



**Convention on Migratory Species
Memorandum of Understanding for the
Conservation of Cetaceans and their
Habitats in the Pacific Islands Region**

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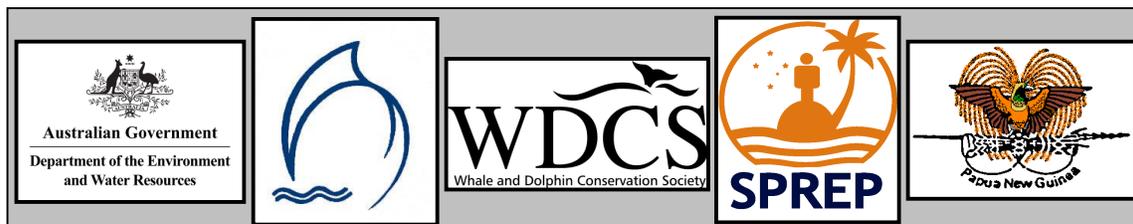
SECOND MEETING OF THE SIGNATORIES
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**PAPUA NEW GUINEA NATIONAL CETACEAN RESEARCH TRAINING AND
CAPACITY BUILDING WORKSHOP**

Report submitted by Papua New Guinea

Papua New Guinea National Cetacean Research Training and Capacity Building Workshop

Madang, Papua New Guinea
November 12th – 23rd 2007





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INTRODUCTION

Whales, dolphins and porpoises migrate over large distances, connecting ocean ecosystems and cultures throughout the Pacific Islands Region (PIR). The Countries and Territories of this region have recently demonstrated global leadership in cetacean conservation by becoming signatories to the Convention of Migratory Species (CMS) Memorandum of Understanding (MoU) for Cetaceans and their Habitats in the PIR (CMS 2006). This agreement is an important step forward in facilitating deeper region-wide cooperation to address issues of shared responsibility including threat reduction, habitat protection, establishment of migratory corridors research and monitoring, information exchange, regional capacity building, and the development of sustainable and responsible cetacean-based tourism. The CMS MoU agreement is being progressed with the understanding that much work needs to be done to increase our understanding of cetaceans in the region (Reeves et al. 1999, Miller 2007). Priority actions and gaps in information have been identified in a recently agreed SPREP regional whale and dolphin action plan (SPREP 2007).

In order to progress the CMS MoU, the Papua New Guinea (PNG) government recognized the need to develop skills of in-country staff and researchers to undertake and facilitate cetacean research and associated activities. The national cetacean research training and capacity building workshop was developed with the specific objectives of developing a core group of experts that will be able to conduct cetacean research, educational awareness and community programs within Papua New Guinea. More specifically the workshop was intended to strengthen and develop the cetacean conservation expertise of those that are directly involved and responsible for conserving and managing the cetaceans and marine environment of Papua New Guinea. Both the Australian Government and WDCS International committed to assist Papua New Guinea progress these strong objectives.

MEETING DETAILS

The 1st national workshop on cetacean conservation in PNG was held in Madang from November 12th – 23rd 2007. The PNG Department of Environment and Conservation invited participants from all PNG provinces, appropriate government departments as well as national and regional cetacean researchers and organizations to attend (see Appendix II for participant list). The workshop provided participants with the appropriate tools for progressing and developing cetacean research projects, educational awareness and community programs.

OBJECTIVES and OUTCOMES

The workshop proposal was written collaboratively by the Australian Government Department of the Environment and Water Resources, Papua New Guinea Department of Environment and Conservation, and WDCS International, and outlined the following objectives and proposed outcomes for the workshop:

OBJECTIVES

- (1) Provide hands-on cetacean training and study through research and monitoring
- (2) Enhance understanding of cetacean diversity, biology, habitats, migration, threats and conservation
- (3) Raise awareness regarding regional and global cetacean conservation and management
- (4) Facilitate the progress of national management plans for cetaceans
- (5) Develop collaborative working relationships within Melanesia and the PIR
- (6) Initiate several on-ground research projects
- (7) Progress the SPREP whale and dolphin action plan (2008-2012) and the Convention of Migratory Species (CMS) Memorandum of Understanding (MoU) for the Conservation of Cetaceans and their Habitats in the Pacific Islands Region

PROPOSED OUTCOMES

- (1) Progress a draft outline of the PNG cetacean management plan
- (2) Development of individual plans for participants based on province, department or region
- (3) Produce an agreed method (and sightings sheet) by which all participants would record and report cetacean sightings in PNG
- (4) Development of a database for cetacean sightings, research and activities in PNG
- (5) Identification of national priorities for PNG cetacean research
- (6) Provide access to resources, documents and educational materials for participants
- (7) Prepare research proposals to be funded
- (8) Undertake a field survey into cetacean diversity in the waters of Madang
- (9) Produce a workshop and research report
- (10) Identify a 'working group' to progress the ideas, initiatives and discussions of the workshop

The above outcomes and objectives were successfully addressed through the course of the workshop. A direct reporting against each of these specific points follows the summaries of the presentations and activities that were undertaken during the course of the workshop. The workshop was structured by beginning with three days of lectures, information and training sessions. The next six workshop days were spent with participants actively undertaking cetacean research surveys aboard two small boats. The last few days of the workshop were spent finalizing discussions and proposals, confirming individual and group agreements and responsibilities, and identifying ways forward to progress cetacean conservation in PNG.

INFORMATION and TRAINING SESSIONS

Brief day-specific tables of presentations and discussions are listed here and summarized below. Sessions included strictly information and training sessions, open discussions, small working groups and some individual work. A full agenda is listed in Appendix I.

12th November

1. Welcome and official opening - *Dr. Gae Gowan*
 2. Workshop introduction - *Vagi Rei & Cara Miller*
 3. Why we're here? *Vagi Rei & Cara Miller*
 4. General introduction to cetaceans - *Cara Miller*
 5. Overview of DEC structure and function - *James Sabi*
 6. Cetacean records in PNG, Vanuatu and the Solomon Islands - *All*
 7. How could we find out more? What else could be done? *Cara Miller*
 8. Importance of the Wildlife Enforcement Branch & its function (CITES) - *Veari Kula*
 9. Species identification - *Cara Miller*
 10. Cetacean behaviour - *Nardi Cribb*
-

1. Workshop opening

The opening speech warmly thanked the participants including those from the Solomon Islands and Vanuatu for attending the first Melanesian research and capacity building workshop. It highlighted and acknowledged the sponsors for their contributions and extended a special mention to the Australian Government for its commitment to PNG's pledge to cetacean conservation in the region. Participants were briefly introduced to the background of the work done leading up to the workshop, the significance of PNG signing the CMS MoU in March 2007, and the involvement of regional organizations including SPREP. The presentation also outlined the aims and objectives and finished by officially opening the workshop. The full transcript of these opening remarks is listed in Appendix III.

The workshop was opened by a spectacular opening ceremony by the people from the Karkar Islands.



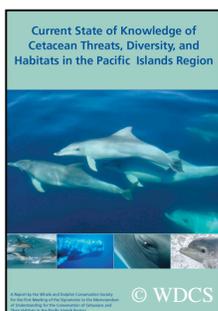
2. Workshop introduction

General objectives and expected outcomes of the workshop (page 6) were outlined to the participants as well as a summary of the proposed activities', practical skills and training that would be undertaken during the workshop. Participants and facilitators also spent time on introductions and providing a brief background on themselves. The scope of topics to be covered was also outlined.

3. Why we're here

It was impressed upon participants that they were specifically invited to be actively involved in cetacean conservation in Papua New Guinea and this workshop was to be an interactive, hands-on and practical experience. Furthermore, it was indicated that organizers would be relying on individuals to lead and propose activities that would continue after the completion of the workshop.

4. General introduction to cetaceans



This presentation provided participants with some background information on the presence of cetaceans within the PIR. This background had been gathered by collating many sources of information including research surveys, peer-reviewed publications, whaling records, incidental and opportunistic reports, country records and the Reeves et al. (1999) report – and has largely been summarized in '*Review of the current state of knowledge of cetacean threats, diversity and habitats in the Pacific Islands Region*' (Miller 2007). This document is a starting point for regional cetacean conservation as it identifies a core group of tropical cetacean species that are present in the Pacific Islands Region, provides initial country checklists of cetacean diversity, highlights the locations and species that have been researched and recorded, and also found that the status for a majority of species was unknown.

Several next steps for cetacean conservation in the PIR were presented. These included to: (1) Identify priorities in cetacean conservation for the PIR, (2) Consider knowledge gaps (such as potential species distributions) that occur across the region, (3) Examine the types of habitat or areas that are important for the species that have been recorded (or are potentially present) in Country and Territory or regional waters, (4) Assess necessity for mitigation of threats to recorded and potentially present species, and (5) To back up these objectives with on-ground action, education and awareness.

Finally, several factors were emphasized as important reasons to progress cetacean conservation in PNG, specifically: (i) Marine species constitute an important component of the biodiversity of PICTs, (ii) Ecosystems, habitats and communities, (iii) Intrinsic value, (iv) Culture – legends, tradition, heritage, and (v) Support the conservation of cetaceans on a regional and international level.

5. Overview of DEC structure and function

The purpose of this presentation was to give the participants a general overview of the structure and overview of the functions and responsibilities of the Department of Environment and Conservation. The Department of Environment and Conservation's (DEC) primary responsibility is to ensure protection of the environment and conservation of the country of Papua New Guinea's rich biodiversity. The work that DEC focuses on in order to manage and protect the environment was discussed and examples given (for e.g. by ensuring and coordinating Environment Impact Assessments for designated development proposals, by undertaking a wide range of biodiversity assessment activities, geared towards conservation as well as commercial opportunities, and by regulating the movement of species (flora and fauna) or their products into and out of Papua New Guinea). A number of DEC's Conservation Program Responsibilities were also discussed. As the lead environmental agency, for the country, DEC is also responsible to ensure compliance with a number of international and regional commitments as well as domestic environmental obligations.

6. Anecdotal and opportunistic cetacean records in PNG, Vanuatu and the Solomon Islands

All participants shared their personal experiences in regard to whale and dolphin sightings and/or stranding events as well as some of the background that they each had in regard to cetaceans in general. In addition to this session a poster of PNG was posted on one of the workshop walls throughout the course of the workshop. Participants were invited to mark this map with locations in which they had seen cetaceans and then write a brief note describing the details of the sighting on a separate document. These observations will be used to compare and update the existing records of PNG cetaceans.

7. How could we find out more? What else could be done?

After hearing about participants' experiences the variety of ways and methods that cetacean sightings and information might be collected opportunistically were further discussed. This session include discussions of using a 'vessel of opportunity' (such as fishing boats, Observer programs', dive boats and whale-watching vessels, coral reef surveys, ferry, aeroplane, or any vessel regularly on the water), appropriate land-based locations, as well as making use of other sources of information such as stranding events, newspaper reports, and historical records. Types of general research questions were also explored and conclusions from the Miller (2007) report on Pacific Islands' cetaceans were raised to also assist participants in beginning to think about the particular types of projects and questions they may choose to ask in their individual research projects. Finally, participants were left to dwell on three particular points, namely: (i) What are some research priorities in terms of species, locations, threats, issues and topics? (ii) What types of questions would you ask about these noted priorities? (iii) What might be a method to address these questions and priorities?

8. Importance of the Wildlife Enforcement Branch & its function (CITES)

This presentation covered the structure and responsibilities of the Wildlife Trade / Enforcement & Biosafety Branch, PNG Wildlife Trade policies and regulations, core branch activities, CITES listing of cetaceans, as well as some of the issues and challenges also encountered in this Branch.

9. Species ID



Species identification training was progressed by firstly introducing participants to the 'core group' of PIR cetaceans. This group was taken from Miller (2007) and included the following species: Blue whale, fin whale, sei whale, sperm whale, Bryde's whale, humpback whale, orca, minke whale, short-finned pilot whale, false killer whale, southern bottlenose whale, Cuvier's beaked whale, Blainville's beaked whale, pygmy sperm whale, Risso's dolphin, pygmy killer whale, melon-headed whale, Irrawaddy dolphin, dwarf sperm whale, Fraser's dolphin, bottlenose dolphin, Indo-Pacific humpbacked dolphin, rough-toothed dolphin, striped dolphin, spinner dolphin, Pantropical spotted dolphin, and common dolphin. Time was then spent looking at these species by dividing them into groups with relatively similar general feature (i.e., (1) whales, (2) small whales, (3) 'blackfish' and large dolphins, and (4) dolphins). These groups were separated on general length as well as similar morphology. Each of the species within each group was then examined separately to highlight differences in features and patterns such as dive patterns, head shape, dorsal fin shape and group size. Video footage and photographs of many animals were shown to demonstrate and emphasize how to differentiate and identify species.

10. Cetacean behaviour



The purpose of this presentation was to give participants a general overview and descriptions of cetacean behaviour. It was emphasized that studying cetacean behaviour can provide valuable information pertinent to insights into important cetacean life history characteristics such as foraging and calving patterns, social affiliations and migratory pathways. Discussed were thirteen of the most commonly measured behaviours - and examples of each were shown. It was noted that in the field it is sometimes difficult to definitively determine and identify cetacean group behaviour. This difficulty makes it necessary to clearly define how such observations will be consistently recorded. Brief examples of how this could be done were also discussed.

13th November

11. Protected Area overview in PNG - *Jim Onga*
 12. Regional cetacean initiatives - *Vagi Rei & Cara Miller*
 13. WDCS project grants - *Somerlea Marsh*
 14. Threats to cetaceans - *Cara Miller & participants*
 15. Whale and dolphin habitat - *Nardi Cribb*
 16. Marine mammal research introduction - *Cara Miller*
 17. Development of National Cetacean Plans - *Small working groups*
-

11. Protected Area overview in PNG

Participants were provided with a general understanding of the current policies and legislation related to protected areas, current issues related to marine protected areas, listings of the current and proposed protected areas, as well as some of the intended initiatives the PNG Department of Environment and Conservation are undertaking. The Acts covered included the National Parks Act, Fauna (Protection and Control) Act, Conservation Areas Act, as well as the Water Resources Act, Forestry Act, Fisheries Act, Continental Shelf Act and the Lands Act.

12. Regional cetacean initiatives

A brief introduction to both the Secretariat of the Pacific Regional Environment Program (SPREP) and the Convention of Migratory Species (CMS) was given. The general outline and programs of SPREP were summarized and the regional marine species action plans covering dugongs, marine turtles and cetaceans were highlighted. These SPREP plans share the over-arching vision of '*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*' and are a product of regional input and expertise. The history and development of the recently agreed regional whale and dolphin action plan (2008-2012) was explained and the actual plan itself was provided to participants (Appendix V) and discussed.

An overview of the structure and objectives of the CMS were also presented. Specific objectives of CMS include: (1) To ensure that the conservation and management of migratory species is based on the best available information, (2) To ensure that migratory species benefit from the best possible conservation measures, (3) To broaden awareness and enhance engagement in the conservation of migratory species amongst key actors, and (4) To reinforce CMS's overarching and unifying role in the conservation and management of migratory species. Some of the tools with which CMS progresses these objectives include: Strict protection for endangered migratory species, cooperative Agreements to restore favourable conservation status, and cooperative research and conservation projects. The particular importance of CMS to the PIR is the CMS Memorandum of Understanding for the Conservation of Cetaceans and their Habitats in the Pacific Islands Region that came into force in September 2006. In March 2007 Papua New Guinea became a signatory to this agreement. All MoUs have an

action plan and at present the CMS MoU action plan is the same as the SPREP regional whale and dolphin action plan.

13. WDCS project grants

Background on WDCS International and their research-funding program was presented. It was also announced that WDCS has set aside a minimum of \$10,000 for each of the next three years to fund cetacean conservation projects developed as part of the PNG workshop. Criteria for WDCS Project funding were explained and several examples of successfully funded projects were given. These examples gave a variety of project types and demonstrated that locally based projects appropriate and effective in their application and connection to wider regional work was well received. It was emphasized that WDCS would preferentially fund work that was consistent with the SPREP whale and dolphin action plan as well as the outcomes and discussions of the current workshop. Francis Hickey (Vanuatu Cultural Centre) has recently received funds from WDCS for marine mammal monitoring work in Vanuatu and gave a brief outline of his proposed work.

14. Threats to cetaceans

Participants were asked to identify direct and indirect local cetacean threats. The following list are the thoughts and ideas that were listed and discussed in a group setting:

Lack of Observer programs	Mining explorations including deep sea mining	Fast moving vessels and ship strikes
Lack of reporting in fishing operations	Training and resources to help understand stranding events	Industrial waste and pollution
Health of ecosystems and their environment	Explosives, dynamite, home made bombs (used for fishing)	Poaching, illegal takes, non-target take
Entanglement in fishing nets (e.g., long-line, gillnets, and purse-seine)	Tidal and oceanographic effects (changes in currents, food distribution and ocean systems)	
Diseases	Acoustic impacts	
Over-fishing	Ballast water	
Habitat degradation	Old age	
Lack of baseline information	Traditional hunting	
Climate change	Trade and commercial exports	'Scientific' whaling



15. Whale and dolphin habitat

Cetacean habitat was discussed in terms of definition, function and importance within marine ecosystems. Cetacean habitat was defined as “*the area of the marine environment, which is essential for the day-to-day survival and healthy growth rate of a species, a population or an individual animal*” (Hoyt 2004) however it was acknowledged that this definition varies between researchers, species and regions. In general, cetacean habitat is described by measurement of water properties and characteristics, features of the marine environment, factors that drive a species distribution, and on occasion cetacean behaviour. The importance and application of habitat studies were discussed and two specific examples were given to demonstrate how habitat could be investigated and measured in a management context. Some ideas for initiating habitat studies in the PIR were suggested, including: prey distributions, marine environmental characteristics, distance from shore (offshore / coastal), behaviour, presence of juveniles, and the annual occurrence of migratory species. It was also highlighted that participants’ local knowledge of coastal areas would be beneficial and advantageous to this kind of work.

16. Marine mammal research introduction

Research methods most likely to be undertaken by workshop participants were discussed. Description and examples of photo-identification, acoustics, boat-based surveys and land-based survey projects were given. Additional methods such as satellite tagging, habitat mapping, DNA sampling, questionnaires and surveys, and threat assessments were also presented. An introduction into how different research questions could most appropriately be addressed was also given. For the purpose of the presentation several questions were raised and then examples of the approach, methods, equipment needed and possible management implications and types of information garnered were given. Example questions used in this presentation were:

- (i) How would you determine which species inhabit a particular region?*
- (ii) How would you monitor the seasonal occurrence of humpbacks or the year-round occurrence of orca?*
- (iii) How would you measure whether there are more cetaceans within a lagoon versus a deeper offshore oceanic region?*
- (iv) How would you estimate the size of spinner dolphin population within a particular lagoon?*
- (v) How could you investigate social groupings and affiliations of bottlenose dolphins?*

17. Development of national cetacean research and management plans

Small working groups were convened to discuss individual ideas and proposals for individuals, groups and organizations to undertake cetacean research work. During these discussions the SPREP WDAP was used as a guide for how priorities and activities might be progressed in PNG. These small group sessions also allowed participants to ask questions and get clarification on any issues relating to the SPREP regional plans.

14th November

18. Dugong survey work in Papua New Guinea - *Philip Lahui*
 19. Review of SPREP WDAP and priorities work - *Cara Miller*
 20. Proposal development and preparation - *All*
 21. Legislative considerations for implementing a national action plan - *Vagi Rei*
 22. Developing a cetacean network for PNG - *Cara Miller*
 23. Developing a cetacean 'working group' in Papua New Guinea - *Cara Miller*
 24. Training in practical research skills for small boat - *Cara Miller*
-

18. Dugong survey work in Papua New Guinea

This presentation provided a basic background to dugong biology, life-history, habitat, diet and threats in Melanesia. A summary of previous work conducted in PNG was provided as well as the challenges of current gaps in available baseline information for dugongs. It was noted that collaborative marine species and ecosystem projects might be useful in increasing the ability to undertake dugong research in PNG.

19. Review of SPREP-WDAP and priorities work

Work on national management plans and research priorities continued among the group. An issue that was highlighted during this session was the necessity for the plan and research projects to be well focussed and consistent. The following list was developed in response to this discussion regarding the purpose, usefulness and objectives of having a national cetacean management plan:

- Provides species protection
- Progresses habitat protection
- Meets the needs of national and international agreements and memberships
- Confirms that PNG is committed to cetacean conservation
- Guides eco-tourism ventures
- Legislation for tourism industry
- Addresses issues of sustainable use
- Gives direction for conservation and management
- Actively contributes to species monitoring
- Identifies knowledge gaps and provides direction for future work
- Could create enforcement where needed
- Reviews national cetacean activities
- Creates evidence of PNG's commitment to cetacean conservation
- Makes it easier to identify areas of cross-over between other departments and stakeholders
- Identifies areas of possible cooperation with groups, departments etc.
- Shows measure of progress
- Provides feedback
- Allows step-by step progress towards SPREP and CMS objectives
- Helps build in-country capacity
- Considers development processes and steps needed for given initiatives
- Works towards mitigating threats
- Builds networks between organizations and departments

20. Proposal development and preparation

Small group discussions were held to discuss (1) research priorities, (2) consideration of short and long term plans, (3) Resources, people and collaborations, and (4) Specific project ideas. Participants initially worked by themselves to consider these issues before coming together in small working groups to discuss their ideas further. The results of these discussions were then reported back to the wider group.

21. Legislative considerations for implementing a national action plan

The group noted during previous discussions that there would be numerous important legislative considerations for any cetacean management plan to be implemented. This session was therefore used for participants to highlight some of these concerns as a group so that they could then be included in future progress as required. Some of the issues raised were:

- There is currently not a comprehensive understanding or knowledge of the current acts related to cetaceans
- It was important for province level issues to be reflected in a national plan
- Possibly the management plan should sit under one department but responsibilities shared amongst the other related departments
- Some participants indicated that the regional action plan would be a useful interim plan while the necessary next steps for a management plan were progressed (e.g., workshop report, project initiation, ‘working group’ activities)
- Funding would likely be necessary for legislation to be built appropriately
- It was noted that there currently exists a ‘whaling act’ and ‘fisheries act’ that a management plan might sit under. However, it was also raised that a new act may also be an option
- A consultation process for any management plan was considered exceptionally important. Provinces as well as all other stakeholders must be engaged in the process in order for the management plan to be inclusive, comprehensive and implemented effectively.
- It was specifically noted that a legislative review was essential for the next steps of a management plan.

22. Developing a cetacean network for PNG

Ideas about how to progress some of the ideas developed during the workshop were discussed. One strategy for continuing communication, progress and networking was to establish a method of consistently collecting and recording information on cetacean sightings and stranding events. As a template for discussion a draft PNG national cetacean sightings sheet (Appendix VII) was presented and discussed within the group. Numerous participants considered it a worthwhile endeavour and were in agreement with using the proposed sighting sheet as a method of consistently collecting cetacean data within PNG however it was noted that the data sheets and information would need to be collected and collated appropriately.

23. Working group development

This session was used to discern whether participants considered it would be a useful idea to develop a PNG cetacean ‘working group’ to progress the ideas, initiatives and discussions of the workshop. The intent of this group would be to help propel and follow through with the actions agreed or supported in the workshop. It would not be the intention that the members of the working group would be the only ones responsible for undertaking such work, but rather that they would act to motivate, delegate and check upon work that was agreed to be progressed. The group would serve as a point of contact for all workshop participants. It is also plausible that the make-up of such a group could change and/or expand over time. A draft discussion document was used to assist discussions during this session (Appendix VI). In this document it was suggested that such a group would benefit from being composed of perhaps 3 - 5 people (possibly including both a coordinator and a database manager), set timelines and responsibility for agreed upon tasks and actions, provide updates and communications to the larger group, and facilitate future meetings.

24. Training in practical research skills for small boat surveys

Participants were given a run-down of what to expect and the activities they would be undertaking during the field component of the workshop. Instructions and protocols for equipment use, data collection, duties and tasks were given (see Appendix IX and X). In addition participants had practical sessions that included testing the camera operations and functions, use of other field equipment (e.g., binoculars, video-camera, GPS and hydrophone) and a practice session of recording data after watching dolphin video footage.



While boat sessions were being undertaken those participants that were not out on the water were involved in some additional information sessions as well as continuing to work on their research project proposals. In addition educational DVDs and group discussions were convened.

15th – 21st November

25. Necropsy – what to do with a dead cetacean - *Olive Andrews* (on behalf of *Lui Bell*)
 26. Developing a national cetacean stranding network - *Olive Andrews* (on behalf of *Lui Bell*)
 27. Developing a sighting & stranding network for PNG – Purpose & Value - *Olive Andrews* (on behalf of *Lui Bell*)
 28. Cetacean sighting form & stranding manual - *Olive Andrews* (on behalf of *Lui Bell*)
 29. Whale watching - *Olive Andrews*
-

25. Necropsy – what to do with a dead cetacean

This presentation identified a process for safely and efficiently collecting data from dead cetaceans' as this is a particularly useful means of securing information to address gaps in species knowledge. The presentation included discussion on the following areas:

- Taking photographs (what to photograph and how to do it)
- External examination (species identification, sex determination and determining human interaction and other observations)
- Taking measurements (various standard lengths and how to conduct measurement)
- Collecting specimen and samples (including storage), and
- Ensuring that samples were appropriately preserved to be contained in collections.

26. Developing a national cetacean stranding network

The idea of developing a national cetacean stranding network was primarily to allow safe and effective coordination during the event of a stranding. It is also an opportunity to engage the wider community in conservation efforts, take advantage of the opportunity to collect information cheaply and improve reporting of stranding occurrences. The presentation highlighted and elaborated on the following key areas:

- What would the network provide?
- Primary objectives
- Membership of a core group
- Lead Agency and a Coordinator identified within the Lead Agency
- Training needs (e.g. rescue operation, collection and storage of tissue samples and specialized training for vet etc), and
- Equipment and material needed.

It was also noted that a key point in establishing the network was to identify a lead agency that has the mandate under national legislation and responsibility to conserve cetaceans.

27. Developing a sighting & stranding network for Papua New Guinea – Purpose and Value

In this session, participants were introduced to the purposes of developing a cetacean sighting and stranding program and networks. These initiatives essentially take advantage of opportunities to collect very useful information to fill information gaps.

The value and benefit of having such networks in place include the following:

- An affordable means for national governments to obtain information and data,
- Data contributes to regional and global information,
- New information, such as distribution of species e.g. areas where they occur, new records of species occurrence or even new species,
- Extent of actual strandings in small islands/regional,
- Opportunity to rescue animals and maintain biodiversity,
- Facilitates easier collaboration on research,
- Improve capacity in research/data collection,
- Improve national inter-agency collaboration amongst national agencies,
- Sharing of limited national resources,
- Development of national capacity in other areas, e.g: databases, marine vet etc.
- Establishment of contacts etc: regional central points, research/experts and network.

This presentation highlighted and built on several of the previous information sessions of the workshop and therefore served as a valuable confirmation that establishing a cetacean network in PNG would be a very valuable initiative.

28. Cetacean sighting form and stranding manual

The cetacean sighting form that is currently used in Samoa was presented to provide participants with another example of how cetacean information is currently being opportunistically collected in the PIR. It was noted that another important component for such a sighting sheet was the inclusion of a species identification guide that also provide illustrations of specific species behaviors in the water, definitions of the different behaviors and records of other marine species of special interest, e.g. turtles and whale sharks. The second part of the presentation focused the development of a strandings manual and the presenter made reference to the “*Marine Mammals Ashore – a field guide for strandings (Geraci & Lounsbury)*” as an example. Reference was made to a simpler and shorter manual currently being developed by Samoa. A stranding manual provides protocols, procedures for handling stranded cetaceans including collection of data/information. Some of the main components of the manual include local contacts and coordination, safety aspects, procedures for handling live stranded cetaceans, procedures on what to do with dead stranded cetaceans, and how to collect data and animal tissue.

29. Whale watching

Participants were given background on current whale watching activities in the Pacific Islands Region. Specifics on both species and PICTs involved were presented. Further

progress on legislative measures and current management status were also discussed. This presentation also spent time discussing potential threats and challenges of whale watching operations and the importance of eco-tourism activities to be sustainable operations that ensure minimal negative impacts on the welfare of the cetaceans under observation.

Note: Participants reconvened on Wednesday afternoon, Thursday and Friday morning to complete all objectives, discussions, proposals etc. The activities from these days are briefly summarized below.

21st November - afternoon

National management plan – *Cara Miller*

Working group, PNG cetacean network and sighting forms – *Cara Miller*

Questions and discussion session - *All*

Traditional knowledge surveys – *Francis Hickey*

Project proposal discussions - *All*

It was noted in previous sessions that a management plan would require consultation with appropriate stakeholders. Therefore, the group spent some time coming up with an initial list of appropriate stakeholders. Participants suggested: Fisheries Department, province and local government, tourism board, PNG fishing industry association, artisanal and local fisherman, game fisherman, NGO's, commercial boat operators, shipping operators, national research institute, University of PNG, Department of Environment and Conservation, Pacific Region neighbours, SPREP, Justice Department, Attorney General, coastal villages, National Fisheries (sits under the University of Vudal), PNG Maritime College, NMSA, Celco (NGO), NARQIA, mining industry, SPC, CMS and FFA.

The development and use of the PNG cetacean working group and cetacean sighting forms were again raised to allow further discussion and allow participants to provide input and raise questions. It was noted that all agenda items would again be open for comment on the following days of the workshop. General questions and discussion about all work undertaken during the course of the workshop was also solicited to ensure that appropriate time for discussion was given. A brief presentation on traditional knowledge surveys in Vanuatu was given in response to interest and questions raised during the course of the workshop. Issues of questionnaire technique, protection of traditional knowledge and scope of information were covered. The day ended with another opportunity for individuals and/or groups to discuss their project proposal ideas in detail.

22nd November

Results and review of cetacean field survey work – *Cara Miller*

Quiz!

Finalize actions and next steps for national management plan, working group and PNG cetacean network – *Cara Miller*

Project proposal submission and assistance - *All*

Review of workshop activities, progress and discussions – *Cara Miller*
Next steps, timelines, schedule of events – *Cara Miller*
Closing prayer and finish – *James Sabi*
Official closing ceremony

23rd November

Feedback sessions – *James Sabi & Vagi Rei*

The final full day of work begun with a summary of the observations recorded during the research surveys (see below for more details). This session also provided an opportunity for participants to share their experiences and highlights of time spent in the field. Participants then took a small assessment on species identification, behaviour, habitat and research methods. As participants were expecting this quiz (and had therefore taken the opportunity to study appropriate information provided in the earlier workshop sessions) this session acted as a way to motivate participants' to revisit, absorb and understand workshop materials. Final discussions on national management plans, 'working group' and the PNG cetacean sighting network were undertaken at this time. Agreed ways forward were discussed and considered (see Appendix VIII for national management plan actions), and the PNG cetacean working group was formed (see outcomes below). An overview of the workshop was then given before noted contributors were sincerely thanked for their efforts. The workshop was officially closed on Thursday afternoon – although on the following day feedback and question sessions were convened.

FIELD RESEARCH SURVEYS



Field surveys were conducted on two dive boats from November 16th – 21st. In total approximately 50 hours of survey time was completed. During this time thirty-five groups of dolphins were sighted with a total of twenty-nine of these groups determined to be unique sightings. Spinner dolphins were the most frequently sighted species and were seen as a single species group on nineteen different occasions. There were eleven bottlenose dolphin groups and six groups contained a mixture of spinner dolphins and bottlenose dolphins. In one of these mixed species groups a tentative sighting of striped

dolphins was also recorded. Average group sizes of the single-species groups were notably different with the average spinner dolphin group size being 13.8 – 19 whereas average bottlenose dolphin group size was 5.6 – 6.3 individuals. It was also interesting to note that 25 of the groups had either a calf or juvenile present. The average number of calves seen was also different with 2.4 and less than one being the average for spinner and bottlenose dolphin groups, respectively. Another interesting finding was the temporal pattern to the sightings, i.e., a majority of sightings (75%) were seen before 10:30am.



A wide variety of behaviours were witnessed during the course of the field observations, including: spinning, slow swimming, resting, feeding, spy-hopping, socializing, travelling, boat interaction, jumping, breaching, tail slapping, and bow-riding. Participants were responsible for all facets of the surveys including observer participation, data recording, photo-identification of dolphins, video-recording and running of the surveys themselves. It was evident that this practical approach allowed participants to develop their research techniques and greatly improve their research skills and understanding. In feedback discussion participants noted that it was harder than they had anticipated to record some of the data, such as group size and at times species identification. Photo-identification was also discussed as a technique that required practice in the field for consistent acquisition of useful research images. Some additions to future and more formalized studies were also discussed in feedback sessions, including: more discrete definitions of group behaviour and calves, and strict adherence to survey design principles including effort and survey track lines.

PROGRESS on OBJECTIVES

(See full agenda and presentation and discussion summaries for more details)

Objectives	Sessions, activities and discussions organized to meet given objective
(1) Provide hands-on training and study through research and monitoring	<p>Presentations: species identification, cetacean behaviour, how we could find out more?, marine mammal research methods.</p> <p>Practical sessions: Training in practical research skills for small boat surveys including camera, binoculars, hydrophone and sightings practice, and, species identification review and testing</p> <p>Small boat cetacean surveys were run from 15th – 21st November. All participants were involved.</p>
(2) Enhance understanding of cetacean diversity, biology, habitats, migration, threats and conservation	<p>Presentations: General introduction to cetaceans, cetacean behaviour, marine mammal habitat, species identification</p> <p>Group discussions: Cetacean records in PNG, Vanuatu and the Solomon Islands, and Threats to cetaceans.</p> <p>In addition the National Geographic DVD ‘Whales in Crisis’ was viewed and consequently discussed.</p>
(3) Raise awareness regarding regional and global cetacean conservation and management	<p>Presentations: General introduction to cetaceans, cetacean behaviour, marine mammal habitat, species identification, regional cetacean initiatives (SPREP and CMS), numerous sessions on the National Management Plan</p> <p>Group discussion: Threats to cetaceans.</p> <p>In addition the National Geographic DVD ‘Whales in Crisis’ was viewed and consequently discussed.</p>
(4) Facilitate the progress of national management plans for cetaceans	<p>Presentations: Overview of DEC structure and function, protected areas overview in PNG by DEC, regional cetacean initiatives, development of national cetacean plans, developing a cetacean network for PNG.</p> <p>Small group discussions: Review of action plan work, identifying SPREP priorities, national management plan work.</p> <p>In addition: Participants had several homework responsibilities to read and provide discussion points on the SPREP WDAP.</p>

(5) Develop collaborative working relationships within Melanesia and the PIR	Participants from Solomon Islands and Vanuatu attended the Madang workshop. In addition, SPREP, the Australian government and regional ngo's were engaged in this workshop.
(6) Initiate several on-ground research projects	Presentations: WDCS project grants, marine mammal research introduction Discussion/working groups: Several small group research proposal writing sessions as well as a dedicated evening session to developing proposals. Proposals have been submitted to WDCS and are currently being reviewed.
(7) Progress the SPREP whale and dolphin action plan (2008-2012) and the Convention of Migratory Species (CMS) Memorandum of Understanding (MoU) for the conservation of cetaceans and their habitats in the Pacific Islands Region	Presentations: Regional cetacean initiatives, WDCS project grants, development of national cetacean plans. Note: All activities, work, progress and outcomes are in fact progress towards the SPREP whale and dolphin action plan, and the CMS MoU for the Conservation of Cetaceans and their Habitats in the Pacific Islands Region.

REPORTING against OUTCOMES

(See full agenda, presentation and discussion summaries, appendix and resource CD for more details)

Outcomes	Activities, findings and discussion summaries
(1) Progress a draft outline of the PNG cetacean management plan	PNG cetacean management plan was discussed in multiple presentations and small group sessions throughout the workshop. This work identified a number of tasks to be addressed in order for completion of the PNG cetacean management plan (see appendix). Furthermore, while these identified tasks are being undertaken a way of focusing efforts and initiatives on a national basis was also agreed upon.
(2) Development of individual plans for participants based on province, department or region.	Each participant was involved in working on an individual, organizational or departmental research proposal. There were numerous working group discussions as well as an evening session that was dedicated to discussing research ideas, possibilities and proposals.

(3) Produce an agreed method (and sightings sheet) by which all participants would record and report cetacean sightings in PNG.	The use of a national sighting sheet was discussed and has been agreed to be trialled by participants. The use of this sightings sheet is intended to enable a consistent method of recording incidental and opportunistic sightings. This draft sightings sheet is listed in the appendix.
(4) Development of a database for cetacean sightings, research and activities in PNG.	DEC has agreed to be the central point for collection and collation of all cetacean data collected via sighting sheets. DEC and WDCS will work side-by-side to ensure that research activities and educational initiatives are coordinated, logical and practical. Research funding for PNG projects has already been committed by WDCS for the next 3 years.
(5) Identification of national priorities for PNG cetacean research.	Several small working groups were progressed to enable national priorities to be discussed. The SPREP whale and dolphin action plan was used as the framework and foundation for these discussions.
(6) Provide access to resources, documents and educational materials for participants.	WDCS provided all participants with cetacean species identification books, laminated ID sheets of regional cetaceans, background documents and materials. In addition, SPREP provided stranding manuals and kits to participants. WDCS also provided the PNG government with a digital camera (Canon 400D) and case for use in cetacean conservation research.
(7) Prepare research proposals to be funded.	All participants were involved and engaged in preparing individual research proposals based on their perspective as to what was a priority in the area they were working in, the resources required, the best steps (and process) for delivering this information, and within the context of the SPREP regional whale and dolphin action plan.
(8) Undertake a field survey into cetacean diversity in the waters of Madang.	All participants were involved in six days of small boat field surveys. Approximately 50 hours was spent 'on-effort' during which 29 different dolphin groups were sighted with a majority (66%) being spinner dolphin groups. Groups of bottlenose dolphins were also sighted relatively frequently (38%) with the remainder of groups being mixed species groupings of spinner, bottlenose and striped dolphins. The workshop also included an afternoon of hands-on training and instruction on field equipment (hydrophone, camera with telephoto lens, GPS and binoculars) as well as practice using a survey-sighting sheet. Additionally there were dedicated presentation sessions to photo-identification, habitat, behaviour, species identification and marine mammal research techniques.
(9) Produce a workshop and research report.	Current document, appendix and resource CD. This last item was sent to all participants in December 2007.
(10) Identify a 'working group' to	A working group was agreed and established during the workshop. This working group will be led by

progress the ideas, initiatives and discussions of the workshop.

Vagi Rei (Department of Environment and Conservation) and will also include Philip Lahui (Conservation International) and Rodney Galama. In addition, Cara Miller has agreed to provide ongoing technical support to this group. Additional members were welcomed and it is expected that the composition and activity of this group will evolve over time.

APPENDIX

- I. AGENDA
- II. PARTICIPANT LIST
- III. OPENING SPEECH
- IV. RESOURCES DISTRIBUTED TO PARTICIPANTS DURING THE WORKSHOP
- V. SECRETARIAT OF THE PACIFIC REGIONAL ENVIRONMENT PROGRAM (SPREP) REGIONAL WHALE AND DOLPHIN ACTION PLAN 2008-2012
- VI. WORKING GROUP DEVELOPMENT DRAFT
- VII. PROPOSED NATIONAL CETACEAN SIGHTING FORM FOR PNG
- VIII. NEXT STEPS FOR NATIONAL CETACEAN MANAGEMENT PLAN
- IX. SURVEY PROTOCOLS
- X. DATA SHEET

I. AGENDA

Agenda for Capacity Building workshop in Papua New Guinea:

12th – 23rd November 2007

Madang, Papua New Guinea

Monday 12th November
Welcome reception and performance by traditional group from Karkar Island to welcome all participants to Madang <i>Participants arrive and register</i>
Welcome, opening prayer and official prayer Dr. Gae Gowan
Workshop introduction Vagi Rei and Cara Miller (i) Development of workshop (PNG government, DEWR, SPREP, WDSCS) (ii) Objectives of workshop (iii) Anticipated outcomes (iv) Activities (v) Questions?
Participant introduction All (i) Background and interests (ii) Job responsibilities (iii) Location (iv) Expectations?
Why we're here Vagi Rei and Cara Miller
Morning Tea
General introduction to cetaceans Cara Miller (i) Biology (ii) Diversity (iii) Conservation
Overview of DEC structure and function James Sabi
Cetacean records in PNG, Vanuatu and the Solomon Islands All
How could we find out more? What else could be done? Cara Miller (i) Vessels of opportunity (ii) Research projects (iii) Threat identification (iv) Management plans & coordination
Lunch
Importance of the Wildlife Enforcement Branch & its function (CITES) Veari Kula
Cetacean species identification training Cara Miller
Afternoon Tea
Cetacean behaviour Nardi Cribb
Review of species ID and behaviour Cara Miller
Plans for Day 2
Evening Cocktail and welcome

DEC
Tuesday 13th November
Protected Area overview in PNG Jim Onga
Regional cetacean initiatives Vagi Rei and Cara Miller (i) SPREP (regional WDAP) (ii) CMS MoU (iii) Why are PICTs interested? (iv) How can participants get involved?
WDCS project grants Somerlea Marsh
Morning Tea
Threats to cetaceans Cara Miller & group discussion (i) Climate change (ii) Habitat degradation (iii) Fisheries interactions (iv) Whaling and drive hunts (v) Tourism
Whale and dolphin habitat Nardi Cribb (i) What is cetacean habitat? (ii) Why is it important to understand habitat? (iii) How is it defined for cetaceans? (iv) Examples of habitat research (v) How could habitat be studied in the Pacific Islands Region?
Marine mammal research introduction Cara Miller (i) Techniques commonly used in cetacean research (ii) Applications of such research for management (iii) Specific project ideas and priorities
Lunch
Development of national cetacean plans and project proposals Small working groups (i) WDAP (ii) Priorities (iii) How will this work get achieved? (iv) Resources, people, collaborations (v) Short-term versus long-term plans (vi) Identifying specific projects to be progressed
Afternoon Tea
Development of national cetacean plans (continued) Small working groups
Review and plans for Day 3
Wednesday 14th November
Overview of Melanesian dugong survey work Philip Lahui
Review of SPREP WDAP and priorities work Cara Miller
Research proposal development and preparation Individual work & discussions
Morning Tea
Legislative considerations for implementing a national action plan Vagi Rei

Developing a cetacean network for PNG Cara Miller (i) Purpose of network, (ii) Who would be part of the network? (iii) How would the network be coordinated?
Introduction and development of a PNG cetaceans ‘working group’ Cara Miller
Lunch
Training in practical research skills for boat sessions All
Afternoon Tea
Camera, hydrophone and sightings practice All
Review and plan for vessel surveys

Participants will be involved in practical boat surveys and working groups from November 15th – 21st. Sunday 18th will be a rest day.

Day sessions (for on-shore participants – alternating groups):

Thursday 15th and Monday 19th – Global issues of cetacean conservation including noise, photo-identification, stranding, whale watching – National Geographic DVD plus discussion

Friday 16th and Saturday 17th – SPREP, stranding protocols and eco-tourism.

Evening session and cocktail night (all participants) - WDCS

Tuesday 20th November – project proposal development and implementation.

Wednesday 21st November
Issues to be finalized for the workshop objectives and outcomes Open discussion (i) National management plan discussion (stakeholders, next steps and agreed actions), (ii) Working group and (iii) Standardized sighting form for PNG
Afternoon Tea
Traditional Knowledge survey methodology Francis Hickey
Plans for next day
Thursday 22nd November
Results, review, feedback and questions relating to the survey work Cara Miller
Species ID and behaviour quiz
Morning Tea

Review of national action plan work and project proposals One-on-one & small group work
Next steps
Lunch
Summary of workshop, next steps forward and questions Cara Miller & group discussion
Official close of workshop James Sabi
Afternoon Tea
Friday 23rd November
Feedback session and discussion James Sabi and Vagi Rei

II. PARTICIPANT LIST

NAME	ADDRESS	EMAIL	PHONE	FAX
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Kris Sengo			853 7406	
Agnes Kruter			696 1391	
Berom Anguru				
Mathew Suarkia			722 32890	852 3739
Francis Wadui	Chairman Sinub WMA, Madang Lagoon, MADANG PO Box 405 Madang		671 8198	
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John Joseph <i>Fisheries Advisor</i>	Morobe Provincial Government PO Box 1259 Lae, MP		4723719	4723488
Bing Siga	Village Development Trust PO Box 2317 Lae, MP	sigabing@yahoo.com.au	4721666	4724824
John Ben Coordinator	HCLCP, Lae C/o Bing Siga	johnben@datec.net.pg	4723011	472 3011

	Box 2317 Lae			
Covell Allan	Madang Provincial Disaster Unit – MADANG		8523222	8523200
Ishmael Koneha	C/o DAL Department of Environment and Conservation FMBS- Popondetta Oro Province		329 7042	
Cara Miller	Whale & Dolphin Conservation Society c/o P.O Box 720 Port Adelaide Business Centre, Port Adelaide SA 5015, Australia	cara.miller@wdcs.org	+61884403700	+61884474211
Ms Somerlea Marsh	Whale & Dolphin Conservation Society (address as above)	somerlea.marsh@wdcs.org	+61884403700	+61884474211
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Mr Lui Bell SPREP	SPREP c/o P.O. Box 240, Apia, Samoa.	luib@sprep.org	+ 685 66281 or 21929 ext 281	
Olive Andrews	IFAW c/o SPREP, PO Box 240, Apia, Samoa.			

III. OPENING SPEECH



DEPARTMENT OF ENVIRONMENT AND CONSERVATION

OFFICIAL SPEECH

THIS IS INDEED A PRIVILEGE FOR ME TO BE HERE TO OFFICIATE THE OPENING OF THE 1ST MELANESIAN WORKSHOP / TRAINING ON CETACEANS ON BEHALF OF THE MINISTRY OF ENVIRONMENT & CONSERVATION AND THE OFFICE OF THE SECRETARY, DR WARI IAMO IT GIVES ME GREAT PEASURE TO FIRSTLY WELCOME ALL THE INTERNATIONAL FACILITATORS FROM AUSTRALIA, DR CARA MILLER AND HER TEAM, REPRESENTATIVE FROM VANUATU, REPRESENTATIVE FROM SOLOMON ISLANDS AND ALL THE REPRESENTATIVES FROM ALL THE RESPECTIVE PROVINCES WHO ARE HERE TODAY I WOULD LIKE TO ALSO TAKE THIS OPPORTUNITY TO ACKNOWLEDGE THE WORKSHOP SPONSORS FOR FUNDING THIS WORKSHOP / TRAINING HERE IN MADANG PNG;

NATIONAL HERITAGE TRUST OF AUSTRALIA

PNG NATIONAL FISHERIES AUTHORITY

WHALE & DOLPHIN CONSERVATION SOCIETY, AUSTRALIA

PNG DEPARTMENT OF ENVIRONMENT & CONSERVATION

BACKGROUND

THE PACIFIC ISLANDS REGION IS KNOWN TO BE AN IMPORTANT REGION FOR CETACEANS. PAPUA NEW GUINEA IS A REGION WITHIN THE PACIFIC WHICH HAVE PARTICULAR HIGH DIVERSITY FOR CETACEANS WITH OVER 20 SPECIES RECORDED (15 SPECIES DOCUMENTED WITHIN THE PNG EEZ AND AN ADDITIONAL 5 SPECIES REPORTED FROM UNCONFIRMED SIGHTINGS (MILLER 2007)). THIS HIGH DIVERSITY (THE HIGHEST RECORDED IN THE PACIFIC ISLANDS REGION) IS ESPECIALLY SIGNIFICANT WHEN THE VERY LIMITED DEDICATED CETACEAN SURVEY EFFORT WITH IN THE PNG REGION IS CONSIDERED.

AT THE SECRETARIAT OF THE PACIFIC REGIONAL ENVIRONMENT PROGRAMME (SPREP) ANNUAL ENVIRONMENT MINISTERS MEETING HELD IN NOUMEA, SEPTEMBER 2006, A CONVENTION OF MIGRATORY SPECIES (CMS) MOU WAS SIGNED BY NINE PACIFIC ISLAND COUNTRIES (INCLUDING AUSTRALIA) FOR THE CONSERVATION OF CETACEANS AND THEIR HABITATS IN THE PACIFIC ISLANDS REGION. THIS WAS A MAJOR STEP FORWARD FOR THE CONSERVATION OF CETACEANS AND NOW PROVIDES AN INSTITUTIONAL UMBRELLA FOR PIC'S TO WORK MORE CLOSELY TOGETHER ON CETACEAN ISSUES THROUGHOUT THE REGION.

AT THE RECENT CMS MEETING HELD IN APIA, SAMOA (MARCH 2007), PNG CONFIRMED THEIR POSITION ON THE CONSERVATION OF CETACEANS WITHIN THEIR WATERS BY SIGNING THE CMS MOU FOR THE CONSERVATION OF CETACEANS AND THEIR HABITATS IN THE PACIFIC ISLANDS REGION.

THE PNG GOVERNMENT HAS EXPRESSED INTEREST IN DEVELOPING SKILLS AND LEADERSHIP WITHIN MELANESIA FOR THE CONSERVATION OF CETACEANS. PNG HAS HAD A LONG-TERM COMMITMENT TO THE IMPLEMENTATION OF A WHALE SANCTUARY WITHIN THEIR WATERS AND IS VERY INTERESTED TO DEVELOP A STRONG DOMESTIC POLICY IN RELATION TO CETACEAN CONSERVATION.

THE AUSTRALIAN GOVERNMENT HAS MADE AN EXTENSIVE CONTRIBUTION TO THE ESTABLISHMENT OF THE CMS MOU FOR THE CONSERVATION OF CETACEANS IN THE PACIFIC REGION. IN ADDITION, THE AUSTRALIAN GOVERNMENT HAS ALSO MADE A SUBSTANTIAL CONTRIBUTION AND HAS A LONG-TERM COMMITMENT TO WORKING WITH PIC'S FOR THE CONSERVATION OF CETACEAN SPECIES WITHIN THE REGION.

AIM OF THE WORKSHOP

THE MAIN AIM OF THE MELANESIAN WORKSHOP AND TRAINING ON CETACEANS IS TO BUILD A CORE GROUP OF EXPERTS IN PNG, SOLOMON ISLANDS AND VANUATU THAT WILL BE ABLE TO CONDUCT CETACEAN RESEARCH, EDUCATIONAL AWARENESS AND COMMUNITY PROGRAMS THROUGHOUT MELANESIA REGION.

THE OBJECTIVES OF THE WORKSHOP IS TO;

1. IMPROVE MELANESIAN LOCAL SCIENTIST CAPACITY TO BETTER UNDERSTAND CETACEANS THROUGH RESEARCH AND MONITORING
2. IMPROVE MELANESIAN LOCAL KNOWLEDGE TO UNDERSTAND CETACEAN HABITATS, MIGRATORY ROUTES TO MANAGE FOR CONSERVATION PURPOSES
3. RAISE AWARENESS OF CETACEAN CONSERVATION
4. TO FACILITATE THE DEVELOPMENT OF A STRONG DOMESTIC POLICY IN RELATION TO CETACEAN CONSERVATION AND IMPROVE LEGAL PROTECTION OF CETACEANS AND THEIR HABITATS.
5. TO DEVELOP COLLABORATIVE WORKING RELATIONSHIPS THROUGHOUT MELANESIA FOR THE CONSERVATION OF CETACEANS WITHIN THE REGION.

THIS WORKSHOP / TRAINING WILL MARK THE FIRST OF ITS EFFORTS TO BE IMPLEMENTED HERE IN PNG TO SET A NEW ERA TO THE CONSERVATION AND MANAGEMENT OF OUR WHALES AND DOLPHINS THAT HAVE BEEN SUJECTED TO DECREASE IN POPULATION NUMBERS THOURGHOUT THE GLOBE. THIS WORKSHOP / TRAINING WILL BE ADDRESSING A LOT OF THESES ISSUES THAT HAS BEEN IDENTIFIED BY THE RESEARCH WORK CONDUCTED IN OTHER COUNTRIES

I THEREFORE, SEE THAT WITH THE VARIETY OF EXPERTISE FROM VARIOUS ORGANIZATIONS REPRESENTED HERE TODAY THAT YOU WILL BE CONSIDERED FOCAL POINTS FOR PLANING AND IMPLEMENTATION FOR CONSERVATION OF WHALES AND DOLHINS IN YOUR RESPECTIVE COUNTRIES. I KNOW THAT YOU WILL FIND THIS KNOWLEDGE GAINED WITHIN THIS 2 WEEKS OF TRAINING TO BE VERY VALUABLE IN YOUR LINE OF DUTY BACK AT YOUR RESPECTIVE WORK AREAS.

WITHOUT FURTHER DELAY, ON BEHALF OF THE GOVERNMENT OF PNG,
THE MINISTRY OF ENVIRONMENT & CONSERVATION, THE OFFICE OF
THE SECRETARY I WOULD LIKE TO DECLARE THIS WORKSHOP
OFFICIALLY OPEN.

IV. RESOURCES DISTRIBUTED TO PARTICIPANTS DURING THE WORKSHOP

Each participant was given copies of pertinent scientific publications and regional plans to provide background and information as well as several draft discussion and information documents. These documents were:

Scientific:

Munday, P. 1994. Kimbe Bay Rapid Ecological Assessment: The Coral Reefs of Kimbe Bay (West New Britain, Papua New Guinea). Volume 7: Marine Mammals. Unpublished report to The Nature Conservancy.

Visser, I. 2003. Kimbe Bay Second Marine Mammal Rapid Ecological Assessment (REA) April 2003. Unpublished survey report for The Nature Conservancy, c/o South Pacific Office, P.O. Box 65-506, Mairangi Bay, Auckland, New Zealand

Visser, I. N. and F. Bonoccorso. 2003. New observations and a review of killer whale (*Orcinus orca*) sightings in Papua New Guinea waters. Aquatic Mammals 29(1):150-172.

Extract from: Miller, C. 2007. Current State of Knowledge of Cetacean Threats, Diversity, and Habitats in the Pacific Islands Region. WDCS Australasia Inc. 96p. Chapter 4: Checklist of Country-specific Cetacean Records in the Pacific Islands Region – Papua New Guinea.

Regional:

SPREP Whale and Dolphin Action Plan 2008-2012: Pacific Islands Region. Available from www.sprep.org (see Appendix V).

Information:

WDCS Common cetacean terms listing, and WDCS International science project proposal forms (both available from www.wdcs.org).

Survey protocols (see Appendix IX and X).

Boat positions

Data sheets

Draft discussion documents:

Developing a PNG working group

PNG national cetacean sighting form

Next steps for a National PNG cetacean management plan

In addition, whale and dolphin guide books (Carwardine, M. 2006. *Whales, dolphins and porpoises*. Dorling Kindersley Handbooks. Dorling Kindersley Limited, London) were distributed to participants by WDCS International. Laminated species guides for Pacific Islands cetaceans prepared specifically for this workshop were also distributed

to each participant. SPREP also provided stranding manuals and kits to each of the Pacific Islands countries that were present.

Resource CDs were mailed to all participants and sponsors within 3 weeks of the completion of the workshop. These CDs contained all the scientific, information and survey protocols listed above – as well as many photographs taken during the workshop and survey work. Some additional background documents from PNG Department of Environment and Conservation and the Vanuatu Cultural Centre were also included in this CD. This resource CD also contained the following presentations:

Department of Environment and Conservation, PNG

DEC – overview of roles and responsibilities (James Sabi)

Overview of protected areas in PNG (Jim Onga)

SPREP

Necropsy or what to do with a dead cetacean (Bill Perrin)

Developing a cetacean sighting and stranding network (Lui Bell)

Wildlife Enforcement

Building capacity for effective participation in the Biosafety Clearing House (BCH) (Veari Kula)

Importance of the Wildlife Enforcement Branch & its function (CITES) (Veari Kula)

Francis Hickey

Cetacean research in Vanuatu

Traditional knowledge survey methodology overview

Philip Lahui

Dugong population survey: Melanesian region

Nardi Cribb

Cetacean behaviour

Cetacean habitat

Workshop quiz

Somerlea Marsh

WDCS project proposals

Cara Miller

Workshop Introduction

General introduction to cetaceans

How could we find out more?

PNG species identification training

Species Identification review

Threat to cetaceans

Research methods

Introduction to CMS and SPREP

Review of SPREP Whale and Dolphin Action Plan

Madang cetacean survey – field report summary

Lastly, throughout the workshop a variety of regional reference materials were available for participants to read and review.

V. SPREP WHALE AND DOLPHIN ACTION PLAN: 2008 – 2012



WHALE AND DOLPHIN ACTION PLAN 2008-2012 PACIFIC ISLANDS REGION

GOAL

To conserve whales and dolphins and their habitats 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.

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
NATIONAL, REGIONAL AND INTERNATIONAL COLLABORATION AND COOPERATION	Promote and enhance national, regional and international coordination, collaboration and partnership for whale and dolphin conservation in the Pacific Islands region
THREAT REDUCTION	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 Limit direct take to sustain populations Improve our understanding on impacts of climate change on whales and dolphins Minimize impacts of pollution on whales and dolphins Support the development of sustainable eco-tourism practices in the region Ensure coastal developments take account of potential impacts on whale and dolphin populations Improve information on ship strikes, acoustics, disease (Low but Unknown)
ECOSYSTEM/HABITAT PROTECTION	Support the designation and management of national whale/marine sanctuaries in the EEZs of SPREP members Identify key critical habitat, hotspots, and migratory pathways that are candidates for improved conservation.
CAPACITY BUILDING	Increase in-country expertise, field capacity and regional cooperation
EDUCATION AND AWARENESS	Develop communication strategies, training programs and protocols for key issues within the Whale and Dolphin Action Plan Increase awareness and understanding of whales and dolphins in the Pacific Islands Region Promote awareness regarding the value of traditional knowledge and practices in the management of whales and dolphins
CULTURAL SIGNIFICANCE AND VALUE	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 Preserve and protect the traditional knowledge and values associated with whales & dolphins Ensure appropriate cultural knowledge, practices, and values inform and underpin management measures
LEGISLATION AND POLICY	Develop country level legal, policy and institutional framework to support the effective implementation of the Whale and Dolphin Action Plan
RESEARCH AND MONITORING	Improve information received on stranding events in the Pacific Islands Region Identify key species and areas for baseline surveys Identify significance of and priority for toxicological research
WHALE AND DOLPHIN-BASED TOURISM	Foster sharing of lessons learnt and undertake regular assessment of the industry Ensure the best practice management of the whale and dolphin watching industry in the Pacific Islands Region Maximize educational and economic values of whale and dolphin watching

THEMES AND PRIORITY ACTIONS

THEME 1: NATIONAL, REGIONAL AND INTERNATIONAL COLLABORATION and cooperation		
OBJECTIVE: <i>Promote and enhance national, regional and international coordination, collaboration and partnership for whale and dolphin conservation in the Pacific Islands region.</i>		
Actions:	Lead	Priority
Promote understanding by facilitating effective information sharing mechanisms to assist in addressing cross-sectoral issues and migratory species conservation.	SPREP	High

Encourage and support PICTs to remove internal cross-sectoral barriers to effectively implement the WDAP at the local, island, government level.	Members	High
Facilitate PICTs involvement and participation in relevant international meetings and initiatives for whales and dolphins conservation.	SPREP/ Partners	High
Promote cooperation and highlight achievements and lessons learnt in whale and dolphin conservation at regional and international conferences and fora.	SPREP	High
Ensure whales and dolphins conservation needs are integrated into the development and implementation of the SPREP Environment Ministers Regional MPA framework.	SPREP	High
Develop linkages with relevant regional organizations and processes (such as RFMOs), eg. MoUs information exchange and cross-sectoral integration.	SPREP/ Members	Medium
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
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
Indicators:		
Number of national, regional and international organizations, processes and frameworks incorporating PIR whale and dolphin conservation needs.		
Number of national, regional and international partnerships created to support WDAP implementation.		

THEME 2: THREAT REDUCTION		
OBJECTIVE (i): FISHERIES INTERACTION		
<i>To develop, test and disseminate effective mitigation techniques that reduce depredation and incidental by-catch;</i>		
<i>To document the impact of Illegal, Unreported and Unregulated fishing on whales and dolphins in the Pacific Islands Region.</i>		
Actions:	Lead	Priority
Depredation/fishery interactions		
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
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
Foster industry/research institutions/governments partnerships to develop and test mitigation techniques to reduce by-catch and depredation.	Members, DWFNs, RFMOs	High
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
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
Fishery Ecological Interactions (Low but regional concern on this issue is High). 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
Indicators:		
Properly tested mitigation technique.		
Acceptance and use of a successful technique by long-line fisheries in the region.		
System of collecting data from fishing operations on by-catch and depredation developed and used.		
OBJECTIVE (ii): <i>Limit direct take to sustain populations</i>		
Actions:	Lead	Priority

<p>Direct take: Whaling Support non-lethal research on abundance, structure, trends, and assessments of impacts – particularly on humpback, minke and fin whales.</p> <p>Direct take: Drive hunts and live capture Support research on abundance, structure, distribution, trends, and assessments of harvest impacts on the whale and dolphin species targeted. Ensure the direct take of whales and dolphins does not affect viability of local populations. Ensure any live capture activities in the region comply with international regulations and agreements.</p>	<p>SPREP/Partners/ Members</p> <p>SPREP/Partners/ Members</p> <p>Members</p> <p>Members</p>	<p>High</p> <p>High</p> <p>High</p> <p>High</p>
<p>Indicators: Non-lethal Research on abundance etc carried out concerning whale and dolphin species targeted in whaling, hunt and live capture. Sustainable principles applied to any direct take and international regulations/agreements applied to capture activities.</p>		
<p>OBJECTIVE (iii): <i>Improve our understanding of climate change impacts on whales and dolphins</i></p>		
<p>Actions</p> <p>Facilitate the collation and dissemination of current knowledge on the impacts of climate change on marine mammals and their habitats,</p>	<p>Lead</p> <p>SPREP, scientific institutions, CBD Sec and UNFCCC Sec, partners</p>	<p>Priority</p> <p>High</p>
<p>Indicators: Document/presentation on climate change impacts to whales and dolphins provided to SPREP members by 2009.</p>		
<p><i>OBJECTIVE (iv): Minimize impacts of pollution on whales and dolphins</i></p>		
<p>Actions:</p> <p>Plastics and marine debris Encourage improved waste management at community and national levels to reduce plastics and other debris in the marine environment. Develop and promote the use guidelines for fishing operations related to discarding of waste. Collect information on the potential impact of plastics and fishing gear on whales and dolphins, including from stranding networks. Where possible, request that necropsies include examination for plastic ingestion.</p>	<p>Lead</p> <p>Members</p> <p>SPREP/SP C</p> <p>Members/partners</p> <p>Members</p>	<p>Priority</p> <p>Medium</p> <p>Medium High</p> <p>High</p>
<p>Indicators: Better information on the impacts of plastics and other debris to whales and dolphins. Guidelines developed for proper waste management at all levels including from fishing boats.</p>		
<p><i>OBJECTIVE (v): Identify and mitigate any significant impact from marine whale and dolphin based tourism</i></p>		
<p>Actions:</p> <p><i>Identify potential for significant impact/localised effects from tourism activities on whales and dolphins.</i></p> <p><i>Develop management and mitigation strategies to reduce identified impact.</i> Assess any potential impacts of whale and dolphin watching activities on the animals e.g. Spinner dolphin watching Swim-with programs Vessel interactions.</p>	<p>Lead</p> <p>Partners/ SPREP/ Members</p> <p>Partners</p>	<p>Priority</p> <p>Medium</p> <p>High</p>
<p>Indicators: Significant adverse effect from whale and dolphin watching tourism identified and threat mitigated and lessons learnt promoted and widely shared in the region. Studies on impacts of whale/dolphin watching completed in New Caledonia, Tonga. Studies undertaken in Guam, French Polynesia, Hawaii.</p>		

OBJECTIVE (vi): <i>Ensure coastal development takes account of impacts on whale and dolphin populations</i>		
Actions:	Lead	Priority
Encourage consultation/consideration of impacts on whales and dolphins in national legislative and EIA processes.	Members	High
Identify particular localized areas and populations – and then develop appropriate monitoring and mitigation of any significant impacts.	Members/ Partners	Medium
Provide information on potential impacts of coastal development to whales and dolphins to decision makers and public.	Members	Medium
Indicators:		
Consideration of impacts on whales and dolphin incorporated in national legislation and other processes such as EIA and potential impact information made available.		
Monitoring of identified localized populations initiated.		

OBJECTIVE (vii): <i>Improve understanding of unknown but potential threats to whales and dolphins, including ship strikes, entanglement, acoustics, disease</i>		
Actions:	Lead	Priority
<i>Encourage anecdotal and opportunistic recording and documentation for ship strikes, entanglement and disease.</i>	Members	Low but Unknown
<i>Identify any significant source of acoustic noise pollution that could affect whales and dolphins in the region.</i>	Members	Low
Indicators:		
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.		

THEME 3: ECOSYSTEM/HABITAT PROTECTION¹		
Objectives:		
<i>Support the designation and management of national whale/marine sanctuaries in the EEZs of SPREP members</i>		
<i>Identify key critical habitat, hotspots, and migratory pathways that are candidates for improved conservation.</i>		
Actions:	Lead	Priority
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
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
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
Integrate, where relevant and appropriate, whale and dolphin conservation into the development of MPAs/MMAs in the region.	Members	High
Indicators:		
Additional SPREP Member designate national EEZ whale sanctuaries.		
Management strategies/plans developed, finalized and implemented for existing sanctuaries.		
Working group identifies potential areas for marine protected area designation and management.		

THEME 4: CAPACITY BUILDING		
OBJECTIVE: <i>Increase in-country expertise and capacity</i>		
Actions:	Lead	Priority
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
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
Support internship training on whales and dolphins in existing research centers.	Partners	High
Build in-country capacity to prepare relevant regulation, legislation and policy.	Members/ SPREP	High

¹ 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.

Conduct local and/or regional training workshops on necropsy including collection and storage of tissues, skeletal remains and analysis.	SPREP/ Auckland Uni,	High
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
Conduct at least one specialist regional workshop in abundance estimation techniques (sighting surveys) followed by field training cruise.	SPREP/ CMS/ WDCS	High
Develop surveillance and enforcement capacity for implementation of national protection measures including whale and dolphin watching tourism operations.	Members	High
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
Indicators: Training needs identified and addressed. Training packages prepared and made available. Increased technical capacity to obtain information and assist in the conservation of whales and dolphins in the region. Improved capacity to develop and implement policies and legislation. Whale/dolphin operator training and certification programs are implemented in SPREP nations.		

THEME 5: EDUCATION AND AWARENESS		
OBJECTIVE (i): <i>Develop communication strategies, training programs and protocols for key issues within the Whale and Dolphin Action Plan</i>		
Actions:	Lead	Priority
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
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
Up-skilling of government agencies and community trainers to facilitate stewardship, and to develop and deliver outreach programs.	Members	Medium
Indicators: Community and school education programs implemented. Regionally relevant facts sheets to inform governments and industry on key issues are produced (e.g. fisheries interactions, cultural practices, regulations, biology & natural history). Training programs carried out in-country for key government agencies and identified local community stewards.		
OBJECTIVE (ii): <i>Increase awareness and understanding of whales and dolphins in the Pacific Islands Region</i>		
Actions:	Lead	Priority
Utilize existing community networks and venues to deliver public presentations.	Members	High
Provide materials and information to community media (TV and radio stations) in-country to inform public.	Members/SPREP/ Partners	High
Disseminate educational materials targeted at recreational/ private boaters to ensure minimum impact.	Members/SPREP/ Partners	Medium
Indicators: Presentations on whales & dolphins are carried out in schools, village halls, and during annual festivities. Whales & dolphins are profiled through documentaries, interviews and regular spots in local media. ID guides, fact sheets and guidelines brochures are distributed to boaters, marinas, yacht clubs, through government agencies and NGO's.		
OBJECTIVE (iii): <i>Promote awareness regarding the value of traditional knowledge and practices in the management of whales and dolphins</i>		
Actions:	Lead	Priority
Integrate traditional knowledge, stories and customs into education and awareness developed.	Members, SPREP	High
Encourage the use of informal/traditional methods of education within villages, e.g. utilizing elders as resource people.	Members, Partners, SPREP	Medium
Indicators: Education programs implemented in schools, education centres and museums. Informal/traditional methods of education are employed at community level.		

THEME 6: CULTURAL SIGNIFICANCE AND VALUE		
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>		
Actions:	Lead	Priority
Undertake a review of customary practice and knowledge related to the conservation and management of whales and dolphins.	SPREP/ Partners	High
Promote the adoption and integration of customary practices related to the conservation and management of whales and dolphins, where appropriate.	Members	High
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
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
Support and promote the introduction of appropriate formal protection of IPR, TK and ABS at a national, regional and international level.	Members/ SPREP	High
Support the documentation of traditional knowledge, practices, heritage and values, using existing networks.	Members/ SPREP	High
Indicators:		
TK and other customary practices and values documented and incorporated where relevant.		
Review on gaps carried out and report published and disseminated.		
Artifacts and narratives (oral histories) documented and conserved in local museums.		
OBJECTIVE (ii): <i>Preserve and protect the traditional knowledge and values associated with whales and dolphins</i>		
Actions:	Lead	Priority
Identify and empower appropriate in country authorities to hold, maintain and promote traditional knowledge.	Members	High
Establish documentation protocols and agreed partnerships with cultural groups/chiefly bodies and individual knowledge holders regarding appropriate use and dissemination of information.	Members	High
Indicators:		
Each country has identified appropriate authority to house and promote cultural information.		
On going promoting and support for TK, ABS in national, regional and international fora etc.		
OBJECTIVE (iii): <i>Ensure appropriate cultural knowledge, practices, and values inform and underpin management measures.</i>		
Actions:	Lead	Priority
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
Ensure biological survey designs respect and draw upon Traditional Knowledge.	Members	High
Ensure national and local policies and management respect and draw upon Traditional Knowledge.	Members	High
Indicators:		
Case studies supported on sustainability of cultural practices in country's interested supporting sustainability assessments.		
Relevant whale and dolphin TK and cultural values are utilized and acknowledged in scientific survey design and execution and formulation of national management policies.		
THEME 7: LEGISLATION AND POLICY		
OBJECTIVE: <i>Develop country-level legal, policy and an institutional framework to support the effective implementation of the Whale and Dolphin Action Plan.</i>		
Actions:	Lead	Priority

<p>Complete legislative and policy review and disseminate the final report. Review to include: Identifying legislative inconsistencies and gaps within PICTs; Extending to cover US, UK, Pitcairn, France, Australia and NZ; Assessment of country capacity to implement the WDAP, CMS Cetacean MoU, CITES and CBD where relevant; Country capacity to implement CITES/CBD; Habitat and species protection measures; Sanctuary declaration; Regulation of distant water and local fleets, including observer programme coverage to document commercial fishing impact on whales and dolphin. Further develop policies, regulations and legislation for the effective conservation management of whales and dolphins, including measures to mitigate threat and ensure habitat protection. Identify and respond to country/territory legal and policy capacity needs.</p> <p>Assess processes and outcomes used for NCSA and other related biodiversity mechanisms, to address legal and policy capacity needs for whale and dolphin conservation.</p>	IFAW/SPREP	High
	Members/ SPREP/Partners	High
	Members/ SPREP/ Partners	Medium
	Members	Medium
<p>Indicators: Regional legislative/management review completed and widely disseminated. Harmonization of in-country/territory policy and legal instruments. Capacity strengthened to draft, manage and enforce legislation and policy in-country/territory. Number of NBSAPs or equivalent strategies integrating WDAP actions.</p>		

<p>THEME 8: RESEARCH AND MONITORING This Action Plan promotes only non-lethal techniques for research</p>		
<p>OBJECTIVE (i): <i>Improve information received on stranding events in the Pacific Islands Region.</i></p>		
Actions:	Lead	Priority
Develop a web-accessible regional stranding database, with verification process for species identification.	SPREP/ Te Papa/ Members	High
Collect community records and knowledge on whales and dolphins and incorporate into the regional stranding database.	Members	High
Produce a regional booklet/stranding manual with species identification, forms and instructions in English, Pidgin and French.	SPREP	High
Encourage an MoU between the University of Auckland and SPREP for processing and storage of tissue samples for genetic work.	SPREP/ CMS	High
Provide basic stranding kits (for genetic samples) to Members.	Auckland Uni/Donor s	High
Assist in funding for experts to attend national workshops in regions.	SPREP	Medium
<p>Indicators: Stranding Database and network established and operational. Stranding manual produced in three languages and distributed. Tissue archive and protocols for deposition and access established. Kits for genetic sampling distributed and used. Improved information on strandings events in all PICTs.</p>		

<p>OBJECTIVE (ii): <i>Identify key species and areas for baseline surveys</i></p>		
Actions:	Lead	Priority
Establish web-accessible sighting database.	SPREP	Medium
Improve species inventories for all PICTs, prioritizing those recognised as data deficient.	Members/ Partners/ SPREP	High
Conduct dedicated surveys to estimate abundance and trends of whales and dolphins species.	SPWRC/ Partners/ Members	High
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
Increase use of platforms of opportunity (e.g. fisheries patrols and observers,	All	Medium

aerial surveillance, naval and merchant shipping, other marine research programmes) for whale and dolphin sightings. Increased use of remote sensing devices, especially acoustic.	SPWRC/ NOAA/Partners	Low
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Indicators:
 Online regional sighting database established and operational.
 Species inventories for all data deficient SPREP members improved.
 Species inventories for at least 3 SPREP members improved by addition of further species.
 Cruises to estimate abundance of whales and dolphins species completed in at least 2 SPREP Members.
 Species information and id kit assembled and distributed.
 Incorporation of whale and dolphin expertise to conduct sightings and research activities in cruises dedicated to other purposes (e.g. Rapid Ecological Assessments).
 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.
 At least one remote sensing device deployed in the region for at least six months.

OBJECTIVE (iii): *Identify significance of and priorities for toxicological research*

Actions:	Lead	Priority
Investigate need and opportunities for toxicological research.	SPREP	Low
Identify suitable laboratories for toxicological analysis.	SPREP	Low
Identify funding sources.	SPREP/ Partners	Low

Indicators:
 Regional expertise in, and laboratories for toxicological analysis identified.
 Areas in the region where toxicological analysis would be a high priority identified.

THEME 9: WHALE AND DOLPHIN-BASED TOURISM
 To ensure that the development of whale and dolphin based tourism is sustainable and conducted responsibly throughout the Pacific Islands Region

OBJECTIVE (i): *Foster sharing of lessons learnt and undertake regular assessment of the industry*

Actions:	Lead	Priority
Develop a framework to maintain effort to document industry growth (building on SPTO/SPREP/IFAW/SPWRC work).	Partners/SPREP	High
Promote understanding of the industry, the lessons learnt and their implications.	Partners/SPREP	High/ Medium
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
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

Indicators:
 Reporting system developed to gather information on growth of the industry.
 Regional whale watching report updated and disseminated to relevant management bodies, industry, media and community.
 Industry, Government and key stakeholders (NGO's, researchers, community groups) meet in-country as required to discuss issues and actions.
 Key resources and technical support (reports, examples, templates) is available from SPREP.

OBJECTIVE (ii): *Ensure the best practice management of whale and dolphin based tourism in the Pacific Islands Region*

Actions:	Lead	Priority
Develop region-wide whale and dolphin watching guidelines.	IFAW/ SPREP/Partners	High
Hold regional whale and dolphin watching workshop to promote best practice management and endorse regional guidelines.	Operation Cetaces/ IFAW/SPREP	High
Support collaborative and best practice management of whale and dolphin watching activities involving all stakeholders.	Members	High
Promote licensing/permitting of whale and dolphin watching tourism operations as a tool for management.	Members	High

Indicators:
 Workshop held, well attended by SPREP members and industry.
 Regional guidelines developed, accepted, published and utilized by SPREP members and industry.
 Stakeholders are consulted in the development of management measures.
 Licensing schemes are implemented in SPREP nations where whale and dolphin based watching tourism occurs.
 Management agencies have on-water presence to monitor and enforce in-country licensing and permitting conditions.
 Whale and dolphin tourism in the region operating according to responsible wildlife viewing practices

OBJECTIVE (iii): *Maximize educational and economic values of whale and dolphin based tourism watching*

Actions:	Lead	Priority
Develop programs for whale and dolphin watching operators to collect useful data.	Members/ SPREP	High
Support countries to develop an education kit for on-board operations.	SPREP/ Partners	High
Promote socio-economic benefits of whale and dolphin watching to local communities.	Members	High/ Medium
Assist countries to explore the potential for whale and dolphin watching through feasibility studies.	Partners/ SPREP	High/ Medium

Indicators:
 Data sheet developed and disseminated to operators and reported annually to SPWRC.
 Educational Kits developed and disseminated to SPREP nations.
 Community outreach program conducted in-country targeted at local media, villages, community groups.
 Feasibility studies conducted in relevant SPREP nations.

VI. WORKING GROUP DEVELOPMENT - DRAFT

PNG cetaceans 'working group'

It might be a good idea to develop a 'working group' to progress the ideas, initiatives and discussions of the workshop. This group would benefit from being led by a coordinator and also by imposing timelines and responsibility for agreed upon tasks and actions. Discussions around a working group should also indicate how this group would update, communicate and interact with the workshop participants. Some tasks for such a group to develop might be:

- (1) Identify a coordinator for the working group. This person would ideally be actively working in-country and serve as a point of contact for all network members as well as anyone interested in cetacean conservation in PNG.
- (2) Identify a group of possibly 3-5 in-country people who would like to be part of a working group. This working group would be responsible for maintaining momentum on the actions, discussions and priorities initiated by the PNG cetacean workshop. Members of this group would be required to respond to requests and discussions in a timely manner, and also be prepared to actively contribute to the progress of the working group and the PNG cetacean network. Ideally the group should contain participants from a variety of backgrounds and interest areas. Specific duties of individual working group members may be determined once that group is established. This group would also liaise and contact SPREP as needed.
- (3) A database coordinator for all cetacean sightings and research activities should be identified. This person would need to keep all sightings up-to-date and in an easily searchable and useful format. The database coordinator would produce regular summaries of collected information for all network participants.
- (4) Regular communications from the working group will be forwarded to the wider network. This update may be an e-mail newsletter or informal meeting that provides an update on recent activities, progress, documents and sighting summaries. These communications would also provide network members with information about regional and scientific work that pertains to PNG cetaceans.
- (5) Meetings to be organized by the working group on possibly an annual basis.
- (6) Feedback from the wider network will be welcomed at all times, yet also actively sought by the working group on a semi-regular basis.

VII. PAPUA NEW GUINEA WHALE and DOLPHIN SIGHTING FORM - DRAFT

<p>Personal Information Name: Organization: Contact Details (phone, e-mail &/or address):</p> <p>Where were you when you saw the animal/s (e.g., boat, plane, land)?</p>	<p>Location (see other side for map) Name of town, village, island, landmark where animal/s were sighted:</p> <p>Approximate distance from shore: Was a GPS used? Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, please provide latitude and longitude</p>												
<p>Species Record Type of whale or dolphin seen (if known): Description of the animal (include as much detail as possible – for e.g., length, colour, fin shape and size, body shape, head shape):</p> <p>How many adults? (give a range if not sure) Were there calves present? Yes <input type="checkbox"/> No <input type="checkbox"/> If so, how many? Any photographs taken? Yes <input type="checkbox"/> No <input type="checkbox"/> Any other species present? If so, please record type, number and presence of calves.</p>	<p>Time and date Date: Time: How long did you observe the animal/s?</p> <p>Behaviour Did the animals change direction during your observations? Behaviours (please mark as many as were observed) - see over page for descriptions</p> <table border="1" data-bbox="972 889 1873 1133"> <tr> <td>Slow <input type="checkbox"/> swimming</td> <td>Porpoise <input type="checkbox"/></td> <td>Socialize <input type="checkbox"/></td> <td>Lob-tail/fin slap <input type="checkbox"/></td> </tr> <tr> <td>Travel <input type="checkbox"/></td> <td>Breach <input type="checkbox"/> /jump</td> <td>Rest <input type="checkbox"/></td> <td>Fluking <input type="checkbox"/></td> </tr> <tr> <td>Rapid <input type="checkbox"/> swimming</td> <td>Feed <input type="checkbox"/></td> <td>Spy-hop <input type="checkbox"/></td> <td>Interaction with boat <input type="checkbox"/></td> </tr> </table>	Slow <input type="checkbox"/> swimming	Porpoise <input type="checkbox"/>	Socialize <input type="checkbox"/>	Lob-tail/fin slap <input type="checkbox"/>	Travel <input type="checkbox"/>	Breach <input type="checkbox"/> /jump	Rest <input type="checkbox"/>	Fluking <input type="checkbox"/>	Rapid <input type="checkbox"/> swimming	Feed <input type="checkbox"/>	Spy-hop <input type="checkbox"/>	Interaction with boat <input type="checkbox"/>
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Rapid <input type="checkbox"/> swimming	Feed <input type="checkbox"/>	Spy-hop <input type="checkbox"/>	Interaction with boat <input type="checkbox"/>										
<p>Additional Notes Unusual and/or extra observations (e.g. boat presence, swimming patterns and behaviours, other species behaviour etc.)</p>	<p>Environmental Conditions Cloud cover: 0% <input type="checkbox"/> 25% <input type="checkbox"/> 75% <input type="checkbox"/> 100% <input type="checkbox"/> Sunny? Yes <input type="checkbox"/> No <input type="checkbox"/> Approx wave height (in metres) Sea State (circle) 0 1 2 3 4 5+</p>												

Sea state
0 = mirror calm. **1** = slight ripples. **2** = small wavelets, no whitecaps. **3** = large wavelets, crests begin to break. **4** = longer waves, many whitecaps.
5+ = large waves, whitecaps everywhere.

Behaviour descriptions

Slow swimming: Surfacing/cruising leisurely without making a splash.

Travel: Directed movements, zig-zag swimming and milling.

Rapid swimming: Rapid surfacing, sometimes creating white water off the forehead or dorsal fin.

Porpoising: Leaping clear of the water surface whilst travelling forward at speed.

Breaching/jumping: Leaping clear of the water, often vertically, then falling back with a splash.

Feeding: Fish in mouth, rapid and deep diving quick circling behaviour at the water surface, or direct pursuit of a prey item.

Socialising: Play and all other general interactive activities.

Rest: Slow bobbing and/or lack of relative motion.

Spy-hop: Slowly emerging vertically from the water to raise the head clear of the surface, before sinking back without a splash.

Lob-tailing/fin slapping: Forcefully slapping tail flukes or pectoral flippers onto the water surface, creating white water.

Fluking: Raising tail flukes above the water surface prior to submerging for a deep dive.

Interaction with boat: Swimming at the front or rear of a vessel, or general interaction with the boat.

Please mark the sighting location on the map

Papua New Guinea



VIII. NEXT STEPS FOR PNG NATIONAL CETACEAN MANAGEMENT PLAN

Papua New Guinea Management Plan progress

There are many issues and considerations that require attention in order for a cetacean management plan to be progressed in PNG. During this workshop we have identified several issues and ideas that would assist implementation, these include:

- Legislative review
- How to solicit and encompass provincial priorities
- What does 'priority' mean? How do you decide what is most pressing?
- Identify stakeholders and undertake a consultation with stakeholders
- Make all cetacean legislation available to participants and to other stakeholders that may be involved in consultation (Note: the collation of these materials should occur under the legislative review).
- Plan a 2nd workshop next year to discuss and progress the national management plan, review progress and implement new project ideas.
- Provide on-going support and follow-up for participants. This support will potentially include DEC, WDCS, working group and SPREP.
- Provincial support needed by preparation of reports based on the workshop. It would be beneficial if reports from provinces need to have the same format, strategy and general content.

It's possible there could be more actions so we should add these if needed.

In the interim it would be useful to provisionally use the SPREP whale and dolphin action plan as a guideline as this plan has undergone regional and scientific review and has recently been approved by SPREP members. However, it is acknowledged that all actions in the plan do not necessarily apply to PNG and furthermore that prioritization may differ both nationally and on a provincial level. In line with these ideas - actions and support will preferentially be given to projects and initiatives that fall under the SPREP whale and dolphin action plan. This approach will ensure that PNG shows measurable progress towards both the SPREP WDAP and the CMS MoU for Cetaceans and their Habitats in the Pacific Islands Region.

IX. SURVEY PROTOCOLS

Boat positions (switch every 30 mins)

Boss/'spotter'

Check that the survey is running along the right direction and that everyone is fine with his or her different duties. Time the change-overs to happen every 30 mins and make sure everyone knows what job they're doing at the next change-over. If an individual or group is sighted keep your eyes on the animal and direct boat driver and photographer as necessary.

Observer w/ binoculars – left front

Scan slowly from front to side taking about 20 seconds to go a full 90°. Scanning should be done out to a consistent distance. Taking some breaks from looking through the binoculars is okay.

Photo-ID 'expert'

First duty is to get pictures of the species and as many different animals as possible. If appropriate please get side-profiles of dolphin dorsal fins or any other natural marking for photo-identification purposes.

Data recorder for sightings

Record details from when an individual or group is encountered.

Observer w/ binoculars – right front

Scan slowly from front to side taking about 20 seconds to go a full 90°. Scanning should be done out to a consistent distance and regular breaks are fine.

Observer – left rear

Scan slowly from side to rear taking about 20 seconds to go a full 90°. Scanning should be done out to a consistent distance. Taking some breaks from looking through the binoculars is okay.

(7) Hydrophone or video camera operator

Make hydrophone recordings every 30 mins as well as when a sighting is made. Take video footage of any time that a sighting happens.

(8) Observer – right rear

Scan slowly from side to rear taking about 20 seconds to go a full 90°. Scanning should be done out to a consistent distance and regular breaks are fine.

Note: It's useful to communicate direction by deciding on a consistent way to identify directions (for e.g., using a clock-face with 12 o'clock being straight ahead, 3 o'clock directly right, etc.).

X. FIELD WORK DATA SHEET

PNG BOAT BASED SURVEYS

Date:

Trip start time:

Trip end time:

Crew (list all):

Sighting No.	Time (start)	Time (stop)	Group size ¹	Species name ²	No. of calves present	Behaviour of group ³	Location (GPS or name)	Beaufort Sea State
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

Calves – Individuals approximately ½ size of adults, or less than 1m in length

¹ If you're not sure exactly how many – put the minimum and maximum number you think might be in the group

² Provide a species description on the opposite side of this data sheet

³ Behaviour that more than ½ the group is undertaking for a 2-minute period

- | | |
|---|--|
| 0 | Calm. Sea like a mirror |
| 1 | Light Air. Ripple with the appearance of scales are formed, but without foam crests. |
| 2 | Light Breeze. Small wavelets, still short but more pronounced. |
| 3 | Gentle Breeze. Large wavelets. Crests begin to break. Foam or glassy appearance. |