is unknown throughout the region.

Information gaps on *threats* include: Significance, nature and extent of local use of dugongs (e.g., socio-economic importance to communities), Impacts on populations from subsistence consumptive use, Determine estimates for sustainable subsistence use, Risk and impact assessment for heavy metals/contaminants on dugongs, Human health implications of consumption of dugongs, Human-induced impacts including contaminants, sedimentation, forestry etc. in shared feeding habitats with other species (e.g., marine turtles). Information gaps on the ecology of dugongs include: Population distributions and abundance, Survey, identify and monitor critical seagrass habitats, Genetic stock identification and composition, Determining dugong population dynamics in each country, Determine population trends, Radio and satellite tagging to determine movements

Action 3.

- Support and encourage regional, national and local networks to conduct research on dugongs in Papua New Guinea, Solomon Islands, Vanuatu, Palau and New Caledonia that are necessary for planning for ecological sustainable utilisation and for determining the effectiveness of management activities. By 2005, at least one in-country project have been developed, resourced and underway in Papua New Guinea, Solomon Islands, Vanuatu, Palau, and New Caledonia.

Action 4.

- Encourage and support researchers to publish and circulate research papers. By 2007, number of research publications on dugong is increased and USP and the SPREP Secretariat publish a special edition on dugongs in region.

Education and Awareness

Participants noted that education, including formal education, public awareness and training is critical for promoting sustainable development and improving the capacity of the people to address dugong conservation and management issues. Both formal and non-formal education is indispensable to changing people's attitudes so that they have the capacity to assess and address their dugong conservation concerns.

Action 5

- Provide assistance to the participating national agencies to enable them to deliver an effective and accurate education program to the coastal people of the pacific region. Increase community awareness of threats and need for conservation. At least one example of effective community conservation awareness programme in each range state by 2007.

Action 6

- Encourage and support school curricula to have more lasting value. Dugongs incorporated into school curriculum at least at primary school level of all range states by 2007.

Action 7.

- Facilitate and encourage networking and linkages to Seagrass Watch, Seagrass Net (community monitoring) and other NGOs in information exchange.

Action 8.

- Encourage Australia to use radio and satellite tagging to highlight dugong conservation as an awareness campaign.

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Capacity building

There are very few nationally qualified and experiences marine scientists. This seriously limits the capacity for effective research, management and conservation of dugongs. National fisheries agencies employ biologists and resource managers but their efforts are concentrated on commercial fisheries rather than on dugong research. National environment and conservation

offices employ limited number of officers who have to deal with nation coastal and marine conservation issues and often dugong conservation issues are neglected. The meeting noted that there is a need to enhance in-country/national capacity to address dugong conservation issues and must be a priority in the next few years.

Action 9.

- Encourage and support post-graduate scholarships in regional institutions on dugong conservation and management. At least three postgraduate scholarships in the SPREP region by 2007.

Action 10

- Encourage and support development of education & information tools kit for fisheries and wildlife officers. Kits available for fisheries and wildlife officers in all range states by 2007

Action 11.

- Provide, facilitate and support selected individuals to attend and participate in training Workshops (e.g., AFMA catch monitoring workshop May 9-10 2003, Thursday Island,). In-country capacity to undertake research, monitoring and management of dugongs by 2007.

Management

There appears to be inadequate policy and legislation for the conservation and management of dugongs in dugong range states. The meeting noted the need to improve dugong management practices in the participating nations.

Action 12

- Facilitate and support review on local and national dugong and habitat protection legislation and regional/international agreements currently in force in SPREP member countries. This review shall be coordinated by SPREP Secretariat and shall include:
  - Penalties and enforcement protocols;
  - Habitat protection**;**
  - Sustainable catch estimates;
  - Local customs and traditional management systems and arrangements;
  - National EEZ protection;
  - Regional agreements.

  The current legislation and enforcement for protection of dugongs in PNG and Solomon Island is strengthened by 2007.

Action 13.

- Update the current level of knowledge on dugong populations in SPREP member countries. This assessment will be coordinated by SPREP Secretariat and JCU and will seek to provide a clear understanding of the current level of knowledge on dugong populations in the SPREP region.

Action 14.

- Promote and assist community-based management and conservation by developing management strategies for dugong that integrate traditional knowledge, utilization and conservation with Western management techniques. Extension and establishment of protected key seagrass areas by 2007

Action 15

- SPREP Secretariat to provide annual progress reports, on the implementation of the Dugong Strategic Action Plan, to SPREP member countries and relevant stakeholders.

Action 16

- SPREP Secretariat to prepare a detailed report on an annual basis, which will outline the progress, made toward the actions outlined in the Dugong Action Plan and the expected progress for the following year.

Regional /International Co-operation

The meeting noted that there is very little exchange of information and linkages and collaboration both at regional and international level and that there was a need for increased cooperation. The meeting noted also that SPREP would facilitate regional and international cooperation in dugong conservation management.

Action 17

- Encourage and facilitate dialogue with other regional agencies and institutions (eg: USP), in collaboration with appropriate expertise, to co-ordinate research and exchange information on dugongs (e.g., as per Dugong Action Plan)

Action 18

- SPREP Secretariat, in association with other agencies, to pursue funding opportunities to support the implementation of the Dugong Action Plan (e.g. CIDA, GEF, ADB, World Bank, EDF, and environmental NGOs)

Action 19

- Encourage and facilitate communication with the secretariats of existing regional and international agreements (e.g. Apia Convention, CMS, CBD, CITES, UNEP)

Human and Financial Resources

Since the establishment of the turtle and marine mammal programmes in the early 90s there have been very little initiative for dugong conservation in regionally and in range state. This was basically a result of funding constraints and a dedicated officer in SPREP to directly address this issue.

The meeting noted that with current emerging issues on marine mammals, dugongs should be given a special attention and should not be lumped with other marine mammals. The meeting a greed to a specific action plan for the dugong and recommended strongly a dedicated officer to be recruited at a Assistant project level to specifically addressed dugong conservation.

Action 20

- Facilitate the establishment of a SPREP Dugong Conservation Officer to execute Dugong Conservation Programme. This dedicated officer will be responsible to the SPREP Marine Species Officer. The meeting highly recommended that the Officer should be located in a range state, (to be decided by participants at the 2003 Regional Dugong Workshop) with close links established with SPC, Noumea and to promote fieldwork in all range states. Dugong Conservation officer position to be up and running by 2004.

WHALE AND DOLPHIN ACTION PLAN 2003-2007

VISION

Whales and dolphins are part of Pacific Island peoples' cultural and natural heritage and as such our role is to cooperate to:

- foster their recovery from past over-exploitation;
- improve protection and conservation of these species and their habitats, particularly the establishment of sanctuaries through national, regional and international action;
- ensure that Pacific Island people continue to benefit from their long-term survival ; and to
- increase knowledge, awareness and understanding of these species and the role they play in Pacific marine ecosystems.

GOAL

To conserve whales and dolphins and their cultural values for the people of the Pacific.

2003-2007 ACTIONS

Cultural Significance (including whaling heritage)

Many Pacific Island cultures have legends, stories and traditional uses of whales and dolphins, indicating an importance of these creatures in the identities of people, their way of life and their heritage in the Pacific Islands region.

Whaling has left a significant mark on the region and many countries have a whaling heritage, even if they were never whaling nations.

There is an important need to document the stories, myths, legends and uses of whales and dolphins, and to conserve these to build awareness, pride and understanding of this component of our heritage.

Action 1

- Support and encourage local networks to research and share custom/cultural information on traditional values, uses and interactions with cetaceans throughout the region, in particular encourage governments to promote community/schools involvement in research on cultural significance of cetaceans. By 2005 at least three in-country projects have been developed, resourced and are underway.

Action 2

- Identify, record and preserve artefacts and their stories, in particular whalers' stories, from whaling history. By end of 2003 museums and other institutions are approached to display artefacts and stories particularly in Fiji, Solomon Islands, Tonga and Vanuatu.

Action 3

- Support the development and distribution of existing education and awareness materials to effectively use the information generated above to build awareness, pride and understanding of this unique part of our heritage. In doing so promote the significance of conservation actions so as to not repeat the mistakes of the past. Education materials developed and distributed by 2005 as part of the in-country projects.

Whale and Dolphin watching tourism.

Whale and dolphin watching tourism has grown significantly in the Pacific Islands region in the past decade. It is important that marine mammal watching tourism should benefit local communities.

The development of whale and dolphin tourism in the Pacific Island region continues to be severely limited by past commercial whaling (including illegal whaling) by non Pacific Island countries. Furthermore some whale watching operations in the region are associated with endangered species and/or parts of their lifecycle vulnerable to disturbance e.g humpback whales.

It is important to continuing to support the sustainable development of whale and dolphin tourism in the region, and the importance of sharing experiences and lessons learnt.

Action 4

- Provide assistance to SPREP members in progressing whale and dolphin watching activities, including documenting lessons learnt and enabling sharing of experiences.

Whale Sanctuaries

SPREP members have produced a proposal for a South Pacific Whale Sanctuary (SPWS) (Apia Statement, April 2001). Later that year at their 32nd meeting Pacific Islands Forum Leaders agreed to pursue the objectives of the proposed South Pacific Whale Sanctuary through national, regional and international actions.

Action 5

- Continue information exchange with the IWC and continue to attend the IWC as an observer in support of the SPWS proposal. SPREP Observer (and/or delegation) to attend annual IWC meetings (provided that funding is available).

Action 6

- Encourage IWC member countries to support the proposed South Pacific Whale Sanctuary.

Action 7

- Encourage New Zealand and Australia to continue to promote the SPWS at IWC Annual Meetings on behalf of SPREP member countries.

Action 8

- Encourage France and the U.S.A. to include SPREP territory representatives in their delegations to IWC, to facilitate promotion of the SPWS at IWC Annual Meetings on behalf of SPREP member countries.

Action 9

- Acknowledge and promote efforts of member countries who have declared sanctuaries or are preparing to declare whale sanctuaries and/or related marine protected areas (MPAs).

Action 10

- Encourage and support the development of management plans to foster research, education, awareness, capacity building, monitoring and enforcement for those countries that have declared whale sanctuaries and or/marine protected areas.

Action 11

- Facilitate, encourage and support the provision of technical advice to declare whale sanctuaries and/or marine protected areas for countries that are considering the declaration of such national sanctuaries or MPAs.

Action 12

- Encourage SPREP members north of the equator to consider the declaration of national whale sanctuaries within their Exclusive Economic Zones (EEZs).

Action 13

- Facilitate and encourage discussions and actions on whale sanctuaries in other forums such as the Convention on the Conservation of Migratory Species of Wild Animals (CMS). Convene initial CMS meeting on a proposed agreement for a regional marine mammal sanctuary by March 2003.

Strandings

It was estimated that there are some 1 – 10 single stranding (or mother and calf) stranding per year in most countries plus occasionally one or two mass strandings. Often it is sick animals coming to shore, however, sometimes-healthy animals get confused and become stranded in an embayment.

In NZ and Australia, the public perception is that considerable efforts should be made to save the stranded animals, although it is generally not a biologically significant issue. Often a successful rescue is not possible, especially if the reason they strand is because they are sick.

Rescuing a stranded animal is a difficult task. They “cook” in their own blubber in the sun and you must try to keep them cool – cooling their tail flukes is

especially important. In mass strandings it is important to try to release all animals together, not one at a time.

Two key issues need to be addressed – 1. how to rescue a stranded animal and 2. how to take and preserve samples from dead animals.

Action 14

- WWF have produced an excellent pamphlet on what to do in the event of a stranding. SPREP to work with WWF to produce an amended version of this document for SPREP member countries and to distribute this. Each country can arrange to have this translated into local languages. WWF-SPP to contact WWF-Indonesia (Wallacea Programme) for reproduction of Strandings pamphlet by 31st March 2003.

Action 15

- Strandings report card also to be translated and distributed. NZ has provided a standard form.

Action 16

- In the case of a death of a stranded animal, countries need to know the appropriate autopsy methods, particularly to take samples and send them to appropriate institutions (eg. Auckland Uni) for genetic analysis. SPREP to produce a standard operating procedure manual for sampling and transporting samples. A draft procedure to be provided to SPREP Secretariat by 31 March 2003.

Action 17

- Investigate provision of facilities for autopsy of cetaceans from the Pacific by April 15th 2003. Department of Conservation (NZ) will provide advice to SPREP on this issue.

Action 18

- IFAW to arrange for regional strandings workshop by end of 2003.

Fisheries Interactions

There are three key current issues for whale and dolphin interactions with fisheries operations:

1) An argument is used by some whaling interests that large whales eat commercially important fish and that there is a conflict between whales and commercial fisheries that can be resolved by culling populations of large whales.

2) Depredation of commercially caught fish on longlines by some toothed whales takes place in the region.

3) By-catch and entanglement of whales in commercial longlines.

In regard to the **'whales eat fish'** argument and **longline issues** participants noted:

- In the SPREP region, there is no scientific basis for this argument. Large toothed whales usually eat non-commercial prey such as deep-sea squid (of no commercial value).
- In the South Pacific part of this region, baleen whales have not been shown to eat large fish. For Bryde's whales (the only species of baleen whales that feeds in tropical waters), studies of stomach contents from Japanese "scientific whaling" in the Solomon Islands in the 1970s have shown that 97% of their diet is plankton.
- Baleen is a filtering mechanism and baleen whales have no teeth. They are not fast enough to chase and catch large fish, such as tuna.
- The small toothed whales that are probably involved in depredation of hooked fish on commercial longlines are: killer whales, false killer whales and pilot whales. Additionally, some dolphin species take bait from hooks. This is a significant problem in the region (particularly in Samoa, Fiji, Tonga and PNG).
- In November 2002 SPREP held a workshop on this issue. This workshop produced a detailed Action Plan. One key recommendation is a 'predator identification workshop' to improve the quality of the data gathered by fishermen (eg so they can tell the difference between a shark bite and a whale bite on a fish). Another important study will be to identify whether the depredation is carried out by only a few animals and whether they target specific fishing boats. SPREP has set up an internet based "list-server" for people in the region to communicate on this issue. This is open to all interested stakeholders.

Action 19

- Participants endorsed the Action Plan from the SPREP Longline / Cetacean Interactions workshop (November 2002). This also included:
  - SPREP Secretariat to encourage further research into this issue in this region, in particular species involved in depredation, extent of impact, and possible methods for mitigation. The situation in Samoa, Fiji, Tonga and PNG requires priority attention.
  - SPC Secretariat to produce an identification sheet for species of toothed whales that may be involved in depredation of hooked fish on pelagic longlines in this region and dolphins that may remove bait from hooks.
  - Development of an education campaign to teach fishers mitigation methods as they become available as fishermen may be taking this issue into their own hands, e.g shooting whales.
  - SPREP Secretariat to highlight these issues and recommendations to the next meeting of the Marine Sector Working Group of the CROP to ensure coordination with other organizations. An information package to be provided for this purpose by 30 April 2003.

In regard to the issues of **by-catch and entanglement in fisheries** gear (nets, lines etc.) participants noted that this does not appear currently to be a

significant issue in this region. Rare examples have been noted, for example an Orca in longline fishing gear in NZ in November 2002, humpbacks in a gillnet in early 1990s and in crayfish rope (2001, Tonga; 2001/2, Kaikoura, NZ), pilot whale in longline gear in Tonga (2002) and New Caledonia (2002). Purse seining in the region is a possible concern but no real data on this is available.

Action 20

- Encourage networking and information exchange on this issue, through the list server established by SPREP following the Longline / Cetaceans Interactions Workshop

Other Threats

Participants noted a range of other threats to whales and dolphins. These included:

- Whaling and directed take of small cetaceans
- Pollution
- Vessel Collisions
- Noise
- Habitat degradation
- Harassment
- Climate change
- Prey depletion by commercial fisheries leading to food chain disruption

Participants discussed and agreed a range of actions outlined below:

Whaling / directed take of small cetaceans

The taking of large whales does not currently occur in the SPREP region, although there is continuing pressure to resume whaling in Tonga. Currently direct takes of dolphins for meat and teeth takes place in the Solomon Islands. In Fiji there is a history of taking dolphins and toothed whales for their teeth, but there have been no recent reports.

In Tonga the current Humpback population is approximately 10% of pre-exploitation days. The pressure to resume whaling has increased in recent years. In its 2002 annual report, the South Pacific Whale Research Consortium reiterated that the impact of any further takes of humpback whales from the Tongan population cannot be reliably assessed with the available data; however, given that the population clearly has not recovered to pre-exploitation levels of abundance, any renewed hunting pressure would be detrimental to the future of this stock. The research data currently available shows links between Tonga and other island groups in Polynesia and possibly Melanesia. Takes from the Tongan humpback population may thus significantly impact other humpback populations in the region.

Participants also noted the potential impacts of scientific whaling. Over 6000 Antarctic minke whales have been taken in the JARPA programme, 1986-2003, and some of these animals will have spent some of their lives in the

waters of Pacific Island nations. Japanese research whaling operations in the vicinity of the Solomon Islands between 1977 and 1979 took 240 Bryde's whales. The impact of these removals on the current population in the area is unknown.

Action 21

- Information exchange – recommend the production of a pamphlet to summarise the available information on humpback whales in Tonga and a public awareness campaign to accompany its distribution, including to government agencies. This to include information on the economic benefits of whale watching in Tonga. SPWRC will produce a draft for such a pamphlet by 31st July 2003.

Directed take of small Cetaceans

In a number of areas of the Solomon Islands, locals hunt dolphins and other small cetaceans. The animals are herded into confined bays where they are killed, with the primary objective of obtaining their teeth and meat. Dolphin teeth have long served as currency throughout Malaita and Makira. They are also woven into collars or headbands used in blood bounties. Necklaces of dolphin teeth remain essential to the payment of bride price amongst some Malaitans and Makirans.

Most of the cetaceans taken in the Solomon drive fishery are apparently long-snouted oceanic forms, including spinner, Pantropical spotted, striped, common and rough-toothed dolphins, along with false killer whales. Risso's dolphins were also taken occasionally, but their low numbers of teeth made them of relatively little value to the Malaitans and Makirans. Melon-headed whales are also reported to have been taken in the past but are rarely taken today.

Although the Malaitans were reported in 1996 to no longer hunt cetaceans, reports suggest that this practice has been recently reinstated. The civil unrest has caused significant damage to the economy and infrastructure, and dolphin teeth are again being commercially marketed domestically in a number of islands, including Malaita, Makira, the Lau sub-district on the extreme north and northeast of Malaita, as well as Walande and Kwai to the south of Malaita.

The populations of small cetaceans in the Solomon Islands are currently poorly understood, therefore the impact of any direct take cannot be assessed at this stage.

Action 22

- Government agencies in the Solomon Islands encouraged conducting research on how many animals are taken and which species. Support to be sought for this work.

Pollution

The types of pollution that may impact cetaceans in this region include chemical (heavy metals); sewage (nutrient enrichment, disease; heavy metals and pesticides); plastics (ingestion) and persistent organic pollutants.

Sewage discharge could be a problem as it may cause nutrient enrichment and possible habitat destruction; it may also introduce disease and heavy metals and pesticides. A few cases of impact have been recorded from this region, including disease issues in dolphins adjacent to sewage discharge in Western Australia for example. At this stage it is not considered to be a significant issue for the region but needs to be monitored.

Chemical pollution is not currently considered to be a significant issue in this region, other than Persistent Organic Pollutants. These include pesticides, PCBs and dioxins, mainly produced in the Northern Hemisphere, that are potentially a significant threat to cetaceans. These compounds effect hormonal system and can cause low fertility and birth defects. They are transmitted through atmospheric deposition into the ocean and by run-off from land, particularly agricultural chemicals (e.g. pesticides).

There is also a need to be aware of the pollution potential due to the natural erosion of war ordinance shipwrecks. Normally, this is seen as build-up of heavy metals in molluscs and long-lived animals, including turtles and cetaceans.

The issue of plastics is thought to be a priority pollution threat in this region; the occurrence of plastic bags in the ocean is increasing and it is known that the ingestion of only a few plastic bags could have a lethal impact on juvenile cetaceans.

Action 23

- Public education/awareness. Develop public awareness and education campaign to dispose of plastics properly;

Action 24

- Encourage local governments to provide adequate garbage disposal facilities.

Vessel Collisions

Although there are reports of ferry and yacht collisions with whales, vessel collisions with large whales do not appear to be currently a significant issue. However, with increased whale watching and boating activity in the region and the general increase in speed of large container vessels, this could become a more significant problem in the future. (See also sections on noise and harassment).

Action 25

- NZ and Australia to provide information, including regulations on this issue to SPREP Secretariat for wider distribution by 15 March 2003.

Noise

The ocean is essentially an incredibly noisy environment. Noise issues in the region as related to cetaceans were summarised as:

- Seismic testing to search for oil is not a significant issue in this region.
- The US (and possibly French) Navy use high-energy, low frequency sonar, which has been shown to have a significant impact on some whales, especially beaked whales, causing acute trauma to the ear, strandings and death.
- Provisions of NZ Marine Mammals Protection Regulations and Australian regulations recognize the effect of boat noise on cetaceans and recommend a lower speed when a dolphin is bow riding for example. This may be considered in any legislation that is developed for recreation boating.

Harassment of Cetaceans

The SPWRC 2003 report notes that the potential impact on cetaceans of unregulated whale-watching, swim-with-whales programmes and private recreational boaters is an issue of concern in several areas (e.g. Tonga and New Caledonia). To date, however, there have been no published studies of the impact (short- or long-term) of harassment, and whether it affects the only ultimate variable of concern, reproductive success.

Action 26

- SPREP to encourage development and implementation by member countries of regulations to ensure appropriate behaviour of vessels involved in watching cetaceans.

Habitat Degradation

Not considered to be a significant issue for cetaceans in most parts of the region at present. However potential impacts of large-scale mining and forestry operations in some areas of PNG, New Caledonia (critical habitat for humpback whales), Solomon Islands, and Fiji need to be examined.

Potential impacts of deep-sea mining are unknown, but there is a general increase in this activity in the region, and studies are required to assess these possible impacts.

Climate Change

Possible issue of concern, but at this stage there is no evidence of any direct impacts. However, there may be significant adverse impacts in the future on the availability of the major prey species for baleen whales (Antarctic krill, Oceanic plankton).

Population Status and Trends and Research Priorities

Status and trends of other species of large baleen whales in the region is unknown**.** Recovery of most large whale species from impacts of former whaling operations is, for the most part, unknown. Humpbacks are recovering

in some areas (e.g. East and West Australia) but recovery rates (if any) in French Polynesia, New Caledonia, Tonga, Cooks are currently unknown. Humpbacks remain rare in other areas of former abundance (eg, Samoa, Vanuatu, American Samoa and Fiji).

Best status estimates of Southern Hemisphere populations are based on sightings cruises in Antarctic Ocean:

Blue : <2% of pre-whaling population
Fin : <5% of pre-whaling population
Sei : < 5% of pre-whaling population
Humpback: recovery uncertain, currently under investigation through an integrated research programme – total population of Oceania probably of the order of 2,000 animals.
Minke : unknown, probably abundant, trends unknown, although sightings cruises in Antarctic indicate significant downwards trend in past decade
Bryde's: unknown population size or status
Sperm : unknown, probably depleted and probably recovering
Small cetaceans: no information on status and trends.

Participants noted that there was an existing list of publications covering available information; see Reeves et al 1999, and reports of SPWRC.

Action 27

- Use of lethal techniques to address research issues connected with cetaceans is unacceptable and any such programmes involving the killing of cetaceans under the guise of research are not supported in this Action Plan.

Action 28

- Recommend initiation of baseline studies as required.

Action 29

- Recommend continuation of existing monitoring programmes for humpbacks (SPWRC) and sperm whales (Ocean Alliance), including the involvement of local people wherever possible.

Action 30

- Recommend expansion of existing research programmes (wherever possible) to include areas not previously covered (including SPREP region north of Equator).

Action 31

- SPWRC Annual Reports to be provided to SPREP Secretariat for distribution to member countries.

MARINE TURTLE ACTION PLAN 2003-2007

VISION

We see a future where generations of Pacific Island people will have choices about how they use and interact with sea turtles. This will be achieved if we take action now to ensure that sea turtle populations recover to become healthy, robust and stable. Sea turtles will be fulfilling their ecological role; and if they are taken by Pacific Island people, it will be on a sustainable basis to meet their cultural, and nutritional needs.

GOALS

To recover turtle stocks, and conserve them and their cultural and nutritional values for the coastal people of the countries served by SPREP.

The Goal can be achieved through following tasks which are identifies as the principle elements of the programme.

2003 – 2007 ACTIONS

1. Education and Awareness

Provide assistance to the participating national agencies to enable them to deliver an effective and accurate education program to the people of the pacific region.

Key issues for turtle survival are unsustainable harvesting and habitat degradation. Both these causal factors are primarily due to human activities. In the last 10 years concern for turtle conservation and wise use has grown in the region with an increasing number of initiatives being undertaken at local, national and regional levels. SPREP RMTCP will provide support in environmental education at all levels.

Actions

- Conduct a second 'Year of the Sea Turtle' campaign (a renewed effort is needed. There are 1.5 million new people in our region since 1995)
  - High priority for 2005 (if feasible, otherwise 2006) and every 10 years thereafter.
  - Form an organization committee for YOST as soon as possible:
  - Coordinate by SPREP and seek significant NGO involvement
  - Do it right (not rushed), include lessons learned from YOST 1995, line up the funding and NGO participation (WWF, TNC, IFAW)
  - Seek support for the YOST in the 23rd Turtle Symposium in Kuala Lumpur
  - Develop linkages with WWF International Marine Turtle campaign.

Background paper on YOST for KL meeting by 15 March
Endorsement of YOST by SPREP member governments and PI Forum by August 2003
Form Organizing Committee by 28 February:
Job Opu, Lesley Gidding, Donna Kwan, Manasa Sovaki, Lui Bell, John Pita, Vincent Liardet, Nancy Daschbach
Organizing Committee to develop Terms of Reference, timelines and funding requirements by 15 July 2003.

- Incorporate satellite-tagging programme into YOST with tag releases by multiple member countries to emphasize the shared nature of turtle stocks
- Target school curriculum to have lasting value beyond 2005
- SPREP to produce posters on YOST in local languages
- Utilize Wan Smolbag model for community awareness -- it was highly successful in 1995
- Media songs, ads, competitions, t-shirts, sports tie-in
- If no YOST, SPREP & members should undertake the tasks above.

2. Regional Turtle Databases

*This action has been given a **very high priority**. Urgent need to upgrade and Regularly update the SPREP RMTCP database, as new information is available to maintain its relevance.*

Actions.

- Adopt 10 points in 'Proposed Workplan in 1999' modified as follows:
  - Continue updating (a) tagging and knowledge databases, and look for areas where improvements are needed for database operation and services, including deficiencies noted in general running of the database.
  - Where possible, provide assistance to RMTCP members for turtle conservation work as it relates to the database operation services.
  - Continue to work with other database programmes such as those operated by Dr. Colin Limpus (QEDH), George Balaazs (NMFS), SPC, and regional consultants.
    1. Complete update of nesting component of database.
    2. To be involved with Arnavon's Solomon Islands turtle monitoring work as a case study to review, assess and propose improvements to the tag database.
    3. Proposed visit to Dr. Limpus' turtle research programme (QEDH) to look at potential improvements in database design and use.
    4. Look at possibility of running database on Access as this is becoming the standard database software in SPREP.
    5. Complete database manual.
    6. Monthly meetings with Turtle Project Officer to discuss progress of turtle work in reporting and database.

7. Produce 2003 Turtle Annual Report of turtle tagging database **by 31 December 2003.**
8. Member countries to have direct access to SPREP turtle database via Internet.

- SPREP to ensure long-term commitment to database, and link up this database with national databases – **by 31 August 2003**.
- Database to link up to appropriate GIS.
- SPREP to extend database to catch landings, etc
- Encourage member countries to supply tag data – **by 31 August 2003**.
- Form working group to standardize data fields and distribute to member countries for their input to database – **31 May 2003**
- Auckland University and/or other institutions to develop genetic database for archiving – **by 31 October 2003**

Turtle Database prototype trailed by 31 October 2003

3. Management

Provide assistance to improve marine turtle management practices within the participating nations.

Actions:

- Review local and national marine turtle and habitat protection legislation and regional/international agreements currently in force in SPREP member countries.

This review shall be coordinated by SPREP Secretariat and will result in a clear understanding of the specifics of current legislation including but not limited to:

- Penalties and enforcement protocols;
- Species covered by legislation;
- Habitat protection;
- Sustainable catch estimates (e.g. size limits and catch rates);
- Open and closed harvest seasons;
- Total and/or partial protection provided in closed seasons;
- Local customs and arrangements;
- National EEZ protection;
- Regional agreements.

Member countries to supply required information by 1 May 2003.
Review completed by 1 July 2003

- Analyse and assess current level of knowledge on marine turtle populations in SPREP member countries.

  This assessment will be coordinated by SPREP Secretariat and will seek to provide a clear understanding of the current level of knowledge on marine turtle populations in the SPREP region. This assessment will collate all available data on marine turtle populations in the region including but not limited to the following:
  - Historical records of sightings of marine turtles;
  - Historical catch and by-catch records;
  - Historical records of species occurrence, distribution and abundance;
  - Any past research and assessments of marine turtles in the region;
  - Documented evidence of current conservation status of marine turtles in SPREP member countries.

  Information compiled by member countries by 1 March 2004
  Report by 1 June 2004

- Evaluate the effectiveness of current marine turtle protection legislation in force in SPREP member countries in light of the existing information available on marine turtles in the region (i.e. the result of the Action 2, above).

  Draft paper circulated for review by 1 September 2004
  Final report by 31 December 2004

  The current legislation in place to protect marine turtle populations in SPREP member countries will be evaluated as to its effectiveness to the conservation of marine turtle populations. If the legislation and attached enforcement protocols are assessed to be unable to inadequately provide for the protection of marine turtle populations in the region then more appropriate protection measures will be suggested, including negotiations with other range states (Asia Pacific). These protection measures may include the following:
  - Marine Protected Areas;
  - Designation of regions of temporal and spatial closure in relation to taking marine turtles;
  - Regulations in the methods of taking marine turtles and quotas;
  - Sustainable catch estimates (eg size limits and catch rates);
  - Open and closed harvest seasons;
  - Total and/or partial protection provided in closed seasons;
  - National EEZ protection;
  - Regional agreements;
  - Creation of local, national and regional marine turtle sanctuaries.

- The major threats to marine turtle conservation in the region will be identified and prioritized.

Major threats in the region may include but will not be limited to such issues as direct take of eggs and adults; critical habitat (breeding and foraging grounds) destruction; by-catch; pollution (plastics and fishing gear) and toxics (heavy metals and pesticides); vessel collisions; climate change; water quality; disease and natural disasters such as cyclones.

The major threats in the region will be identified and the threats that have the greatest negative impact in various areas will be determined. These threats will then be prioritized in relation to the urgency to address such threats for the conservation of marine turtle populations in the region.

Report completed by SPREP (using existing information) by 1 December 2003

- Mitigation of anthropogenic impacts on marine turtle populations in the SPREP region.

Once the priority threats to marine turtle populations in the region have been identified, appropriate mitigation strategies for these threats will be identified. Mitigation methods may include but not be restricted to the following:

  - Protection of critical habitats;
  - Management for sustainable subsistence harvest;
  - Mitigation of by-catch;
  - Turtle protection legislation and enforcement;
  - Public education and awareness.

SPREP Secretariat to complete report by 15 February 2004

- Promote and assist community-based management and conservation.

SPREP Secretariat to provide assistance to local communities who wish to initiate turtle protection mechanisms in their local region.

Examples of assistance provided to be included in SPREP Annual Report (ongoing)

- Promote socio-economic benefits of marine turtle conservation.

SPREP Secretariat will help to reinforce the importance of marine turtle conservation within the region. Examples of this may include:

  - Investigation and promotion of the feasibility of developing a "turtle watching" tourist industry at selected sites with the region. This type of non-destructive, sustainable utilization of marine

turtles, if correctly managed, has the potential for contributing to both the regional economy and the conservation of marine turtles.

- In collaboration with national governments and community leaders, develop mechanisms for maintaining the essential elements of cultural activities involving marine turtles while at the same time reducing the number of turtles killed. For example, in some island cultures where captured marine turtles are required to be presented to chiefs, it may be possible to maintain the capturing and presentation components but for the turtles to be tagged by the chiefs and released as a ceremonial investigation for future generations.

Examples of assistance provided to be included in SPREP Annual Report (ongoing)

- Develop management strategies for marine turtles that integrate traditional knowledge, utilisation and conservation with modern management techniques. Priority to be given to bilateral (multilateral?) strategies for known connections between feeding and breeding grounds (e.g. Fiji and American Samoa).

A minimum of one example of such a strategy per annum, to be included in SPREP Annual Report

- SPREP Secretariat to provide annual progress reports, on the implementation of the Marine Turtle Strategic Action Plan, to SPREP member countries and relevant stakeholders.

INCLUSION OF PROGRESS ON MARINE TURTLE STRATEGIC ACTION PLAN IN SPREP ANNUAL REPORTS, 2004-2006

SPREP to prepare a detailed report on an annual basis that will outline the progress made toward the actions outlined in the marine turtles action plan and the expected progress for the following year. This report will be made available to all SPREP member countries and to relevant stakeholders such as distant water fishing nations; domestic fishing industry; local communities; local governments; NGOs and researchers.

Report completed and distributed, 2004-2006

4. Capacity Building

Training opportunities identified and provided so that there can be people within each participating country who have the necessary skills to provide leadership in marine turtle conservation management and population monitoring.

Actions.

a. SPREP member countries and territories are encouraged to identify skills needed/lacking/required, and to bring to the attention of SPREP Secretariat.

b. SPREP Secretariat to facilitate the provision of:
   - appropriate training /tools/materials and attachments etc
   - technical assistance/expertise
   - coordinated transfer of knowledge between countries and interested groups /org. etc

Minimum of three people from SPREP member countries to receive training and up skilling each year (including through attachments with experts such as Balaazs, Bell and Limpus)

5. Research (National / Regional)

Conduct monitoring and research of marine turtle population, distribution and migratory patterns within the Pacific region that is necessary for planning for ecological sustainable utilization and for determining the effectiveness of management activities. Each country/territory to take primary responsibility for initiating and implementing research programmes within their jurisdiction.

Actions.

- Gather information to fill existing gaps on*:*
  - Genetic stock identification and composition according to genetic
  - Population structure: morphometric characteristics, sex ratio, age class, reproductive status
  - Location of nesting and foraging areas
  - Timing of breeding and nesting
  - Species/population distribution and abundance
  - Significance, nature and extent of local use of turtles (according to species, sex ratio, age class, reproductive status)
  - Impacts on populations from subsistence consumptive use
  - Determine sustainable estimates for subsistence use (according to nesting/foraging populations)
  - Determine population trends (per species/stock)

  Each country to report annually to SPREP Secretariat, in time for inclusion in Annual Report (ongoing) (N.B. Remember to check with Fisheries, as well as Environment/Conservation Departments)

- Evaluate the use of turtles
  - tourist attraction
  - local utilisation
  - as bio-indicators

    Each country to report annually to SPREP Secretariat, in time for inclusion in Annual Report, 2004

- Migration
  - To determine marine turtle distribution where, why, when (including satellite tracking)

    1. *Each country to report tag data annually to SPREP Secretariat, in time for inclusion in Annual Report (ongoing).*
    2. *SPREP Secretariat to provide tags as requested by member countries (ongoing).*
    3. *USP (in association with other Universities) to coordinate available data on migration on an annual basis, and to assist in the search for funding for satellite telemetry.*
    4. *If possible, to identify migratory corridors between SPREP members\states by 2006.*

- Key conservation issues:
  - Determine important migratory, foraging and nesting areas within the SPREP region
  - Assess strategic significance of Fiji as a key foraging area for the Eastern stocks of green turtles: map and protect foraging areas, assess threats (e.g. water quality, poaching, bycatch), census turtles, determine home ranges, diets, genetic analyses, and support local awareness and educational efforts
  - International significance PNG/Solomons leatherbacks
  - International significance about Solomons hawksbills
  - General lack of information about declining stocks of hawksbills in region
  - Consider the use of marine turtles as flagship species to raise public awareness for various issues (e.g. conservation of critical habitats such as seagrass, breeding beaches and coral reefs)

Form Expert Working Group by 31 March 2003:
Job Opu, George Balaazs, Col Limpus/Ian Bell, Peter Craig, Manasa Sovaki, Vincent Liardet, Peter Dutton, plus country reps from PNG, Kiribati, Solomons, Samoa (to be determined).
Report due by 30 August 2003
Updated information included in SPREP Officials Meeting Report 2004

6. *Regional /International Co-operation*

The meeting noted that there is a need for information exchanges and linkages and collaboration both at regional and international level. Though there were some collaboration, there was a need for increased cooperation. The meeting noted also that SPREP would facilitate regional and international cooperation in turtle conservation management.

Actions

- SPREP Secretariat and other regional agencies and institutions, in collaboration with appropriate expertise, to co-ordinate research and exchange information on marine turtles.
  Annual Report to SPREP officials (ongoing)

- SPREP Secretariat, in association with other agencies to pursue funding opportunities (e.g. CIDA, GEF, ADB, World Bank, EDF, and environmental NGOs)

  Funding applications and responses reported to Annual Meeting of SPREP Officials (ongoing)

- *Communicate with the secretariats of existing regional and international agreements, e.g. (Apia Convention, CMS, CBD, CITES)*

  Report to Annual Meeting of SPREP Officials (ongoing)

- Seek involvement in WWF International Marine Turtle Campaign 2004