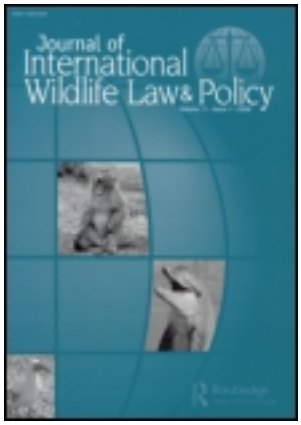
On: 12 March 2013, At: 13:07
Publisher: Routledge
Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK




Journal of International Wildlife Law & Policy

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/uwlp20

# Proactive Cetacean Conservation in the Midst of 'Data Deficiency': Progress of the Convention on Migratory Species Cetacean Agreement in the Pacific Islands Region

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Version of record first published: 08 Mar 2013.

To cite this article: Cara Miller & Margi Prideaux (2013): Proactive Cetacean Conservation in the Midst of 'Data Deficiency': Progress of the Convention on Migratory Species Cetacean Agreement in the Pacific Islands Region, Journal of International Wildlife Law & Policy, 16:1, 41-56

To link to this article: http://dx.doi.org/10.1080/13880292.2013.764775

*Journal of International Wildlife Law & Policy, 16:41–56, 2013*

*ISSN: 1388-0292 print / 1548-1476 online*
*DOI: 10.1080/13880292.2013.764775*



# Proactive Cetacean Conservation in the Midst of 'Data Deficiency': Progress of the Convention on Migratory Species Cetacean Agreement in the Pacific Islands Region

Cara Miller*
Margi Prideaux**



## 1. INTRODUCTION

The Pacific Islands Region is an expansive, tropical oceanic region containing 22 Pacific Island Countries and Territories (PICTs). In general, the PICTs have limited land area, are geographically isolated, contain unique endemic*** ecosystems vulnerable to destruction or damage, and have rapid human population growth rates.[1] PICTs place a high value on their marine resources for both food security and livelihoods, recognizing their relatively high marine biodiversity,[2] as well as cultural and traditional significance. Various regional and sub-regional management frameworks of differing spatial and temporal scales, numerous levels of stakeholder engagement, and specific areas or

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[1] Secretariat of the Pacific Regional Environment Programme [SPREP], *Outlook Report on the State of the Marine Biodiversity in the Pacific Islands Region* 7–9, 14 (Aug. 2010) (by Jeff Kinch et al.), http://www.sprep.org/att/publication/000890_Kinchetal_2010_MarineBiodiversity–OutlookReport_SPREP_UNEP_WCMC.pdf [hereinafter SPREP, *Outlook Report*]; United Nations Env't Programme [UNEP] & SPREP, *Pacific Environment Outlook* 1 (by Matt McIntyre), http://www.unep.org/PDF/SIDS/Pacific_EO_final.pdf [hereinafter SPREP, *Pacific Environment Outlook*]; SPREP, *The Pacific Way: Pacific Island Developing Countries Report to the United Nations Conference on Environment and Development* (1992).

[2] Callum M. Roberts et al., *Marine Biodiversity Hotspots and Conservation Priorities for Tropical Reefs*, 275 Science 1280, 1280–1284 (2002); Derek P. Tittensor et al., *Global Patterns and Predictors of Marine Biodiversity across Taxa*, 466 Nature 1098–1101 (2010); Boris Worm et al., *Predator Diversity Hotspots in the Blue Ocean*, 100 Proc. Nat'l Acad. Sci. U.S. 9884, 9884–9888 (2003).

topics of focus are in place to both protect (and in other cases utilize) marine resources across the Pacific Islands Region.

For initiatives specifically related to conservation of given Pacific Islands Region marine resources, one of the most significant obstacles to making progress is a lack of scientific data to then guide or trigger appropriate actions, tasks, and priorities. A recent assessment of Oceania marine biodiversity found that ten percent of classified species were listed as Data Deficient (DD)[3] due to 'inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status.'[4] A species is listed as DD when an inadequate amount of population estimation and distributional data are available for deliberation of an International Union for Conservation of Nature (IUCN) threat category, but such a category may be assigned if appropriate background data are available regarding the deterioration of habitat and/or other causal factors.[5] In the case of the Pacific Islands Region, a general list of marine environmental issues has been identified (including climate variability and climate change, habitat loss, invasive species, fishing pressure and practices, poor land-use practices, and other sources of land and marine pollution);[6] however, there is an additional lack of data that have been collected at the necessary scale and level of detail to weigh within the consideration of IUCN species' status. Furthermore, given the restricted research efforts and coverage of the region to date, the true understanding of marine biodiversity is quite limited.

This article presents an international framework for cetacean conservation in the Pacific Islands Region that is being used to strategically implement protection and management measures for cetaceans while also actively addressing issues of 'national, regional and international coordination and cooperation,' cultural importance, and capacity building. The progress of this Agreement is particularly significant given that it is being undertaken in an exceptionally large oceanic region, with limited resources, and with a majority of known cetacean species being listed as DD. More specifically, despite a very limited scientific baseline on cetacean species diversity, habitat, and threats, the governments of the region have shown proactive, global leadership and sincere execution of the precautionary principle by initiating a comprehensive



[3] Beth A. Polidoro et al., *Conservation Status of Marine Biodiversity in Oceania: An Analysis of Marine Species on the IUCN Red List of Threatened Species* 2011 J. MARINE BIOLOGY 1, 5. This article does not include data on numerous marine shore fishes. *Id.* at 2. In addition, the fauna of Papua New Guinea and the Solomon Islands was not part of the geographic area assessed. *Id.*

[4] Int'l Union for Conservation of Nature & Nat. Res. [IUCN], *Glossary*, THE IUCN RED LIST OF THREATENED SPECIES, http://www.iucnredlist.org/initiatives/freshwater/description/glossary.

[5] IUCN, *2001 IUCN Red List Categories and Criteria Version 3.1*, THE IUCN RED LIST OF THREATENED SPECIES (2001), http://www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria.

[6] SPREP, *Outlook Report*, *supra* note 1, at 8.

management framework for cetaceans through the Convention on Migratory Species Memorandum of Understanding for the Conservation of Cetaceans and Their Habitats in the Pacific Islands Region (CMS Pacific Cetaceans MoU).

## 2. PACIFIC ISLANDS REGION—ENVIRONMENTAL SETTING AND CETACEAN BIODIVERSITY

The Pacific Islands Region area sits between the Tropic of Cancer and 60 degrees South latitude, and between 130 degrees East longitude and 120 degrees West longitude. This region contains 22 PICTs, as well as the main islands of New Zealand and portions of the Hawaiian Islands and the Australian continent. The combined exclusive economic zone of the Pacific Islands Region exceeds 30 million $km^2$.[7] 'The limited land base of the 22 [PICTs] is distributed among 200 high islands and 2,500 low islands and atolls.'[8] The surrounding ecosystems include mangroves, lagoons, rocky shores, seagrass beds, estuarine lagoons, and coral reefs.[9] However, the region also contains island arcs on the western side coupled with deep trenches (including the Marianas Trench). Sea surface temperatures in the Pacific Islands Region tend to be relatively warm throughout the year with minimum annual temperatures of about 22°C. Oceanographic features including equatorial currents, jet streams, and counter currents play a critical role in shaping the productivity and diversity of the region.[10] Of note is the significant influence of El Niño and La Niña weather patterns.[11]

An understanding of cetacean diversity in the region is relatively preliminary[12] (see Table 1). Cetacean records for the Pacific Islands Region include a wide variety (and level of reliability) of data sources, with only a limited amount of information being drawn from directed research studies. It is plausible that numerous other undocumented or undiscovered species are also present. Hence, the data collated to date should be viewed as a simple presence-only checklist rather than an inference of distribution for any given

[7] SPREP, *Pacific Environment Outlook*, *supra* note 1, at 12.

[8] Convention on Migratory Species [CMS], Second Meeting of the Signatories, Auckland, N.Z. 28–29 July 2009, *Current State of Knowledge of Cetacean Threats, Diversity and Habitat in the Pacific Islands Region, 2009 Revision*, U.N. Doc. UNEP/CMS/PIC2/Inf.6-01 (15 July 2009) (by Cara Miller), http://www.cms.int/species/pacific_cet/2nd_Mtg_July09_NewZealand/Docs/PIC2_Inf6_1_Cetacean_Threats_Diversity_Habitats.pdf.

[9] Chris Bleakley, *Marine Region 14: South Pacific*, *in* 4 A GLOBAL REPRESENTATIVE SYSTEM OF MARINE PROTECTED AREAS 13–53 (Graeme Kelleher et al. eds., 1995).

[10] *Id.*

[11] SPREP, *Outlook Report*, *supra* note 1, at 16.

[12] *See* CMS, *supra* note 8, at 6; RANDALL. R. REEVES ET AL., MARINE MAMMALS IN THE AREA SERVED BY THE SOUTH PACIFIC REGIONAL ENVIRONMENT PROGRAMME (SPREP) (1999).

TABLE 1. Checklist of cetacean species' presence as noted from either a peer-reviewed or verified record within the waters of the Pacific Island Country and Territory Signatories to the Convention on Migratory Species Memorandum of Understanding for the Conservation of Cetaceans and their Habitats in the Pacific Islands Region

| | CMS Pacific Cetaceans MoU Signatories | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cetacean species | CI | FSM | Fi | FP | NC | Ni | PNG | PI | Sa | SI | Ton | Tu | Va | WF |
| Minke whales | X | | X | X | X | X | | | X | | X | X | | |
| Sei whale | X | | | | X | X | X | | | | X | | | |
| Bryde's-like whales | X | X | X | | X | | X | | X | X | | | X | |
| Blue whale | X | | X | | X | | | | | X | | | | |
| Fin whale | | | X | | X | | | | | | | | | |
| Humpback whale | X | | X | X | X | X | X | X | X | | X | | X | X |
| Common dolphin | X | | | | X | | | | | | X | | | |
| Pygmy killer whale | | | | X | X | | X | | | | X | | | |
| Short-finned pilot whale | X | X | X | X | X | X | X | X | X | X | X | | X | |
| Risso's dolphin | | | | X | X | | X | | X | X | X | | | |
| Fraser's dolphin | X | X | | X | | | X | | X | X | | | | |
| Snubfin dolphin | | | | | | | X | | | X | | | | |
| Orca | X | X | X | X | X | X | X | | X | X | X | X | X | |
| Melon-headed whale | X | X | | X | X | | X | | X | X | X | | X | |
| False killer whale | | | X | X | X | X | X | | X | X | X | | | |
| Indo-Pacific humpback dolphin | | | | | | | X | | | | | | | |
| Pantropical spotted dolphin | X | X | X | X | X | | X | | | X | X | X | X | |
| Striped dolphin | | X | | | | | | | X | X | | | | |
| Spinner dolphin | X | X | X | X | X | X | X | | X | X | X | X | X | |
| Rough-toothed dolphin | | | | X | X | | | | X | X | | | | |
| Bottlenose dolphins | | X | X | X | X | | X | | X | X | X | X | X | |
| Diminutive sperm whale | | | X | X | X | | X | | X | | | X | | |
| Sperm whale | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Blainville's beaked whale | X | | X | X | X | | | | X | | | | | |
| Gingko-toothed whale | | X | | | | | | | | | | | | |
| Cuvier's beaked whale | X | | | X | X | | X | | X | | | | | |

**Legend:** CI = Cook Islands, FSM = Federated States of Micronesia, Fi = Fiji, FP = French Polynesia, NC = New Caledonia, Ni = Niue, PNG = Papua New Guinea, PI = Pitcairn Islands, Sa = Samoa, SI = Solomon Islands,, Ton = Tonga, Tu = Tuvalu, Va = Vanuatu, WF = Wallis and Futuna

**Notes:** Caution should be used when comparing Country and Territory listings as not all records are of equal reliability and there has been uneven spatial and temporal coverage across the region. In addition, species records have been adapted in instances where there are noted difficulties with individual species identification or subspecies differentiation, and/or instances where taxonomic nomenclature is unresolved or has changed. All minke whale species and subspecies are listed jointly within this summary table. The same rule was used for blue whales, bottlenose dolphins, common dolphins, and diminutive sperm whales (*Kogia* species). All Bryde's whale species as well as Omura's whale are listed jointly within this summary table. In addition, Sei whales pre-dating the 1980s are also included here due to historical difficulties with distinguishing these species from one another at sea. Additional details on relative reliability of records as well as additional tentative records can be found in Miller, 2009.

species (see Table 1). The percentage of cetaceans falling into the DD conservation status in the region is higher than the regional average for marine biodiversity,[13] with more than 50% of those species documented on preliminary diversity lists falling into this category (see Table 2). A few threats have been

[13] Polidoro et al., *supra* note 3, at 5.

TABLE 2. Summary table of cetacean species occurring in the Pacific Islands Region against IUCN conservation status

| IUCN status | Number of cetacean species |
|---|---|
| Endangered | 4 |
| Vulnerable | 1 |
| Near Threatened | 2 |
| Least Concern | 10 |
| Data Deficient | 23 |
| Total | 40 |

**Notes:** Given the limited data collection undertaken as well as the remoteness and expanse of this oceanic region, these numbers likely represent a conservative minimum of cetacean species diversity in the region. The number of species listed refers to species listed in Table 1 with the following notes: 'Minke whales' includes dwarf minke whale and Antarctic minke whale, 'Bryde's-like whale' includes Bryde's whale and Eden's whale, 'Blue whales' includes only *B. musculus* as no listing was available for *B. m. brevicauda*. For 'common dolphins' only *D. delphis* was included as *D. capensis* would be considered unlikely within the region, 'Bottlenose dolphins' includes both Common and Indo-Pacific species, and 'Diminutive sperm whales' includes both *K. breviceps* and *K. sima*. In addition, Peale's dolphin and Omura's whale are included due to tentative sightings of each. Furthermore, the following beaked whale species are included as all have been documented as likely to occur in the region (Reeves et al. 1999): *M. bowdoini*, *M. carlhubbsi*, *M. grayi*, *M. hectori*, *M. layardii*, *M. mirus*, *M. peruvianus* and *M. traversii*. This table has been developed according to version 3.1 of IUCN Categories and Criteria (IUCN, 2001). Species records were accessed on 30 October 2011 from http://www.iucnredlist.org



directly documented (e.g., live capture of bottlenose dolphins in the Solomon Islands for export to international aquaria); however, others that are potentially very serious (e.g., incidence of bycatch) remain relatively unknown. An initial list of cetacean threats for the Pacific Islands Region likely includes climate change and habitat degradation, chemical pollution and disease, noise, cetacean tourism, fisheries interactions and entanglement (including depredation), ship strikes, hunting, 'scientific whaling,' drive hunts, and live captures for display.[14]

## 3. MANAGEMENT OF MARINE RESOURCES IN THE PACIFIC ISLANDS REGION

Management of marine resources occurs at the local, national, sub-regional, regional, and global level in the Pacific Islands Region. It is important to recognize and understand the difference in objectives between these levels of management as well as the relative applicability of practices, environment, responsibility, and interest for cetaceans.

Indigenous ecological knowledge and existing sea tenure governance (customary management practices) of marine resources are commonly utilized

[14] See CMS, *supra* note 8, for more detail.

in many PICTs.[15] In general, these practices refer to near-shore species that are used as, or associated with, food sources or other cultural attributes that are valued and have been demonstrated to have biological and social success.[16] However, there are also examples in which social, biodiversity, and cultural needs are the impetus for management. The range of practices include (yet are not restricted to) 'seasonal bans on harvesting, temporary closed (no-take) areas, and restrictions being placed on certain times, places, species, or classes of persons.'[17]

On a national level, the PICTs have integrated their customary management practices into western political mechanisms with numerous other, more mainstream, conservation measures and policies that have been put in place to protect increased areas of habitat, entire ecosystems, and species.[18] The recently declared marine protected area (MPA) in Kiribati (Phoenix Islands Protected Area, 410,500 $km^2$) and proposed MPA in the Cook Islands (Cook Islands Marine Park, approximately one million $km^2$) represent two of the largest marine protected areas in the world. Declaration of exclusive-economic-zone-wide sanctuaries for whales as well as other large marine species (such as cetaceans and sharks) is also relatively prolific across the region, with America Samoa, Cook Islands, Fiji Islands, French Polynesia, New Caledonia, Niue, Palau, Papua New Guinea, Samoa, Tokelau, Tonga, and Vanuatu all having declared such national sanctuaries against whaling.[19] Complementing these habitat- and sanctuary-related protection measures are species-specific plans and policies.[20]

Nationally based plans have often given rise to an interest and investment in ways in which species and ecosystems of the Pacific Islands Region that extend and cross national borders can be promoted.[21] Common problems, resource needs, information gaps, and environments are recognized in organizations that work cooperatively under the umbrella of the Council of Regional Organizations in the Pacific (CROP). This includes the Secretariat of the Pacific Regional Environment Programme in context of the CMS



[15] MARJO VIERROS ET AL., TRADITIONAL MARINE MANAGEMENT AREAS OF THE PACIFIC IN THE CONTEXT OF NATIONAL AND INTERNATIONAL LAW AND POLICY 61 (2010), http://www.ias.unu.edu/resource_centre/Traditional_Marine_Management_Areas_Sept_2010_single_page_webversion_v2.pdf.

[16] S. Aswani et al., *Customary Management as Precautionary and Adaptive Principles for Protecting Coral Reefs in Oceania*, 26 Coral Reefs 1009, 1009–1010 (2007); Joshua E. Cinner et al., *Conservation and Community Benefits from Traditional Coral Reef Management at Ahus Island, Papua New Guinea*, 19 CONSERVATION BIOLOGY 1714, 1715 (2005).

[17] VIERROS ET AL., *supra* note 15, at 7. *See also* Shankar Aswani, *Customary Sea Tenure in Oceania as a Case of Rights-Based Fishery Management: Does It Work?*, 15 REVS. IN FISH BIOLOGY & FISHERIES 285, 285–290 (2006).

[18] *See generally* Aswani et al., *supra* note 16; Aswani, *supra* note 17; Cinner et al., *supra* note 16.

[19] ERICH HOYT, MARINE PROTECTED AREAS FOR WHALES, DOLPHINS AND PORPOISES (2d ed. 2011).

[20] Aswani, *supra* note 17, at 289.

[21] However, at times the regional approach has spurred on national initiatives.

Pacific Cetaceans MoU. Other Pacific initiatives also recognize the necessity and strength of collaboration, partnership, coordination, and regionalization. A significant example of this is the recently announced Pacific Oceanscape, which aims to comprehensively address all issues related to the marine environment in a collaboratively regional approach.[22]

In other cases, however, sub-regional Agreements have been developed to meet more specific environmental and food security objectives (e.g., the Coral Triangle Initiative and the Micronesian Challenge) and leadership goals (Micronesian spearhead group, Melanesian spearhead group, and the proposed Polynesian spearhead group). Each of these local and national initiatives is also connected by respective governments to international Conventions (such as the Convention on Biological Diversity (CBD), the Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES), and the Convention on Migratory Species (CMS)) and Commissions (such as the Western and Central Pacific Fisheries Commission), as necessary. Decision making to implement management activities in the region has very clearly defined structures at the customary management and the national level. At the sub-regional and regional levels where coordination is sometimes more difficult, yet even more necessary, the region has had to create specific mechanisms to suits its needs.

The application and implementation of an appropriate conservation management plan for cetaceans in the Pacific Islands Region therefore must consider a diversity of cultural practices, national interests, and scale of management frameworks. Equally, the decision-making structure that assesses and then agrees on that conservation management plan must mirror the geographic extent of the plan. In addition, the behaviour and understanding of the animals themselves must be considered as the spectrum ranges from predictably migratory humpback whales[23] to beaked whales, which have only recently been described[24] or may not yet have been documented.[25] With this in mind, in early 2002, PICT governments began considering a CMS framework for political discussions and decisions focused on regional cetacean conservation.



[22] Molly Bergen, *Creating an Oceanscape*, CONSERVATION INT'L (17 Aug. 2010), http://www.conservation.org/FMG/Articles/Pages/marine_pacific_creating_an_oceanscape.aspx; Kim McCabe, *New 'Pacific Oceanscape' Makes History*, CELSIAS (10 Aug. 2010), http://www.celsias.com/article/new-pacific-oceanscape-makes-history/; Radio Austl., *Pacific Oceanscape: An Ambitious Conservation Initiative*, PACIFIC ISLANDS REP. (22 Jan. 2012), http://pidp.eastwestcenter.org/pireport/2012/January/01-24-13.htm.

[23] S. Childerhouse et al., Megaptera novaeangliae *(Oceania subpopulation)*, THE IUCN RED LIST OF THREATENED SPECIES (2012), http://www.iucnredlist.org/details/132832/0.

[24] Merel L. Dalebout et al., *A Divergent mtDNA Lineage among* Mesoplodon *Beaked Whales: Molecular Evidence for a New Species in the Tropical Pacific?*, 23 MARINE MAMMAL SCI. 954, 954–955 (2007).

[25] CMS, *supra* note 8, at 6; RANDALL. R. REEVES ET AL., MARINE MAMMALS IN THE AREA SERVED BY THE SOUTH PACIFIC REGIONAL ENVIRONMENT PROGRAMME (SPREP) (1999).

## 4. THE CONVENTION ON MIGRATORY SPECIES

The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or Bonn Convention) conserves terrestrial, marine, and avian migratory species throughout their range. It is an inter-governmental treaty concerned with the conservation of wildlife and habitats on a global scale.[26] Migratory species threatened with extinction are listed in Appendix I of the Convention. CMS parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration, and controlling other factors that might endanger them. Besides establishing obligations for each state joining the Convention, CMS promotes concerted action among the range states of many of these species.[27] Migratory species that need or would significantly benefit from international cooperation are listed in Appendix II of the Convention. For this reason, the Convention encourages the range states to conclude global or regional Agreements. In this respect, CMS acts as a framework Convention. The Agreements may range from legally binding treaties (called Agreements) to less formal instruments, such as Memoranda of Understanding (MoU), and can be adapted to the requirements of particular regions. There is little in-practice difference between the legally binding and less formal instruments in CMS. All work according to a similar conservation agenda. The development of models tailored according to the conservation needs throughout the migratory range is a unique capacity to CMS.[28]

It is this Appendix II trigger—when key Pacific cetacean species were added to the CMS Appendices—that was used by range state CMS parties in the region to prompt the negotiations of what has become the CMS Pacific Cetaceans MoU.

### 4.1 Development of the Convention on Migratory Species Memorandum of Understanding for the Conservation of Cetaceans and Their Habitats in the Pacific Islands Region (CMS Pacific Cetaceans MoU)

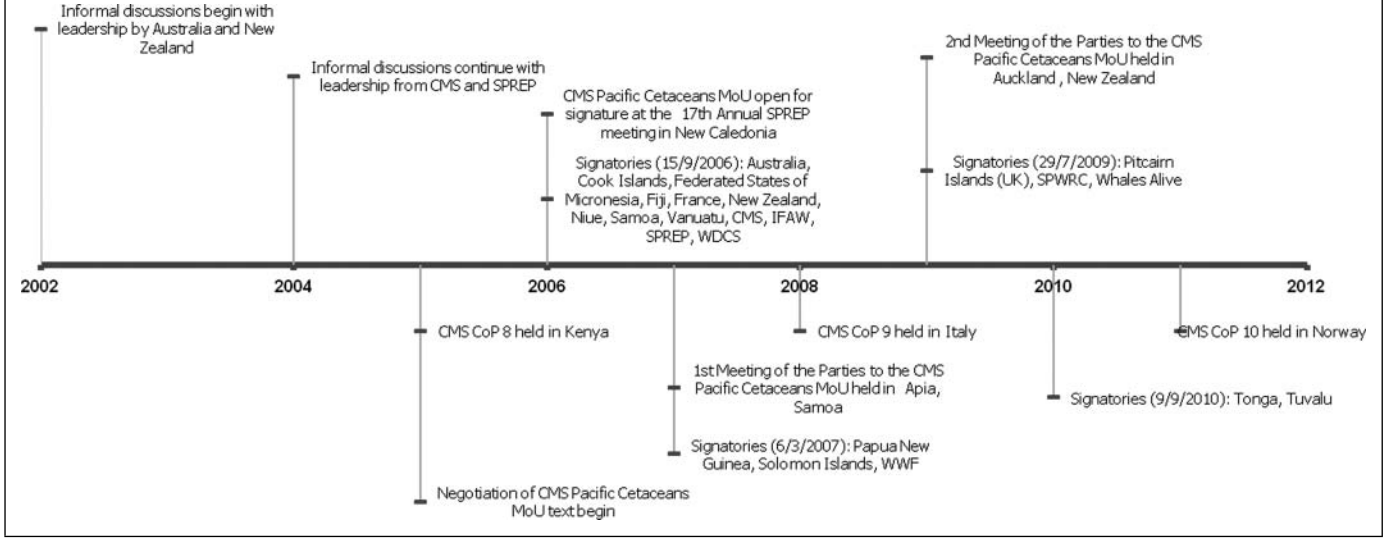
Negotiations for the CMS Pacific Cetaceans MoU were initiated by Australia and New Zealand, the two CMS Parties who were range states to the PIR in 2002 (see Figure 1). The first meeting was designed as an exploratory discussion between governments about the potential for a Memorandum of Understanding for marine mammals in the region. The CMS Secretariat was not present at this meeting. In 2004, a second meeting was convened, this time by CMS in formal cooperation with SPREP.

[26] Convention on the Conservation of Migratory Species of Wild Animals [CMS], at pmbl, 23 June 1979, 1651 U.N.T.S. 333.

[27] *Id.* at art. III.

[28] *Id.* at art. IV.

FIGURE 1. Important Events in the Progress and Development of the Convention on Migratory Species Memorandum of Understanding for the Conservation of Cetaceans and their Habitats in the Pacific Islands Region



This meeting was attended by American Samoa, Australia, Cook Islands, Fiji, French Polynesia, New Zealand, Niue, Republic of Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, and Tuvalu, and it adopted a terms of reference for the negotiations of a regional arrangement under CMS.[29] Formal negotiations then commenced in 2005 with a well-attended meeting working through draft text of what was to become the CMS Pacific Cetaceans MoU. Delegates left this meeting to confer with their state departments and the final amendments were made by correspondence in the following few months.[30] During this same year, Samoa became a CMS Party, making it the first PICT to do so.

The formal CMS Pacific Cetaceans MoU was open for signature in September 2006, in the margins of the 17th annual SPREP meeting that was held in New Caledonia. The founding signatories to the CMS Pacific Cetaceans MoU were Australia, Cook Islands, Federated States of Micronesia, Fiji, France for its Pacific Territories (New Caledonia, French Polynesia and Wallis and Futuna), New Zealand, Niue, Samoa, and Vanuatu. CMS, the International Fund for Animal Welfare, SPREP, and the Whale and Dolphin Conservation Society International were also founding collaborating organizations.[31] Just prior to this occasion, a second signatory, Cook Islands, became a PICT CMS party.

The 1st Meeting of the Parties (MoP) for the Agreement took place on 6 March 2007, in Apia, Samoa. During this meeting, Papua New Guinea and Solomon Islands became signatories, and the World Wide Fund for Nature (South Pacific) also signed as a collaborating organization signatory. Administrative matters and discussion of the adoption of the draft Pacific Regional Whale and Dolphin Action Plan that had been revised to serve both the CMS Pacific Cetaceans MoU and the SPREP Marine Species Programme were discussed during the 1st MoP. The revision and discussion of the Action Plan was attended by all signatories, as well as representatives from additional governments (American Samoa, Kiribati, Tonga, Tuvalu, and the United States) and other relevant and interested organizations and secretariats (including the Secretariat/Scientific Council for the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area, the CMS Scientific Council, Blue Planet Marine, Conservation International, Operation Cetaces, and The Nature Conservancy).[32] The 2nd MoP took place on 28–29 July 2009, in Auckland, New Zealand and sought to progress key

[29] Interview with M. Prideaux (2011) (details on file with Author).
[30] *Id.*
[31] *Id.*
[32] CMS, First Meeting of the Signatories, Apia, Somoa, 6 Mar. 2007, *Report of the First Meeting of the Signatories*, U.N. Doc. UNEP/CMS/PIC-1/Report (17, May 2007), http://www.cms.int/species/pacific_cet/2nd_Mtg_July09_NewZealand/Docs/PIC2_Inf5_3_Report_of_1st_Mtg_.pdf.

areas of prioritization for the Agreement and also to establish the Technical Advisory Group (TAG) for the CMS Pacific Cetaceans MoU. The U.K. territory of the Pitcairn Islands became a signatory, and the South Pacific Whale Research Consortium and Whales Alive were welcomed as additional collaborating organization signatories.[33] The following year saw Tonga and Tuvalu also become signatories during the 21st Annual SPREP meeting held in Madang, Papua New Guinea in September 2010.

In order to establish its performance, the signatories and the TAG for the CMS Pacific Cetaceans MoU developed a comprehensive report of their implementation of the MoU to this point and submitted this as part of the Secretariat Report to the 10th CMS Conference of the Parties (CMS CoP10) in 2011.[34] Not only was this the only such report submitted by signatories to an MoU from within the CMS Family, but it was remarkable because it was prepared in a region that struggles with limited resources in terms of research, staff, and technical capacity in governments.



### 4.2 Looking towards the Future

The establishment of the CMS Pacific Cetaceans MoU is the product of significant and sustained dedication from a number of PICTs, the CMS Secretariat, SPREP, and a variety of intergovernmental and non-governmental organizations. Significant benefit (as outlined above) has already been realized; however, there are many other advantages that the signatories will likely look to act upon as the Agreement matures. One such avenue will be the access to the expertise of the CMS Scientific Council (CMS ScC). The CMS ScC makes recommendations to the Conference of the Parties on such issues as research on migratory species, specific conservation and management measures, and designation of species for Concerted or Cooperative Actions under the Convention. Within the scope of the CMS ScC is the decision regarding which species should be listed in CMS Appendices I and II, which then reflects back down to the CMS Pacific Cetaceans MoU, binding signatories to '[t]ake steps to conserve all cetaceans and fully protect species listed in CMS Appendix I that occur in the Pacific Islands Region' (CMS Pacific Cetaceans MoU).[35]

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[33] CMS, Second Meeting of the Signatories, Auckland, N.Z., 28–29 July 2009, *Report of the Second Meeting of the Signatories*, U.N. Doc. CMS/PIC/MoS3/Inf.3 (13 Aug. 2012), http://www.cms.int/species/pacific_cet/3rd_mtg_noumea_2012/inf_3_report_mos2.pdf.

[34] UNEP/CMS, Tenth Meeting of the Conference of the Parties to CMS (COP 10), Bergen, Norway, 20–25 Nov. 2011, *Review of Article IV Agreements Already Concluded: Pacific Cetaceans, Implementation Report of the Signatories to the CMS Pacific Cetaceans MoU*, U.N. Doc. UNEP/CMS/Inf.10.18.09 (Sept. 2011), http://www.cms.int/bodies/COP/cop10/docs_and_inf_docs/inf_18_09_pic.pdf.

[35] CMS, First Meeting of the Signatories, Apia, Somoa, 6 Mar. 2007, *Memorandum of Understanding for the Conservation of Cetaceans and Their Habitats in the Pacific Islands Region*, at 3, U.N. Doc. UNEP/CMS/PIC-1/Inf/3, http://www.cms.int/bodies/meetings/regional/pacific_cet/pdf/Inf_03_PacificCetaceans_MoU&AP.pdf.

Creating such an overt link between the CMS Pacific Cetaceans MoU and the parent convention is one such avenue through which the PICT signatories are accessing an established process. In this case, that process is the submission of a species for consideration on a given Appendix within an established methodology of the level of scientific information, threat prevalence, and habitat degradation and a consistent assessment of required mitigation and conservation actions from CMS parties. Review and advice from the CMS ScC in relation to the Whale and Dolphin Action Plan may also be requested. Direct support relating to the Agreement and implementation of the Action Plan may be solicited from the TAG by any PICT signatory. The technical and scientific expertise of the CMS ScC and the TAG can provide an excellent resource for signatories to identify and prioritize conservation activities. The CMS Convention and its various Agreements inherently have a great deal to offer in terms of advice and effectiveness of tasks, indicators, and deliverables. Active dialogue and communication between CMS and other Agreements and Conventions (including CITES, CBD, United Nations Convention on the Law of the Sea, and various Regional Fisheries Management Organisations) can provide relevance, synergy, and an avenue to both limit duplicity and maximize resource and expertise to the Agreement.

These areas in particular have been the focus of discussions within CMS inside a 'Future Shape' process, and CMS CoP10 has made strategic decisions and recommendations about how to take this forward.[36] As is often the case, the CMS Pacific Cetaceans MoU was highlighted as an informal case study of what has worked and what needs support.[37] Being part of the 'CMS family of migratory species agreements' also provides the CMS Pacific Cetaceans MoU with a global profile. Recognition of the progress of this region is already strong. Furthermore, CMS members are eligible for project funding under the CMS Small Grants programme.

During CMS CoP10, a Global Programme of Work for Cetaceans was adopted to assist in the implementation of some of the collaboration and support objectives.[38] In the immediate short term, the newly enhanced CMS ScC Aquatic Mammals Working Group of the CMS ScC has been tasked at a global level to

[36] UNEP/CMS, Tenth Meeting of the Conference of the Parties to CMS (COP 10), Bergen, Norway, 20–25 Nov. 2011, *Res. 10.9: Future Structure and Strategies of the CMS and CMS Family*, U.N. Doc. UNEP/CMS/Resolution 10.9, http://www.cms.int/bodies/COP/cop10/resolutions_adopted/10_09_future_shape_e.pdf; UNEP/CMS, Tenth Meeting of the Conference of the Parties to CMS (COP 10), Bergen, Norway, 20–25 Nov. 2011, *Res. 10.5: CMS Strategic Plan 2015–2023*, U.N. Doc. UNEP/CMS/Resolution 10.5, http://www.cms.int/bodies/COP/cop10/resolutions_adopted/10_05_strategic_plan_e.pdf.

[37] Interview with M. Prideaux (2011) (details on file with Author).

[38] UNEP/CMS, Tenth Meeting of the Conference of the Parties to CMS (COP 10), Bergen, Norway, 20–25 Nov. 2011, *Res. 10.15: Global Programme of Work for Cetaceans*, U.N. Doc. UNEP/CMS/Resolution 10.15, http://www.cms.int/bodies/COP/cop10/resolutions_adopted/10_15_cetaceans_e.pdf.

1. develop appropriate metrics for the reporting of regional conservation progress, to ensure the CMS Global Programme of Work for Cetaceans can be regularly and consistently assessed and forecast;
2. provide advice as requested for CMS's engagement with [Food and Agricultural Organization of the United Nations/Committee on Fisheries, United Nations Informal Consultative Process on Ocean Affairs and the Law of the Sea], CITES and [the International Whaling Commission];
3. host a workshop to review and provide advice on the impact of the emergent science of cetacean social complexity and culture, as it relates to regional populations and to inform forward decisions about CMS conservation priorities;
4. develop advisory positions for use in Environmental Impact Assessments at the regional level;
5. develop regular reports on progress of the CMS Global Programme of Work for Cetaceans for CMS CoP11 and CoP12;
6. facilitate the development of thematic resolutions addressing priority threats for CMS CoP11 and CoP12; and
7. support Parties in the development of any regional cetacean-related agreements and action plans prioritized by the COP.

Specifically for the Pacific Islands Region, the Secretariat and the ScC have been asked to develop an active collaboration Agreement with the Inter-American Tropical Tuna Commission, the Commission for the Conservation of Southern Bluefin Tuna, and Western and Central Pacific Fishery Commission with the objective of measurably reducing cetacean bycatch.[39]

The CMS ScC Aquatic Mammals Working Group has been asked to

1. provide support to the CMS Pacific Cetaceans MoU, especially with assessing and developing mitigation measures for the region bycatch, identification of and where appropriate work on the protection of habitat; and
2. develop comprehensive reports on regional progress of the CMS Global Programme of Work for Cetaceans for CMS CoP11 and CoP12.[40]

[39] *Id.* at ¶¶ 3, 47–51.
[40] *Id.* at ¶ 50.

The recent recognition and indication of support is positive; however, continued momentum of the CMS Pacific Cetaceans MoU must be balanced by numerous obstacles for signatory implementation. Of prevalence among any broad-scale application of regional conservation is sustainable financing for administration, policy, meetings, and on-ground research. In essence, the activities outlined within the Whale and Dolphin Action Plan require on-going support for the realization of the Agreement objectives. This issue is highlighted within the Pacific Islands Region, in which national governments have limited resources in terms of research budget, staff, and technical capacity. The CMS Small Grants programme is one avenue for supporting pilot studies; however, international support for the fund has been somewhat limited in recent years. Furthermore, at this stage, only a few PICT signatories are also CMS members. The global profile of the Agreement is again helpful in providing impetus for support, yet confirmed and multi-year funding is essential for serious conservation gains in the region. The CMS Secretariat itself is also restricted on engagement given the growing number of global migratory Agreements. This pressure is lessened with the appointment of a regional CMS officer in the Pacific Islands Region. Moreover, this coordination role should also be pursued by PICTs with reporting obligations and collaboration with other Conventions (as mentioned above); however, confirmed and multi-year funding for the CMS Pacific Cetaceans MoU is still missing.

It is important that support and encouragement for national activity and reporting on that activity is promoted, especially as the CMS CoP10 has prioritized that comprehensive reports on regional progress of the CMS Global Programme of Work for Cetaceans will be considered at CMS CoP11 (2014) and CoP12 (2017). Furthermore, these processes must be 'from within the region,' be sustained, and provide appropriate feedback for signatories to then interpret results and utilize in future prioritization, especially if they are to be relevant and responsive to customary management practices. Prioritization of tasks within the next iteration of the Action Plan should also be facilitated by the CMS Secretariat, who is currently soliciting national five-year priorities from each PICT signatory. Such an approach is intended to provide more nationally focused, customarily appropriate initiatives from PICTs to be integrated into the Action Plan, therefore making it more relevant and immediately applicable to the CMS Pacific Cetaceans MoU as well as within each signatory country. Work on producing specific and tangible indicators of implementation would be of significant assistance in being able to quantify progress.

## 5. CONCLUSION

PICT governments have shown strong leadership and foresight to establish a globally recognized and comprehensive management framework for cetacean conservation despite there being a limited amount of scientific information

available. This framework makes use of the expertise and experience of CMS to address not only tasks related to species, habitats, and threats, yet also recognizing the critical need for international cooperation, identification of additional obstacles to migration, and integration of cultural and traditional values of the Pacific Islands Region. The CMS Pacific Cetaceans MoU has been born of a collaborative process between governments within the region, as well as both regional and international intergovernmental and non-governmental organizations. PICT signatories have demonstrated a willingness to draw in resources and expertise from civil society to assist the implementation of the Agreement. Support delivered by the TAG at CMS CoP10 and the outline of work proposed by the CMS ScC Aquatic Mammals Working Group (detailed above) demonstrate the direct benefit that this approach has already generated.

However, effort must now be concentrated on implementing the Action Plan in partnership and collaboration with signatories. The long-term benefit of ensuring that national capacity building and engagement is integral to all activities linked with the Action Plan cannot be understated. Focus should also be given to 'tuning' the prioritization of Action Plan tasks to ensure they are relevant to national implementation of the CMS Pacific Cetaceans MoU and in particular customary management practices. As with all programs, additional resources are required. Furthermore, consideration should also be given to streamlining processes, continuing to deliver timely reporting of progress, and actively integrating and coordinating the objectives and deliverables of the CMS Pacific Cetaceans MoU with the many national, sub-regional, regional, and global marine resource management frameworks being enacted by PICT governments. A concerted effort to take stock of pertinent information that may not yet be collated would also be beneficial. For example, there could be much value in investigating traditional knowledge sources, carefully analyzing historical datasets, and examining relevant national records, such as Fisheries Observer reports. Strategic use of platforms of opportunity, such as dive boats or ferries, would also be useful. Exploratory data analysis linked to cetacean habitat and migration questions using remotely sensed data is another possibility. In addition, the objective of compiling appropriate information on species to determine conservation status is crucial. The predominance of DD cetacean species in the Pacific Islands Region provides a stumbling block to drafting appropriately targeted actions in the Whale and Dolphin Action Plan. That said, it is critical that such species should not be treated as non-threatened, and in fact 'it may be appropriate . . . to give them the same degree of attention as threatened taxa, at least until their status can be assessed'.[41] A greater level of understanding provides a platform for strategic and coordinated efforts. A strong (and unique) example of this in the region is the Endangered listing (on

[41] IUCN, *supra* note 5.

the IUCN Red List) of Oceania humpback whales,[42] as well as the regional recovery plan for this subpopulation.[43]

Formulation of strategies to promote effective and comprehensive cetacean conservation and management on a regional scale or of international prominence is frequently spurred on by data that are able to highlight imminent threats or negative population trends.[44] Timely responses to such situations are warranted. However, at times this type of ad hoc approach may be ineffective due to the level of decline of the population, severity of a given threat, insufficient policy and legislative frameworks, or difficulty in facilitating international coordination.[45] Furthermore, a response-based mindset inherently ignores situations in which data are unavailable. Clearly, the implementation of a management framework that is strategic and long-term in its approach while also being aware of the needs of protecting cetaceans (and their diverse life-history patterns) and their threats is preferred. In addition, such a plan would inherently be more effective if it were tailored to the given regional and cultural context. The CMS Pacific Cetaceans MoU represents a case study that meets these criteria. Proactive recognition of the precautionary approach, as well as a strong connection and appreciation of the marine environment has clearly been taken by the signatories to the CMS Pacific Cetaceans MoU. The progress of the Agreement to date is both noteworthy and hopeful given the predominance of DD species, limited resources, and exceptionally large oceanic region encompassed. However, it is important to acknowledge that on-going support, strong national engagement, and effective collaboration and synergy will be required over the long-term to ensure that the valuable conservation goals of this Agreement are met.



[42] Childerhouse et al., *supra* note 23.

[43] *See generally* SPREP & S. Pac. Whale Research Consortium, *The Oceania Humpback Whale Recovery Plan* (June 2011), http://www.sprep.org/attachments/Publications/Corporate_Documents/Oceania_Humpback_Whale_Recovery_Plan_FINALDRAFT.pdf.

[44] *See, e.g.*, Caterina D'Agrosa et al., *Vaquita Bycatch in Mexico's Artisanal Gillnet Fisheries: Driving a Small Population to Extinction*, 14 CONSERVATION BIOLOGY 1110 (2000).

[45] Samuel T. Turvey et al., *First Human-Caused Extinction of a Cetacean Species?*, 3 BIOLOGY LETTERS 537, 537–540 (2007).