



**INPUT TO THE REVIEW OF THE CTI-CFF REGIONAL PLAN OF ACTION  
CONTEXT PAPER:  
MARINE AND OCEAN ISSUES IN THE PACIFIC**  
Report by David Sheppard

September 2018

*Prepared for:*  
CTI RPOA Review Committee

# INPUT TO THE REVIEW OF THE CTI-CFF REGIONAL PLAN OF ACTION

## CONTEXT PAPER: MARINE AND OCEAN ISSUES IN THE PACIFIC

Report by David Sheppard

*Prepared for:*

**CTI RPOA REVIEW COMMITTEE**

*Prepared by:*

**DAVID SHEPPARD**

*for*

**PT HATFIELD INDONESIA**

LIPI BUILDING 3<sup>RD</sup> FLOOR

JL. IR. H. JUANDA NO. 18

BOGOR 16122

INDONESIA

**SEPTEMBER 2018**

CTC9401

VERSION 2



## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION.....</b>	<b>1</b>
1.1	THE PACIFIC CONTEXT .....	1
1.2	FUTURE TRENDS RELEVANT TO CTI-CFF .....	4
<b>2.0</b>	<b>OCEAN AND MARINE RESOURCES.....</b>	<b>5</b>
2.1	INTRODUCTION: THE PACIFIC – LARGE OCEAN ISLAND STATES .....	5
2.2	FISHERIES RESOURCES AND CORAL REEFS.....	6
2.3	OTHER MARINE SPECIES, INCLUDING WHALES, TURTLES AND SHARKS .....	14
2.4	OTHER EMERGING ISSUES: DEEP SEA BED MINING AND TOURISM .....	18
<b>3.0</b>	<b>OCEAN AND MARINE RESOURCES: INSTITUTIONAL AND FINANCING ISSUES .....</b>	<b>24</b>
3.1	INSTITUTIONAL ISSUES.....	24
3.2	FINANCING ISSUES.....	26
3.3	FUNDING FOR OCEAN AND MARINE PROJECTS IN THE PACIFIC .....	28
<b>4.0</b>	<b>PRIORITY SETTING FOR OCEAN AND MARINE RESOURCES .....</b>	<b>36</b>
4.1	PRIORITY SETTING FRAMEWORKS .....	36
4.2	VIEWS FROM KEY OPINION LEADERS.....	39
<b>5.0</b>	<b>MAIN IMPLICATIONS OF THIS REVIEW FOR THE CTI-CFF AND THE RPOA.....</b>	<b>44</b>
<b>6.0</b>	<b>CONCLUSIONS.....</b>	<b>48</b>

## LIST OF TABLES

Table 1	Pacific Ocean under the Jurisdiction of World Bank member countries, Source: World Bank (2016), Tuna Fisheries Report.....	2
---------	--	---

## LIST OF APPENDICES

Appendix A1	References and Websites	
-------------	-------------------------	--

## LIST OF ABBREVIATIONS AND ACRONYMS

AAMP	Agence des Aires Marines Protégées - French Marine Protected Areas Agency
ACP	Africa, Caribbean and Pacific Countries
ABNJ	Areas Beyond National Jurisdiction
ADB	Asian Development Bank
BEST	Voluntary Scheme for Biodiversity and Ecosystem Services in Territories of European Overseas Territories
BIOPAMA	The Biodiversity and Protected Area Management Programme
CBD	Convention on Biological Diversity
CBO	Community-based organization
CC	Climate change
CFC	Cobalt-rich Ferromanganese Crusts
CFP	Coastal Fisheries Program (of the SPC)
CI	Conservation International
CITES	Convention for International Trade in Endangered Species
CMS	Convention on Migratory Species
CO <sub>2</sub>	Carbon Dioxide
CRISP	Coral Reef Initiatives for the Pacific
CROP	Council of Regional Organizations of the Pacific
CPIA	Country Policy and Institutional Assessment (World Bank/ ADB governance scoring system)
CTI-CFF	Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security
CTMAS	Coral Triangle Marine Protected Area System
DEVFISH	Development of Sustainable Tuna Fisheries in Pacific ACP Countries
DOC	Department of Conservation
DSM	Deep SeaMining
EbA	Ecosystem-based adaptation
EDF	European Development Fund
EEZ	Exclusive Economic Zone
EPOG	Enhancing Pacific Ocean Governance
EU	European Union
FAO	Food and Agriculture Organization (of the United Nations)
FAD	Fish Aggregating Devices
FCAS	Fragile and conflict-affected states

FFA	Pacific Islands Forum Fisheries Agency
FPO	Framework for the Pacific Oceanscape
FPR	Framework for Pacific Regionalism
FSM	Federated States of Micronesia
FSP	Full-Size Project (of the Global Environment Facility)
GCCA	Global Climate Change Alliance
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
OFF	GEF Operational Focal Point
GIZ	The Deutsche Gesellschaft für Internationale Zusammenarbeit – German Development Agency for International Collaboration
IDA	International Development Association
IFAW	International Fund for Animal Welfare
IFC	International Finance Corporation
IFP	Investment Facility for the Pacific (EU)
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unregulated and Unreported Fishing
IWC	International Whaling Commission
JICA	Japanese International Assistance Agency
LDC	Least Developed Countries
LME	Large Marine Ecosystem
LMMA	Locally Managed Marine Area
MoU	Memorandum of Understanding
MPA	Marine Protected Area
MSC	Marine Stewardship Council
MSG	Melanesian Spearhead Group
MSP	Marine Spatial Planning
MSWG	Marine Sector Working Group (of CROP)
MT	Metric Tons
NAPA	National Adaptation Plans of Action
NBSAP	National Biodiversity Strategy and Action Plans
NGO	Non-Government Organization
NSDS	National Sustainable Development Strategies
NZ-DOC	New Zealand Department Of Conservation

ODA	Overseas Development Assistance
PACIOCEA	Pacific Ocean Ecosystem Analysis Project
PCCSP	Pacific Climate Change Science Program
PIDP	Pacific Islands Development Program
PIFS	Pacific Islands Forum/ Pacific Islands Forum Secretariat
PIPA	Phoenix Island Protected Area
PIPAP	Pacific Islands Protected Area Portal
PIROFISA	Pacific Islands Regional Ocean Policy/ Framework for Integrated Strategic Action
PNA/ PNAO	Parties to the Nauru Agreement/ PNA Office
PNG	Papua New Guinea
PPG	Project Preparation Grant (of the Global Environment Facility)
PROFISH	World Bank Global Program on Fisheries
PROP	The World Bank Pacific Islands Regional Oceanscape Program (PROP) Project
REAP	Region-Wide Early Action Plan for Climate Change Adaptation (CTI-CFF)
RFEP	Regional Fisheries Enhancement Program (proposed for implementation by the World Bank)
RFMO	Regional Fisheries Management Organization
PMN	Polymetallic Manganese Nodules
REAP	Region Wide Early Action Plan for Climate Change Adaptation (CTI-CFF)
RPOA	Regional Plan of Action for the CTI-CFF
SCICOFISH	Scientific Support for the Management of Coastal and Oceanic Fisheries of the Pacific Islands
SCIFISH	Scientific Support for the Oceanic Fisheries Management in the Western and Central Pacific Ocean (EU-funded project implemented by SPC)
SDG	Sustainable Development Goals
SIDS	Small Island Developing States
SMS	Seafloor Massive Sulphides
SOI	Sustainable Oceans Initiative
SOPAC	South Pacific Bureau for Applied GeoScience (now a division of SPC)
SPBCP	South Pacific Biodiversity Conservation Programme
SPC	Secretariat of the Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Program
SPTO	South Pacific Tourism Office
SPWRC	South Pacific Whale Research Consortium
TNC	The Nature Conservancy
TAE	Total Allowable Effort

UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNDAF	United Nations Development Assistance Framework (UNDAF) for the Pacific Sub-Region
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNPS	UN Pacific Strategy
UNWTO	World Tourism Organization
USA	United States of America
USP	University of the South Pacific
VDS	Vessel Day Scheme
WB/ WBG	World Bank/ World Bank Group
WCPFC	Western Central Pacific Fisheries Commission
WCPO	Western Central Pacific Ocean
WDPA	World Database on Protected Areas
WorldFish	World Fisheries Centre
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature

## ACKNOWLEDGEMENTS

The author would like to thank all persons interviewed for this project, as outlined in Section 4.2 of this report. Also thanks are due to Lida Pet-Soede from PT Hatfield Indonesia for her guidance and support throughout this project. Finally, to all administrative staff from PT Hatfield Indonesia for support on administrative aspects of the project. Hatfield Indonesia acknowledges the Department of the Interior's International Technical Assistance Program (DOI-ITAP) and the Coral Triangle Center (CTC) who enabled the engagement of the author of this report to contribute to a Review of the Regional Plan of Action (RPOA) of the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF).

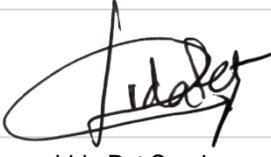
## DISTRIBUTION LIST

The following individuals/firms have received this document:

Name	Firm	Hardcopies	CDs	Email	FTP
Members of the Review Committee	CTI-CFF	-	-	✓	-
NCCs of the CTI-CFF	CTI-CFF	-	-	✓	-

## AMENDMENT RECORD

This report has been issued and amended as follows:

Issue	Description	Date	Approved by	
1	First version	2018-09-25		
2	Second version of <i>“Input to the Review of the CTI-CFF Regional Plan of Action Context Paper: Marine and Ocean Issues in the Pacific”</i>	2018-10-08	 Bambang TSA Project Director	 Lida Pet Soede Project Manager

## 1.0 INTRODUCTION

(1) This report provides an input to the review of the Regional Plan of Action (RPOA) for the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF), which is being undertaken by PT Hatfield Indonesia [www.hatfieldgroup.com](http://www.hatfieldgroup.com). The specific objective of the RPOA review is to: *“Consider the usefulness of the RPOA as a framework to meet the priorities and needs of the member governments, development partners, and local stakeholders at regional, sub-regional, and national levels.”*

(2) The aim of this report is: “to provide an up-to-date context analysis for the region and the Pacific countries in particular that may be relevant for the CTI-CFF as it moves into the next 10 years” (Personal communication: Lida Pet-Soede). This report is based on a literature review, interviews with a limited number of opinion leaders in the Pacific region, and the personal experience of the author as the former CEO of SPREP <https://www.sprep.org/>. This report: introduces the Pacific context (Section 1); describes the status of ocean and marine resources in the Pacific region (Section 2); outlines the institutional context in the Pacific (Section 3); describes the priority setting frameworks for these resources (Section 4); suggests implications for the CTI-CFF, throughout the text and summarized at the end of the report (Section 5); and offers a short conclusion (Section 6). Views expressed in this report are those of the author and do not represent the position or views of Hatfield Consultants. Any suggestions proposed in this report have also not been officially considered or endorsed by Pacific island countries and territories. Any errors in the document, factual or otherwise, are the responsibility of the author.

### 1.1 THE PACIFIC CONTEXT

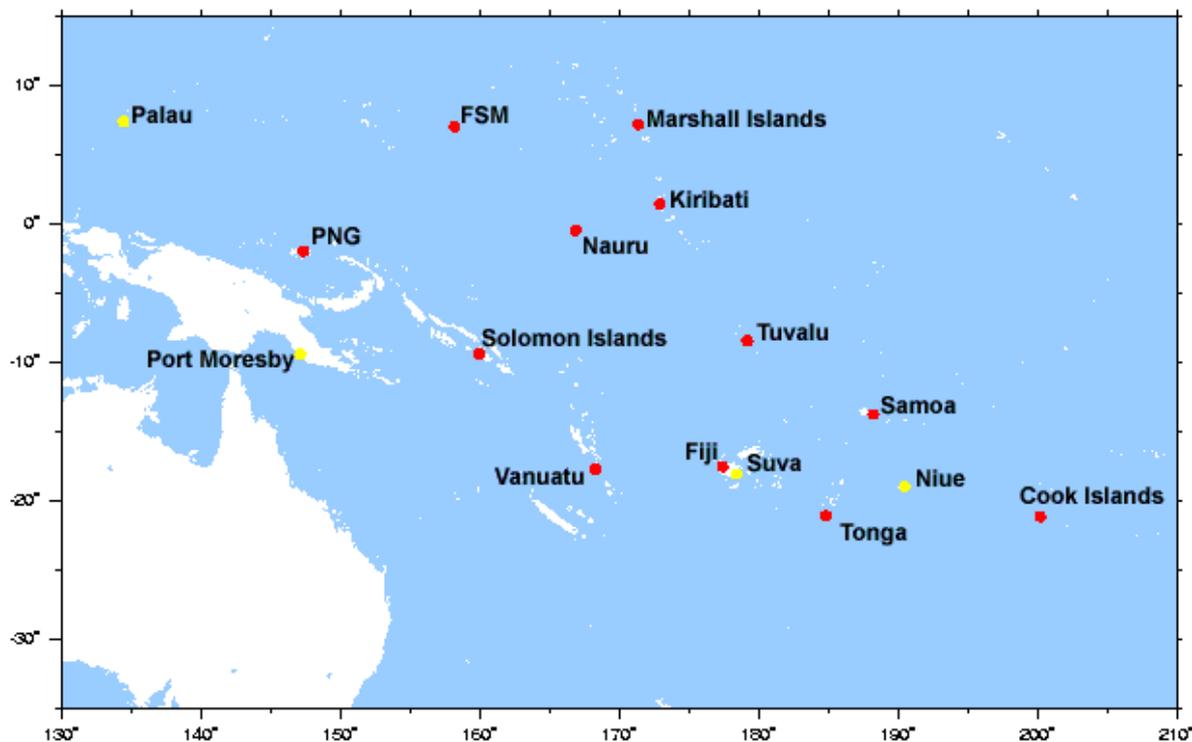
(3) With an area of 180 million square kilometers, the Pacific region represents around 50% of the global sea surface area and a third of the Earth’s surface. Pacific Island States and territories comprise more than 200 mountainous volcanic islands and some 2,500 flat islands and atolls. The 14 Pacific island countries are shown in Figure 1 below. It is noted that 2 of the 6 CTI-CFF countries are Pacific Island Countries (PICs): Papua New Guinea and Solomon Islands. Timor-Leste is also a CTI-CFF Member and, although not formally part of the Pacific region, this country shares many of the same vulnerabilities and issues as the PICs. These three countries face similar, but also some significantly different, issues to the Asian country members of CTI-CFF: Indonesia, Philippines and Malaysia, particularly those associated with larger populations.

(4) The Pacific region contains globally significant natural resources, which are essential in supporting the economies, lives and livelihoods of Pacific island peoples. The region is mostly ocean, as illustrated by Table 1 showing the land area and Exclusive Economic Zones (EEZ) of Pacific island countries.

(5) Pacific island countries are among the most vulnerable in the world to climate change, extreme weather events and natural disasters. As coastal dwellers, Pacific islanders are highly susceptible to sea level rise, in particular threatening the existence of atoll nations – Kiribati, RMI, Tokelau and Tuvalu amongst the lowest countries on Earth. The region experiences in excess of three major disasters each year and eight Pacific countries (Solomon Islands, Vanuatu, Tonga, FSM, Niue, RMI, Fiji and the Cook Islands) are among the 20 countries in the world with the highest average disaster losses in terms of gross domestic product (World Bank, 2012). Climate change and natural disasters significantly impact Pacific island ecosystems and the services they provide for current and future development. Climate modelling assessments by the Pacific Climate Change Science Program

(PCCSP) <https://www.pacificclimatechangescience.org/> highlight the most important future impacts in Pacific island countries as: rising sea levels; increasing amount and frequency of rainfall events; with decrease in dry season rainfall; increasing ocean acidification; and the increasing frequency of extreme weather events. Specific impacts of climate change on ocean and marine resources are discussed in Sections below.

**Figure 1 Pacific Island Countries (PICs).**



Source: World Bank (2016) DSM Report.

**Table 1 Pacific Ocean under the Jurisdiction of World Bank member countries, Source: World Bank (2016), Tuna Fisheries Report.**

Country	Land Area (sq. km.)	EEZ (sq. km.)
Federated States of Micronesia	702	2,992,597
Fiji	18,274	1,281,122
Kiribati	811	3,437,345
Palau	459	604,289
Papua New Guinea	462,840	2,396,575
Republic of the Marshall Islands	181	1,992,232
Samoa	2,821	131,812
Solomon Islands	27,986	1,597,492
Tonga	717	664,853
Tuvalu	26	751,797
Vanuatu	12,189	827,891
<b>TOTAL</b>	<b>527,006</b>	<b>16,678,005</b>

(6) Pacific Island countries face unique development challenges. They are far away from major markets, often with small, dispersed populations spread across many islands and vast distances. In addition to these challenges, there has also been a long history of ecosystem modification and species extinction across the Pacific; this trend has accelerated with modern development pressures. While climate change and natural disasters are at the forefront of regional concerns, ongoing issues of pollution and waste, deforestation and other negative land use changes, population growth, and marine resource depletion continue to threaten the long-term viability of island economies. The Pacific Ocean is essential for livelihoods, life and sustainable development in the Pacific and this is reflected in Pacific Island leader initiatives regarding the Pacific Ocean.

(7) The human population of Oceania has increased fourfold since the middle of the last century and a large proportion of this population is still based on a subsistence economy, UN Pacific Strategy, 2018 <https://reliefweb.int/report/world/united-nations-pacific-strategy-2018-2022-multi-country-sustainable-development>. The overall population of Pacific Island countries is expected to grow by some 50 percent over the next twenty years, together with rapid urbanization. The region has a young population: eight Pacific countries have at least 30 percent of the population below 15 years of age and 50 per cent under 25 years (UN 2018). Further, youth between the ages of 15 and 24 account for 18% of the population, but 44 percent of the unemployed, contributing to a range of social and demographic issues in Pacific countries. The major implication for the Pacific region, and for CTI-CFF, will be increasing demand for food, with associated pressures for the further development of coastal fisheries. For example, a study by SPC (Bell et al., 2011) notes that, by 2030, people in the 22 Pacific Island countries and territories will need 334,000 tonnes of fish per annum, which contrasts with current fish consumption of around 210,000 tonnes per annum, with most of this fish caught from coral reefs. However, coastal fisheries based on coral reefs in many Pacific Island countries and territories are already under stress and do not have the capacity to produce more fish. In fact, there will be fewer reef fish per person as human populations increase. The extra fish stocks required will have to come from pelagic species, such as tuna, or through aquaculture, as reef fisheries are declining due to over-exploitation, especially through the use of modern fisheries technology (Bell et al., 2011). Further information is outlined in Section 2.2.

(8) In general, there are low levels of economic development and growth in Pacific countries, the World Bank notes the rate of economic growth in many Pacific Island Countries (PICs) has generally been low over the last decade, and if this trend were to continue over the next 25 years, only Fiji and Palau's Gross Domestic Product GDP per capita would grow at a rate higher than two percent annually (World Bank Financing Pacific Governments, 2016). Most Pacific countries remain heavily dependent on Official Development Assistance (ODA), overseas remittances, and imported goods, with one in five Pacific islanders living in poverty. Although extreme poverty is declining, hardship and vulnerabilities are increasing and levels of poverty differ widely across PICs. Economic issues underline the importance of resource-based sectors, of which fisheries is particularly significant, and also new and emerging resource opportunities such as Deep-Sea Mining (DSM). Australia is the major donor in the Pacific region: between 2011 to 2017, Australia provided at least USD 6.5 billion (AUD 8.76 billion) into aid projects across the region, followed by China and New Zealand, although both those nations gave roughly one sixth the amount provided by Australia. China has, however, made major recent promises which could see aid from China increase significantly in the future. Overall, there has been a decline in aid to the Pacific islands over the 2011 to 2016 period. In 2011, donor nations gave USD 2.36 billion (AUD 3.18 billion) in foreign aid, and in 2016 total aid to the Pacific was USD 1.9 billion (AUD 2.56 billion). This trend, if continued, provides a worrying trend for

Pacific island countries, and has significant implications for the CTI-CFF. There are new multilateral financing opportunities, of which the Green Climate Fund (GCF) <https://www.greenclimate.fund/home> provides the most significant opportunity for the Pacific region. Further information on financing in the Pacific is outlined in Sections 3.2 and 3.3.

## 1.2 FUTURE TRENDS RELEVANT TO CTI-CFF

(9) Pacific island countries recognize there are many challenges, and also opportunities, to achieving sustainable development, and have taken many positive initiatives to address these issues, at regional and national levels. A number of these actions relate to ocean and marine resources, including those outlined in Section 2. There are a number of important future trends which will influence and impact the future work of the CTI-CFF. In the view of the author of this report, some of the most important future trends in relation to ocean and marine resources, which will impact the CTI-CFF and the RPOA, include the following:

- Vulnerability to climate change and natural disasters is a fact of life in the Pacific. Future predictions are that these impacts will continue and accelerate. There are major economic, social and economic implications including the likelihood that some low-lying atoll countries in the Pacific may disappear. (Sections 1.1, 2.1, 2.2 and 3.2)
- Other challenges such as pollution and waste, deforestation and other negative land use changes, and marine resource depletion are likely to continue and accelerate unless decisive action is taken by Pacific island countries, including actions which address root causes rather than symptoms. (Sections 1.1, 2.2, 2.3)
- Demographic trends indicate the overall population of Pacific Island countries is expected to grow by some 50 percent over the next twenty years, together with rapid urbanization, placing increasing pressures on marine and terrestrial resources, including fish where some species, such as bigeye tuna, are already under threat. Pressures for protein will place more pressure on coastal fisheries and will necessitate the development of alternative protein sources, including from aquaculture. Pressures on non-fish marine species, other than teleosts or bony fish, such as turtles, sharks and whales, will continue to grow, including from by catch associated with increasing fishing pressure in the region. This will require greater focus on non-exploitive uses of these species, such as whale watching and associated tourism (Sections 2.2, 2.3)
- Pacific island economies will continue to have a strong dependence on Overseas Development Assistance and recent declining ODA trends from a number of donors are of concern. Pacific island countries will need to position themselves to benefit from bilateral and multilateral funding sources including from major funds such as the Green Climate Fund. Donors will need to increase their effective cooperation, learning from approaches such as the UN Pacific Strategy. PICs will face increasing pressure to increase revenue from existing resources, such as fisheries and agriculture, and also to explore and expand new sectors such as Deep-Sea Bed Mining and tourism. It will be vitally important that the management of such sectors is approached in an environmentally appropriate and sustainable way (Sections 2.2, 2.4, 3.2)
- The importance of effective marine conservation is likely to increase, with impacts on ocean and marine resources becoming increasingly apparent and, hopefully, increasing awareness

of the positive impacts of these efforts on fisheries stocks, as well as on tourism. Innovative models of Pacific marine conservation in existing Pacific island countries, such as large MPAs and Marine Sanctuaries for marine species, will need to be applied more widely in the region (Section 2.2, 2.3)

- Effective leadership and governance and leadership will continue to be essential in Pacific island countries, at all levels, from leaders to the community level. Effective regional frameworks such as the Framework for Resilient Development will be critical but must be effectively implemented. Community based management of ocean and marine resources will continue to be critical and must build on existing systems and frameworks. The continued involvement of Pacific Regional agencies will continue to be important although there must be a greater emphasis on improved cooperation and on strengthening national and sub-national capacity within Pacific island members (Section 3.1, 4.1, 2.2)

## 2.0 OCEAN AND MARINE RESOURCES

### 2.1 INTRODUCTION: THE PACIFIC – LARGE OCEAN ISLAND STATES

(10) Ocean resources are of particular importance to Pacific countries who often refer to themselves as “Large Ocean Island States” rather than the more commonly used international term “Small Island Developing States” (SIDS): this underlines the significance of the Pacific Ocean to the lives, livelihoods and sustainable development of Pacific countries. Pacific people depend on the ocean for food, transport, traditional practices, and economic development. It provides a key resource for economic growth, both through traditional industries such as tuna fisheries and also through new sectors and opportunities such those provided by Deep Sea Bed Mining (DSM). On the other hand, there are a range of threats to the Pacific Ocean such as from climate change, including ocean acidification, overfishing, and through issues such as marine pollution, including from ocean plastic.

(11) Pacific Leaders have championed the conservation and sustainable development of the Pacific Ocean through initiatives such as the Pacific Oceanscape <https://www.conservation.org/where/Pages/pacific-oceanscape.aspx> which provide innovative frameworks for ocean management, and also the context for sector specific policies such as fisheries through the Regional Roadmap for Sustainable Pacific Fisheries [https://www.ffa.int/system/files/Roadmap\\_web\\_0.pdf](https://www.ffa.int/system/files/Roadmap_web_0.pdf) endorsed by Pacific Forum Leaders in 2015. Pacific countries have also provided global leadership in marine conservation, including the establishment of some of the largest Marine Protected Areas (MPAs) on Earth, such as the Phoenix Islands Protected Area in Kiribati [https://en.wikipedia.org/wiki/Phoenix\\_Islands\\_Protected\\_Area](https://en.wikipedia.org/wiki/Phoenix_Islands_Protected_Area) and also and significant MPAs in the Cook Islands, Palau, New Caledonia and French Polynesia. Some of these have been recognized as globally significant through listing on the UNESCO World Heritage List <http://whc.unesco.org/en/list> Sanctuaries for marine species have also been declared in several Pacific countries. For example, Pacific Island nations have led the way in introducing shark conservation measures within their EEZs, including shark sanctuaries in the Marshall Islands, the largest shark sanctuary in the world, and in Palau and Tokelau; and bans on shark finning or the retention of fins without accompanying carcasses in the EEZs of many other SPREP member countries <https://www.sprep.org/pacific-environment-information-network/pein> There have also been significant recent initiatives, such as the globally significant commitment by Palau <http://www.searoundus.org/nation-of-palau-protecting-80-percent->

[of-its-ocean-waters/](#) to phase out all commercial fishing in 80 percent of Palau’s waters and to focus on marine conservation and associated tourism.

(12) Implications for CTI-CFF and the RPOA: Pacific regional approaches, such as Oceanscape, with their focus on marine resource conservation and development at larger scales, are of particular relevance to the CTI-CFF, given the focus of the organization on Seascapes and ecosystem approaches to fisheries. There are also important and significant lessons to be learnt by the CTI-CFF from the Pacific experience in the establishment and management of MPAs, these would be of direct relevance to the CTI Goal of “establishing a fully functioning and effectively managed region-wide Coral Triangle MPA System” (CTMAS) and also relevant to the CTI-CFF Working Group on Seascapes.

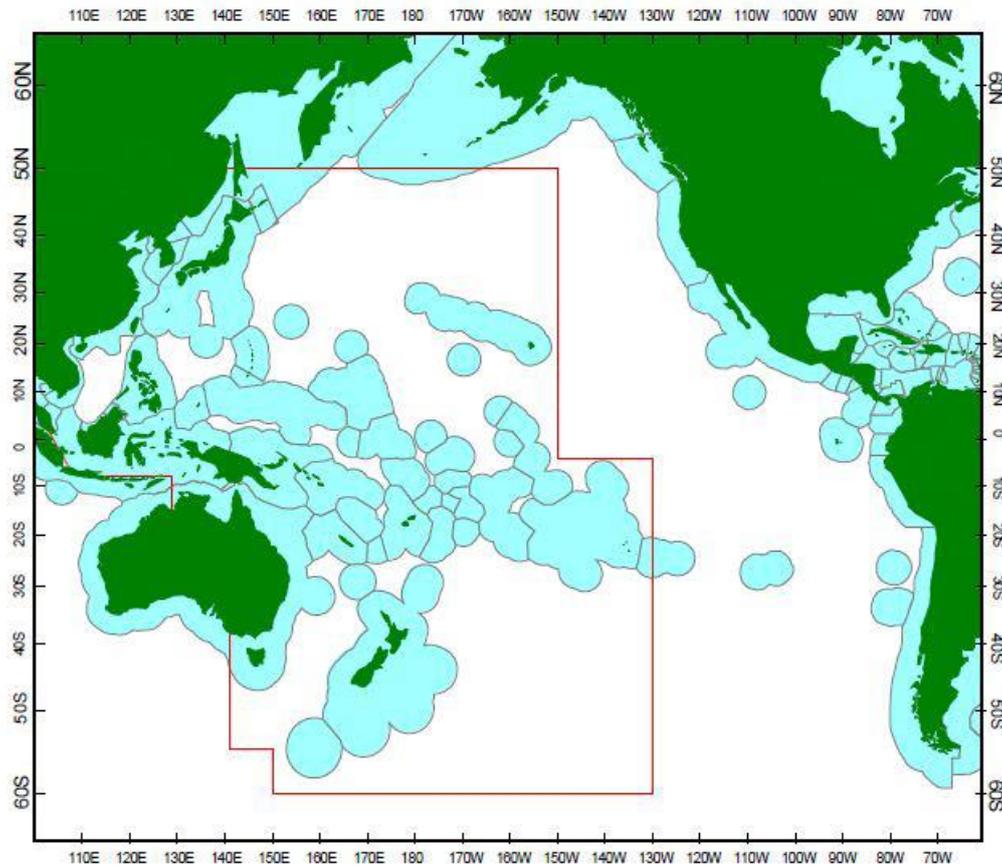
(13) The following sections provide further information on fisheries, other marine species, coral reefs and emerging ocean and marine issues (Deep Sea Bed Mining and tourism)

## 2.2 FISHERIES RESOURCES AND CORAL REEFS

### *Fisheries*

(14) The Pacific region’s living marine resources have global significance. Fisheries stocks, including four species of tuna: Skipjack; Yellowfin; Bigeye; and Albacore, are of major economic importance for Pacific island countries and, in fact, the waters of Pacific Islands countries are now the world’s largest tuna fishery. The World Bank report on Tuna Fisheries (World Bank 2016) outlines the significance of the tuna fisheries resource in the Pacific and notes there are three tuna fisheries in the Pacific: purse seine; tropical longline; and southern longline. Fisheries resources in the Pacific are mostly located in the Western and Central Pacific Ocean Region, shown in Figure 2. This region is one of the Regional Fisheries Management Organizations (RFMO) regions: it includes Pacific Island countries and extends south below New Zealand and north to the Bering Sea. The WCPFC [https://en.wikipedia.org/wiki/Western\\_and\\_Central\\_Pacific\\_Fisheries\\_Commission](https://en.wikipedia.org/wiki/Western_and_Central_Pacific_Fisheries_Commission) Western and Central Pacific Fisheries Commission, was established to conserve and manage tuna and other highly migratory fish stocks in the western and central areas of the Pacific Ocean, which covers some 8 percent of the global ocean and forms the basis of one of the world’s largest and most valuable fisheries.

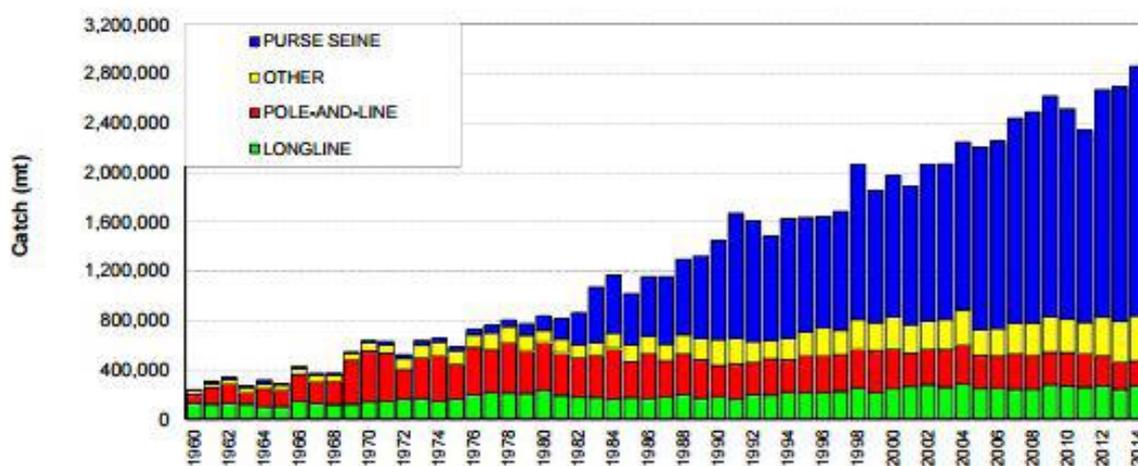
**Figure 2 Western and Central Pacific Ocean (area of the Western and Central Pacific Fisheries Commission (WCPFC) inside the red lines).**



Source: Harley et al, 2011 in World Bank Tuna Fisheries Report (2016).

(15) The Western Central Pacific Ocean (WCPO) region supplies roughly 60 percent of the world's tuna from some of the world's last healthy tuna stocks (World Bank Tuna Fisheries Report, 2016). Pacific Island waters alone cover half of the WCPO region and supply some 34 percent of the world's tuna catches each year. Collectively, the various harvesting units in the WCPO produced an estimated 2.86 million metric tons (MT) of tuna in 2014 (see Figure 3 below), constituting roughly 60 percent of the world's tuna catch and approximately 8 times the harvest of all coastal fish stocks of the region combined (Williams and Terawasi, 2015; Gillett, 2014).

**Figure 3 Tuna harvested from the WCPO.**



Source: Williams and Terawasi, 2015; Gillett, 2014

(16) This harvest has an estimated delivered value to processors of around USD 3.4 billion in recent years. Pacific Island Countries (PICs) received benefits on the order of USD 500 million in 2013, the majority of which came from the purse seine fishery in the waters of countries near the equator. (Williams and Terawasi, 2015) While not distributed evenly, these benefits have been significant for some PICs, for example with public revenues estimated to be equivalent to 36 percent of GDP in Tuvalu, 32 percent in Kiribati, and 10 percent in FSM (World Bank 2016). While these are significant, there have been concerns expressed by Pacific Leaders about the level of returns to Pacific countries and a view that the economic return from the region’s shared fisheries resources should be higher. See, for example, the address by the Samoan Prime Minister to the 2017 Pacific Islands Forum meeting, which inter alia calls for increased returns from fisheries to PICs: [http://www.samoobserver.ws/en/07\\_09\\_2017/columns/24048/Let-us-recapture-the-essence-of-Our-Blue-Pacific.htm](http://www.samoobserver.ws/en/07_09_2017/columns/24048/Let-us-recapture-the-essence-of-Our-Blue-Pacific.htm) Given the low levels of economic development and growth in Pacific countries, as noted above, the sustainable and effective utilization of the region’s tuna resources, coupled with adequate revenue return to countries, is essential for the future of the Pacific Islands region. However, this must be based on sustainable levels of fisheries resource exploitation

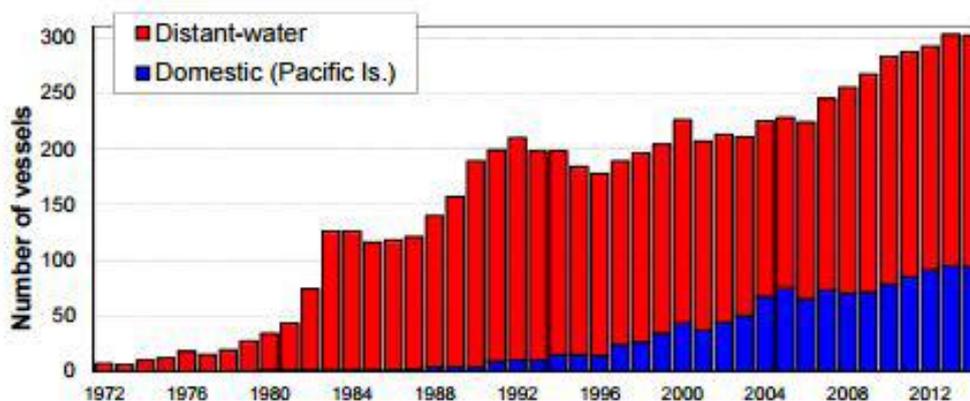
(17) Tuna stocks in the Pacific are increasingly under threat through overfishing and also Illegal, Unregulated and Unreported (IUU) fishing. Threats from IUU are documented in a report from the Marine Resources Advisory Group (2016): *“Towards the Quantification of Illegal, Unreported and Unregulated (IUU) fishing in the Pacific Islands Region”*. This report attempted to quantify the volume, species composition and value of IUU fishing in Pacific tuna fisheries. It also developed a framework for the quantification of IUU fishing in Pacific tuna fisheries and the design of a basic model that can be refined and updated over time as IUU risks change and better information becomes available. This report notes: *“the best estimate total volume of product either harvested or transshipped involving IUU activity in Pacific tuna fisheries is 306,440t, with 90% confidence that the actual figure lies within a range of 276,546t to 338,475t. Based on the expected species composition and markets, the ex-vessel value of the best estimate figure is USD 616.11m. Of the three main sectors assessed, estimated volume of IUU product was highest in the purse seine fishery, accounting for 70% of overall volume”*.

Overfishing of bigeye tuna is a particular cause of concern in the region, with the bigeye spawning stock being the most depleted of the four main WCPO tuna species. The size of the region’s bigeye

stock has shown a steady decline since the 1970s, reaching “overfished status” in the last five years. However, it is noted that, at the last WCPFC meeting (December, 2017), Australian scientists put forward an alternative theory that bigeye is not nearly as depleted as had been previously believed and persuaded the Scientific Committee and the Commission that the ‘overfished’ status should be scrapped (*Personal Communication: Michael Donoghue*).

There are clearly major concerns over bigeye overfishing and this is of concern to the Pacific region and also of concern globally. Two of the other three WCPO tuna stocks: albacore and yellowfin, remain relatively healthy but are approaching sustainability limits. While these stocks are not currently considered overfished, they are not likely to continue to support the growth in fishing effort and catch seen in the past, according to current scientific assessments (Williams and Terawasi, 2015). Overfishing is the main threat to bigeye tuna, particularly through the “explosion” in purse seine fishing with exponential growth in the WCPO since 1980, with 34 vessels catching roughly 100,000 metric tons of tuna that year, increasing to a steady state of some 180 to 220 vessels operating from 1990 to 2006, to 344 vessels catching over 2 million tons in 2014. (World Bank, 2016). The growth in purse seine fishing in the Pacific is shown in Figure 4 below. A lot of the purse-seine fishing is based on the deployment (and generally the non-retrieval) of Fish Aggregating Devices (FADs), There are now probably more than 100,000 FADs drifting around in the SPREP region. The FADs are deployed to attract skipjack, but they also attract juvenile bigeye. Although the bigeye bycatch by purse seiners doesn’t sound too serious, because it is reported in tonnes, the fish are relatively small and don’t weigh very much and the actual numbers of fish caught are disturbingly high. This has resulted in PICs prohibiting fishing on FADs for several months each year to protect bigeye, and the rise of ‘free-set’ tuna in discerning Western supermarkets. (*Personal Communication: Michael Donoghue*).

**Figure 4 Increasing number of Purse Seine Vessels Operating in the SCPO. Source Williams and Terawasi 2015.**



(18) Fifty-two new purse seine vessels have been built since 2010 and registered to fish in the WCPO. This fleet has progressively grown more efficient, notably in the technology used for Fish Aggregating Devices (FAD). The composition of the purse seine fleet in the Pacific has changed over time. While always largely a foreign fleet, the number of Pacific Island-based vessels is growing (notably in Papua New Guinea), and combined catches by Indonesian and the Philippines vessels in the Pacific more than doubled between 1997 and 2014 (World Bank Tuna Fisheries 2016). Concerns in the Pacific over over-fishing, and also challenges in reaching consensus through the WCPFC on issues such as the distribution of costs imposed by fish stock conservation measures, have led to the formation of sub-regional agreements and governance arrangements, such as the Vessel Day Scheme (VDS) <https://www.pnatuna.com/vds> implemented by the eight Parties to the Nauru

Agreement (PNA) and Tokelau, <https://www.pnatuna.com/about-us> which sets an overall Total Allowable Effort (TAE) limit on the number of days fishing vessels can be licensed to fish in PNA Exclusive Economic Zones (EEZs) per year. Each country is allocated a share of the TAE for use in its zone each year. These VDS days can be traded between countries in cases where a country has used up all its days while another has spare days. As a result of the VDS, access fees are estimated to have increased by at least a multiple of four between 2009 and 2015. Current information suggests that fishing effort and catch have grown more in the waters outside of the PNA countries, notably in the waters of Indonesia and the Philippines.

(19) Implications for CTI-CFF and the RPOA: Noting the significant increase in combined tuna catches by Indonesian and Philippines vessels in the Pacific and the shared membership of these countries in the CTI-CFF, along with Solomon Islands and PNG, it has been suggested that these countries could collaborate under the CTI-CFF umbrella in relation to sustainable fisheries management. It is noted that inclusion of Indonesia in the purse seine and tropical longline arrangements, and the Philippines in the former, enhanced the total allowable catch limits for both and placed most of the world's skipjack under robust management. The potential involvement of Indonesia and the Philippines in the Purse Seine Vessel Day Scheme would make the VDS a more powerful instrument and add greater value on all sides. (*Personal communication: Transform Aqorau Former Head of the Parties to the Nauru Agreement*).

(20) Overfishing is also a major issue for coastal fisheries. A detailed assessment by the Secretariat for the Pacific Community (SPC) of current and predicted coral reef fisheries resources in 49 island states, including countries outside the Pacific Islands region, reported that catch rates in 55 percent of them are unsustainable and unlikely to be able to provide food security into the future (Bell et al., 2011). The study notes that the human population of Oceania has increased fourfold since the middle of the last century and that a large proportion of this population is still based on a subsistence economy. The study further notes that, by 2030, people in the 22 Pacific Island countries and territories will need 334,000 tonnes of fish per annum, which contrasts with current fish consumption of around 210,000 tonnes per annum, with most of this fish caught from coral reefs. However, coastal fisheries based on coral reefs in many Pacific Island countries and territories do not have the capacity to produce more fish. In fact, there will be fewer reef fish per person as human populations increase and the health and productivity of coral reefs decline with climate change and ocean acidification. The extra fish stocks required will therefore have to come from pelagic species, such as tuna, or through aquaculture, as reef fisheries are declining alarmingly due to over-exploitation, especially through the use of modern fisheries technology. Regarding aquaculture, personal communication with Michael Donoghue suggested that *“with the possible exception of filter feeders (e.g. mussel and oyster farming), most aquaculture systems actually consume more marine resources than they produce – e.g. using anchoveta as a food stock in salmon farming. It’s fairly unlikely that aquaculture can be a technical fix for fish shortages in developing countries, especially remote tropical ones”*.

(21) The status of fisheries in the CTI-CFF member country Papua New Guinea is outlined in the 2010 FAO Fisheries and Aquaculture Country Profile of PNG at <http://www.fao.org/fishery/facp/PNG/en> The main issues noted in the report for the PNG fisheries sector, of relevance to this CTI-CFF Review, include: (i) A large increase in the amount of the tuna caught in PNG, and an increasing proportion of the tuna catch being processed in PNG; (ii) capacity - the national-level fisheries agency represents a very positive model that is being emulated by other Pacific Island countries, however, the capacity of the fisheries staff at the provincial level is variable and often low; and (iii) the regional/global move to ecosystem-approach to fisheries management, however

desirable, is clashing with the realities of fisheries management in PNG. The PNG National Fisheries Authority Corporate Plan 2008-2018 lists the following challenges and issues: regional purse seine tuna vessel over-capacity, effective surveillance and tuna resource concerns, lack of market access, inadequate onshore support facilities (particularly for coastal fisheries), lack of availability of trained staff and crew, conducive business climate for investment good governance, unavailability of credit facilities, fuel excise, and lack of linkage with other agencies or services.

(22) The status of fisheries in the CTI-CFF member country Solomon Islands is outlined in the 2010 FAO Fisheries and Aquaculture Country Profile of Solomon Islands at <http://www.fao.org/fishery/facp/SLB/en> The main issues noted in the report for the Solomon Islands fisheries sector, of relevance to this CTI-CFF Review, include: (i) over-exploitation and decline of production in the coastal commercial export fisheries; (ii) an expansion of the purse seine tuna fishery and a decline in the longline and pole-and-line tuna fisheries – all for different reasons; (iii) subsistence fisheries being affected by a rising population; and (iv) the need to strengthen capacity, including the Fisheries Department.

(23) Climate change is likely to affect the distribution rather than the quantity of fish stocks in the Pacific region. Modelling conducted by the Secretariat of the Pacific Community (SPC) <https://www.spc.int/cces/climate-book/spc-publications-on-climate-change> on skipjack and bigeye tuna, suggest that in twenty years the sizes of the stocks will not be affected by climate change, but the distribution of the stocks may begin to shift towards the central and eastern Pacific, changing the catch rates in the waters of many PICs with potentially significant implications for purse seine by-catch rates of bigeye. However, it is noted that yellowfin larvae have lower survival rates in more acidic water, so the impacts of ocean acidification could be significant (*Personal communication: Michael Donoghue*). The potential redistribution of tuna stocks throughout the WCPO (and beyond) due to climate change will reinforce the need for flexible management systems that can cope with spatial shifts in fishing activity, e.g. to avoid the need for eastern countries to continually purchase purse seine vessel days from countries in the west, and the importance of maintaining healthy and resilient tuna stock sizes.

(24) The World Bank Tuna Fisheries Report (2016) suggests a future strategy to ensure more sustainable fisheries management in the Pacific region. Elements of this include: (i) Ensuring effective implementation of Pacific leader decisions and policy documents relating to fisheries, in particular the Regional Roadmap for Sustainable Pacific Fisheries; (ii) Strengthening regional cooperation around shared fisheries resources, eventually expanded to include key resource owners like Indonesia and the Philippines; (iii) Establishing and enforcing clear, science based catch limits to ensure the sustainability of tuna stocks, including proactive efforts to enforce catch limits and access rights, prevent illegal fishing, including through the better application of technology, and specifically rebuild the bigeye stock; (iv) Ensuring flexible access and eventually output rights for fleets, that enhance the value of the fisheries without increasing production, and provide greater returns to Pacific island countries; (v) Strengthening the governance and capacity of regional and national fisheries agencies; and (vi) Better involving coastal communities in fisheries programmes with the aim of enhancing food security (currently threatened by coastal fish supplies stagnating and growing populations).

(25) Implications for CTI-CFF and the RPOA: Fisheries resources are under threat in Pacific countries in the CTI-CFF, including from Illegal, unregulated and unreported (IUU) fishing and the ROPA needs to address these issues and the root causes underlying them. These causes must address in an effective way, integrating responses to both natural and anthropogenic threats. CTI-CFF and RPOA

responses should include institutional strengthening support for national governments, including building on existing initiatives, particularly those involving community management of coastal and marine resources in general, and MPAs in particular, in Pacific countries. Models of best practice need to be encouraged and more widely applied in Pacific countries in the CTI-CFF.

### **Coral Reefs**

(26) The main global assessment of coral reefs is outlined in Wilkinson et. al. (2016). This report underlines the global importance of coral reefs, which contain some of the largest reservoirs of biodiversity in the world, and are essential for fisheries, tourism, and coastal protection. Coral reefs around the world have been in a state of continual decline over the past 100 years, and especially over the past 50 years. The Global Coral Reef Monitoring Network, which has reported since 1998 in the “Status of Coral Reefs of the World” series assessed that approximately 19 per cent of the world’s coral reefs were severely damaged with no immediate prospects of recovery, and 35 per cent of the remaining coral reefs were under imminent risk of degradation from direct human pressures. Reported in: Wilkinson et. al. (2016). The 2014 Intergovernmental Panel on Climate Change (IPCC) Report <http://www.ipcc.ch/report/ar5/wg2/> suggests that “coral reefs could become be functionally extinct by 2050, without adaptation (worst case scenario), or by 2100 with biological adaptation of the whole ecosystem”.

(27) Half of the world’s hard coral reefs lie within the Pacific region, including some of the most extensive systems. The western part of the Pacific region forms part of the Coral Triangle, the global centre of tropical marine biodiversity, and the protection of this important resource was one of the key factors in the establishment of the CTI-CFF. Wilkinson et al (2016) notes the coral reefs of the Pacific Ocean are in better condition than those in other reef regions in the world, with almost 52% of Pacific reefs assessed as being at “low risk”; and remain the least stressed compared to reefs throughout Asia, the wider Caribbean and Atlantic regions. The report further notes there are large numbers of coral reefs spread over vast areas of the Pacific, with many growing on seamounts in deep oceans far removed from human pressures, including land-sourced pollution. Many of these reefs grow around low lying and uninhabited atolls with few human pressures and no runoff from the land. Some of these reefs have been included within the previously mentioned large marine protected areas established within a number of Pacific countries.

(28) Reefs form an integral part of Pacific livelihoods and are critically important for Pacific island countries for the provision of food, and for coastal protection; they also have important cultural values for many Pacific societies. Coral reefs also provide a significant attraction for the tourism sector, including dive tourism in PNG and the Solomon Islands, one of the areas highlighted as having great potential for growth in the tourism sector in the Pacific region (refer Section 2.4). People living on small coral islands have developed rich cultural traditions to conserve the resources of their reefs for future use, such as the traditional practice of Ra’ui in the Cook Islands <http://www.mmr.gov.ck/our-work/conservation-and-protection/raui-marine-protected-areas> and through community based, co-management systems such as Locally Managed Marine Areas <http://lmmnetwork.org/> These are essential in the Pacific region given high levels of community ownership of coastal and terrestrial resources and should be encouraged and expanded. An in-depth assessment by WWF supported by the Australian Government, on the potential return on investment for the entire Coral Triangle region comparing nature-based adventure tourism with mass tourism shows that investing in nature-based tourism in suitable sites throughout the Coral Triangle could deliver a potential USD1.46–1.88 trillion per annum in total socio–economic and environmental value by 2035 at an average weighted ROI of

14.5–16.5% (vs. 8.5–10% for mass tourism) [http://wwf.panda.org/knowledge\\_hub/where\\_we\\_work/coraltriangle/publications/?260690/Developing-and-Promoting-Sustainable-Nature-based-Tourism-in-the-Coral-Triangle](http://wwf.panda.org/knowledge_hub/where_we_work/coraltriangle/publications/?260690/Developing-and-Promoting-Sustainable-Nature-based-Tourism-in-the-Coral-Triangle).

(29) Coral reefs are increasingly under threat in the Pacific region. Major threats in the Pacific region include: overfishing and destructive fishing practices; pollution and increased sedimentation; habitat destruction, including destructive fishing; increases in diseases and predation; impact of Crown-of-Thorns starfish (COTS) <https://www.livingoceansfoundation.org/science/crown-of-thorns-starfish/> and the impacts of climate change and ocean acidification. Reef damage is also occurring from coastal development for urban infrastructure and tourist resorts, from local pollution by untreated or poorly treated sewage, and from industries such as logging in coastal catchments, fish processing and sugar refining industries, particularly in Fiji. Although corals have withstood and recovered from tropical cyclones for millennia, in the last 100 years the combination of natural and anthropogenic stresses (bleaching, sedimentation, eutrophication, ocean acidification) have combined to severely reduce the ability of many coral reefs to recover from environmental impacts.

(30) The Coral Sea is recognized as one of the most important areas in the world for coral reefs and has some of the highest marine biodiversity in the world. Coral reefs in Coral Sea countries face the same threats as other coral reefs in the Pacific, however the pressures are generally greater, reflecting both higher population numbers and densities, as well as much higher coral reef diversity. These pressures are impacting on coral reefs in Coral Sea countries. The capacity to manage and monitor coral reefs in Coral Sea countries is also an important constraint and efforts need to be directed to improve capacity at all levels: national government; provincial government and local communities, in all countries.

(31) Climate change has significant impact on coral reefs in the Pacific, including:

- Rising sea temperatures: have been associated with coral bleaching, which has impacted reefs in the Pacific. Coral bleaching was a relatively unknown phenomenon until the early 1980s, when a series of local bleaching events occurred, principally in the eastern tropical Pacific and wider Caribbean regions, but was also noticed in the Indo-Pacific. An increase of only 1 - 2°C above the normal local seasonal maximum can induce bleaching and severe, prolonged or repeated bleaching can lead to coral mortality. For example, coral mortality was as high as 90 per cent on many reefs around Palau, due to the major coral bleaching event which occurred in 1998;
- Ocean acidification, due to the ocean absorbing Carbon Dioxide (CO<sub>2</sub>), is an important issue for the Pacific. The 2014 IPCC Report noted ocean acidification poses substantial risks to coral reefs through its effects on the physiology, behaviour, and population dynamics of individual species from phytoplankton to animals (medium to high confidence, IPCC, 2014). The report further noted the lowering of pH will favour the dissolution of the calcareous matrix of coral reefs and thus slow reef building by limiting the amount of calcium available to corals. This can potentially severely impact the formation of corals in the Pacific, with projections showing much of the Pacific will reach critical thresholds for coral reef growth by 2050, with serious consequences for Pacific environments and people;
- Climate change and tropical cyclones: IPCC (2014) predicts the damaging strength of cyclones will increase with more category 4 and 5 storms, which will significantly damage coral reefs and the communities that depend upon them in the Pacific.

(32) Despite the major focus on climate change in the Pacific region, and indeed the emphasis on this issue as the major challenge facing Pacific peoples, there has generally been more attention to the impacts of climate change on the terrestrial rather than the marine environment. However, this situation is changing, particularly in relation to issues such as ocean acidification. It is important that efforts to reduce emissions continue however, other, more localized actions must occur, including better planning at landscape and seascape levels, in particular to ensure that impacts from land based pollution are better managed and minimized to reduce impacts on coral reefs and marine resources. It is noted that there are many donor and regional initiatives to protect and better manage coral reefs in the Pacific, including the declaration of 2018-2019 as the Pacific Year of the Coral Reef by SPREP. This may provide opportunities for CTI-CFF involvement and should be explored by the CTI-CFF Secretariat.

(33) Implications for CTI-CFF and the RPOA: There are a number of donor and NGO initiatives supporting sustainable fisheries management and coral reef conservation in Pacific countries in the CTI-CFF. It is noteworthy that SPREP Member Governments, including CTI-CFF Pacific countries, have declared 2018-2019 as the Pacific Year of the Coral Reef, and a range of activities are proposed, as set out in <https://www.sprep.org/pacific-year-coral-reef-2018-2019> It is important that any future CTI-CFF and ROPA programmes and activities build on and support existing initiatives, such as these.

## **2.3 OTHER MARINE SPECIES, INCLUDING WHALES, TURTLES AND SHARKS**

### ***General***

(34) Other marine species have particular economic, spiritual and cultural importance in the Pacific region, including whales, turtles and sharks. Many Pacific island communities have strong traditional and cultural links to marine species such as sharks and turtles and their loss would be a major loss for the cultural heritage of Pacific people. Marine species such as sharks are also an important traditional food source that has sustained Pacific people for generations. Work on these marine species in the Pacific region is coordinated by SPREP <https://www.sprep.org/> in the Pacific region in partnership with other regional fisheries agencies, including cooperation with FFA [https://en.wikipedia.org/wiki/Pacific\\_Islands\\_Forum\\_Fisheries\\_Agency](https://en.wikipedia.org/wiki/Pacific_Islands_Forum_Fisheries_Agency) the Forum Fisheries Agency, on issues such as by-catch measures to reduce incidental catch of marine mammals and turtles.

(35) Non exploitive use of marine species, such as whale watching in Tonga and Niue and shark based ecotourism in Fiji and Palau, is making an increasing economic contribution to Pacific island economies and has great potential for the future. As an example, studies by the New Zealand Department Of Conservation (NZ-DOC) have noted that: "A single humpback whale returning to Tonga every year could generate up to USD 1 million in revenue, over the course of its lifetime" <https://www.doc.govt.nz/Documents/conservation/native-animals/marine-mammals/whales-in-the-south-pacific.pdf> It is important that such programmes are effectively planned and implemented with due consideration for the requirements of marine species and also for the needs of local communities, including through appropriate revenue return.

(36) There are a number of common threats to marine species in the Pacific, including by-catch in fishing operations, marine debris, pollution, habitat degradation and climate change. There have been a number of positive actions to address marine species conservation, including the development of Action Plans for particular marine species, the establishment of sanctuaries for specific marine

species, declaration of large scale marine protected areas (MPAs) and a range of targeted measures to address by catch. These regional initiatives have been complemented by the inclusion of a number of marine species on the Appendices of the Convention for International Trade in Endangered Species (CITES) <https://www.cites.org/> and the Convention on Migratory Species (CMS) <https://www.cms.int/> and the adoption of complementary measures for the conservation of marine species such as sharks by the WCPFC), the relevant Regional Fisheries Management Organization. To be effective in halting the decline in regional shark populations, however, these conservation initiatives need to be supported by technical measures, including crew training and vessel and catch inspections, which will require significant capacity building and a clear action plan for their implementation. There has thus been good progress in the Pacific however much remains to be done to ensure the survival and sustainability of many marine species.

(37) Implications for CTI-CFF and the RPOA: noting that SPREP and CTI-CFF have signed a MoU, and also that both have active programmes on Marine Threatened Species, with CTI-CFF in particular having a Technical Working Group on this topic, it is suggested that cooperation on threatened marine species could be identified as a priority in any revision of the ROPA. Potential areas for cooperation could include marine species-based tourism, such as whale watching, measures to reduce by catch, and cooperation on the establishment of MPAs. The Year of the Whale campaign initiated by SPREP, and its associated follow up activities, also provides an opportunity for cooperation between CTI-CFF and SPREP. Joint activities and cooperation could also link with other relevant agencies, for example with IWC and SPWRC (South Pacific Whale Research Consortium) on cetaceans, in the Pacific and CTI-CFF regions.

### ***Whales and Dolphins***

(38) The status of whale populations is outlined by the International Whaling Commission (IWC) at <https://iwc.int/status> Almost half of the world's 80 or so species of whales and dolphins have been reported in the Pacific region as outlined by the NZ DOC in <https://www.doc.govt.nz/Documents/conservation/native-animals/marine-mammals/whales-in-the-south-pacific.pdf>. The populations of many whale species in the Pacific were devastated by whaling: for example, between 1900 and 1965, industrial fleets killed over 2 million large whales on their summer feeding grounds in the Antarctic, and almost extirpated the Oceania population of humpback whales. Whale populations are recovering since the moratorium on commercial whaling, from 1985/86, implemented through the International Whaling Commission (IWC), the global body charged with the conservation of whales and the management of whaling. This moratorium established zero catch limits for commercial whaling, and these remain in place today although whaling continues under objection or reservation by some states setting their own catch limits.

(39) In the Pacific, most large whales undertake long annual migrations, between summer feeding grounds in the Antarctic Ocean and winter breeding grounds in Pacific island countries. Increasing numbers of whales, particularly humpback whales, are providing the basis for an emerging, economically important whale watching sector in a number of Pacific countries. A region-wide review of whale and dolphin watching tourism by the International Fund for Animal Welfare (IFAW) in 2008 found an increase of 45% per annum in the number of people going whale watching, and that this industry is now valued at more than USD 21 million to the Pacific Islands region. This study also noted the majority of whale and dolphin-watching tourism is in Tonga and Guam, but the activity is growing in the Cook Islands, the Solomon Islands, New Caledonia, French Polynesia, Papua New Guinea, and Niue <https://www.ifaw.org/nederland/node/10626>.

(40) There has been recent effective, and increasing, cooperation in the Pacific region between the IWC, SPREP and the South Pacific Whale Research Consortium (SPWRC) <https://pipap.sprep.org/content/south-pacific-whale-research-consortium> on cetacean issues in the Pacific including the IWC assessment of humpback whales <https://www.sprep.org/news/comprehensive-assessment-humpback-whales-oceania> Conclusions of this report include that, by 1965, the population of humpbacks that overwintered in Oceania was reduced from more than 14,000 whales to less than 1% of that number. Due to the whaling moratorium and a number of proactive measures, including the declaration of whale sanctuaries by several Pacific island countries, that number had increased to around 5,000 whales in 2015, and forms the basis of valuable whale-watching industries in several countries. It is one of the world's most encouraging conservation success stories. Cooperation between IWC, SPWRC and SPREP also addresses some of the other threats facing whales in the Pacific region, including entanglement in fishing gear, ingestion of plastics and other marine debris, pollution and climate change. These, and other, issues are highlighted in the "Pacific Year of the Whale" Campaign implemented by SPREP in cooperation with partners <https://www.sprep.org/yearofthewhale>.

### **Turtles**

(41) Turtles are iconic species in the Pacific islands and feature prominently in many Pacific cultures. Their conservation and protection is a sensitive issue in the Pacific due to their being intricately linked with culture and people's subsistence needs. The lengthy migrations of turtles between breeding grounds and feeding grounds require effective regional and international collaboration for successful conservation management. The Pacific region is home to six of the seven marine turtle species [http://www.wwpacific.org/what\\_we\\_do/species/turtles\\_cfm/](http://www.wwpacific.org/what_we_do/species/turtles_cfm/), four of which (green, hawksbill, loggerhead, and leatherback turtles) are widely distributed and have suffered significant population declines over the past century, due to a variety of human-induced causes. They are now classified by the IUCN Red List of Threatened Species <https://www.iucn.org/resources/conservation-tools/iucn-red-list-threatened-species> as either Critically Endangered (hawksbill), Endangered (green and loggerhead), or Vulnerable (leatherback).

(42) Direct take, remains the largest single threat to turtle populations in the Pacific region, as noted [http://blueventures.org/wp-content/uploads/2014/12/Humber\\_et\\_al.\\_2014\\_-\\_turtle\\_fishing.pdf](http://blueventures.org/wp-content/uploads/2014/12/Humber_et_al._2014_-_turtle_fishing.pdf). This paper by Humber et al. (2014) provides estimates of the levels of legal directed take of turtles around the world. According to the authors, of the ten countries around the world that make up the great majority of legally-permitted turtle catch, five are in the Pacific region, and two of them are in the top three, which between them account for almost two-thirds of the global total. These estimates do not include the probably significant cases of illegal take. Clearly, more effort needs to be made to reduce the directed take of turtles. However, as noted, this is a sensitive issue in the Pacific due to the close linkages with culture and subsistence needs and needs to be approached appropriately and in consultation with Pacific communities.

(43) There are other significant threats to turtle populations in the Pacific region, including by-catch in fishing operations, marine debris and climate change, which is perhaps the most insidious. The gender of turtle hatchlings is largely determined by the temperature of the sand in which they incubate, with lower temperatures favoring the survival of more male turtles and higher temperatures favoring more female hatchlings. Once temperatures become too high, the eggs will not hatch. Clearly, the implications of rising temperatures are very serious. Fisheries bycatch is recognized as another serious global threat to highly migratory, long-lived marine taxa including turtles, birds,

mammals and sharks and is of particular concern to marine species in the Pacific. Marine species, are susceptible to fisheries bycatch because they occupy broad geographic distributions across geopolitical boundaries and oceanographic regions that support both small- and large-scale fisheries, and because their life histories (e.g., delayed maturity and low reproductive rates) make them particularly sensitive to sources of mortality that affect late life stages (Wallace et al 2013). Fish Aggregating Devices (FADs) [https://en.wikipedia.org/wiki/Fish\\_aggregating\\_device](https://en.wikipedia.org/wiki/Fish_aggregating_device) also have a significant impact on turtles, as well as other marine species. While the number of turtles that come into contact with FADs and are able to swim away and those that become permanently entangled is currently unknown, it is not unreasonable to suppose that many turtles perhaps hundreds or even thousands are trapped and die in drifting FADs each year in the Pacific region (Personal communication: Mike Donoghue, former Head of the SPREP Marine Species Programme and former Head of CI Pacific Programme).

### **Sharks**

(44) Migratory sharks play a critical role in Pacific marine ecosystems as the top predators thereby maintaining a balance in relation to other fish populations and associated habitats. Given this critical role, their removal would have devastating impacts on the marine environment. A number of scientists note many shark populations in the Pacific region are in decline and that some shark species, such as oceanic whitetip and silky sharks, are particularly at risk because of overfishing. The high demand for shark fins in Asian markets has seen more than 100 million sharks killed globally every year SPREP (2018). Other threats include incidental bycatch in fishing gears targeting commercial species, pollution, marine debris, habitat loss/degradation, coastal developments and climate change.

(45) Clark et al. (2013) reviewed a long-term record of sharks collected by onboard observers in the Western and Central Pacific Ocean from 1995 to 2010. They noted significant declines in a number of shark species in the Pacific, including oceanic whitetip, silky, blue, and mako sharks. Furthermore, they noted that median lengths of silky and oceanic whitetip sharks have decreased significantly in their core habitat. They conclude that their results and evidence of targeted fishing for sharks in some regional fisheries heighten concerns for sustainable utilization, particularly for oceanic whitetip and North Pacific blue sharks. Pacific regional regulations that prohibit shark finning (removal of fins and discarding of the carcass) were enacted in 2007 and are in many cases the only form of control on shark catches. However, there is little evidence of a reduction of finning in longline fisheries as a consequence. Although, it is noted that the 2017 report of the WCPFC Observer Programme suggested that there was some evidence that the prohibition on shark finning was getting some traction (*personal communication: Michael Donoghue*). In addition, silky and oceanic whitetip sharks are more frequently retained than finned, which suggests that even full implementation of and adherence to a finning prohibition may not substantially reduce mortality rates for these species.

(46) Sharks are similar to marine turtles in that they have economic, cultural, and spiritual value to the people of the Pacific Islands. Many Pacific island communities have strong traditional and cultural links to sharks and their loss would be a major loss for the cultural heritage of Pacific people. Sharks are also an important traditional food source that has sustained many of the Pacific Islands for generations. There are even specialized traditional fishing methods that were once used by ancestors to catch sharks to feed families and the communities. Traditionally, people took only what was needed for local needs, thus ensuring that the marine resources was available to them in the future.

(47) Sharks are increasingly becoming an important sustainable income generating option for some communities around the Pacific who are operating shark based ecotourism. There has been an increase in shark based eco-tourism in the Pacific. A study conducted in Palau showed that the value of an individual reef shark over its life time was estimated at USD 1.9 million compared to a one-time value of USD 108 for the carcass. Similarly, in Fiji the value of the shark tourism on the island of Beqa contributes approximately USD 42 million annually to the economy (SPREP 2018). Sustainable and best practice eco-tourism provides employment opportunities for the communities and other operators such as hotels and restaurants. Shark eco-tourism can be used as an incentive for communities to protect and conserve sharks and their habitats as the value of one shark alive is far more than a dead shark.

(48) SPREP has developed a Regional Shark Action Plan 2018-2022 (SPREP 2018) which has a goal to “conserve sharks, rays and their habitats, ensuring their long-term sustainable use, in keeping with the traditions and aspirations of the people of the Pacific Islands region” This includes a number of measures to improve shark conservation in the Pacific, including the establishment of shark sanctuaries, large scale marine protected areas (MPAs) and a range of targeted measures to reduce the direct and indirect take of shark species, including proposals to ban the use of shark lines by vessels fishing within Pacific EEZs and bans on shark finning or the retention of fins without accompanying carcasses in the EEZs of Pacific island countries

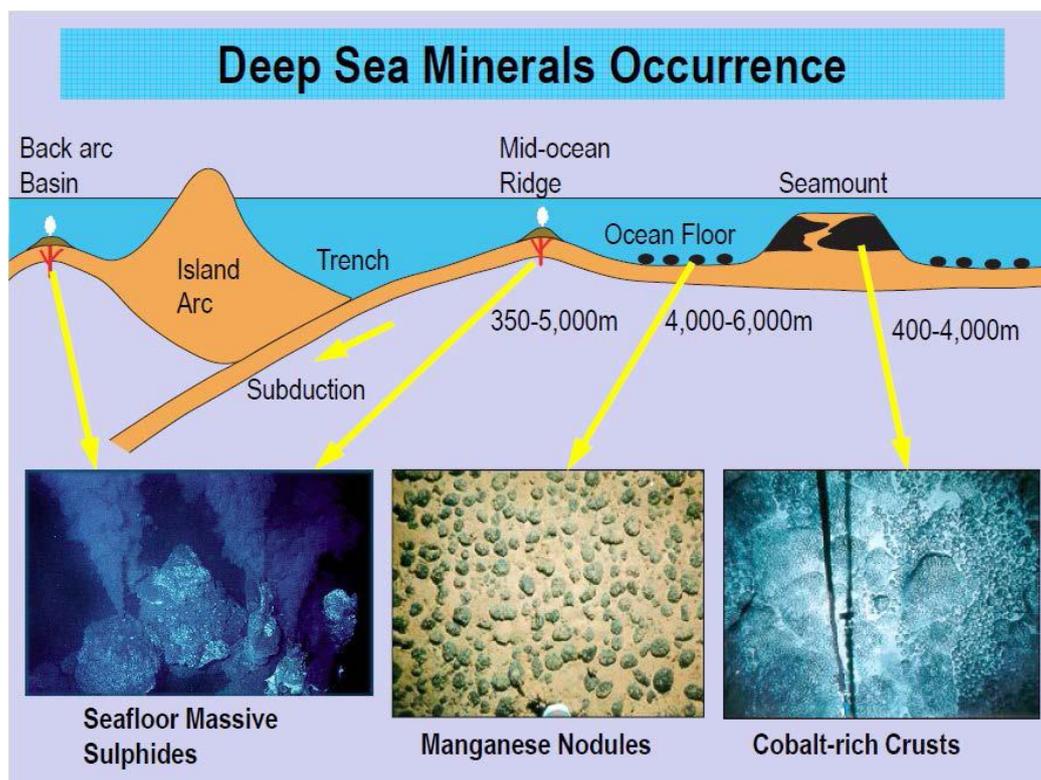
## **2.4 OTHER EMERGING ISSUES: DEEP SEA BED MINING AND TOURISM**

### ***Deep Sea Bed Mining***

(49) The first ever Deep Sea Bed Mining (DSM) operation [https://en.wikipedia.org/wiki/Deep\\_sea\\_mining](https://en.wikipedia.org/wiki/Deep_sea_mining) in the world is anticipated to commence in PNG within the next 2 years, 1,600m below sea level, between the islands of New Britain and New Ireland in PNG: this is the Solwara 1 Project <http://www.cares.nautilusminerals.com/irm/content/solwara-1-project.aspx?RID=339>. Other countries are looking to follow suit, for example, Norway announced in August, 2018 that their Petroleum Directorate is readying to map potential deep sea mineral deposits in the Norwegian Sea, with an expedition due to get underway this month <https://ramumine.wordpress.com/tag/environmental-damage/> In the Pacific Fiji, Papua New Guinea, Solomon Islands, Tonga and Vanuatu have granted deep sea mining exploration permits, and the Cook Islands is part-way through a minerals exploration tender process. However, PNG is currently the only country in the Pacific region to have granted a license to mine, through the Solwara 1 Project, reflecting PNG’s greater familiarity with mining and systems in place for regulatory and contractual oversight. The status of DSM within Pacific CTI-CFF countries is as follows (SPC, 2016): (i) Solomon Islands EEZ contains significant seafloor massive sulphides (SMS) deposits. 90 DSM exploration licenses have been issued by the Government to Nautilus and Neptune. Exploration activities are ongoing; and (ii) Papua New Guinea PNG’s EEZ contains SMS with high-grade copper, gold and silver. In January 2011 PNG granted a world-first lease to Nautilus to carry out DSM mining within its EEZ: the Solwara 1 Project in the Bismarck Sea. Although a dispute with Government and challenges in raising capital had stalled Nautilus’ progress, mining is now slated to commence shortly. The SPC Cost-Benefit Analysis (CBA) report estimates raising USD 80m from one DSM project from taxes and royalties. A number of SMS deposits in the Nautilus license area in PNG are expected to be further assessed and ready to be mined by 2020.

(50) DSM is an important, emerging issue with significant implications for marine and ocean resources, both in the Pacific region and globally. DSM is usually based around areas with valuable metal deposits, specifically of metallic nodules, or active or extinct hydrothermal vents. To date, three main kinds of deep-sea minerals have been identified across the Pacific region: (i) Seafloor massive sulphides (SMS); (ii) Polymetallic manganese nodules (PMN); and (iii) Cobalt-rich ferromanganese crusts (CFC) (World Bank DSM Report, 2012). These resources are shown schematically in Figure 5.

**Figure 5 Occurrence of Deep-Sea Minerals.**



Source SPC, 2016

(51) Issues and implications regarding DSM in the Pacific have been well explored in a report by the Secretariat of the Pacific Community: Deep Sea Minerals in the Pacific Islands Region, (SPC, 2016) <http://www.sopac.org/dsm> which aimed to develop an integrated regional approach to assist Pacific ACP (Africa, Caribbean and Pacific) States to establish appropriate legislation, regulations, policy and technical guidelines for the exploration and eventual mining of deep-sea mineral resources within their EEZ.

(52) There are strong positive and negative viewpoints about DSM, both in the Pacific and globally. Many in the mining sector see DSM as inevitable, a resource that can and should be utilized and vital for economic development, particularly for Pacific island states. Many Pacific countries share this view and see DSM as a potential source of important revenue for their economic development, in particular noting the current limited growth opportunities, and relatively high grade of deep sea minerals understood to be spread across large sections of the Pacific sea bed, with high potential returns. On the other hand, concerns have been expressed particularly relating to the potentially major and irreversible environmental impacts of DSM. Of the different stages in DSM mining, which progresses from prospecting through to exploration and on to exploitation should the resource be commercially viable, it is the exploitation stage that is expected to have severe and potentially permanent impact on

ecosystems. (SPC, 2016) Those concerned have also emphasized the challenge of lack of knowledge on both marine biodiversity at depth and on the environmental impacts of DSM.

(53) The limited studies on biodiversity and natural resources of the deep sea indicate high marine species richness, particularly between the depths of 1,500 and 3,000 meters. Certain areas appear to be significant for their marine biodiversity, including seamounts and hydro-thermal vents, which are also attractive for DSM due to concentrations of mineral resources. Studies of seamounts also indicated that many marine species found there are new to science. In the absence of any comparable exploitation to date, there are no real-life data on the impact of mining on deep sea ecosystems and this has been raised as a significant concern. (World Bank, 2016)

(54) Impacts on local communities are also unknown although there have been a range of social and environmental impacts from terrestrial mining globally, and in some Pacific islands, most notably PNG with the Bougainville copper mine, where environmental and social impacts have been significant and have been well documented, see, for example <http://www.unpo.org/article.php?id=7503>. The concerns expressed by coastal communities and nongovernmental organizations regarding DSM may be grouped in five interrelated categories (SPC, 2012): (i) potential impact on livelihoods, especially of vulnerable groups through pollution, limited access to traditional fishing grounds, or reduced tourism; (ii) weak capacity within the governments to ensure strong sector governance, leaving open the opportunity for inadequate revenue management and local communities not receiving their commensurate share of benefits; (iii) limited employment and other economic opportunities due to the offshore nature of the mining operations and plans to process the recovered minerals in other countries; (iv) cultural and spiritual impacts; and (v) limited ability to influence decision making on DSM mining proposals as legislation may not embed appropriate public consultations.

(55) DSM in PNG is thus a significant test case. Although globally there are dozens of exploration licenses granted for tracts of ocean floor, DSM in PNG is set to mark the start of commercial sea bed mining, anywhere in the world. The company, Nautilus Minerals, the major DSM Company involved in the Pacific, was granted an environmental permit for the field in 2009, and a mining license in 2011. It has recently announced it has secured finance to develop the project although there has been significant opposition, including from local communities regarding the potential environmental impacts and the adequacy of the consultation process involved. Concerns have also been expressed regarding the financial viability of the project and the PNG government's stake in it. These concerns are reflected in a legal challenge launched in December 2017 against the Solara 1 DSM project, see <http://www.deepseaminingoutofourdepth.org/legal-action-launched-over-nautilus-solwara-1/> where affected coastal communities launched legal proceedings to obtain key documents relating to the licensing and the environmental, health and economic impacts of the project.

(56) The future of DSM is unclear although it appears likely that it will proceed, both in the Pacific, and globally. There are thus many potential lessons that can potentially be drawn from the Solwara 1 mine in PNG. The SPC Report on DSM notes the importance of applying the Precautionary Approach because DSM mining carries risks of causing irreversible damage to the environment and harm to the public. In other words, project proponents should take all necessary measures to minimize environmental impacts even when there is no scientific certainty on the level and nature of the risk and the impact (SPC, 2016). The application of the Precautionary Approach in the Pacific may prove challenging, however.

(57) Implications for CTI-CFF and the RPOA: Given the significance of the Deep-Sea Bed Mining for ocean and marine resources in PNG, the Asia-Pacific region, and globally, a question arises as to

whether this is an issue that should be addressed by the CTI-CFF within any revision of the RPOA. Consultations with a number of key decision makers in the Pacific region, refer Section 4.2 of this report, indicate that DSM is an important emerging issue where targeted, policy relevant advice from the CTI-CFF would be appreciated. This is thus an important potential area for consideration in the review of the RPOA.

### **Tourism**

(58) By the year 2040, tourism will reinforce its position as one of the most important sectors in the Pacific Islands region, if the industry is managed effectively and sustainably <http://www.panda.org/?274336/Why-the-Pacific-Islands-could-be-the-next-hot-tourism-destination>

Tourism has major economic potential in the Pacific and, significantly, the tourism sector is largely based around the coastal and marine resources of Pacific countries, which are in turn vulnerable to the impacts of poorly planned and developed tourist infrastructure. WWF built the business case for Nature Based tourism (with support by the Australian government, focusing on Papua New Guinea, Solomon Islands and Timor-Leste) with a baseline assessment and by comparing the return on investment for mass tourism versus nature-based tourism for the Coral Triangle [http://www.panda.org/knowledge\\_hub/where\\_we\\_work/coraltriangle/publications/?260690/Developing-and-Promoting-Sustainable-Nature-based-Tourism-in-the-Coral-Triangle](http://www.panda.org/knowledge_hub/where_we_work/coraltriangle/publications/?260690/Developing-and-Promoting-Sustainable-Nature-based-Tourism-in-the-Coral-Triangle).

The Coral Triangle clearly has all the ingredients required for Nature-Based and Adventure tourism markets. The analysis concluded that the Pacific region presents a very significant and growing opportunity for investment in this rapidly emerging tourism segment, with the potential to provide socioeconomic growth in all of the countries, whilst helping address some of the growing negative economic, social, environmental, and cultural impacts of mass tourism currently impacting the region. In order to support the region, and capitalize on this opportunity, careful management is required. Through extensive stakeholder consultations, the project developed a vision, standards and a brand that was signed on to by the CT countries. In order to unleash the added value of a Coral Triangle brand or regional profile, not just any destination or tourism experience would be suitable. A win-win situation exists wherein nature-based tourism experiences can stimulate improved local stewardship of high conservation value areas that are also critical to support sustainable fisheries.

The guiding principles that were agreed on included:

- Conservation of natural and cultural values is paramount to the long-term sustainability of the region for its community and visitors;
- The visitor experience will be grounded in the culture and nature of the site;
- Planned growth in tourism will be respectful of local culture;
- Community benefits will be achieved through the delivery of tourism opportunities;
- Protection of marine and coastal resources will be improved through building awareness with the local community and tourists/visitors;
- The site's character will be retained through effective design, planning, and management of infrastructure; and

- Development of new visitor experiences and infrastructure should be informed by an understanding of the needs and expectation of the target market (visitor-centric approach) and involve robust and consultative master planning and feasibility analysis to ensure the sustainability of the initiative.

Destination management plans were created for a selection of key destinations in Papua New Guinea, Solomon Islands, and Timor-Leste to test support of the approach with relevant governments and the private sector. In addition, a screening 'governance' process and tool was established for the CTI-CFF for expansion of the approach to other destinations.

The more in-depth assessment on the potential return on investment for the entire Coral Triangle region comparing nature-based adventure tourism with mass tourism shows that investing in nature-based tourism in suitable sites throughout the Coral Triangle could deliver a potential USD 1.46–1.88 trillion per annum in total socio-economic and environmental value by 2035 at an average weighted ROI of 14.5–16.5% (vs. 8.5–10% for mass tourism).

This poses a clear role that a Coral Triangle nature-based tourism brand could play; both in terms of opening up the nature-based tourism opportunity for all the CTI-CFF countries, and also acting as a catalyst to help each of them overcome some of the specific challenges they face in their tourism development. A 2016 World Bank report <http://documents.worldbank.org/curated/en/524541503688261330/Tourism> on Pacific Tourism estimates tourism by 2040 could contribute as much as USD 1.7 billion in annual income, and create some 116,000 new jobs, in Pacific island countries. This report notes opportunities derive primarily from pristine natural environments and cultural diversity. There are similar environmental attractions in island destinations in the Indian Ocean and the Caribbean, however the cultural heritage attractions of the Pacific are unique and diverse, and provide a significant differentiation in the global tourism market.

(59) Pacific island countries received 1.37 million overnight visitor arrivals in 2014, a record number. The five most popular destinations in order of visitor arrivals were Fiji, PNG, Palau, Samoa and Vanuatu. Fiji received 100,000 more than the other 10 countries combined and tourism has replaced sugar as its primary export earner. Tourism generates revenue from targeted taxes, like Fiji's service turnover tax on hotels and restaurants. Targeted taxes also give governments another means to influence visitor arrivals numbers by affecting prices, such as in Palau's efforts to limit arrivals via increased departure and hotel taxes. Tourism already plays an important role in the economies of Palau, Fiji, Samoa and Vanuatu, with the South Pacific Tourism Organization <https://southpacificislands.travel/> estimating the highest levels of tourism related employment are in Tonga, 15 percent, Samoa, 18 percent, and Palau, 50 percent. Two thirds of the market for the Pacific countries is visitors from Australia and New Zealand. The United States, China, Japan and Europe are relatively small but still very important markets as they have the potential to generate much more growth in arrivals given the size of their populations.

(60) Compared to global average annual growth of 3.9 percent from 2005 to 2014, Pacific island visitor arrivals have grown by 4.5 percent (World Bank Tourism Report, 2016). While long-term growth is positive for Pacific island countries, the level of growth varies between countries and short-term decreases have resulted from political instabilities, natural disasters and global market conditions. The average annual growth rate for the five top destinations from 1995 to 2014 was 5.5 percent, while the other six only averaged 2.5 percent. There have been challenges with security and instability issues in Solomon Islands and PNG over the last two decades and this is a factor affecting tourism in those countries. Tourism's share of GDP reflects the sector's relative importance: between 1990 and 2014,

Fiji, Solomon Islands, Tonga, Vanuatu and Kiribati all saw increases in tourism's share of GDP, with the share essentially doubling in Solomon Islands and Kiribati. PNG saw a 60 percent decrease, due to faster growth in other sectors of the economy. However, arrivals to PNG grew by over 400 percent during the same period and were the second highest among Pacific Island countries at 184,563 in 2014. UN World Tourism Organization (UNWTO) <http://www2.unwto.org/>. The report also notes challenges which constrain growth in Pacific countries, including: difficulties in access; declining competitiveness with dated facilities; limited demand, particularly from long haul markets; and constrained marketing.

(61) Tourism in CTI-CFF Pacific Members, PNG and Solomon Islands is growing, with both countries receiving an increasing number of visitors each year. Tourism in these countries is based on unique cultures, coastal and marine attractions and unique biodiversity, particularly Papua New Guinea which has some of the highest rates of terrestrial and marine biodiversity in the world: [https://en.wikipedia.org/wiki/Tourism\\_in\\_Papua\\_New\\_Guinea](https://en.wikipedia.org/wiki/Tourism_in_Papua_New_Guinea). PNG and Solomon Islands are among the best diving destinations in the world, based around some of the healthiest coral reef systems on the planet and wreck diving. Lonely Planet <https://www.lonelyplanet.com/solomon-islands> lyrically notes that Papua New Guinea and the Solomon Islands both rank among the best destinations on Planet Scuba, with: *“an irresistible menu of underwater treasures: luscious reefs festooned with huge sea fans; warm waters teeming with rainbow-colored and bizarre critters; eerie drop-offs that tumble into the abyss; and a host of atmospheric WWII wrecks – not to mention the thrill of diving uncrowded sites”*

(62) The World Bank Tourism Report (World Bank, 2016) looking at the longer term outlook for tourism in the Pacific, suggests that, based on long-term performance, emerging market trends, specific product opportunities and the natural attractions and selling points, the Pacific has opportunities that hold the potential to generate transformational change. They suggest these opportunities include aggressively targeting the Chinese visitor market, engaging more directly in the rapidly growing Pacific cruising product, expansion of the high-end resort market and capitalizing on the aging population in key origin markets by developing a long-stay visitor opportunity for retirees.

(63) These opportunities have the potential to deliver substantially greater economic returns but will also bring impacts that will need to be fully carefully managed. The major attraction of Pacific island countries is un-spoilt natural areas, particularly marine and coastal environments, including coral reefs. There is thus a need to carefully plan and manage any tourist developments and, in particular to carefully manage developments such as high-end resorts and associated infrastructure. Many tourism opportunities in the Pacific are based around coastal and marine areas and species, including the establishment and management of marine protected areas which serve to protect the “assets” which attract tourists. MPA based tourism can contribute to the economic development of local communities as well as providing opportunities to ensure sustainable financing of MPA management activities. However careful and sympathetic planning is essential to ensure natural values of MPAs, including marine biodiversity, are protected.

(64) There are also a number of innovative tourism and conservation models in the Pacific which have potential for wider application in the CTI-CFF region. For example, Palau's marine sanctuary law seeks to preserve 80 percent (500,238 sq. km) of Palau's exclusive economic zone as Palau National Marine Sanctuary and create a domestic fishing zone in the remaining 20 percent (85,896 sq. km). Associated with this is a USD 100 environmental fee to be paid by all visitors to Palau with proceeds

used as the primary financing mechanism for the Palau National Marine Sanctuary: <https://www.pacificnote.com/single-post/2018/01/11/Pay-Extra-Cost-To-Enter-The-Pristine-Paradise>

(65) Implications for CTI-CFF and the RPOA: The establishment of well-designed and effective Marine Protected Areas (MPAs) which coincide with priority marine resources, including fish spawning grounds, as well as with coral reef distribution is a key tool for the management and conservation of marine resources as well as for eco-tourism. This is of relevance to the CTI-CFF given one of the CTI goals aims to establish a fully functional and effectively managed region-wide Coral Triangle MPA System (CTMPAS). There are also many innovative models for marine based ecotourism in the Pacific which may have wider application in the CTI-CFF region. There could be a role for the Secretariat in disseminating targeted information to CTI-CFF members.

## **3.0 OCEAN AND MARINE RESOURCES: INSTITUTIONAL AND FINANCING ISSUES**

### **3.1 INSTITUTIONAL ISSUES**

#### ***Regional agencies***

(66) The Pacific region has a long history of working effectively and cohesively together, in line with the approach described as the “Pacific Way”, which is based on open, clear communication and striving for consensus in decision making. This approach is expressed in the Framework for Pacific Regionalism <https://pipap.sprep.org/content/framework-pacific-regionalism> which supports focused political conversations and settlements that address key strategic issues, including shared sovereignty, pooling resources and delegating decision-making. It sets out a robust process through which regional priorities will be identified and implemented. The Framework is coordinated by the Pacific Islands Forum <https://www.forumsec.org/> which is the primary political agency in the region, comprising leaders of Pacific island countries. Leaders have consistently noted a number of priority areas for the Pacific region, including addressing the impacts of climate change and natural disasters and also conservation and sustainable management of Pacific Ocean resources.

(67) The Regional Institutional Framework [https://www.sprep.org/2008SM19/pdfs/eng/Officials/WP\\_10\\_3\\_Att\\_5\\_Regional%20Institutional%20Framework.pdf](https://www.sprep.org/2008SM19/pdfs/eng/Officials/WP_10_3_Att_5_Regional%20Institutional%20Framework.pdf) (RIF), concluded in 2007, was a significant initiative led by Pacific Island Leaders which defined and consolidated the future architecture for regional organizations in the Pacific. The RIF provided a clear message from leaders to regional agencies that there must be: (i) a sharper focus on serving the needs and requirements of Pacific countries; (ii) better cooperation and integration between regional agencies; and (iii) clearer delineation of regional agency roles. Tangible outcomes from the RIF included reducing the number of regional agencies in the Pacific region from 15 to 8, which is significant as no other region in the world has reduced the number of regional agencies, strengthened mechanisms for cooperation, and clearer role definition of individual agencies. The reformed regional agencies are now organized as the Council of Regional Agencies of the Pacific (CROP) [https://en.wikipedia.org/wiki/Council\\_of\\_Regional\\_Organisations\\_in\\_the\\_Pacific](https://en.wikipedia.org/wiki/Council_of_Regional_Organisations_in_the_Pacific) which comprises the CEO of each agency and which strives to strengthen cooperation, including through a system of technical Working Groups, comprising representatives of each agency. There are a number of regional agencies and initiatives in the Pacific region whose mission and mandate are similar to that of the CTI-CFF, the main agencies include:

- The Secretariat of the Pacific Regional Environment Programme (SPREP) <https://www.sprep.org/> As the regional CROP organisation charged with the protection and sustainable development of the region's environment, SPREP has been at the forefront of regional marine conservation efforts, including in relation to the management and protection of migratory marine species. At the same time SPREP has provided national-level technical advice, programme support, human and institutional capacity building, and coordinated regional responses to global issues and international agreements. SPREP has a Memorandum of Understanding with CTI-CFF and there are strong overlaps. Note development of the initial governance structure and mechanism of CTI was influenced by SPREP systems and processes.
- The Pacific Community (SPC) [https://en.wikipedia.org/wiki/Secretariat\\_of\\_the\\_Pacific\\_Community](https://en.wikipedia.org/wiki/Secretariat_of_the_Pacific_Community) (previously the Secretariat of the Pacific Community (SPC) until November 2015) is a regional intergovernmental CROP organisation whose membership includes both nations and territories in the Pacific Ocean and their metropolitan powers. It aims to *"develop the technical, professional, scientific, research, planning and management capability of Pacific Island people and directly provide information and advice, to enable them to make informed decisions about their future development and well-being"*. Membership includes Timor-Leste.
- The Pacific Islands Forum Fisheries Agency (FFA) [https://en.wikipedia.org/wiki/Pacific\\_Islands\\_Forum\\_Fisheries\\_Agency](https://en.wikipedia.org/wiki/Pacific_Islands_Forum_Fisheries_Agency) is a regional intergovernmental CROP agency established in 1979 to facilitate regional co-operation and co-ordination on fisheries policies between its member states in order to achieve conservation and optimum utilisation of living marine resources, in particular highly migratory fish stocks.
- The Parties to the Nauru Agreement (PNA) [https://en.wikipedia.org/wiki/Parties\\_to\\_the\\_Nauru\\_Agreement](https://en.wikipedia.org/wiki/Parties_to_the_Nauru_Agreement) is a sub-regional agreement on terms and conditions for tuna purse seine fishing licenses in the region. The Parties to the Nauru Agreement are Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Solomon Islands and Tuvalu.
- The Western and Central Pacific Fisheries Convention <http://www.wcpfc.int/> was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPFC Convention)
- The University of the South Pacific (USP) <http://www.usp.ac.fj/> is a CROP agency and is the premier provider of tertiary education in the Pacific region and is an international centre of excellence for teaching, research consulting and training on all aspects of Pacific culture, environment and human resource development needs. USP plays a very important role in capacity building in relation sustainable development programmes in the Pacific region and is recognized as a pioneer in distance learning systems, tailored to the dispersed and isolated nature of many Pacific countries.

(68) There are thus many agencies in the Pacific region with responsibilities for the management and conservation of marine and ocean resources. Most include PNG and Solomon Islands within their membership, and thus share membership with the CTI-CFF. Timor-Leste is also a member of the SPC. Ocean and marine activities between most of the above regional agencies are coordinated through the CROP system and specifically through the CROP Marine Sector Working Group which deals with marine management and conservation issues. CTI-CFF already has a MoU with SPREP

and other partnerships could potentially be developed with other regional agencies. All CROP agencies include capacity building within their mandates and programmes and it is important that any CTI-CFF programmes in Pacific countries also strive to strengthen national level capacity.

(69) Implications for CTI-CFF and the RPOA: there is a strong and effective network of regional agencies in the Pacific working on ocean and marine issues. It is important that CTI-CFF clearly define its niche and role and work more effectively with Pacific regional agencies where there are areas of overlap or potential cooperation. It is also important to coordinate approaches to “shared” donors where similar projects are being considered. CTI-CFF programmes in Pacific island countries should include a focus on capacity building of national fisheries and environment agencies. Where possible, community-based initiatives in Pacific countries, particularly those that encourage and facilitate the community management of marine and ocean resources, should be encouraged.

### **National Agencies**

(70) There are national level agencies within each Pacific country, including those in the CTI-CFF, which address the management of fisheries and marine resources. These are usually national fisheries agencies in the case of the management of fisheries resources and national environment agencies in the case of management of MPAs and other conservation related initiatives. These agencies often face challenges of limited human and financial capacity and this is a major constraint in the effectiveness of ocean and marine resource management and conservation in Pacific island countries. Many land and marine resources in the CTI-CFF countries in the Pacific are under traditional or customary management. Effective community-based management is essential and a number of locally based initiatives, such as Locally Managed Marine Areas (LMMAs) <http://Immanetwork.org/> have been developed in the Pacific and should be supported and strengthened.

## **3.2 FINANCING ISSUES**

### **General**

(71) Pacific Island countries face significant financing challenges reflecting their remoteness, dispersion of small populations across many islands, and size: these contribute to significant gaps between domestic revenues and public expenditure. Pacific island countries also face frequent natural disasters and climate-related impacts which have significant financial implications. The World Bank estimates that these impacts contribute to annualized expected losses averaging around 2–3 per cent of GDP, and note that significant donor finance is usually essential in their aftermath. (World Bank Financing Pacific Governments, 2016). Combining expenditure projections with domestic revenue projections implies substantial domestic financing gaps in 2040 for many of Pacific island countries. In Pacific CTI-CFF countries, Papua New Guinea and the Solomon Islands, the World Bank predicts challenges with increasing budget deficits and notes that maintaining a sustainable fiscal position while simultaneously addressing development needs will require efforts to ensure that each government acquires its fair share of resource revenues, while increasing the quality of its spending and revenues from overseas development assistance. Improved governance, in particular in the financial sector is also essential.

(72) Most Pacific countries remain heavily dependent on official development assistance (ODA), overseas remittances, and imported goods, with one in five Pacific islanders living in poverty. Although extreme poverty is declining, hardship and vulnerabilities are increasing and levels of

poverty differ widely across PICTs. Economic issues underline the importance of resource based sectors, of which fisheries is particularly significant, and also new and emerging resource opportunities such as Deep Sea Bed Mining (DSM). However, it is essential that there are adequate rates of returns to Pacific island countries and also that environmental concerns are addressed and integrated into all decision making, to ensure long term sustainability. Trust funds will also play a significant role in financing (and ideally stabilizing) PIC government expenditures, in most cases they will be insufficient on their own to finance projected future fiscal deficits.

(73) Overseas Development Assistance (ODA) or Aid will necessarily remain an important source of financing for PIC governments over the longer term. Aid in the Pacific must be implemented in line with the principles of aid effectiveness <http://www.oecd.org/dac/effectiveness/34428351.pdf> and should be viewed as an essential component of an ongoing collaboration between PICs and development partners to strengthen governance and long term capacity of national governments, including for financial sustainability, rather than as a short or medium-term “fix”. Pacific countries have consistently noted challenges in access accessing finance from development partners and also that processes can be lengthy, difficult and at times uncertain. It is thus to be hoped that donors could be as flexible as possible with the financing terms and arrangements they provide for Pacific countries. This should include encourage Pacific countries to make full use of available concessional financing before turning to non-concessional sources.

(74) Improved donor coordination is also very important. There are many donors working in the Pacific and this can (and has) give(n) rise to confusion amongst Pacific island countries. There is also the problem of potential donor fatigue and overload with repeated missions from donors potentially overwhelming relevant Pacific island government agencies. Pacific leaders have provided similar messages to donors that they delivered to Pacific regional agencies through the Regional Institutional Framework process: that there needs to be more coordination, less duplication and more joint work to address identified Pacific island country needs and priorities. There have been responses such as the development by the UN of a coordinated and cohesive UN wide approach in the Pacific, through the UN Pacific Strategy <https://reliefweb.int/report/world/united-nations-pacific-strategy-2018-2022-multi-country-sustainable-development> which is a five year (2018-2022) strategic framework that outlines the collective response of the UN system to the Pacific island development priorities.

(75) Aid in the Pacific comes from a number of bilateral and multilateral sources, some of which are outlined below. There are some significant trends and potential opportunities for future support for Pacific island countries. The major new multilateral initiative of relevance to the Pacific region is the Green Climate Fund: as at August, 2018, the Pacific has successfully had nine full funding proposals approved, amounting to nearly USD 300 million in GCF resources, further information is provided below. Trends in aid in the Pacific are outlined in the Lowy Institute Pacific Aid map at <https://pacificaidmap.lowyinstitute.org/> A summary of some of the key findings from this assessment is outlined at <http://www.abc.net.au/news/2018-08-09/aid-to-pacific-island-nations/10082702> Key elements of this assessment include:

- Australia is the major donor in the Pacific region: from 2011 to 2017, Australian provided at least USD 6.5 billion (AUD 8.76 billion) into aid projects across the region. Australian foreign aid equates to about 3% of regional GDP. The top recipients of Australian aid in 2016 were: (1) Papua New Guinea AUD 646.05 million; (2) Oceania, regional AUD 239.22 million; (3) Solomon Islands AUD 189.23 million; (4) Fiji AUD 177.32 million; and (5) Vanuatu AUD 153.59 million.

- The second and third biggest aid donors in total over the last few years have been China and New Zealand, although both those nations gave roughly USD 1.2 billion (AUD 1.6 billion) to Pacific Island nations over the same period — roughly one sixth the amount provided by Australia;
- China has made significant recent promises which could see aid from China increase significantly in the future. Concerns have, however, been expressed from some countries that Chinese support is often in the forms of concessional loans which are likely to impose debt burdens on Pacific island countries;
- Overall there has been a decline in aid to the Pacific islands over the 2011 to 2016 period. In 2011, donor nations gave USD 2.36 billion (AUD 3.18 billion) in foreign aid, and in 2016 total aid to the Pacific was USD 1.9 billion (AUD 2.56 billion);
- While Australia is the major donor, its contribution has declined, from USD 1.25 billion (AUD 1.68 billion) in 2011 to USD 800 million (AUD 1.08 billion) in 2016. Contributions from other donors have also declined: In 2011, the United States gave the Pacific aid worth USD 233 million (AUD 314 million). In 2016 that figure had declined to USD 66 million (AUD 89 million). In 2011, the European Union gave USD 105 million (AUD 141 million). In 2016 it gave USD 74 million (AUD 100 million).

### 3.3 FUNDING FOR OCEAN AND MARINE PROJECTS IN THE PACIFIC

(76) Multi and bilateral funding for ocean and marine projects in Pacific island countries is outlined below. This is neither an exhaustive nor complete list however it provides some indication of the level of donor involvement in ocean and marine conservation in the Pacific region, including in CTI-CFF countries.

#### *The Green Climate Fund*

(77) The Green Climate Fund (GCF) <https://www.greenclimate.fund/home> is a global fund created to support the efforts of developing countries to respond to the challenge of climate change. GCF aims to catalyze a flow of climate finance to invest in low-emission and climate-resilient development, driving a paradigm shift in the global response to climate change. The Fund pays particular attention to the needs of societies that are highly vulnerable to the effects of climate change, in particular Least Developed Countries (LDCs), Small Island Developing States (SIDS), and African States. It is significant that the governance of the GCF (GEF Council) provides for a member representative from SIDS and further that the current SIDS representative is from Samoa. This “voice at the table” has implications for Pacific island countries and also for CTI-CFF.

(78) The Fund aims to deliver equal amounts of funding to mitigation and adaptation, while being guided by the Convention’s principles and provisions. When the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement was reached in 2015, the Green Climate Fund was given an important role in serving the agreement and supporting the goal of keeping climate change well below 2 degrees Celsius. GCF launched its initial resource mobilization in 2014, and rapidly gathered pledges worth USD 10.3 billion. The Fund’s investments can be in the form of grants, loans, equity or guarantees, and it has established a direct access modality so that national

and sub-national organizations can receive funding directly, rather than only via international intermediaries.

(79) As at August, 2018, the GCF has 31 projects that are already under implementation, worth USD 1.4 billion in investment from GCF. The Fund has more than 70 projects in its portfolio, amounting to over USD 3.5 billion in financing from GCF to support developing countries in their low emission, climate resilient development. The GCF has faced some recent challenges, including in relation to governance and replenishment, and the GCF July 2018 Board Meeting <https://www.reuters.com/article/us-climatechange-gcf/green-climate-fund-meeting-disappointing-chief-quits-idUSKBN1JU2GR> was not able to consider new project proposals, or applications from organizations seeking to become Accredited Entities, or to move ahead with new policies. Then the meeting ended with the resignation of the GCF Executive Director. The challenge of the withdrawal of the United States has provided a further significant challenge for the GCF. It is hoped that these setbacks can be quickly addressed and overcome.

(80) Given the vulnerability of Pacific SIDS to climate change, and the imperative of rapidly scaling up climate finance in the region, there were high expectations when the GCF was established. Progress to date has been significant: as at August, 2018, the Pacific has successfully had nine full funding proposals approved, amounting to nearly USD 300 million in GCF resources, (eight from the public sector and one from private sector), 19 Readiness Proposals and had a number of Direct Access Entities in the region accredited to date, including SPREP, the Fiji Development Bank and the Micronesian Conservation Trust. This has positive implications for GCF funding for Pacific CTI-CFF members. Pacific GCF activities have been discussed at two Structured GCF Dialogues: the first in Tonga, in July 2017, and the second held in the Federated States of Micronesia, in July/August, 2018 <https://www.greenclimate.fund/meetings/2018/pohnpei> These dialogues have identified priority sectors for the Pacific region as including: enhanced livelihoods, resilient infrastructure, health and well-being, resilient ecosystems and low-emission energy. These involved Pacific island Ministers for a High-Level Session, and representatives of National Designated Authorities, Accredited Entities, Delivery Partners, civil society organizations, the private sector and development partners.

(81) Implications for CTI-CFF and RPOA: The Green Climate Fund provides an opportunity for funding CTI-CFF Member projects, particularly noting the focus of this global fund on SIDS and also direct access modalities for national and sub national organizations. Having a number of GCF Direct Access Entities approved in the Pacific region has positive implications for future GCF funding for Pacific CTI-CFF members.

### ***The Global Environment Facility (GEF)***

(82) The Global Environment Facility (GEF) <https://www.thegef.org/gef/> was established on the eve of the 1992 Rio Earth Summit to help tackle our planet's most pressing environmental problems. Since then, the GEF has provided over USD 17.9 billion in grants and mobilized an additional USD 93.2 billion in co-financing for more than 4500 projects in 170 countries. Today, the GEF is an international partnership of 183 countries, international institutions, civil society organizations and the private sector that addresses global environmental issues. The GEF has been a key financing mechanism for ocean and marine resource management and conservation programmes in the Pacific region. GEF requires that all project proposals received are aligned to national priorities of the Pacific recipient country. To ensure this, national operational focal points for each Pacific country must submit a letter of endorsement that transmit national ownership to the GEF and thus trigger development of a full

project document. Preparatory grants are made available to assist with hiring of consultants to prepare full project documents through a nominated GEF Implementing Agency.

(83) At the regional level a number of regional CROP (Council of Regional Agencies of the Pacific) have been involved as Executing Agencies for GEF Projects. It is important to recognize their respective roles: fisheries issues are largely the responsibility of the Forum Fisheries Agency (FFA) and the Pacific Community (SPC); environmental, climate and biodiversity issues are largely the responsibility of SPREP. The differing responsibilities of regional agencies has been recognized in the development of the EU funded Pacific-European Union Marine Partnership (PEUMP) Project, where FFA and SPC take the lead responsibility for fisheries components and SPREP takes the lead responsibility for environmental protection and marine biodiversity components. The role of SPREP is particularly significant regarding GEF in the Pacific Region given its long history in supporting the development of regional and national projects, including as an Executing Agency for GEF and also its application to the GEF Council to be accredited as a GEF Implementing Agency.

(84) GEF has supported a number of ocean and marine projects, focusing on Marine Protected Areas, fisheries management, conservation of other marine species and support for ocean related regional frameworks, such as the Pacific Oceanscape. Many of the Pacific GEF projects have both regional and national components. Some have focused on sub-regional marine conservation, including in the Arafura Sea, in Micronesia and in the Coral Triangle. There are a number of GEF projects with direct relevance to the mandate of CTI-CFF and the RPOA. Some of the GEF funded ocean and marine projects in the Pacific region have included the following:

- South Pacific Biodiversity Conservation Programme (SPBCP) <http://www.reefbase.org/gefill/pdf/South%20Pacific%20Biodiversity%20Conservation%20Program.pdf>, pioneered community based approaches to the establishment and management of terrestrial and marine protected areas in the region and built capacity of governments and NGOs to manage protected areas.
- Pacific Islands Oceanic Fisheries Management Project <https://www.spc.int/OceanFish/en/major-projects/ofmp> concentrates on the conservation, management and sustainable development of transboundary stocks of highly migratory and related species, and associated institutional arrangements for transboundary fish stocks.
- Pacific Islands Regional Oceanscape Program (PROP) was the first GEF Project to focus on specific implementation of the Framework for the Pacific Oceanscape (FPO) <http://www.forumsec.org/pages.cfm/strategic-partnerships-coordination/pacific-oceanscape/pacific-oceanscape-framework.html> and had a specific focus on sustainably financing the conservation of at least three large Pacific marine protected areas
- Strengthening Coastal and Marine Resources Management in the Coral Triangle of the Pacific <https://www.thegef.org/project/pas-strengthening-coastal-and-marine-resources-management-coral-triangle-pacific-under> which promoted the conservation and sustainable use of globally significant coastal and marine resources in the Coral Triangle region. The Executing Agencies for this project are the CTI National Coordinating Committees of participating governments. Several other projects focus on the Coral Triangle.
- The Arafura Sea GEF Project <https://www.thegef.org/project/cti-arafura-and-timor-seas-ecosystem-action-programme-atsea-under-coral-triangle-initiative> the CTI Arafura and Timor

Seas Ecosystem Action Programme (ATSEA), under the Coral Triangle Initiative, is implementing ecosystem-based approaches to the management and use of the living coastal and marine resources of the Arafura and Timor Seas region.

- Micronesia Challenge: Sustainable Finance Systems for Island Protected Area Management Challenge <http://themicronesiachallenge.blogspot.ch/p/about.html> is an initiative by Micronesian Leaders to protect their marine and terrestrial biodiversity.
- GEF/CMS Dugong and Seagrass Conservation Programme in Vanuatu and Solomon Islands (see postings on CMS Dugong Secretariat website).

(85) Implications for CTI-CFF and RPOA: The Global Environment Facility has been a major funder of ocean and marine projects in the Pacific region and its portfolio has included a number of projects in the Coral Sea which have direct relevance to the mandate of CTI-CFF and the RPOA. It is likely that the strong GEF commitment to ocean and marine conservation will continue and this provides an on-going source of potential funding for the CTI-CFF and its members in the areas of oceans and marine conservation. It is important for the CTI-CFF and RPOA to note that funding from GEF, and also GCF, for national level projects must be in line with national priorities and CTI-CFF thus has to work closely with national governments to ensure projects developed by CTI are in line with these priorities. CTI-CFF should consider cooperation with existing accredited Entities for GCF and GEF in the Pacific region. Of particular relevance is cooperation with SPREP given it is an Accredited Entity with GCF and also that it has an established MoU with the CTI-CFF

### ***European Union (EDF 10 and EDF 11)***

(86) Funding has been provided from the EU to the Pacific Region through the European Development Fund (EDF) window [https://en.wikipedia.org/wiki/European\\_Development\\_Fund](https://en.wikipedia.org/wiki/European_Development_Fund) most recently through EDF 10 and EDF 11. The 11th EDF Pacific Regional Indicative Programme (Pacific RIP) takes into account the conclusions and recommendations of the evaluation of the European Union's cooperation with the Pacific Region 2006-2012 [http://ec.europa.eu/europeaid/node/80199\\_en](http://ec.europa.eu/europeaid/node/80199_en). The total 11th EDF allocation to the Pacific RIP is EUR 166 million. The Pacific RIP targets three priority areas: (1) Regional Economic Integration (indicative allocation EUR 50 million); (2) Sustainable Management of Natural Resources and the Environment and the Management of Waste (indicative allocation EUR 52 million); and (3) Inclusive and Accountable Governance and the respect for Human Rights (indicative allocation EUR 18 million).

(87) A major programme of support under EDF 11 for the sustainable development of oceanic and coastal natural resources is included under Section (2) Sustainable Management of Natural Resources and the Environment and the Management of Waste. This new project aims to improve economic, social and environmental benefits from sustainable management of oceanic and coastal natural resources with due regard for the conservation of native biodiversity and climate change adaptation requirements. The proposed approach would bring together all regional organizations involved in the marine resources sector, with 3 international agencies, the regional university (USP) and several non-government organizations working together as project implementing agencies to ensure a comprehensive partnership with the EU.

(88) Previous EU projects, which are relevant to ocean and marine resources in the Pacific, include the:

- SciCOFish Project, <http://www.spc.int/fame/en/projects/scicofish/about-scicofish> and the DevFish Project <http://www.spc.int/fame/en/projects/devfish2> have provided scientific support for the management of coastal and oceanic Fisheries in Pacific Islands. SciCOFish focused on the conservation and sustainable use of coastal and oceanic fisheries resources in the P-ACP region. The Development of Fisheries Project (DevFish2) <http://www.spc.int/fame/en/projects/devfish2> aimed to increase the contribution from the sustainable use of migratory marine resources, particularly tuna, to the alleviation of poverty in Pacific states.
- The Biodiversity and Protected Area Management Programme (BIOPAMA) [http://www.iucn.org/about/work/programmes/gpap\\_home/gpap\\_capacity2/gpap\\_biopama/](http://www.iucn.org/about/work/programmes/gpap_home/gpap_capacity2/gpap_biopama/) aims to strengthen protected area management as a key tool to address threats to biodiversity in African, Caribbean and Pacific (ACP) countries and includes a component on marine conservation in Pacific countries.
- Deep Sea Minerals in the Pacific Islands Region <http://www.sopac.org/dsm/> aimed to develop an integrated regional approach to assist P-ACP States establish appropriate legislation, regulations, policy and technical guidelines for the exploration and eventual mining of deep-sea mineral resources within their EEZ. Some of the key findings of this study have been previously outlined in Section 2.4.
- The Investment Facility for the Pacific (IFP) [https://ec.europa.eu/europeaid/regions/pacific/investment-facility-pacific-ifp\\_en](https://ec.europa.eu/europeaid/regions/pacific/investment-facility-pacific-ifp_en) This Facility was launched in May 2012 and supports Pacific governments in undertaking priority investments contributing to inclusive and sustainable growth. The Facility responds to the need to support investment projects in the Pacific region to boost economic growth and reduce poverty, and to address climate change challenges. IFP provides its support through: (i) investment grants; (ii) technical assistance; and (iii) risk capital and other risk sharing instruments. For the new 11th EDF programming period 2014-2020, the European Commission doubled the indicative allocation for the IFP to €20 million. To date, the IFP has not had a specific focus on the marine environment.
- Increasing Climate Resilience of Pacific Small Islands States (SIS) through the Global Climate Change Alliance (GCCA) [http://eeas.europa.eu/delegations/fiji/projects/list\\_of\\_projects/269297\\_en.htm](http://eeas.europa.eu/delegations/fiji/projects/list_of_projects/269297_en.htm). The purpose of the project is to promote long term strategies and approaches to adaptation planning and to pave the way for more effective and coordinated aid delivery on climate change at the national and regional level.
- The EU-PacTVET <http://sites.cardiff.ac.uk/events/view/eu-pactvet-project-support-for-capacity-building-on-climate-change-disaster-risk-management-and-sustainable-energy-in-the-pacific-region/> commenced in August 2014, and is a component of a €35 million Adapting to Climate Change and Sustainable Energy (ACSE) programme funded under the 10th European Development Fund (EDF 10);
- BEST Programme (Voluntary Scheme for Biodiversity and Ecosystem Services in Territories of European Overseas Territories) [http://ec.europa.eu/environment/funding/pdf/best2012\\_en.pdf](http://ec.europa.eu/environment/funding/pdf/best2012_en.pdf) The broad objective of BEST is to promote conservation and sustainable use of biodiversity and ecosystem services in the EU Outermost Regions and Overseas Countries and Territories. A number of marine projects have been supported under BEST, including the PACIOCEA and the CORAIL Projects.

- The Pacific Ocean Ecosystem Analysis Project (PACIOCEA) <https://sprep.org/biodiversity-ecosystems-management/french-polynesia-and-new-caledonia-to-enhance-ocean-management> is to strengthen conservation and sustainable management of marine ecosystems, to foster ecosystem-based approaches and to improve climate change adaptation in the European Territories of the South Pacific. This project applied ecosystem analysis tools to the management and protection of marine resource, including through Marine Spatial Planning (MSP) [https://en.wikipedia.org/wiki/Marine\\_Spatial\\_Planning](https://en.wikipedia.org/wiki/Marine_Spatial_Planning) The Coral Reefs in a Changing World Project (CORAIL) focused on coral reefs in New Caledonia and French Polynesia. This project developed methods to evaluate ecosystem services (ES) from coral reefs to guide public decision making. The theories and methods proposed were tested in New Caledonia and French Polynesia.

### **World Bank**

(89) The World Bank has supported a number of marine projects in the Pacific region, including the Pacific Islands Regional Oceanscape Program (PROP) <http://www.worldbank.org/projects/P151777?lang=en> which aims to strengthen the shared management of selected Pacific Island oceanic and coastal fisheries, and the critical habitats upon which they depend. Components include the sustainable management of oceanic fisheries and sustainable financing of the conservation of critical fishery habitats. A previous World Bank funded project, PROFISH <http://www.worldbank.org/en/topic/environment/brief/global-program-on-fisheries-profis> supported a programming and funding partnership between key stakeholders in the Pacific islands fisheries sector, and aimed to support governance of the Pacific islands fisheries sector and to improve sustainable livelihoods in the fisheries sector.

### **Bilateral Donors**

(90) Bilateral donors have provided considerable support to Pacific island countries in the areas of marine conservation and management. This support is targeted at national levels but also provides important support to regional organizations, including SPC and SPREP, and regional initiatives, particularly those related to fisheries management. Bilateral donors in the Pacific region which support marine conservation and management projects in the Pacific include New Zealand, Australia and France. Some key projects supported by these Governments in the marine conservation and management area are outlined below.

### **Australia**

(91) As noted above the Australian Government is the largest donor in the Pacific and it has an active programme of support for ocean and marine initiatives, including the establishment and management of Marine Protected Areas in the Pacific region in general, and in the Coral Sea in particular. Involvement in the Coral Sea has included support for:

- EPOG (Enhancing Pacific Ocean Governance) <http://www.environment.gov.au/system/files/resources/44bc6598-7425-4fe6-ae2.3-95d6a78612.1e/files/epog.pdf>, which includes support for the delineation of marine boundaries, Marine Spatial Planning and other related tools, in Pacific island countries;
- development of a “Declaration of Intent” to cooperate with New Caledonia on marine conservation and management;

- relevant Pacific island countries and territories to develop a management plan for the Coral Sea. Australia will provide support to Vanuatu, Solomon Islands and PNG on this activity and will work with New Caledonia under the aforementioned “Declaration of Intent”;
- assessment of opportunities to develop a Coral Triangle Nature-based Tourism Brand to stimulate investments in those enabling conditions required to grow responsible nature-based tourism in Solomon Islands, Papua New Guinea and Timor-Leste. The project analyzed and presented the business opportunity to CT governments and the private sector of a CT nature-based tourism brand and the arrangements necessary to support and promote it. Destination management and -marketing plans were developed for priority areas in three countries and investment prospectuses are available;
- activities of the Coral Triangle Initiative Secretariat <http://coraltriangleinitiative.org/>;
- biosecurity initiatives in the Coral Sea, including strengthening quarantine facilities and services and support for control of key invasive species, such as the Tropical Fire Ant;
- marine planning and associated activities, including the documentation of marine values in Coral Sea countries, and the development of an assessment of marine conservation areas in PNG, prepared jointly with CSIRO, the University of Queensland and TNC;
- initiatives in the Torres Strait, working with and through the Torres Strait Regional Authority <http://www.tsra.gov.au/> ; and
- other initiatives, including marine species conservation, marine debris and Blue Carbon Initiatives.

(92) Implications for CTI-CFF and the ROPA: the major donors of CTI-CFF are often the same as the donors for Pacific regional agencies, such as SPREP and SPC. The Government of Australia is preeminent amongst these donors. It thus makes sense to work closely with these agencies where ocean and marine activities are planned for the Coral Triangle. Given Australia is a major funder of CTI-CFF as well as SPREP and SPC, and the fact that they all have a major focus in the Coral Sea, it would appear logical for CTI-CFF to strengthen links with Pacific regional agencies and, where possible, develop joint programmes for funding. Targeted and joint approaches to donors, in particular Australia are recommended.

### ***New Zealand***

(93) New Zealand supports a range of activities in the Pacific fisheries sector. It has also recently supported a project addressing Ocean Acidification, which is noteworthy as it is one of the first community based projects to concentrate on this important threat to Pacific marine environments. This project will be implemented through SPREP and aims to build the resilience of Pacific islands and territories to Ocean Acidification through: (i) increasing ecosystem resilience to Ocean Acidification; (ii) developing a knowledge base for improved policy and planning; (iii) improving monitoring of Ocean Acidification; and (iv) developing a framework of action for adapting to Ocean Acidification at the local level through practical measures that empower women and men to take informed actions. Another project supported by New Zealand, and implemented through SPREP, is the Turtle Monitoring and Eco-tourism Development Project which aims to enhance capacity and commitment in the Pacific Region to conserve and sustainably manage endangered marine turtle populations, and develop associated economic and environmental benefits, through ecotourism. The Solomon Islands

Government, through consultation carried out for this project, noted the importance of projects such as this which link conservation with sustainable economic development

### **France**

(94) The French Government has an active programme of support for marine conservation and management initiatives in the Pacific, including through the French Pacific Fund of the French Ministry of Foreign Affairs <http://www.ambafrance-nz.org/Pacific-Fund-Applications-for-2012> which was created in 1985 to promote social, economic, scientific and cultural development and integration in the Pacific. The priorities of the Pacific Fund are the same as those defined by and for the Pacific region. Proposals are required to have active involvement from research institutes, cultural, sporting and development organizations, etc. in the French territories in the Pacific (New Caledonia, French Polynesia and Wallis and Futuna). The Fund supports small scale projects which are largely development focused but have included support for projects such as the evaluation of large migratory fish stock in Fiji. The French Marine Protected Areas Agency (AAMP) <http://www.aieres-marines.com/> has an active programme of support for marine protected area initiatives in the Pacific region, particularly in and through the French territories in the Pacific (New Caledonia, French Polynesia and Wallis and Futuna). France is a Contracting Party to six regional sea conventions, including the Apia and Noumea Conventions in the Pacific region, and associated responsibilities for these Conventions are implemented through AAMP.

(95) The Governments of New Caledonia and France are actively involved in programmes to better manage and protect coral reefs, and fisheries resources, in the Pacific French territories, in the Coral Triangle, bordering on the CTI-CFF region. It is important to note that New Caledonia and France are responsible for management of one of the three most extensive reef systems in the world, the Lagoons of New Caledonia <http://whc.unesco.org/en/list/1115>. This serial site comprises six marine clusters that represent the main diversity of coral reefs and associated ecosystems in New Caledonia and In consultation carried out for this project, officials from New Caledonia expressed interest in closer cooperation with CTI-CFF on coral reef and fisheries management issues. Given the extensive expertise in the management of coral reefs in France and New Caledonia, particularly related to the management of the Lagoons of New Caledonia, the CTI-CFF should engage with New Caledonia on programmes of relevance to ocean and marine conservation, particularly of coral reefs.

The Pacific Fund of the French Ministry of Foreign Affairs was created in 1985 to promote social, economic, scientific and cultural development and integration in the Pacific. The priorities of the Pacific Fund are the same as those defined by and for the Pacific region [www.forumsec.org](http://www.forumsec.org). This fund is acknowledged for its important support to SPREP in recent years.

### **Germany**

(96) The German Government, through GIZ <https://www.giz.de/en/worldwide/363.html> (The Deutsche Gesellschaft für Internationale Zusammenarbeit) is currently providing advisory services to 14 Pacific island states, and to Timor-Leste and various regional organizations, in the following priority areas: (i) Climate change in the Pacific Island Region; (ii) Adapting to climate change and sustainable energy; (iii) Forest conservation; (iv) Marine and coastal biodiversity management; and (v) Transition to low-carbon sea transport. Their support for marine and coastal biodiversity is implemented through the Marine and Coastal Biodiversity Management in Pacific Island Countries (MACBIO) Project, which is executed through SPREP. The objective of this project is to improve the management of the marine

and coastal biodiversity of mountainous volcanic islands (Fiji, Solomon Islands, Vanuatu) and flat islands and atolls (Kiribati, Tonga) <https://www.giz.de/en/worldwide/18155.html>

### **Japan**

(97) The Government of Japan executes a range of programmes in the Pacific, through the Japanese International Assistance Agency (JICA) <https://www.jica.go.jp/english/> JICA's development cooperation for this region builds on the assistance pledges that the Japanese government made at the Seventh Pacific Islands Leaders Meeting (PALM) in May 2015. It addresses different issues for different countries, in line with national priorities and also addresses common concerns throughout the region, such as disaster risk reduction, climate change management, and environmental protection. JICA has supported a number of projects relevant to ocean and marine resources of the Pacific, including in the fisheries, climate change and waste management sectors. Some of these are set out in this link relating to PALM 6, [https://www.mofa.go.jp/region/asia-paci/palm/palm6/pdfs/palm6\\_120515\\_FactSheet.pdf](https://www.mofa.go.jp/region/asia-paci/palm/palm6/pdfs/palm6_120515_FactSheet.pdf).

### **NGOs**

(98) Non-Government Organizations (NGOs) have made important contributions to marine conservation in the Pacific, such as Conservation International's support for the planning and implementation of the Phoenix Island Protected Area in Kiribati, the Pew Charitable Trust's support for shark conservation, and support from The Nature Conservation for community marine conservation programmes such as the Arnavon Islands Marine Conservation Area in the Solomon Islands. NGOs such as TNC, CI and WWF have been very actively involved in projects in CTI-CFF Pacific countries and in the CTI-CFF in general.

## **4.0 PRIORITY SETTING FOR OCEAN AND MARINE RESOURCES**

### **4.1 PRIORITY SETTING FRAMEWORKS**

(99) There are a number of international, regional and national frameworks which are relevant to ocean and marine issues in Pacific island countries, including those in the CTI-CFF. A number of these are outlined below, although it is noted that this is neither an exhaustive nor complete list.

#### **International**

(100) Pacific countries have actively participated in a number of global sustainable development programmes, including the Sustainable Development Goals [https://en.wikipedia.org/wiki/Sustainable\\_Development\\_Goals](https://en.wikipedia.org/wiki/Sustainable_Development_Goals) the Samoa Pathway, a global SIDS Action Platform <http://www.sids2014.org/index.php?menu=1537> developed to support the follow up to the Third International Conference on Small Island Developing States (SIDS Conference) held in Samoa in 2014, as well as other Global Agreements, including, most notably the Paris Agreement on Climate Change [https://en.wikipedia.org/wiki/Paris\\_Agreement](https://en.wikipedia.org/wiki/Paris_Agreement) which Pacific island leaders and countries were actively involved with.

(101) The Sustainable Development Goals (SDGs), officially known as "*Transforming our World: the 2030 Agenda for Sustainable Development*", comprise 17 aspirational Goals with 169 targets. These cover a broad range of sustainable development issues, including ending poverty and hunger,

improving health and education, making cities more sustainable, combating climate change, and protecting oceans and forests. Pacific countries, along with other Small Island Developing States, lobbied hard for the inclusion of a Global Goal on Oceans. This resulted in the inclusion of: “Sustainable Development Goal 14 – Conserve the Ocean”. The inclusion of this Goal is an international level recognition of the importance of the sustainable use and protection of the world’s oceans, it is particularly pertinent and relevant for Pacific island countries. This Goal aims to “*conserve and sustainably use the oceans, seas and marine resources for sustainable development*” and is of paramount importance for Pacific island countries and also for the CTI-CFF. Specific targets under Sustainable Development Goal 14 are to, inter alia:

- by 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information;
- by 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing;
- by 2030, increase the economic benefits to Small Island Developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism;
- increase scientific knowledge, develop research capacity and transfer marine technology;
- provide access for small-scale artisanal fishers to marine resources and markets; and
- enhance the conservation and sustainable use of oceans and their resources.

(102) The Sustainable Ocean Initiative (SOI) Action Plan [https://www.icriforum.org/sites/default/files/GM29\\_4\\_2\\_2\\_SOI.pdf](https://www.icriforum.org/sites/default/files/GM29_4_2_2_SOI.pdf) is an initiative of the Convention on Biological Diversity (CBD) and aims to catalyze partnerships, build on lessons learned and knowledge learnt, and facilitate improved coordination and two-way dialogue to address these capacity needs to support countries in their efforts to achieve the Aichi Biodiversity Targets. The SOI recognizes that enabling conditions must be in place before effective marine conservation can occur, in particular that individuals and institutions charged with implementation are equipped with the tools and resources needed to ensure success. As noted in the SOI Action Plan 2015 to 2020: “*Various capacity development efforts have aimed to address these needs, yet there has been inadequate focus on the holistic aspects of capacity needs with regards to oceans and marine life therein*”. The issue of capacity is particularly important in Pacific island countries as this is a key constraint to effective marine conservation and the sustainable management of marine resources.

### **Pacific Region**

(103) There are a number of key regional strategies adopted by Pacific island Leaders, and these include the:

- Regional Roadmap for Sustainable Pacific Fisheries <https://oceanconference.un.org/commitments/?id=18778> endorsed in 2015 by the Pacific Islands Forum Leaders, which provides a list of comprehensive strategies and indicators aimed at delivering a better and more sustainable future for Pacific tuna and coastal fisheries;
- Framework for Resilient Development in the Pacific , which provides an integrated approach to Climate Change and Disaster Risk Management over the 2017 – 2030 period

[https://www.pacificclimatechange.net/document/frdp\\_2016](https://www.pacificclimatechange.net/document/frdp_2016) and is regarded as global “best practice” in the adopting an integrated approach to climate change and disaster risk reduction;

- Framework for the Pacific Oceanscape (FPO) <http://www.forumsec.org/pages.cfm/strategic-partnerships-coordination/pacific-oceanscape/pacific-oceanscape-framework.html> provides an important framework for action on the Pacific marine environment and for the definition of marine priorities in the Pacific region. The FPO was adopted by Pacific Leaders in 2010 at the Pacific Island Forum Leaders Meeting; it is the most important policy framework at the Pacific regional level and is regarded as a model of global best practice for regional ocean governance. The FPO emphasises the critical importance of the Pacific Ocean for the livelihoods of all Pacific peoples and also its importance for the global community. It has provided the basis for other Pacific regional initiatives including the Blue Pacific, coordinated by the Pacific Islands Forum Secretariat. The Framework for the Pacific Oceanscape also established the Pacific Ocean Commissioner, currently the Secretary General of the Pacific Islands Forum, Dame Meg Taylor. The main focus of the FPO is on the integrated conservation management of the Pacific Ocean and Islands, including: sustainable fisheries and the protection of important marine habitats; ensuring effective and sustainable marine governance, including issues of jurisdictional rights and responsibilities; and developing strong and effective organisations to ensure good ocean governance in the Pacific; and
- The UN Pacific Strategy (UNPS) [https://reliefweb.int/sites/reliefweb.int/files/resources/UNDP\\_WS\\_FINAL\\_UNPS\\_2018-2022.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/UNDP_WS_FINAL_UNPS_2018-2022.pdf) is a five year (2018-2022) strategic framework that outlines the collective response of the UN system to the development priorities in 14 Pacific Island Countries and Territories (PICTs). The UNPS supports the 14 governments and peoples in the Pacific to advance a localized response to the global 2030 Agenda for Sustainable Development. It embodies a people centered, human rights-based approach to development in the Pacific that seeks to “leave no one behind” and to provide an umbrella framework for strategies that embody the UN’s commitment to “reach the furthest behind first”.

### **National Level**

(104) Pacific island countries, including CTI-CFF countries, have a number of national level policy frameworks to guide decision making in relation to the management and conservation of marine and ocean resources. These include, but are not limited to:

- National Sustainable Development Strategies (NSDS) <https://sustainabledevelopment.un.org/index.php?menu=201>;
- National Fisheries Strategies and Policies;
- National Adaptation Plans of Action (NAPA) [http://unfccc.int/national\\_reports/napa/items/2719.php](http://unfccc.int/national_reports/napa/items/2719.php) under the UNFCCC <http://newsroom.unfccc.int/>;
- GEF National Capacity Self-Assessment (NCSA) National Action Plans; and
- National Biodiversity Strategy and Action Plans (NBSAPs) <https://www.cbd.int/nbsap/> which are the principal instruments for implementing the Convention on Biological Diversity

<https://www.cbd.int/> at the national level, under Article 6 of the Convention <http://en.biodiversiteit.nl/verdrag-inzake-biologische-diversiteit-cbd/cbd-text/art6>.

(105) Implications for CTI-CFF and the RPOA: – there are a number of well-developed frameworks to guide the management of ocean and marine resources in the Pacific islands region, at international, regional and national levels. It is important that the CTI be aware of, and respect, these frameworks when working in the Pacific region and in individual Pacific island countries.

## 4.2 VIEWS FROM KEY OPINION LEADERS

(106) An important element of this project was interviews carried out with key “opinion leaders” in the Pacific region, regarding their views on the priority issues that the CTI-CFF should be addressing in the Pacific Region and also on the future role and niche of the CTI-CFF. Persons interviewed are listed below. It is noted that this is a very small sample and should be seen as one (small) input to the review of the RPOA and in particular to the in depth survey and interviews that were carried out as part of the broader RPOA review. Although this is a small sample the people interviewed are all very knowledgeable and influential in the Pacific region and their views “carry some weight”.

- Kosi Latu Director General SPREP;
- Transform Aqorau Former Head of the Parties to the Nauru Agreement;
- Mike Donoghue former Head of Conservation International in the Oceania region and former Head of the Marine Species programme at SPREP;
- Ms Sharon Lane Assistant Director, Marine and International Heritage Branch, Department of Environment and Energy, Australia; and
- Anne-Claire Goarant Mission Head, Regional Cooperation and External Affairs, New Caledonia.

(107) All interviewees were asked the following questions:

- Are you aware of the CTI-CFF and its Regional Plan of Action?
- What are the major future challenges facing the Pacific region relevant to the mandate of your country/organisation (tailor to the respondent)?
- What are the major issues in the Pacific region that the CTI should be addressing?
- What do you feel is the added value of the CTI-CFF in the Pacific region in relation to your country/organisation (tailor to the respondent)?
- On what areas would your country/organisation like to work with the CTI-CFF in the future?
- Do you have any other comments regarding the CTI-CFF and its Regional Plan of Action?

(108) Verbatim and non-attributed responses to each question are outlined below:

(109) Question 1. Are you aware of the CTI-CFF and its Regional Plan of Action?

- Thought CTI-CFF was only focused on coral reefs, was not aware of the food security aspects of the agencies work. Was aware of Plan of Action but not aware of the detail and what is covered.

- Not involved with CTI-CFF. Coral Sea is an initiative which they coordinate with, along with Solomon Islands, PNG and Vanuatu and Australia. Not close to CTI-CFF but could be in the future. There are clearly areas where cooperation would benefit New Caledonia and CTI-CFF.
- The ROPA looks comprehensive, the question is how effectively have specific tasks been implemented. It is important that any assessment of the ROPA is evidence based and particularly that the views of CTI-CFF Member countries are given the highest priority.
- All the communication from CTI-CFF is well received. Understands CTI-CFF is now going through a period of transition with the departure of the previous Executive Secretary. This leaves a leadership gap which needs to be addressed.
- Not directly as have not had any direct dealings with the CTI-CFF in the past 9 years after its launch in Honiara. Worked with two of the members, Solomon Islands and PNG on their tuna management as members of the FFA and PNA. Although PNG, Indonesia, Philippines and Solomon Islands are major tuna producing and processing countries, for some strange reason, they have not had much influence as CTI-CFF members.

(110) Question 2. What are the major future challenges facing the Pacific region relevant to the mandate of the CTI?

- Impacts of climate change, human impacts on the marine and terrestrial ecosystems, management of solid wastes especially plastic, destruction, institutional and administrative weaknesses. Loss of biodiversity from acidification of coral reefs, poor fisheries management, poor monitoring and surveillance of coastal fisheries, poor traceability of supply chain of coastal fisheries catches, weaknesses in governance at local levels, high population growth rates with localized impacts from high populations.
- Future challenges are around the better conservation of ecosystems and sustainable fisheries. Many people are living in and around the coast and thus need to manage the resources sustainability. Community management of marine resources is a very important issue in the Pacific and in the CTI-CFF region. This should be a priority focus for the RPOA.
- There are many initiatives happening in the region which are relevant to the mandate of the CTI-CFF however the CTI-CFF does not appear to be actively involved. These include the SPREP Year of the Coral Reef as well as joint French and Australia Coral Reef Initiatives. CTI-CFF is not actively involved in the region. They need to be more engaged
- Climate change, ocean warming and acidification; loss of biodiversity; over-fishing; destructive fishing; managing tourism; sustainable trade in wildlife. Population growth is a key challenge as well, and the population is young in CTI-CFF Pacific countries. These demographic issues are both a challenge and an opportunity in Pacific island countries.
- Sustainable use of marine resources, increasing for the populations directly using marine resources, poor planning and governance around management of natural resources, climate change, along with threats to food security. New issues include marine pollution including plastic. Pacific is a sink for plastics. Poor governance and corruption are major issues and constrain on ground and on water action and greatly inhibit “getting things to happen”. Need to work at different levels of government, not just national levels. Customary levels of government also have to be considered.

(111) Question 3: What are the major issues in the Pacific region that the CTI should be addressing?

- Effective management and surveillance. Need to propose actions that are feasible and practical for people and agencies to implement. Any Action Plan (ROPA) should be aligned with the way people are living in Pacific island countries. Need to build a consultative action plan (ROPA) which involves consultation at national, sub-national (e.g. provincial) and local community levels.
- Melanesian countries (PNG and Solomon Islands) are critically important for marine and terrestrial biodiversity, they are “hotspots”. Link between CTI-CFF and these countries is very important. Need much better linkages between CTI-CFF and regional agencies in the Pacific region. This seems to be a gap at the moment.
- Better planning and management of coastal and marine resources is essential. Better governance is also essential and this is a constraint at the moment. In many cases there are policy and legislative frameworks in place in CTI-CFF Pacific countries but they are not being effectively implemented. Effective implementation is key.
- Empowerment of coastal communities, development and incentivizing property rights over coastal resources so that they become bankable rights, documenting supply chain in local fisheries, addressing localized over-fishing and pollution of marine ecosystems from all sources, acidification of reefs, mitigating impacts of climate change and addressing resilience”
- There are very important emerging issues in the Pacific region, such as Deep-Sea Bed Mining (DSM), which is likely to commence for the first time globally in PNG within the next few years. Given the potential implications for the marine environment in the Asia-Pacific region, and the likelihood of DSM occurring in the future in Asia Pacific countries, this is an issue that the CTI-CFF Secretariat could provide useful guidance on.
- Other important issues include tourism which has potential to stimulate and enhance economic development in the Pacific region. Tourism is often focused on marine environments, including through diving-based tourism in PNG and Solomon Islands, and this is an area of direct relevance to the CTI-CFF Secretariat.

(112) Question 4: What do you feel is the added value of the CTI-CFF in the Pacific region?

- Planning and implementing transboundary marine initiatives, particularly between Pacific and Asian countries in the CTI-CFF.
- Being able to work across regions (Asia and Pacific) is what sets CTI-CFF apart from other agencies that are just working in the Pacific region. This is an advantage. CTI-CFF is very different from regional agencies. Pacific regional agencies are scientific agencies. CTI-CFF is more than technical, but it is also political cooperation, thus it is better placed to deliver outcomes on the ground.
- The Oceans agenda is where CTI-CFF could and should play a key role, issues like plastics is one area of potential future involvement. It is a telling statistic that 40% of the plastic in the Pacific Ocean comes from Asia. There is a very important potential role for CTI-CFF in addressing this specific issue. Drift nets coming from Indonesia is another example. CTI-CFF have a niche in working across boundaries. There does, however, needs to be strong and effective leadership, if CTI-CFF is to fulfill its potential.

- Having Asian as well as Pacific countries is an opportunity, particularly for bringing countries together on transboundary initiatives. Shared resources are threatened and need joint work to address the threats and challenges.
- Engaging donor partners is a potential area where CTI-CFF could work more on with Pacific countries, and with regional agencies, such as SPREP.
- It seems that CTI-CFF needs to improve their communication so the public is more aware of what they do. In the management of tuna resources, it is hard to see any value that they add, but that being said, there is much more that they can do. Ultimately PNG and Solomon Islands should collaborate with Indonesia and the Philippines to join the purse seine vessel day scheme. This would make the VDS a much more powerful instrument and add greater value.
- Added value – Pacific and Asian countries in CTI are responsible for the management of shared resources and CTI-CFF can and should play a role in their shared management.
- Added value – People to People Exchanges. Solomon Islands and PNG can learn from the environmental and cultural context of Asian countries. CTI-CFF could play an important role in facilitating “people to people” exchanges to share experience. People need to look, experience and learn.
- Added value – helping Pacific CTI-CFF countries address emerging and important issues, such as Deep-Sea Bed Mining and tourism, through the provision of targeted advice on issues, impacts, opportunities and solutions.
- Added value – bringing countries together to share information is a major added value. Has stimulated extra funding, through investment, through regional seascapes programme, plus marine planning at provincial level. PNG didn't have a marine programme before CTI. CTI-CFF stimulated extra action including on MPAs which in turn attracted other funding.
- Added value – having 3 large Asian countries at the same table with 3 smaller Pacific countries, potentially provides an opportunity for Pacific countries to access technical expertise and other resources (from the larger countries). With an organisation CTI-CFF is representing 400-500 million people, and thus lobbying at international fora, such as the UNFCCC, can be more effective.

(114) Question 5: On what areas would Pacific countries like to work with the CTI-CFF in the future?

- New Caledonia would be very happy to work with CTI-CFF: would like to know how it was developed, how it is managed. Would like to know their experience. PNG and SI are also part of Coral Sea. Good if PNG and SI can lead on this initiative.
- Coral reefs. Blue carbon, which Australia is interested in. Plastics, high on agenda. Issue of capacity is an issue to be addressed in many Pacific countries.
- CTI-CFF capacity is also an issue. SPREP offered to help CTI-CFF but this did not eventuate. CTI-CFF appears to be need attention to governance and institutional capacity building. However, there are significant opportunities in the region.

- Sustainable management of tuna, working with and through WCPFC; Acting more as a champion for Pacific countries in larger forums, such as WCPFP, in addressing key issues; Managing threatened and migratory species; Invasive Alien species; Promoting tourism management across Asia and Pacific countries in CTI-CFF; MPAs; Assisting shared Asia and Pacific views at forums like CITES and CMS; Collaborative approach to managing plastics including marine pollution. Lot of plastic in the Pacific is coming from Indonesia and other Asian countries; and Common approaches on DSM and ABNJ (High Seas).
- The first ever Deep-Sea Bed Mining in the world is anticipated to commence shortly in the Bismarck Sea in PNG. This is an important and emerging issue with significant long- and short-term implications. Could the CTI-CFF could play a role in addressing issues such as this, particularly through providing policy guidance on this issue.
- All CTI-CFF countries have national CTI Action Plans and thus CTI-CFF must focus on the priorities identified in these plans. This is the priority.
- Addressing coastal fisheries and impacts on coral reefs is very localized. There is not enough political will to strengthen the CTI-CFF in ways that will give it more authority. However, there is scope to do that with the management of tuna as suggested above.

(115) Question 6. Do you have any other comments regarding the CTI-CFF and its Regional Plan of Action?

- Not really. Bit confused with CTI-CFF and Coral Sea initiative. Not aware of Plan of Action.
- How really engaged are the 2 Melanesian countries with CTI-CFF? Not sure. They have to be involved. Need to identify and make the most of opportunities. Capacity and leadership is critical, CTI-CFF needs to take a leading role on key issues relevant to its mandate. CTI is working in a key area and many donors are interested. There are many opportunities.
- What is needed is an effective, well managed CTI-CFF secretariat with clear objectives.
- Regional RPOA is essential to give guidance. It must reflect what member countries see as the priorities.
- RPOA is too ambitious now, needs to be more realistic, needs to focus on national needs, particularly capacity building. Issues such as the transboundary management of resources are very important. There are many fisheries agencies in the Pacific, at regional and national levels, and the added value and niche of CTI-CFF needs to be better defined.

(116) Implications for the CTI-CFF and the RPOA from the interviews with opinion leaders include:

- The global importance of the Coral Sea for fisheries marine and coral biodiversity underlines the importance of the mandate and role of the CTI-CFF for the countries of the region. Support for sustainable fisheries management, protection of outstanding marine biodiversity, including coral reefs, and broader region wide conservation efforts in the Coral Sea should be a high priority of all CTI-CFF member governments.
- There appeared to be a low level of awareness of CTI-CFF amongst the persons interviewed. Admittedly this was a small sample and it would be interesting to see if this is borne out by the survey and in-depth interviews undertaken as part of the broader RPOA review. The

interviews would suggest that a targeted communication plan should be developed to better communicate the CTI-CFF and its activities within Pacific CTI-CFF countries.

- The ROPA is seen as a good and comprehensive document, the key question is what have been its results and outcomes in Member countries. Implementation is critical. This requires assessment by CTI-CFF Member countries. ROPA "belongs" to them and they must own the organisation and the Plan.
- There are many regional and national agencies in the Pacific region addressing similar issues to the CTI-CFF. It is thus of fundamental importance that the niche of the CTI-CFF be clearly identified and communicated.
- Persons interviewed indicated there are a number of areas where CTI-CFF could bring substantial added value to the Pacific region. These include: (i) transboundary management approaches to shared marine resources, between the Asia and the Pacific; (ii) development of collaborative projects between Asia and the Pacific; (iii) addressing issues and problems in the Pacific which originate in Asia, such as the management of marine plastic and drift nets coming into the region from Asia, including from Indonesia; (iv) encouraging focused capacity building, in particular through facilitating "people to people" exchanges between marine and ocean practitioners in the Pacific with their Asian counterparts; and (v) addressing key and emerging issues of particular relevance to the CTI-CFF region, such as Deep Sea Bed Mining.
- Being able to work across regions (Asia and Pacific) sets CTI-CFF apart from other agencies that are working solely in the Pacific region. This is an advantage such as the potential to act as an advocate for Pacific countries in broader Asia Pacific forums where the CTI-CFF has a "seat at the table", and also for Pacific CTI-CFF members to potentially access technical expertise and other resources in the larger CTI-CFF Asian members.
- Strong and effective governance of CTI-CFF is essential and this issue must be addressed. The CTI-CFF can have the "best" RPOA in the world but it will have no value if the Secretariat is strong, focused and effective. The ROPA review must thus be considered within the broader CTI-CFF institutional context. The current instability in the management of the Secretariat, following the departure of the former Executive Secretary needs to be quickly and effectively addressed.

## 5.0 MAIN IMPLICATIONS OF THIS REVIEW FOR THE CTI-CFF AND THE RPOA

(117) This section outlines implications from this report for the CTI-CFF and the Regional Plan of Action (RPOA) and are taken verbatim from sections of the above report. For ease of reference, these implications have been structured under the following headings: (i) Strategic Regional Focus and Context; (ii) CTI-CFF Niche and Governance; (iii) Management of Ocean and Marine Resources, including fish, and Marine Conservation, including MPAs; (iv) New Opportunities; and (v) Financing.

### Strategic Regional Focus and Context

- There is a strong and effective network of regional agencies in the Pacific working on ocean and marine issues. It is important that CTI-CFF clearly define its niche and role and work more effectively with Pacific regional agencies where there are areas of overlap or potential

cooperation. It is also important to coordinate approaches to “shared” donors where similar projects are being considered. CTI-CFF programmes in Pacific island countries should include a focus on capacity building of national level fisheries and environment agencies in these countries. Where possible, community-based initiatives in Pacific countries, particularly those that encourage and facilitate the community management of marine and ocean resources, should also be encouraged. [Paragraph 69](#)

- There are a number of well-developed frameworks to guide the management of ocean and marine resources in the Pacific Islands region, at international, regional and national levels. It is important that the CTI be aware of, and respect, these frameworks when working in the Pacific region and in individual Pacific island countries. [Paragraph 105](#)
- There are many regional and national agencies in the Pacific region addressing similar issues to the CTI-CFF. It is thus of fundamental importance that the niche of the CTI-CFF be clearly identified and communicated. [Paragraph 116](#)
- The global importance of the Coral Sea for fisheries marine and coral biodiversity underlines the importance of the mandate and role of the CTI-CFF for the countries of the region. Support for sustainable fisheries management, protection of outstanding marine biodiversity, including coral reefs, and broader region wide conservation efforts in the Coral Sea should be a high priority of all CTI-CFF member governments. [Paragraph 116](#)
- The ROPA is seen as a good and comprehensive document, the key question is what have been its results and outcomes in Member countries. Implementation is critical. This requires assessment by CTI-CFF Member countries. ROPA “belongs” to them and they must own the organisation and the Plan. [Paragraph 116](#)

### **CTI-CFF Niche and Governance**

- Persons interviewed indicated there are a number of areas where CTI-CFF could bring substantial added value to the Pacific region. These include: (i) transboundary management approaches to shared marine resources, between the Asia and the Pacific; (ii) development of collaborative projects between Asia and the Pacific; (iii) addressing issues and problems in the Pacific which originate in Asia, such as the management of marine plastic and drift nets coming into the region from Asia, including from Indonesia; (iv) encouraging focused capacity building, in particular through facilitating “people to people” exchanges between marine and ocean practitioners in the Pacific with their Asian counterparts; and (v) addressing key and emerging issues of particular relevance to the CTI-CFF region, such as Deep Sea Bed Mining. [Paragraph 116](#)
- Being able to work across regions (Asia and Pacific) sets CTI-CFF apart from other agencies that are working solely in the Pacific region. This is an advantage such as the potential to act as an advocate for Pacific countries in broader Asia Pacific forums where the CTI-CFF has a “seat at the table”, and also for Pacific CTI-CFF members to potentially access technical expertise and other resources in the larger CTI-CFF Asian members. [Paragraph 116](#)
- Strong and effective governance of CTI-CFF is essential and this issue must be addressed. The CTI-CFF can have the “best” RPOA in the world but it will have no value if the Secretariat is strong, focused and effective. The ROPA review must thus be considered within the broader CTI-CFF institutional context. The current instability in the management of the

Secretariat, following the departure of the former Executive Secretary needs to be quickly and effectively addressed. [Paragraph 116](#)

- There appeared to be a low level of awareness of CTI-CFF amongst the persons interviewed. Admittedly this was a small sample and it would be interesting to see if this is borne out by the survey and in-depth interviews undertaken as part of the broader RPOA review. The interviews would suggest that a targeted communication plan should be developed to better communicate the CTI-CFF and its activities within Pacific CTI-CFF countries. [Paragraph 116](#)

### ***Management of Ocean and Marine Resources, including fish, and Marine Conservation, including MPAs***

- Pacific regional approaches, such as Oceanscape, with their focus on marine resource conservation and development at larger scales, are of particular relevance to the CTI-CFF give the focus of the organisation on Seascapes and ecosystem approaches to fisheries. There are also important and significant lessons to be learnt by the CTI-CFF from the Pacific experience in the establishment and management of MPAs, these would be of direct relevance to the CTI Goal of “establishing a fully functioning and effectively managed region-wide Coral Triangle MPA System” (CTMPAS) and also relevant to the CTI-CFF Working Group on Seascapes. [Paragraph 12](#)
- Noting the significant increase in combined tuna catches by Indonesian and Philippines vessels in the Pacific and the shared membership of these countries in the CTI-CFF, along with Solomon Islands and PNG, it has been suggested that these countries could collaborate under the CTI-CFF umbrella in relation to sustainable fisheries management. It is noted that inclusion of Indonesia in the purse seine and tropical longline arrangements, and the Philippines in the former, enhanced the total allowable catch limits for both and placed most of the world’s skipjack under robust management. The potential involvement of Indonesia and the Philippines in the Purse Seine Vessel Day Scheme would make the VDS a more powerful instrument and add greater value on all sides. [Paragraph 19](#)
- Fisheries resources are under threat in Pacific countries in the CTI-CFF, including from Illegal, unregulated and unreported (IUU) fishing and the ROPA needs to address these issues and the root causes underlying them. These causes must address in an effective way, integrating responses to both natural and anthropogenic threats. CTI-CFF and ROPA responses should include institutional strengthening support for national governments, including building on existing initiatives, particularly those involving community management of coastal and marine resources in general, and MPAs in particular, in Pacific countries. Models of best practice need to be encouraged and more widely applied in Pacific countries in the CTI-CFF. [Paragraph 25](#)
- The establishment of well-designed and effective Marine Protected Areas (MPAs) which coincide with priority marine resources, including fish spawning grounds, as well as with coral reef distribution is a key tool for the management and conservation of marine resources as well as for eco-tourism. This is of relevance to the CTI-CFF given one of the CTI goals aims to establish a fully functional and effectively managed region-wide Coral Triangle MPA System (CTMPAS). There are also many innovative models for marine based ecotourism in the Pacific which may have wider application in the CTI-CFF region. There could be a role for the Secretariat in disseminating targeted information to CTI-CFF members. [Paragraph 65](#)

- There are a number of donor and NGO initiatives supporting sustainable fisheries management and coral reef conservation in Pacific countries in the CTI-CFF. It is noteworthy that SPREP Member Governments, including CTI-CFF Pacific countries, have declared 2018-2019 as the Pacific Year of the Coral Reef, and a range of activities are proposed. It is important that any future CTI-CFF and ROPA programmes and activities build on and support existing initiatives, such as these. [Paragraph 33](#)
- Noting that SPREP and CTI-CFF have signed a MoU, and also that both have active programmes on Marine Threatened Species, with CTI-CFF in particular having a Technical Working Group on this topic, it is suggested that cooperation on threatened marine species could be identified as a priority in any revision of the RPOA. Potential areas for cooperation could include marine species-based tourism, such as whale watching, measures to reduce by catch, and cooperation on the establishment of MPAs. The Year of the Whale campaign initiated by SPREP, and its associated activities, also provides an opportunity for cooperation between CTI-CFF and SPREP. Joint activities and cooperation could also link with other relevant agencies, for example with IWC and SPWRC on cetaceans, in the Pacific and CTI-CFF regions. [Paragraph 37](#)

### ***New Opportunities***

- Given the significance of the Deep-Sea Bed Mining for ocean and marine resources in PNG, the Asia-Pacific region, and globally, a question arises as to whether this is an issue that should be addressed by the CTI-CFF within any revision of the ROPA. Consultations with a number of key decision makers in the Pacific region, refer Section 4.2 of this report, indicate that DSM is an important emerging issue where targeted, policy relevant advice from the CTI-CFF would be appreciated. This is thus an important potential area for consideration in the review of the RPOA. [Paragraph 57](#)

### ***Financing***

- The Green Climate Fund provides an opportunity for funding CTI-CFF Member projects, particularly noting the focus of this global fund on SIDS and also direct access modalities for national and sub national organisations. Having a number of GCF Direct Access Entities approved in the Pacific region has positive implications for future GCF funding for Pacific CTI-CFF members. [Paragraph 81](#)
- The Global Environment Facility has been a major funder of ocean and marine projects in the Pacific region and its portfolio has included a number of projects in the Coral Sea which have direct relevance to the mandate of CTI-CFF and the RPOA. It is likely that the strong GEF commitment to ocean and marine conservation will continue and this provides an on-going source of potential funding for the CTI-CFF and its members in the areas of oceans and marine conservation. It is important for the CTI-CFF and ROPA to note that funding from GEF, and also GCF, for national level projects must be in line with national priorities and CTI-CFF thus has to work closely with national governments to ensure projects developed by CTI are in line with these priorities. CTI-CFF should consider cooperation with existing accredited Entities for GCF and GEF in the Pacific region. Of particular relevance is cooperation with SPREP given it is an Accredited Entity with GCF and also that it has an established MoU with the CTI-CFF. [Paragraph 85](#)

- The major donors of CTI-CFF are often the same as the donors for Pacific regional agencies, such as SPREP and SPC. The Government of Australia is preeminent amongst these donors. It thus makes sense to work closely with these agencies where ocean and marine activities are planned for the Coral Triangle. Given Australia is a major funder of CTI-CFF as well as SPREP and SPC, and the fact that they all have a major focus in the Coral Sea, it would appear logical for CTI-CFF to strengthen links with Pacific regional agencies and, where possible, develop joint programmes for funding. Targeted and joint approaches to donors, in particular Australia are recommended. [Paragraph 92](#)

## 6.0 CONCLUSIONS

(118) This report aimed to provide an up-to-date context analysis for ocean and marine resources in the Pacific region. Implications for the CTI-CFF have been highlighted throughout the report and it is hoped these will provide a useful input into the revision of the RPOA. The mandate of the CTI-CFF is critically important for the Pacific region but it is essential that CTI-CFF clearly define their niche and work in close and effective partnership with relevant Pacific agencies, particularly at regional and national levels.

## APPENDIX A1: REFERENCES AND WEBSITES

The following references and web sites were consulted in the preparation of this report:

- AAMP French Marine Protected Areas Agency <http://www.aires-marines.com/>
- Arafura Sea GEF Project <https://www.thegef.org/project/cti-arafura-and-timor-seas-ecosystem-action-programme-atsea-under-coral-triangle-initiative>
- Bell, J. D., J. E. Johnson and A. J. Hobday (eds.) (2011). Vulnerability of Tropical Pacific Fisheries and Aquaculture to Climate Change. Secretariat of the Pacific Community, Noumea, New Caledonia.
- BEST Programme (Voluntary Scheme for Biodiversity and Ecosystem Services in Territories of European Overseas Territories) [http://ec.europa.eu/environment/funding/pdf/best2012\\_en.pdf](http://ec.europa.eu/environment/funding/pdf/best2012_en.pdf)
- BIOPAMA  
[http://www.iucn.org/about/work/programmes/gpap\\_home/gpap\\_capacity2/gpap\\_biopama/](http://www.iucn.org/about/work/programmes/gpap_home/gpap_capacity2/gpap_biopama/)
- Bougainville Copper Mine <http://www.unpo.org/article.php?id=7503>
- Burke, L., K. Reynter, M. Spalding and A. Perry, 2011: Reefs at risk revisited.
- Clarke, Harley, Hoyle, Rice (2013) Population Trends in Pacific Oceanic Sharks and the Utility of Regulations on Shark Finning. SPC, New Caledonia
- Claus S, De Hauwere N, Vanhoorne B, Deckers P, Souza Dias F, Hernandez F and Mees J (2014) Marine Regions: Towards a global standard for georeferenced marine names and boundaries. Marine Geodesy 37(2): 99-125.
- Convention on Biological Diversity <https://www.cbd.int/>
- Convention on Biological Diversity, Article 6 <http://en.biodiversiteit.nl/verdrag-inzake-biologische-diversiteit-cbd/cbd-text/art6>
- Convention for International Trade in Endangered Species (CITES) <https://www.cites.org/>
- Convention on Migratory Species (CMS) <https://www.cms.int/>
- CTI-CFF Region Wide Early Action Plan for Climate Change Adaptation  
[http://www.coraltriangleinitiative.org/sites/default/files/resources/FINAL\\_CCA%20REAP\\_17Oct2011\\_lg\\_V6.pdf](http://www.coraltriangleinitiative.org/sites/default/files/resources/FINAL_CCA%20REAP_17Oct2011_lg_V6.pdf)
- CROP [https://en.wikipedia.org/wiki/Council\\_of\\_Regional\\_Organisations\\_in\\_the\\_Pacific](https://en.wikipedia.org/wiki/Council_of_Regional_Organisations_in_the_Pacific) Council of Regional Agencies of the Pacific
- Crown-of-Thorns Starfish (COTS) <https://www.livingoceansfoundation.org/science/crown-of-thorns-starfish/>
- Deep Sea Bed Mining (DSM) [https://en.wikipedia.org/wiki/Deep\\_sea\\_mining](https://en.wikipedia.org/wiki/Deep_sea_mining)
- Deep Sea Minerals in the Pacific Islands Region (SPC SOPAC 2016) <http://www.sopac.org/dsm>
- DevFish <http://www.spc.int/fame/en/projects/devfish2>
- Economic Impacts of Whale Watching Tourism in Pacific island countries (IFAW) <https://www.ifaw.org/nederland/node/10626>

European Development Fund (EDF) [https://en.wikipedia.org/wiki/European\\_Development\\_Fund](https://en.wikipedia.org/wiki/European_Development_Fund)

EPOG <http://www.environment.gov.au/marine/publications/enhancing-pacific-ocean-governance>  
Enhancing Pacific Ocean Governance

EU-PacTVET <http://sites.cardiff.ac.uk/events/view/eu-pactvet-project-support-for-capacity-building-on-climate-change-disaster-risk-management-and-sustainable-energy-in-the-pacific-region/>

European Union Evaluation of Cooperation with the Pacific Region 2006-2012  
[http://ec.europa.eu/europeaid/node/80199\\_en](http://ec.europa.eu/europeaid/node/80199_en)

FAD Fish Aggregating Devices

FAO Fisheries and Aquaculture Country Profile of PNG (2010) at  
<http://www.fao.org/fishery/facp/PNG/en>

FAO Fisheries and Aquaculture Country Profile of Solomon Islands (2010) at  
<http://www.fao.org/fishery/facp/SLB/en>

FFA – The Pacific Islands Forum Fisheries Agency  
[https://en.wikipedia.org/wiki/Pacific\\_Islands\\_Forum\\_Fisheries\\_Agency](https://en.wikipedia.org/wiki/Pacific_Islands_Forum_Fisheries_Agency)

Fish Aggregating Devices (FADs) [https://en.wikipedia.org/wiki/Fish\\_aggregating\\_device](https://en.wikipedia.org/wiki/Fish_aggregating_device)

FPO - Framework for the Pacific Oceanscape (FPO)  
<http://www.forumsec.org/pages.cfm/strategic-partnerships-coordination/pacific-oceanscape/pacific-oceanscape-framework.html>

FPR - Framework for Pacific Regionalism <http://www.adb.org/sites/default/files/linked-documents/pacific-rop-2015-2017-sd.pdf>

Framework for Resilient Development in the Pacific 2017 – 2030  
[https://www.pacificclimatechange.net/document/frdp\\_2016](https://www.pacificclimatechange.net/document/frdp_2016)

French Pacific Fund of the French Ministry of Foreign Affairs <http://www.ambafrance-nz.org/Pacific-Fund-Applications-for-2012>

Global Climate Change Alliance (EU GCCA)  
[http://eeas.europa.eu/delegations/fiji/projects/list\\_of\\_projects/269297\\_en.htm](http://eeas.europa.eu/delegations/fiji/projects/list_of_projects/269297_en.htm)

GCF - Green Climate Fund <https://www.greenclimate.fund/home>

GCF July 2018 Board Meeting <https://www.reuters.com/article/us-climatechange-gcf/green-climate-fund-meeting-disappointing-chief-quits-idUSKBN1JU2GR>

GCF Structured Dialogues: FSM July, 2018  
<https://www.greenclimate.fund/meetings/2018/pohnpei>

GEF - the Global Environment Facility (GEF) <https://www.thegef.org/gef/>

GEF Evaluation Report for SPREP and Vanuatu  
<https://www.thegef.org/gef/CPE%20Vanuatu%20and%20SPREP>

Gillett, R. (2014) Pacific Island Fisheries: Issues and Challenges. A Report Prepared for the ESCAP Pacific Office.

Govan, H (2009) Achieving the potential of locally managed marine areas in the South Pacific SPC Traditional Marine Resource Management and Knowledge Information Bulletin #25

GCF - Green Climate Fund <https://www.greenclimate.fund/home>

GIZ <https://www.giz.de/en/worldwide/363.html> (The Deutsche Gesellschaft für Internationale Zusammenarbeit)

Harley, S., Williams, P., Nicol, S. and Hampton, J. (2011) The Western and Central Pacific Tuna Fishery: 2011 Overview and Status of the Stocks. Tuna Fisheries Assessment Report No. 12. SPC, Noumea.

Humber, Godley<sup>2</sup> and Broderick (2014) So excellent a fish: a global overview of legal marine turtle fisheries Diversity and Distributions, (Diversity Distrib.) (2014) 20, 579–590

ICRI – Status of Coral Reefs in the Pacific and Outlook  
<https://www.icriforum.org/sites/default/files/Pacific-Coral-Reefs-2011.pdf>

International Whaling Commission (IWC) <https://iwc.int/status>

Investment Facility for the Pacific (IFP) [https://ec.europa.eu/europeaid/regions/pacific/investment-facility-pacific-ifp\\_en](https://ec.europa.eu/europeaid/regions/pacific/investment-facility-pacific-ifp_en)

IPCC Intergovernmental Panel on Climate Change (IPCC) 2014 Report  
<http://www.ipcc.ch/report/ar5/wg2/>

IUCN Red List of Threatened Species <http://www.iucnredlist.org/>

Tourism in PNG [https://en.wikipedia.org/wiki/Tourism\\_in\\_Papua\\_New\\_Guinea](https://en.wikipedia.org/wiki/Tourism_in_Papua_New_Guinea)

Turtles in the Pacific (WWF) [http://www.wwfpacific.org/what\\_we\\_do/species/turtles\\_cfm/](http://www.wwfpacific.org/what_we_do/species/turtles_cfm/)

IWC Assessment of Humpback Whales in Oceania <https://www.sprep.org/news/comprehensive-assessment-humpback-whales-oceania>

Japanese International Assistance Agency (JICA) <https://www.jica.go.jp/english/>

Lagoons of New Caledonia <http://whc.unesco.org/en/list/1115> (World Heritage Site in New Caledonia)

Locally Managed Marine Areas <http://lmmnetwork.org/>

Lonely Planet Solomon Islands <https://www.lonelyplanet.com/solomon-islands>

Lowy Institute Pacific Aid Map at <https://pacificaidmap.lowyinstitute.org/>

Lowy Institute Pacific Aid Map Summary of some of key findings  
<http://www.abc.net.au/news/2018-08-09/aid-to-pacific-island-nations/10082702>

Marine Resources Advisory Group (MRAG) Asia Pacific (2016) Towards the Quantification of Illegal, Unreported and Unregulated (IUU) Fishing in the Pacific Islands Region

Marine Spatial Planning (MSP) [https://en.wikipedia.org/wiki/Marine\\_Spatial\\_Planning](https://en.wikipedia.org/wiki/Marine_Spatial_Planning)

Micronesia Challenge: Sustainable Finance Systems for Island Protected Area Management Challenge <http://themicronesiachallenge.blogspot.ch/p/about.html>

Naviti, W and Aston, J (2000) Status of coral reef and reef fish resources - Regional Symposium on Coral Reefs in the Pacific: Status and Monitoring; Resources and Management 22 - 24 May 2000, Noumea, New Caledonia.

National Adaptation Plans of Action [http://unfccc.int/national\\_reports/napa/items/2719.php](http://unfccc.int/national_reports/napa/items/2719.php)

National Biodiversity Strategy and Action Plans (NBSAPs) <https://www.cbd.int/nbsap/>

National Sustainable Development Strategies (NSDSs) <https://sustainabledevelopment.un.org/index.php?menu=201>

Norway Deep Sea Mineral Deposits in the Norwegian Sea <https://ramumine.wordpress.com/tag/environmental-damage/>

PACIOCEA (Pacific Ocean Ecosystem Analysis) Project <https://sprep.org/biodiversity-ecosystems-management/french-polynesia-and-new-caledonia-to-enhance-ocean-management>

Pacific Climate Change Roundtable <https://sprep.org/pacific-climate-change-roundtable/pccrhomepage>

Pacific Climate Change Science Program (PCCSP) <https://www.pacificclimatechangescience.org/>

Pacific Oceanscape <https://www.conservation.org/where/Pages/pacific-oceanscape.aspx>

Pacific Islands Forum <https://www.forumsec.org/>

Pacific Islands Oceanic Fisheries Management Project <https://www.spc.int/OceanFish/en/major-projects/ofmp>

Pacific Islands Protected Area Portal (PIPAP) <http://pipap.sprep.org/>

Pacific Year of the Coral Reef (SPREP) <https://www.sprep.org/pacific-year-coral-reef-2018-2019>

Pacific Year of the Whale (SPREP) <https://www.sprep.org/yearofthewhale>

Palau National Marine Sanctuary: <https://www.pacificnote.com/single-post/2018/01/11/Pay-Extra-Cost-To-Enter-The-Pristine-Paradise>

Palau Ocean Initiatives <http://www.searoundus.org/nation-of-palau-protecting-80-percent-of-its-ocean-waters/>

PALM 6 (JICA) [https://www.mofa.go.jp/region/asia-paci/palm/palm6/pdfs/palm6\\_120515\\_FactSheet.pdf](https://www.mofa.go.jp/region/asia-paci/palm/palm6/pdfs/palm6_120515_FactSheet.pdf)

Paris Agreement on Climate Change [https://en.wikipedia.org/wiki/Paris\\_Agreement](https://en.wikipedia.org/wiki/Paris_Agreement)

Parties to the Nauru Agreement (PNA) [https://en.wikipedia.org/wiki/Parties\\_to\\_the\\_Nauru\\_Agreement](https://en.wikipedia.org/wiki/Parties_to_the_Nauru_Agreement)

Phoenix Island Protected Area in Kiribati [https://en.wikipedia.org/wiki/Phoenix\\_Islands\\_Protected\\_Area](https://en.wikipedia.org/wiki/Phoenix_Islands_Protected_Area)

PNG National Fisheries Authority Corporate Plan 2008-2018

PROP – the WB Pacific Islands Regional Oceanscape Program (PROP) Project <http://www.worldbank.org/projects/P151777?lang=en>

PROFISH <http://www.worldbank.org/en/topic/environment/brief/global-program-on-fisheries-profish>

Principles of Aid Effectiveness <http://www.oecd.org/dac/effectiveness/34428351.pdf>

PT Hatfield Indonesia [www.hatfieldgroup.com](http://www.hatfieldgroup.com)

Ra'ui traditional conservation practice in the Cook Islands <http://www.mmr.gov.ck/our-work/conservation-and-protection/raui-marine-protected-areas>

Regional Institutional Framework

[https://www.sprep.org/2008SM19/pdfs/eng/Officials/WP\\_10\\_3\\_Att\\_5\\_Regional%20Institutional%20Framework.pdf](https://www.sprep.org/2008SM19/pdfs/eng/Officials/WP_10_3_Att_5_Regional%20Institutional%20Framework.pdf)

Regional Roadmap for Sustainable Pacific Fisheries

[https://www.ffa.int/system/files/Roadmap\\_web\\_0.pdf](https://www.ffa.int/system/files/Roadmap_web_0.pdf)

Samoa PM address meeting [http://www.samoobserver.ws/en/07\\_09\\_2017/columns/24048/Let-us-recapture-the-essence-of-Our-Blue-Pacific.htm](http://www.samoobserver.ws/en/07_09_2017/columns/24048/Let-us-recapture-the-essence-of-Our-Blue-Pacific.htm) to the 2017 Pacific Islands Forum

Samoa Pathway (Global SIDS Action Platform) <http://www.sids2014.org/index.php?menu=1537>

SciCOFish <http://www.spc.int/fame/en/projects/scicofish/about-scicofish>

Solwara 1 Project <http://www.cares.nautilusminerals.com/irm/content/solwara-1-project.aspx?RID=339>

Solwara 1 DSM Project Legal Challenge <http://www.deepseaminingoutofourdepth.org/legal-action-launched-over-nautilus-solwara-1/>

SPBCP

<http://www.reefbase.org/gefill/pdf/South%20Pacific%20Biodiversity%20Conservation%20Program.pdf> South Pacific Biodiversity Conservation Programme

SPC - The Pacific Community [https://en.wikipedia.org/wiki/Secretariat\\_of\\_the\\_Pacific\\_Community](https://en.wikipedia.org/wiki/Secretariat_of_the_Pacific_Community)

SPREP <https://www.sprep.org/>

SPREP 2018 Regional Shark and Ray Action Plan 2018-2022

South Pacific Tourism Organization <https://southpacificislands.travel/>

SPWRC South Pacific Whale Research Consortium <https://pipap.sprep.org/content/south-pacific-whale-research-consortium>

Status of Whales and Dolphins in the Pacific Region NZ DOC

<https://www.doc.govt.nz/Documents/conservation/native-animals/marine-mammals/whales-in-the-south-pacific.pdf>

Strengthening Coastal and Marine Resources Management in the Coral Triangle of the Pacific

<https://www.thegef.org/project/pas-strengthening-coastal-and-marine-resources-management-coral-triangle-pacific-under>

Sustainable Development Goals <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

Sustainable Oceans Initiative <https://www.cbd.int/marine/doc/soi-brochure-2012-en.pdf>

Sustainable Ocean Initiative (SOI) – Action Plan for the Sustainable Ocean Initiative (2015-2020)

[https://www.icriforum.org/sites/default/files/GM29\\_4\\_2\\_2\\_SOI.pdf](https://www.icriforum.org/sites/default/files/GM29_4_2_2_SOI.pdf)

The Micronesia Challenge <http://themicronesiachallenge.blogspot.ch/p/about.html>

Threat to Turtle Populations in the Pacific [http://blueventures.org/wp-content/uploads/2014/12/Humber\\_et\\_al.\\_2014\\_-\\_turtle\\_fishing.pdf](http://blueventures.org/wp-content/uploads/2014/12/Humber_et_al._2014_-_turtle_fishing.pdf)

Torres Strait Regional Authority <http://www.tsra.gov.au/>

Tourism in the Pacific Islands (WWF) <http://wwf.panda.org/?274336/Why-the-Pacific-Islands-could-be-the-next-hot-tourism-destination>

UN Pacific Strategy, 2018 <https://reliefweb.int/report/world/united-nations-pacific-strategy-2018-2022-multi-country-sustainable-development>

UN World Tourism Organisation (UNWTO) <http://www2.unwto.org/>

United Nations Development Assistance Framework (UNDAF) for the Pacific Sub-Region [http://www.pacific.one.un.org/index.php?option=com\\_content&task=view&id=149&Itemid=207](http://www.pacific.one.un.org/index.php?option=com_content&task=view&id=149&Itemid=207)

UN Pacific Strategy (UNPS) <https://reliefweb.int/report/world/united-nations-pacific-strategy-2018-2022-multi-country-sustainable-development>

UNESCO World Heritage List <http://whc.unesco.org/en/list>

UNFCCC <http://newsroom.unfccc.int/>

University of the South Pacific (USP) <http://www.usp.ac.fj/>

Vessel Day Scheme (VDS) <https://www.pnatuna.com/vds>

WCPFC Scientific Committee Report, (2018)

Wallace, DiMatteo, Lee, Crowder and Lewison (2013) Impacts of fisheries bycatch on marine turtle populations worldwide: toward conservation and research priorities. Ecological Society of America.

WCPFC [https://en.wikipedia.org/wiki/Western\\_and\\_Central\\_Pacific\\_Fisheries\\_Commission](https://en.wikipedia.org/wiki/Western_and_Central_Pacific_Fisheries_Commission)  
Western and Central Pacific Fisheries Commission

World Bank Pacific Islands Fisheries Sector Engagement Strategy (2012)

World Bank (2016) Precautionary Management of Deep-Sea Minerals, Pacific Possible Series <https://www.worldbank.org/en/who-we-are/news/campaigns/2017/pacificpossible>

World Bank (2016) Financing Pacific Governments for Pacific Development, Pacific Possible Series <https://www.worldbank.org/en/who-we-are/news/campaigns/2017/pacificpossible>

World Bank (2016) Tuna Fisheries, Pacific Possible Series <https://www.worldbank.org/en/who-we-are/news/campaigns/2017/pacificpossible>

World Bank (2016) Tourism, Pacific Possible Series <https://www.worldbank.org/en/who-we-are/news/campaigns/2017/pacificpossible>

World Database on Protected Areas (WDPA) 2014 [www.protectedplanet.net](http://www.protectedplanet.net)

Wilkinson et al (2016) - Chapter 43. Tropical and Sub-Tropical Coral Reefs in the UN First Global Integrated Marine Assessment, also known as the 'First World Ocean Assessment. 2016

Williams, P. and Terawasi, P. (2015) Overview of Tuna Fisheries in the Western and Central Pacific Ocean, Economic Conditions: 2014. WCPFC-S3.11-2014/GN WP-1; Rev 1 (28 July 2015). Paper prepared for the Eleventh Regular Session of the Scientific Committee; WCPFC, Pohnpei.

[http://wwf.panda.org/knowledge\\_hub/where\\_we\\_work/coraltriangle/publications/?260690/Developing-and-Promoting-Sustainable-Nature-based-Tourism-in-the-Coral-Triangle](http://wwf.panda.org/knowledge_hub/where_we_work/coraltriangle/publications/?260690/Developing-and-Promoting-Sustainable-Nature-based-Tourism-in-the-Coral-Triangle)

