

# **Towards a Protected Areas Classification System for the Cook Islands: Policy Paper**

**Prepared for Cook Islands National Environment Service  
and Ridge to Reef Project**

**Keith Twyford**  
Chief Technical Adviser, Ridge to Reef  
[Keith.twyford@gmail.com](mailto:Keith.twyford@gmail.com)

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Contact:

Email: [keith.twyford@gmail.com](mailto:keith.twyford@gmail.com)

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## Acronyms and abbreviations

CBD	Convention for Biological Diversity
CCA	Community Conserved Area
CIMP	Cook Islands Marine Park
EBSA	Ecologically or Biologically Significant Marine Area
GBRMP	Great Barrier Reef Marine Park
IMSP	Inshore Marine Spatial Plan
IUCN	International Union for Conservation of Nature
KBA	Key Biodiversity Area
LMMA	Locally Managed Marine Area
Marae Moana	Cook Islands Maori term for the Cook Islands marine estate; means 'Our nourishing source of life; respected, cared for and used wisely, today and for generations to come'.
MMA	Marine Managed Area
MPA	Marine protected area
MSP	Marine spatial plan
NBSAP	National Biodiversity Strategy and Action Plan
NEP	National Environment Policy
NGO	Non-government Organisation
nm	nautical miles
NSDP	National Sustainable Development Plan
OECM	Other Effective Area-Based Conservation Measures
OMSP	Offshore Marine Spatial Plan
PACS	Protected Areas Classification System
PAMP	Protected Areas Management Policy
R2R	Ridge to Reef
SDG	Sustainable Development Goals
SRF	Sustainable Results Framework
UNDP	United Nations Development Program
WCC	World Conservation Congress
WCPA	World Commission on Protected Areas
WDPA	World Database on Protected Areas
WD-OECM	World Database on OECMs

## Glossary of terms

**Community Conserved Area (CCA):** Natural and modified ecosystems containing significant biodiversity, ecological services and cultural values, voluntarily conserved by indigenous peoples and local and mobile communities through customary laws or other effective means. They can include ecosystems with minimum to substantial human influence, as well as cases of continuation, revival or modification of traditional practices or new initiatives taken up by communities in the face of new threats or opportunities (Borrini et al. 2004; Dudley 2008).

**Locally Managed Marine Area (LMMA):** An area of nearshore waters and its associated coastal and marine resources that is largely or wholly managed at a local level by the coastal communities, landowning groups, partner organizations, and/or collaborative government representatives who reside or are based in the immediate area<sup>1</sup>.

**Marine Managed Area (MMA):** An area of marine, estuarine, and adjacent terrestrial areas designated using federal, state, territorial, tribal, or local laws or regulations intended to protect, conserve, or otherwise manage a variety of resources and uses (Govan 2009).

**Marine Protected Area (MPA):** A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (Dudley 2008).

**Other Effective Area-Based Conservation Measures (OECMs):** A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values (IUCN WCPA 2019).

**Protected area:** A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (Dudley 2008).

**Ra'ui:** A restriction on certain activities in a certain area for a certain time and purpose as determined by a traditional leader or leaders of a village area<sup>2</sup>.

**Ra'ui mutukore (motukore):** The traditional custom of imposing permanent (everlasting) restrictions on the use of the resources of any land, reef, or lagoon.

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<sup>1</sup> <http://lmanetwork.org/>

<sup>2</sup> Environment (Takuvaive Water Catchment Management Plan) Regulations 2006

## Executive summary

### Overview

Although the Cook Islands has made good progress in establishing protected areas, the country currently lacks a classification system for its existing protected areas and any that might be added in the future. This policy paper finds that the range of words and phrases currently in use to define protected areas and other areas is diverse and confusing. Terms are poorly and partly defined, or not at all; there is considerable debate about what is and what isn't a protected area. None of the Acts that govern protected areas in the Cook Islands gives definitions and in places the legislation adds to the confusion.

Without agreement on this basic terminology and classification, it is very difficult to proceed with substantive and necessary discussions and decisions – such as government policy for a protected area system, marine spatial planning, legal designation of ra'ui, development of island by-laws, regulations, management plans, and so forth.

This policy paper addresses the need for a **national protected areas classification system (PACS)**. It aims to:

- Provide a glossary of definitions and terminology and a robust system for consistent classification and designation of current and future areas.
- Bring together all existing lists of protected and other areas into a consolidated inventory and database.
- Apply the classification system to all Cook Islands areas and assign each area to the most appropriate category (national park, conservation area, ra'ui, nature reserve, and so forth).
- Collate and manage Cook Islands protected areas information so it can be directly uploaded onto the World Database on Protected Areas (WDPA).

A simple and easily understood classification system is expected to have many benefits. The PACS will ensure Cook Island stakeholders are 'speaking a common language' when dealing with protected areas and other natural areas. Standardised definitions and typology can be incorporated into protected areas legislation, policy and plans. It will assist the tourism sector in better communicating and promoting protected areas to visitors and international markets. A PACS will also allow for accurate and consistent recording of data and greatly improve the capacity of the Cook Islands to report against targets in national plans and global agreements.

The paper addresses major issues as follows:

- Definitions
- Classification system
- Marae Moana and Marine Protected Area designation
- Inventory and classification of existing areas
- National and global reporting.

### Definitions

This paper proposes that there are two main types of areas managed for conservation in the Cook Islands.

The first are **protected areas** (which includes marine protected areas – MPAs). There are many formal definitions of protected areas, but the most broadly used is that of the IUCN:

*'A protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values'.*

Protected areas can be terrestrial (land, rivers, lakes, caves) and marine. The term embraces a wide range and spectrum of different management approaches ranging from strict protection (no access or 'no take') to multiple use where fishing, hunting and other food production may be permitted.

The second are **managed areas**. These would be places that do not meet the definition for a protected area yet play an important role in customary resource stewardship and management, and local or national biodiversity conservation. The term 'Managed Areas' can be applied to areas designated for any purpose, where positive biodiversity conservation outcomes occur regardless of the management objectives.

This paper gives particular emphasis to **ra'ui** (tabu, tapu or taboo area), a traditional form of resource management that is of great significance and widely used in the Cook Islands. Ra'ui and ra'ui mutukore are a central part of the Cook Islands system of biodiversity conservation and resource management. This PACS recognises the unique context of the Cook Islands especially its customary land tenure, traditional resource management approaches, and the widespread use of ra'ui.

### Classification system

This PACS presents a recommended classification system and typology for Protected Areas and Managed Areas. For each area type there is an objective, designation approach and current Cook Islands examples (if any). For protected areas, IUCN management category and governance type are identified.

There are three types of **terrestrial protected areas**, each with specific objectives:

- Ra'ui mutukore: Permanent protection and long-term conservation of one or more species, natural values, and/or habitats.
- Nature Reserve: Natural or near natural land area set aside to protect and conserve biodiversity and where applicable, heritage, cultural and spiritual values. Where consistent with the primary objective above, provide for ecologically sustainable use of the natural resources of the reserve.
- National Park: Large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area. National parks provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor use opportunities.

There are two types of **marine protected areas (MPAs)**, each with specific objectives:

- Ra'ui mutukore: Permanent protection and long-term conservation of one or more species, natural values and/or habitats.
- Marae Moana zones (objectives as per the Marae Moana Act): specific zones that meet the MPA definition<sup>3</sup> are:
  - Marine Conservation Zone
  - National Marine Park Zone
  - Preservation Zone.

There are five types of **'Managed Areas'**:

- Land-based Ra'ui: Temporary protection of one or more species and/or habitat/s to allow for local population recovery and sustainable resource use.
- Conservation Area: Protection and conservation of one or more significant species, natural values, habitats, and/or ecosystems.
- Marae Moana zones (objectives as per the Marae Moana Act): non-MPA zones:
  - Seabed Mining Zone
  - General Use Zone
- Marine Ra'ui: Temporary protection of one or more species and/or habitat/s to allow for local population recovery and sustainable resource use.
- Other land areas: Variable objectives.

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<sup>3</sup> Changes to the Marae Moana zoning scheme are proposed in the Marae Moana Marine Spatial Planning Policy Paper (Twyford 2021).

An important part of the classification system is a convention for naming of existing and future protected areas, Marae Moana zones and managed areas. This convention aims to avoid the proliferation of names that exist for individual areas at present and the resulting confusion.

Through the naming convention it is proposed that Marae Moana is also known by the name of Marae Moana (Cook Islands Marine Park). There are significant benefits that can be accrued from use of this badging. These include: improved communication, marketing and understanding of the status and purpose of Marae Moana; enhanced regional and global reputation; improved local awareness and understanding; and ease of reporting against global conventions and treaties.

### **Marae Moana and Marine Protected Area designation**

An important issue addressed by PACS is whether Marae Moana can be classified as a Marine Protected Area (MPA). When assessed against global definitions, standards and precedence, and recognition by international organisations, it is clear that Marae Moana is in part a marine protected area: those areas where deep sea mining and large-scale commercial (industrial) fishing are excluded meet the global MPA definition. The analysis in this paper makes it clear that Marae Moana as a whole does not meet the global definition of a MPA.

However within the broader Marae Moana, there is already a system of large marine conservation zones that exist around all islands (from the coastline to 50 nautical miles) where mining and large-scale commercial fishing are prohibited. These areas are themselves MPAs. Furthermore, the marine spatial planning (MSP) process that is currently underway will result in zones (additional MPAs) being applied throughout the Marae Moana.

### **Inventory and classification of existing areas**

This policy paper brings together existing lists of protected and other areas into a consolidated inventory and database. Based on application of the classification system to the national inventory, currently there are 10 protected areas in the Cook Islands:

- Suvarrow National Park (160 ha)
- Takutea Nature Reserve (120 ha)
- the Marae Moana Marine Conservation Zones (designated as MPAs in legislation) surrounding each island that collectively form eight contiguous MPAs (309,136 km<sup>2</sup>).

A further seven areas require further investigation: Moko'ero Nui (Atiu), Tikioki Ra'ui mutukore (Rarotonga); Oótu Ra'ui mutukore (Aitutaki), and four motu at Pukapuka.

There are 89 'Managed Areas' that include:

- those parts of the Marae Moana that are not a MPA (1,660,647 km<sup>2</sup>)
- island and marine ra'ui
- Takitumu Conservation Area (155 ha)
- Takuvaine Water Catchment Management Area (229 ha)
- others.

Although these 'Managed Areas' do not meet the global definition of a protected area, they still play a very important role in local or national biodiversity conservation and are an enduring example of customary resource conservation and management and Cook Islands culture.

### **National and global reporting**

An aim of the PACS is to develop a database framework to record information about protected and other areas (current and future) and enter data for existing areas; this database would meet needs for national planning, analysis and recording, and for global reporting.

Application of this PACS demonstrates that the Cook Islands has in place an extensive network of protected areas and managed areas, all of which contribute to biodiversity conservation, resource management and livelihoods. This information means that the Cook Islands, for the first time, can accurately report against targets as set in national plans and global conventions.

For the 10 areas that meet the definition and classification of protected areas the information is collated into the format required for the World Database on Protected Areas (WDPA); information from this database can now be used to report against national plans and global conventions (Convention for Biological Diversity – CBD; Sustainable Development Goals - SDGs).

Under the CBD it can be anticipated that the Cook Islands will be required to report against Other Effective Area-Based Conservation Measures (OECMs). The PACS accommodates this requirement and proposes that 'Managed Areas' are assessed against the global OECM criteria; those that meet the definition could then be included on the WD-OECM.

## Recommendations

The recommendations made throughout this policy paper are listed below:

- Recommendation #1: Cook Islands adopts the IUCN definition for a protected area and marine protected area as follows:  
*'A protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values' (Section 3.1).*
- Recommendation #2: Cook Islands has a category of *Managed Areas*; these would be places that do not meet the IUCN definition for a protected area yet play an important role in customary resource stewardship and management, and local or national biodiversity conservation (Section 3.2).
- Recommendation #3: A national definition of ra'ui is adopted as follows:  
*Ra'ui is the traditional custom of imposing a restriction on certain activities in a certain area for a certain time and purpose as determined by a traditional leader or leaders of a village area (Section 3.4).*
- Recommendation #4: A national definition of ra'ui mutukore is adopted as follows:  
*Ra'ui mutukore (mutukore) is the traditional custom of imposing permanent (everlasting) restrictions on the use of the resources of any land, reef, or lagoon (Section 3.4).*
- Recommendation #5: The classification system for terrestrial and marine protected areas as described in the PACS is approved (Section 4.2).
- Recommendation #6: The classification system for 'Managed Areas' as described in the PACS is approved (Section 4.3).
- Recommendation #7: Protected areas and managed areas are named in a consistent and standardised way using the naming convention outlined in PACS as follows: local geographic name followed by the area type, followed with the island name (if needed) (Section 4.4.1).
- Recommendation #8: Marae Moana zones are named in a consistent and standardised way using the naming convention outlined in PACS (Section 4.4.2).
- Recommendation #9: Because national legislation and policy allows for large-scale industrial activities, namely seabed mining and commercial fishing, Marae Moana should not be branded as, referred to, or reported as being a MPA (Section 5.1 and 5.2).
- Recommendation 10: It is noted that a system of MPAs – around each of the 15 islands - already exists within the broader Marae Moana, and that this network of MPAs is expected to be added to once the full zoning scheme is applied through the marine spatial planning (MSP) process (Section 5.3).
- Recommendation #11: Marae Moana is formally named, and branded as, Marae Moana (Cook Islands Marine Park); this will allow for enhanced communication, marketing and understanding of the status and purpose of the area (Section 5.5).

- Recommendation #12: A study is commissioned that aims to validate and update the inventory of protected areas and managed areas in Annex 5 with emphasis upon:
  - Verification that ra'ui and ra'ui mutukore are still in existence.
  - Production of GIS maps and area statements of all areas.
  - Confirmation of year of establishment of all areas (Section 6).
- Recommendation #13: The 10 areas that meet the definition and classification of protected areas are adopted and form the basis of Cook Islands' reporting obligations against national plans and global conventions (CBD, SDGs) (Section 7.1).
- Recommendation #14: The legal status of Suvarrow National Park (terrestrial parts) is resolved. Regazettal and designation as a national park under the Environment Act 2003, once amended to reflect this PACS and the PAMP (under development), is probably the most effective means of achieving this outcome (Section 7.1).
- Recommendation #15: The legal status of the marine area surrounding Suvarrow Island (dual designations under Marae Moana Act 2017 and former Conservation Act 1975) is assessed and addressed. The high levels of protection attained through national park designation of the territorial sea should be maintained if possible (Section 7.1).
- Recommendation #16: The legal status of the marine area surrounding Takutea Island (dual designations under Marae Moana Act 2017 and Environment (Atiu and Takutea) Regulations 2008) is assessed and addressed. The high levels of protection attained through the Environment Regulations 2008 (effectively "no take" to 5nm or potentially 12nm) should be maintained if possible (Section 7.1).
- Recommendation #17: the seven areas of uncertain classification status – Moko'ero Nui (Atiu), Tikioki ra'ui mutukore (Rarotonga); Oótu ra'ui mutukore (Aitutaki), and four motu at Pukapuka – are further investigated to ascertain if they meet the protected areas definition (Section 7.2).
- Recommendation #18: The areas that do not meet the definition and classification of protected areas as identified in Annex 5 are categorised as 'Managed Areas' (Section 7.3).
- Recommendation #19: Updated information for the Cook Islands protected areas (as per Annex 6) is entered onto the WDPA (Section 7.4).
- Recommendation #20: Cook Islands managed areas are assessed and OECEMs are identified and entered onto the WD-OECM, and be used to report against the Cook Islands' global obligations under the CBD and SDGs (Section 7.5).

## 1. Introduction

### 1.1 Context

The Cook Islands has made good progress in establishing protected areas as part of their national commitment under the Convention for Biological Diversity (CBD) (SPREP 2018). A large number and many different types of areas have been established for biodiversity conservation and resource management purposes. Traditional leaders, island councils, communities and government have all contributed to the establishment and management of these areas (Passfield & Rongo 2011).

However, the country currently lacks a classification system for its existing protected areas and any that might be added in the future. Previous government reports have specifically identified and alluded to the problems caused by and implications of not having a standardised classification system. Identified issues include inaccuracies, omissions and repetitions in existing databases; lack of conclusive information about how many areas exist; and lack of systematic data (Saul & Tiraa 2004; Passfield & Rongo 2011).

Furthermore, it is evident from previous reports that the absence of a system with standardised categories and definitions for protected areas and other areas has impeded effective analysis and reporting. The indicator report for the National Sustainable Development Plan (NSDP) (OPM 2019) and Cook Islands State of Environment Report (SPREP 2018) are examples where the lack of a national classification system has clearly made it very difficult to report with accuracy and certainty against global and national performance indicators and targets.

The need for a national classification system for the Cook Islands was identified in the design document for the Ridge to Reef Project (R2R) that was prepared in partnership with the Cook Islands Government (UNDP 2015). The R2R Sustainable Results Framework (SRF) has an indicator and target that specifically covers a classification system as follows:

SRF #	Description of Indicator	End of project target level
6	Updated and consolidated legal framework for management of the Cook Islands Marine Park (CIMP) and all other protected areas in the country	Review of legislative framework for protected areas and development of a Protected and Managed Areas Policy, <b><i>national protected areas classification system developed through policy.</i></b>
7	Consolidated management authority for protected areas in the Cook Islands	Legislative review and policy identifies appropriate mechanisms for coordination and management of protected areas by end of project.

This policy paper addresses the need for a national protected areas classification system (PACS) as specified in the R2R design and results framework and applies the classification system to all Cook Islands' areas. The other aspects - legislative review and assessment of mechanisms for coordination and management of protected areas – are being addressed through a separate but closely related initiative, the Protected Areas Management Policy (PAMP) that is currently under development.

### 1.2 Aims and benefits

This policy paper aims to:

- Develop a proposed national protected areas classification system (PACS) for discussion and input by stakeholders and policy makers.
- Outline the benefits and rationale for this system to Cook Islands stakeholders and policy decision makers.
- Bring together all existing lists of protected and other areas into a consolidated inventory and database.

- Apply the classification system to all Cook Islands areas and assign each area to the most appropriate category (national park, conservation area, ra'ui, nature reserve, and so forth).
- Develop a database framework to record information about protected and other areas (current and future), and enter data for existing areas. This database will meet needs for national planning, analysis and recording, and for global reporting, including to the World Database on Protected Areas (WDPA).
- Provide the foundation for final decisions about PACS and inclusion in the Cook Islands Protected Areas Management Policy (PAMP) for approval by government.

Benefits that are expected from this policy paper are as follows:

- A robust system for classification and designation of protected and other areas (existing and future), which is agreed by key stakeholders, and approved by the Cook Islands Government.
- A glossary of consistent definitions for protected and other areas including an agreed definition of what is and what isn't a protected area.
- A simple and easily understood classification system and consistent terminology will also assist the tourism sector in better communicating and promoting protected areas to visitors and international markets. The protected area 'badge' and brand is widely understood by tourists and visitors. Increasingly, international tourists seek out well managed natural areas as places to visit and recreate. Correct use of the protected areas label would align well with the Cook Islands destination marketing strategy that aims to position the country as a global 'green' leader in environmental sustainability.
- A consolidated inventory and assignment of all areas against a protected area category or managed area category.
- Standardised protected areas definitions and typology that can be incorporated into the Cook Islands PAMP, revised Environment Act<sup>4</sup>, other legislation, and other policy documents (such as the NSDP).
- All Cook Island stakeholders are 'speaking a common language' when dealing with protected areas and other natural areas.
- Enhanced understanding and less confusion about protected areas terminology.
- Accurate and up-to-date data for all Cook Islands protected areas is loaded onto the WDPA.
- Enhanced information regarding protected areas that can be used to report against targets as set in national plans (eg. NSDP, National Biodiversity Strategy and Action Plan – NBSAP, State of Environment Report) and to meet country reporting obligations for Sustainable Development Goals (SDGs), Convention on Biological Diversity (CBD) and other relevant Conventions.

### 1.3 Scope – what's in and what's out

This PACS concentrates on the introduction of consistent language and terms and the formation of an appropriate national classification system for protected and other areas. It establishes a comprehensive inventory of existing areas and assigns each area to one of the different types in the system.

There are a few things that this policy paper does not do. It:

- Does not propose where new protected areas, ra'ui or other areas should be established; that is a matter for others - national government, island leaders and traditional landowners.

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<sup>4</sup> A Cook Islands National Environment Policy (NEP) is currently under development and is expected to result in substantial changes to the Environment Act 2003.

- Does not set national targets (areas or percentages) for the extent of protected areas; that is a policy matter for national government as part of national policy and planning processes (primarily the NSDP) and global treaty negotiations, namely the CBD.
- Does not propose a process for establishment, designation and ongoing management of protected areas: that is the mandate of the PAMP (currently under development and closely related to this PACS) and government policy and legislation.

## 1.4 Structure of this document

This policy paper is structured as follows:

**Section 1 Introduction:** national and global context to the PACS, and identification of policy aims, expected outcomes and scope.

**Section 2 Current situation:** an overview of the current situation, problem definition, and previous classification systems.

**Section 3 Definitions:** description of the key definitions proposed to be used in the PACS, consideration of ra'ui, and governance types.

**Section 4 Proposed classification system:** general principles that were applied in development of the system, classification system for protected areas and other areas, and a naming convention for areas. This section also demonstrates how the Cook Islands PACS would interact with other systems and terminologies.

**Section 5 Marae Moana and Marine Protected Area designation:** analysis and opinion about whether or not Marae Moana (Cook Islands Marine Park) and zones therein are marine protected areas.

**Section 6 Inventory:** provides a consolidated inventory of protected areas and managed areas (terrestrial and marine) for the Cook Islands.

**Section 7 Classification and designation of existing areas:** designation of each area using the classification system and naming convention; results are summarised. This section also sets up the framework for global reporting to the WDPA and WD-OECM.

Throughout the paper, boxes are used to highlight policy issues and proposals of particular importance.

**Recommendations are made in bold, highlighted text.**

## 2. Current situation

### 2.1 Problem statement

The lack of appropriate classification systems for protected areas has been identified as an important issue at global levels and in other Pacific Island countries, such as Papua New Guinea and Fiji (eg. Independent State of PNG 2014; Government of Fiji 2016).

The Cook Islands is no different. The range of words and phrases used to define protected areas and other areas is diverse and confusing. Terms are poorly and partly defined, or not at all. There is a growing need for a clear and simple 'dictionary' of terms and agreed definitions. None of the Acts that govern protected areas in the Cook Islands gives definitions and in places the legislation adds to the confusion.

For instance:

- Section 41 of the *Environment Act 2003* provides for designation of protected areas yet there is no definition of this term. Annex 1 includes extracts from the Act to demonstrate this.
- Furthermore, Regulations under the Act<sup>5</sup> actually designate 'protected areas' in a schedule to the Regulations and typically in Cook Islands Maori language (see Annex 1). However there is no definition of what 'protected areas' actually means in this context nor the objective of such areas. Analysis has determined that areas included in the 'protected areas' schedules are a diverse range of sites of local significance including *maraes* (or *patupaepae*) (stone structure or enclosure once built for religious and/or social activities and tribal meetings), *ana* (caves), *vai roto* (lakes), *ana e vai to roto* (freshwater caves), wetlands, graves, sacred places, and particular plant or animal species.

Consultation with local officials has confirmed that the apparent intention of these schedules is to identify specific features and sites that are to be protected from development and/or damage; in this sense they can be considered to be sites that are to be given special attention in island planning and development approvals.

- Sections 24-26 of the draft Marine Resources Bill 2017 has proposed arrangements for declaration, management and degazettal of marine reserves and parks yet has no definitions of 'marine reserves' or 'marine parks'. This Bill is currently being reviewed.
- Similarly, the *Marae Moana Act 2017* actually establishes 'marine protected areas' around each of the Cook Islands (Section 24) however these are not defined (although a purpose is provided).

The literature regarding protected areas in the Cook Islands was reviewed as part of the development of this policy paper. This review found that an extensive array of terms and designations are in use (Table 1).

This table is not intended to be an exhaustive list of words and terms used by various authors to describe protected and other areas. Instead, it aims to demonstrate the diversity of terms in use, the lack of consistency and standardisation, and the opportunity and imperative that exists to address this situation.

The wide variety of terms in use causes significant confusion and misunderstandings among all of us with interests in protected areas and resource management: government, island communities, tourism operators, NGOs, and other stakeholders. In the opinion of the author, the lack of a clear classification system is one factor that has likely contributed to relatively slow progress in designation of protected areas in the Cook Islands over the past decade and more.

Furthermore, without agreement on this basic terminology and classification system, it is very difficult to proceed with substantive and necessary discussions and decisions – such as government policy for a protected area system, marine spatial planning, legal designation of *ra'ui*, development of island by-laws, regulations, management plans, and so forth.

A simple and easily understood classification system will also assist the tourism sector in better communicating and promoting protected areas to visitors and international markets.

Put simply: if we aren't all speaking a common language, confusion reigns, misunderstanding persists, and important changes cannot occur.

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<sup>5</sup> Environment Regulations are in place for Atiu and Takutea, and Mitiaro islands; draft regulations have been developed for Aitutaki and Manuae Islands.

Table 1. Terms and designations in use to describe protected areas

Names used	Reference source						
	Huber & McGregor 2002	UNDP 2015	Tiraa 2006	Saul & Tiraa 2004	McCormack 2002	Butler 2017	Other (note 1)
Marine Reserve	x	x		x			
Trochus Sanctuary	x						
Ra'ui	x	x	x	x		x	
Ra'ui Mutukore			x	x		x	
MPA	x						
National Park	x	x		x	x	x	
Nature Conserved Area		x					
Nature Reserve		x		x			
Forest Reserve		x					
Recreation Reserve		x					
Community Managed Area		x					
Community Conservation Area							x
Locally Managed Marine Area							x
Locally Managed Area		x					x
Marine Managed Area							x
Marine Conserved Area		x					
Wildlife Sanctuary		x		x	x	x	
Marine & Terrestrial Reserve		x					
Conservation Area				x	x	x	
Whale Sanctuary				x		x	
Shark Sanctuary						x	
Protected Natural Areas		x		x			

Names used	Reference source						
	Huber & McGregor 2002	UNDP 2015	Tiraa 2006	Saul & Tiraa 2004	McCormack 2002	Butler 2017	Other (note 1)
Community-Based Protected Areas				x	x		
Marine Park		x		x		x	
Managed Conservation Area		x					
Marine Sanctuary					x		
Reserve		x			x	x	
No-Take Area							x
Cook Islands Marine Park		x				x	x
Marae Moana						x	x
Multiple-Use Marine Managed Area							x
Fisheries Protection Zones		x					
Local Nature Reserve						x	
Other area						x	
Key Biodiversity Areas (KBAs)							x
Ecologically or Biologically Significant Marine Areas (EBSAs)							x
Important Bird Areas							x

Notes:

1. Other terms in use throughout the Cook Islands as identified by the author

### Box #1: Potential benefits from a national PACS

Benefits that can be expected from a national PACS include:

- There is clarity and certainty about what is and what isn't a protected area.
- The many existing lists and inventories of protected and other areas are consolidated: there is one inventory.
- The tourism industry can better communicate and promote protected areas to visitors and international markets.
- The national protected area network can expand and grow based upon an agreed classification system and definitions.
- The Cook Islands can report with accuracy and confidence against its national planning targets and international obligations.
- There is better understanding and less confusion about protected areas terminology.
- ***Everyone is speaking a common language!***

## 2.2 Previous classification systems

Saul & Tiraa (2004) suggested protected area types as follows:

- Ra'ui (temporary)
- Ra'ui mutukore (permanent)
- Private Nature Reserve
- Marine Reserve
- Conservation Area
- Wildlife Sanctuary
- National Park
- Whale Sanctuary.

The Cook Islands section of the World Database on Protected Areas (WDPA)<sup>6</sup> (2020 version) suggested there were:

- 17 protected areas across nine different categories: nature reserve; national park; marine park; reserve; hunting reserve; other area; marine sanctuary; ra'ui; Ra'ui<sup>7</sup>
- Five governance types: federal or national ministry or agency; collaborative governance; sub-national industry or agency; indigenous peoples; not reported.
- Terrestrial protected areas covering an area of 67 km<sup>2</sup> or nearly 26% of the land area of the country (UNEP-WCMC 2020).

The veracity of this data is questionable and lack of accuracy is attributable to absence of an agreed framework for categorisation of protected area type and governance. System deficiencies have meant that the Cook Islands has been unable to report and communicate with accuracy and certainty about the national protected area system to regional and international fora, and against indicators and targets in the NSDP (see OPM 2019).

There are no other known classification systems for protected areas in the Cook Islands. This policy paper aims to address this gap and in doing so provide a framework for inclusion in the Cook Islands Protected Areas Management Policy (PAMP) and revisions to the *Environment Act (2003)*. A PACS will also allow for entry of accurate data onto the WDPA and greatly improve the capacity of the Cook Islands to report against targets in the NSDP and its global obligations such as the SDGs and CBD.

<sup>6</sup> <https://www.protectedplanet.net/country/CK>

<sup>7</sup> ra'ui (lower case) and Ra'ui (capitalised) are distinguished separately on the WDPA; this appears to be an error.

### 3. Definitions

This paper proposes that there are two main types of areas managed for conservation in the Cook Islands:

- **protected areas** (which includes marine protected areas – MPAs)
- **managed areas.**

Each is considered separately below.

#### 3.1 Protected areas

There are many formal definitions of protected areas, but the most broadly used is that of the IUCN:

*'A protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values'* (Dudley 2008).

In essence, IUCN and the global conservation community have agreed a definition of what a protected area *is* - and what a protected area *is not*. To be a protected area, an area must fall within the definition. If it does not fit the definition, then it is excluded from the categorisation as a protected area.

Protected areas can be terrestrial (land, rivers, lakes, caves) and marine.

The term “protected area” is shorthand – or a catch-all - for a sometimes bewildering array of land and marine designations such as national park, marine park, nature reserve, wilderness area, wildlife management area and many other labels. Very importantly, the term embraces a wide range and spectrum of different management approaches ranging from strict protection (no access or ‘no take’) to multiple use where fishing, hunting and other food production may be permitted (Dudley 2008).

Protected areas are:

- necessary for biodiversity conservation
- the cornerstones of virtually all national, regional and international conservation strategies
- set aside to maintain functioning natural ecosystems, to act as refuges for species and to maintain ecological processes that cannot survive in most intensely managed landscapes and seascapes (Dudley 2008).

In this way it can be seen that the definition of a protected area is exclusive. Using the IUCN definition, only those areas where the main objective is conserving nature can be considered protected areas; this can include areas with other goals as well, at the same level, but in the case of conflict, nature conservation will be the priority (Dudley 2008).

#### **Box #2: Definition of a protected area**

*'A protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values'*.

The term embraces a wide range and spectrum of different management approaches ranging from strict protection (no access or ‘no take’) to multiple use where fishing, hunting and other food production may be permitted.

Annex 2 has a comprehensive explanation of the IUCN definition; it explains in detail each of the key terms in the definition and gives examples of real-life situations to explain the terminology.

Recognising the Cook Islands context, the words and phrases from the definition that are of particular importance are:

- *'Managed through legal or other effective means'*: this means that protected areas must either be (a) gazetted (ie. recognised under statutory civil law), or (b) recognised through an international convention or agreement, or (c) managed through other effective, non-gazetted means (such as through recognised traditional rules or the policies of established NGOs).
- *'Long term'*: this means that protected areas should be managed in perpetuity and not managed through short-term or temporary management strategies. Long-term protection is typically interpreted to mean over timescales of human generations.
- *'Nature'*: refers to biodiversity, at genetic, species and ecosystem level, and often also refers to geodiversity, landform and broader natural values. All protected areas, whether terrestrial or marine, should aim to protect all the features of conservation importance within their boundaries.
- *'Conservation'*: refers to the in-situ maintenance of ecosystems and natural and semi-natural habitats and of viable populations of species in their natural surroundings .... (Dudley 2008).

### 3.1.1 Marine Protected Areas

In the marine environment, the IUCN definition also applies. If a marine area does not meet this definition, then it cannot be considered a marine protected area (MPA) (Day et al. 2019).

It also follows from the definition that unsustainable extractive activities (particularly those on an industrial scale<sup>8</sup>), temporary management measures, protections solely for single species, or bans on damaging fishing gear, will not lead to the long-term conservation of the whole ecosystem and therefore do not qualify as MPAs (Day et al. 2019).

In addition, IUCN recommends that an MPA should seek to meet the following standards:

- Nature conservation is the primary priority.
- Defined goals and objectives which reflect these values.
- Suitable size, location and design that will enable conservation of values.
- Defined and agreed upon boundary.
- Management plan, or equivalent, which addresses the needs for conservation of the site's major values and achievement of its social and economic goals and objectives.
- Resources and capacity to implement (Day et al. 2019).

#### **Recommendation #1: Cook Islands adopts the IUCN definition for a protected area and marine protected area as follows:**

***'A protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.'***

### 3.1.2 IUCN protected area management categories

The IUCN has developed a system of management categories that aim to classify protected areas based on their primary management objectives (Dudley 2008). While the use of the IUCN protected area management categories system is voluntary, it is widely accepted as a standard and used by many countries. Grouping protected areas under the IUCN categories assists in facilitating comparisons between countries for research and planning purposes, and reduces confusion arising from the adoption of multiple terms and designations to describe similar protected areas in different parts of the world (Dudley 2008).

The protected area management categories are summarised in Annex 3.

<sup>8</sup> Discussed in more detail in Section 5

### 3.1.3 IUCN governance types

In the context of protected areas, governance has been defined as:

*“the interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken and how citizens or other stakeholders have their say”* (Borrini-Feyerabend et al. 2013).

Governance arrangements are expressed through legal and policy frameworks, strategies and management plans, and how policies and plans are implemented and monitored. Governance covers the rules of decision making, including who gets access to information and participates in the decision-making process, as well as the decisions themselves (Borrini-Feyerabend et al. 2004; Dudley 2008).

Protected areas exist under the authority of diverse governance actors, including local communities, private landholders, governments, and combinations of these. While governance regimes for protected areas vary greatly around the world, IUCN distinguish four broad governance types based on who holds authority, responsibility and accountability for the key decisions for a specific protected area (Table 2).

**Table 2. Governance types for Cook Islands protected areas**  
(adapted from Borrini-Feyerabend et al. 2013)

Governance type	Sub-types
Type A: Governance by government	<ul style="list-style-type: none"> <li>Federal or national ministry/agency in charge</li> <li>Sub-national ministry/agency in charge</li> <li>Government-delegated management (eg. to NGO)</li> </ul>
Type B: Shared governance	<ul style="list-style-type: none"> <li>Collaborative management (various degrees of influence)</li> <li>Joint management (eg. through a management board)</li> <li>Transboundary management (various levels across international borders)</li> </ul>
Type C: Private governance	<ul style="list-style-type: none"> <li>By individual owner</li> <li>By non-profit organisations (NGOs, universities, cooperatives)</li> <li>By for-profit organisations (individuals or corporate)</li> </ul>
Type D: Governance by local communities	<ul style="list-style-type: none"> <li>Declared and run by local communities</li> </ul>

## 3.2 Managed areas

This policy paper proposes that areas that do not meet the definition of a protected area are termed ‘Managed Areas’. There is no definition for ‘Managed Areas’: this is a conscious and deliberate decision<sup>9</sup>. Basically it means that an area can be carefully assessed against the protected area definition: if it meets that definition, it is a protected area; if it does not, then by default it can be considered to be a type of Managed Area.

<sup>9</sup> However, the different types of ‘Managed Areas’ – island ra’ui, marine ra’ui, conservation areas – do have defined objectives, designation approach and governance type; Section 4.3 has details.

**Recommendation #2: Cook Islands has a category of *Managed Areas*; these would be places that do not meet the IUCN definition for a protected area yet play an important role in customary resource stewardship and management, and local or national biodiversity conservation.**

### 3.3 What is the difference between a Protected Area and a Managed Area?

In a protected area, biodiversity conservation must be the primary, or joint-primary, objective (see Section 3.1). In contrast, this is not necessary for 'Managed Areas'. The term 'Managed Areas' can be applied to areas designated for any purpose, where positive biodiversity conservation outcomes occur regardless of the management objectives. In a 'Managed Area', conservation of nature may be a secondary objective or may not be an explicit objective at all; positive conservation outcomes may simply be the ancillary result of management activities.

To meet national policy and planning needs, information for both protected areas and managed areas will be stored on a Cook Islands Protected and Managed Areas Database (more details in Section 7).

For global reporting purposes, Cook Islands protected areas data will be stored and reported on the World Database for Protected Areas (WDPA); data on 'Managed Areas' would not be reported through the WDPA but might be reported through other means [eg. global obligations to report information against Other Effective Area-Based Conservation Measures (OECMs) – discussed in more detail in Section 7.5].

#### Box #3: Managed Areas

The PACS proposes that the Cook Islands has a category of 'Managed Areas'; these would be places that do not meet the definition for a protected area yet play an important role in customary resource stewardship and management, and local or national biodiversity conservation.

The term 'Managed Areas' can be applied to areas designated for any purpose, where positive biodiversity conservation outcomes occur regardless of the management objectives. In a 'Managed Area', conservation of nature may be a secondary objective or may not be an explicit objective at all; positive conservation outcomes may simply be the ancillary result of management activities.

### 3.4 A special note about ra'ui

Ra'ui (tabu, tapu or taboo area) are a traditional form of resource management that is of particular significance and widely used in the Cook Islands. The term is both a geographic locality and traditional custom that involves imposing restrictions on the access to and/or use of specific resources of a particular area (land, lake, stream, reef or lagoon); restrictions are temporary and resource use is forbidden for a given period, as determined by traditional leaders of the area.

Typically small in size (<100ha), ra'ui:

- are given short term protection to allow for a specific resource (eg. fish, shellfish, crabs, birds) to recover and/or reach maturity and to sustain harvesting (Saul & Tiraa 2004)
- typically have no legal basis
- are reliant on community management and traditional authority to ensure compliance.

There are a range of different definitions of ra'ui.

The Cook Islands Maori Dictionary<sup>10</sup> defines a ra'ui as:

*A sign, usually leaves or a branch, set in place by the owner of a piece of land or water reserving it or its produce for his own or some special use; a prohibition.*

<sup>10</sup> <http://cookislandsdictionary.com/>

Other useful definitions are those found in legislation as follows:

*Ra'ui means a restriction on certain activities in a certain area for a certain time and purpose as determined by a traditional leader or leaders of a village area<sup>11</sup>.*

*Ra'ui means the traditional custom of imposing restrictions on the use of the land, reef and lagoon with regards to their resources<sup>12</sup>.*

*Ra'ui is the traditional custom of imposing restrictions on the use of the resources of any land, reef, or lagoon<sup>13</sup>.*

Ra'ui mutukore (motukore) are “a strictly no activity tapu” (Maki 2014); the term mutukore means ‘everlasting’, ‘eternal’, ‘forever’.

Tiraa (2006) and SPREP (2018, p97) provide excellent overviews of the existing Cook Island ra'ui systems, community management, and effectiveness. Maki (2014) provides extensive description of the historical and contemporary use of ra'ui and other forms of traditional management systems throughout the Cook Islands. Govan (2009), in his comprehensive treatise into the status of locally-managed marine areas in the South Pacific, describes the role of ra'ui in meeting cultural, livelihood and conservation objectives. Hoffman (2002) and Miller (2008) researched the effectiveness of ra'ui around Rarotonga in achieving benefits for biodiversity conservation.

According to Saul & Tiraa (2004), traditional management practices through use of rauwi (ra'ui) at Pukapuka are perhaps the best documented of all the Cook Islands (eg. Beaglehole & Beaglehole 1938; Utanga 1989; Munro 1996).

**Recommendation #3: A national definition of ra'ui is adopted as follows:**

***Ra'ui is the traditional custom of imposing a restriction on certain activities in a certain area for a certain time and purpose as determined by a traditional leader or leaders of a village area.***

**Recommendation #4: A national definition of ra'ui mutukore is adopted as follows:**

***Ra'ui mutukore (motukore) is the traditional custom of imposing permanent (everlasting) restrictions on the use of the resources of any land, reef, or lagoon.***

## **4. Proposed classification system**

This section describes the proposed classification system for the Cook Island's protected and managed areas.

### **4.1 Principles**

Development of the PACS has been guided by three principles:

- Use a naming typology that is clear and simple and builds upon existing terms that are in widespread use throughout the community, especially traditional Cook Island Maori words (ra'ui, ra'ui mutukore).
- Recognise the unique context of the Cook Islands especially its customary land tenure, traditional resource management approaches, and the widespread use of ra'ui.
- Fit within globally accepted definitions of protected areas and marine protected areas.

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<sup>11</sup> Environment (Takuvaive Water Catchment Management Plan) Regulations 2006

<sup>12</sup> Environment (Atiu and Takutea) Regulations 2008

<sup>13</sup> Draft Marine Resources Bill 2017

Table 3 presents a recommended classification system and typology for Protected Areas. For each area type there is an objective, designation approach, IUCN management category, IUCN governance type, current Cook Islands examples (if any), and comments.

Table 4 presents a recommended classification system and typology for 'Managed Areas'. For each area type there is an objective, designation approach, current Cook Islands examples (if any), and comments.

## 4.2 Proposed classification system for protected areas

Table 3. Classification system for protected areas

Type	Objective	Designation approach	IUCN category		Current example/s	Comments
			Management	Governance		
<p><b>Definition:</b> 'A protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values' (Dudley 2008). Annex 1 has a comprehensive explanation of the definition.</p>						
<p><b>Terrestrial protected areas</b></p>						
Ra'ui mutukore <sup>14</sup>	Permanent protection and long-term conservation of one or more species, natural values, and/or habitats.	<p>Specific <u>land</u> area identified and designated by a traditional leader/s.</p> <p>Must be of suitable size, location and design that will enable the long-term conservation of identified key values.</p> <p>Protected through a written, long term binding agreement of some sort (eg. community agreement; family agreement; trust); may or may not be designated under legislation.</p>	IV	<p><b>Type D: Governance by local communities</b></p> <p>Where the area is statutory (designated under legislation) may also be</p> <p><b>Type B: Shared governance.</b> In this situation governance is shared between the community and government; government agency/ies may support management and compliance.</p>	None known to be in existence	Choice exists regarding ra'ui mutukore: individual areas can be non-statutory or statutory, depending on what the community wants. Regardless, whether non-statutory or statutory, this type of ra'ui qualifies as a protected area because the primary objective is biodiversity conservation and values are permanently protected (ie. in 'perpetuity') and therefore meet the protected area definition.

<sup>14</sup> Ra'ui mutukore could be established by traditional leader/s across land and marine boundaries; in such cases, a single, integrated protected area across land and water would be the result.

Type	Objective	Designation approach	IUCN category		Current example/s	Comments
			Management	Governance		
Nature Reserve	<p>Natural or near natural <u>land</u> area set aside to protect and conserve biodiversity and where applicable, heritage, cultural and spiritual values.</p> <p>Where consistent with the primary objective above, provide for ecologically sustainable use of the natural resources of the reserve.</p>	Legally designated under national legislation or other legal instrument.	III IV	<p>Where designated by a legal instrument and under community management, would be <b>Type B: Shared governance</b></p> <p>Where designated under national legislation, would be <b>Type A: Governance by government</b></p>	Takutea Island Potentially Moko'ero Nui (Atiu)	
National Park	<p>Large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area.</p> <p>Provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor use opportunities<sup>15</sup>.</p>	Legally designated under national legislation	II	<b>Type A: Governance by government</b>	Suvarrow	

<sup>15</sup> Definition adapted from Dudley (2008).

Type	Objective	Designation approach	IUCN category		Current example/s	Comments
			Management	Governance		
<b>Marine protected areas (MPAs)</b>						
<b>Definition:</b> 'A marine protected area is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values' (Dudley 2008). Annex 2 has a comprehensive explanation of the definition.						
Ra'ui mutukore <sup>16</sup>	Permanent protection and long-term conservation of one or more species, natural values and/or habitats.	Specific <u>marine</u> area identified and designated by a traditional leader/s.  Must be of suitable size, location and design that will enable the long-term conservation of identified key values.  Protected through a written, long term binding agreement of some sort (eg. community agreement; family agreement; trust); each ra'ui may or may not be individually designated under legislation.	IV	Primarily <b>Type D: Governance by local communities</b>  Also <b>Type B: Shared governance</b> by virtue of the fact that marine ra'ui mutukore occur within the Marae Moana Marine Conservation Zone designated by the national government.	Potentially Oótu ra'ui mutukore (Aitutaki)	As for terrestrial, land-based ra'ui mutukore
Marae Moana (Cook Islands Marine Park) zones <sup>17</sup>						
Marine Conservation Zone	Protect the pelagic, benthic, coral reef, coastal, and lagoon habitats of the	Established under Section 24 and Schedule 1 of the Marae Moana Act 2017.	IV	<b>Type B: Shared governance</b>	Section 24 areas are in place around each of the 15	These areas are termed Marine Protected Areas in the Act and are proposed to be renamed as Marine

<sup>16</sup> Ra'ui mutukore could be established by traditional leader/s across land and marine boundaries; in such cases, a single, integrated protected area across land and water would be the result.

<sup>17</sup> Various changes are proposed to Marae Moana zones - refer Twyford 2021. General Use Zone and Seabed Mining Zone forms part of the zoning scheme however does not meet the definition of a MPA hence are excluded here.

Type	Objective	Designation approach	IUCN category		Current example/s	Comments
			Management	Governance		
	Marae Moana and, accordingly, all seabed minerals activities and large-scale commercial fishing in the area are prohibited, but other ecologically sustainable uses are permitted [(Section 23(1d) & 24(2)].				islands, from coastline to 50 nm (see Annex 4)	Conservation Zones (refer Twyford 2021).
		Additional areas could be identified through the Offshore Marine Spatial Plan (OMSP) and established under Section 23(1)(d).	IV	<b>Type A: Governance by government<sup>18</sup></b>	None	These areas are termed Island Protection Zone in the Act and are proposed to be renamed as Marine Conservation Zones (refer Twyford 2021).
National Marine Park Zone	Provide for the strict preservation of the natural integrity and ecological values of relatively large, representative habitats and areas of high value for biodiversity conservation of the Marae Moana [(Section 23(1f)].	Will be identified through the Offshore Marine Spatial Plan (OMSP)	II	<b>Type A: Governance by government</b>	None	Proposed changes to zone objective as currently specified in the Act (see Twyford 2021)
Preservation Zone	Provide for (a) the protection of the natural integrity and values of discrete areas of the Marae Moana, free from extractive and visitor activities, and where consistent with (a); (b) scientific research to be undertaken in relatively undisturbed areas.	Will be identified through the Offshore Marine Spatial Plan (OMSP)	Ia	<b>Type A: Governance by government</b>	None	Proposed new zone (see Twyford 2021)

**Recommendation #5: The classification system for terrestrial and marine protected areas as described in the PACS is approved.**

<sup>18</sup> Zone would be offshore (located in EEZ) and distant from island communities; therefore governance and management is by government agencies.

### 4.3 Proposed classification system for 'Managed Areas'

Table 4. Classification system for 'Managed Areas'

Category	Objective	Designation approach	Current example/s	Comments
Land-based Ra'ui	Temporary protection of one or more species and/or habitat/s to allow for local population recovery and sustainable resource use.	Specific areas identified and designated by a traditional leader/s; ra'ui are community managed and reliant on traditional authority to ensure compliance.  Ra'ui typically have no statutory (legal) basis although they may be referred to in island bylaws <sup>19</sup> and/or Environment Regulations.	Many in existence	Ra'ui are established to primarily achieve short-term resource management objectives (usually related to sustainable use, fisheries stock productivity, and livelihoods) rather than broader biodiversity conservation objectives. Furthermore, they are temporary and not established in perpetuity (refer Section 3.4).  For these reasons ra'ui do not meet the definition of a protected area (refer Section 3.1 and Table 3).
Marine Ra'ui	Temporary protection of one or more species and/or habitat/s to allow for local population recovery and sustainable resource use.	As above	Many in existence	As above  Marine ra'ui need special consideration; all existing marine ra'ui occur within an already designated Marine Conservation Zone (under Section 24 of the Marae Moana Act) hence dual designation.
Conservation Area	Protection and conservation of one or more significant species, natural values, habitats, and/or ecosystems.	Community designated and managed areas, protected through an agreement of some sort (can be verbal or	Takitumu Conservation Area (Rarotonga) <sup>20</sup>  Moko'ero Nui (Atiu) <sup>21</sup>	

<sup>19</sup> For instance, island ra'ui on Pukapuka and Rakahanga are covered by island bylaws (Peace Order and Good Government Ordinance), albeit guidance is very broad and the laws date back to colonial times. These ordinances, known as Pukapuka Ordinance No. 1 (1936) and Rakahanga Ordinances No. 1-3 (1916-37), may have been superseded by other bylaws however this could not be verified by the author.

<sup>20</sup> Takitumu Conservation Area is not considered to be a protected area as there is no written agreement in place to ensure nature conservation occurs in perpetuity. Section 7.3 provides more details.

<sup>21</sup> Currently referred to as Moko'ero Nui Nature Reserve and elsewhere (UNDP 2015) as Moko'ero Nui Leeward Forest Reserve; under PACS, would be renamed as Moko'ero Nui Conservation Area.

Category	Objective	Designation approach	Current example/s	Comments
		written); not protected through legislation.		
Other land areas	variable	variable	Takuvaine Water Catchment Management Area	May contribute to biodiversity conservation outcomes however that is not a primary objective of the area
Marae Moana (Cook Islands Marine Park)	Protect and conserve the ecological, biodiversity, and heritage values of the Cook Islands marine environment.	Established by government through national legislation	Those parts of Marae Moana that are not an MPA (ie. EEZ from 50-200 nm)	
Marae Moana (Cook Islands Marine Park) zones <sup>22</sup>				
Seabed Mining Zone	Provide for seabed minerals activities where consistent with the primary purpose of the Act; apart from when zone areas are being actively mined, a range of other ecologically sustainable uses would generally be allowed.	Will be identified through the Offshore Marine Spatial Plan (OMSP)	None	New zone proposed in MSP Policy (see Twyford 2021); zone not classified as a MPA (refer Section 5)
General Use Zone	Provide for the protection of pelagic and benthic habitats of the Marae Moana, while allowing a range of ecologically sustainable uses [(Section 23(1a)].	Will be identified through the Offshore Marine Spatial Plan (OMSP)	None	Zone established under the Act and discussed in MSP Policy (see Twyford 2021); zone not classified as a MPA (refer Section 5)

**Recommendation #6: The classification system for ‘Managed Areas’ as described in the PACS is approved.**

<sup>22</sup> Various changes are proposed to Marae Moana zones - refer Twyford 2021. General Use Zone and Seabed Mining Zone forms part of the zoning scheme however does not meet the definition of a MPA (refer discussion in Section 5).

## 4.4 Naming convention

An important part of the classification system is a convention for naming of existing and future protected areas and managed areas. Local names will be used and the convention should aim to avoid the proliferation of names that exist for individual areas at present and the resulting confusion<sup>23</sup>.

### 4.4.1 Protected and managed areas

Aside from areas covered by Marae Moana zones (where a slightly different naming convention is proposed – refer Section 4.4.2), it is proposed that every individual area is named in the same way and as follows:

Local geographic name followed by the area type [as specified in Table 3 (for protected areas) and Table 4 (for Managed Areas)]. Where needed to more clearly distinguish an area, the name can be followed with the island name as a descriptor.

For instance, Oótu is a marine ra'ui mutukore at Aitutaki. It would be named Oótu Ra'ui mutukore (Aitutaki) using the convention as follows:

Local geographic name	Area type	Island name
Oótu	Ra'ui mutukore	(Aitutaki)

**Recommendation #7: Protected areas and managed areas are named in a consistent and standardised way using the naming convention outlined in PACS as follows: local geographic name followed by the area type, followed with the island name (if needed).**

### 4.4.2 Marae Moana zones

A naming convention for Marae Moana zones is proposed that adapts the approach in Section 4.4.1.

At time of writing this report, the only zones in place throughout Marae Moana are the Marine Protected Areas that are established around each of the country's 15 islands, from coastline to 50 nm (see Annex 4). Through development of a Marine Spatial Planning (MSP) policy it has been identified that this terminology has caused confusion and misunderstanding amongst the Cook Islands community and government. To address this, it has been proposed that these areas are renamed as '*Marine Conservation Zones*' (Twyford 2021). This proposal is yet to be decided upon by the Marae Moana Technical Advisory Group (TAG) and Council.

Due to adjoining and overlapping zones around some islands, eight contiguous areas are in place (refer Section 7.1) and are proposed to be named as follows:

- Rakahanga/Manihiki Marine Protected Area
- Penrhyn Marine Protected Area
- Pukapuka/Nassau Marine Protected Area
- Suvarrow Marine Protected Area
- Aitutaki and Ngaputera Marine Protected Area
- Mangaia Marine Protected Area
- Palmerston Marine Protected Area
- Rarotonga Marine Protected Area.

**Recommendation #8: Marae Moana zones are named in a consistent and standardised way using the naming convention outlined in PACS.**

<sup>23</sup> For example: Moko'ero Nui is known as Moko'ero Nui Nature Reserve and as Moko'ero Nui Leeward Forest Reserve. On Rarotonga, there is the proposed Rarotonga Peaks Rainforest Park (Saul & Tiraa 2004), also referred to as Te Manga Te Kou Cloud Forest Reserve (UNDP 2015).

## 4.5 Other generic classification systems

Globally, there are a multitude of other terms and generic classification systems in place, some of relevance to the Cook Islands. Four are mentioned here to demonstrate how the Cook Islands PACS would interact with these systems and terminologies.

### **Community Conserved Areas (CCAs)**

*Natural and modified ecosystems containing significant biodiversity, ecological services and cultural values, voluntarily conserved by indigenous peoples and local and mobile communities through customary laws or other effective means. They can include ecosystems with minimum to substantial human influence, as well as cases of continuation, revival or modification of traditional practices or new initiatives taken up by communities in the face of new threats or opportunities (Borrini et al. 2004; Dudley 2008).*

### **Locally Managed Marine Areas (LMMAs)**

*An area of nearshore waters and its associated coastal and marine resources that is largely or wholly managed at a local level by the coastal communities, landowning groups, partner organisations, and/or collaborative government representatives who reside or are based in the immediate area<sup>24</sup>.*

### **Marine Managed Areas (MMAs)**

*An area of marine, estuarine, and adjacent terrestrial areas designated using federal, state, territorial, tribal, or local laws or regulations intended to protect, conserve, or otherwise manage a variety of resources and uses (Govan 2009).*

### **OECMs**

Other Effective Area-Based Conservation Measures (OECMs) are defined as:

*A geographically defined area, other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values (IUCN WCPA 2019).*

The IUCN World Commission on Protected Areas (WCPA) has provided in-depth guidance about OECMs, including explanation of each element of the definition, screening criteria to assist with identification, and monitoring and reporting guidelines (IUCN WCPA 2019). Identification and reporting of Cook Islands' OECMs and relationship to Managed Areas is discussed in Section 7.5.

### **Proposed use in PACS**

Apart from OECMs, it is proposed that these terms, although in use throughout the Pacific and more widely, do not form part of the PAMP, national legislation or regulations, the reasons being:

- (a) The terms 'Protected Areas' and 'Managed Areas', as applied in this PACS, are considered to adequately encapsulate the Cook Islands system as it exists now and as anticipated in the future.
- (b) PACS aims to reduce and simplify the language in use regarding protected areas so that all Cook Island stakeholders are 'speaking a common language'. The introduction and use of additional terms like CCAs, LMMAs, and MMAs will almost certainly perpetuate further misunderstandings; furthermore they add no appreciable value to the policy or practical management.

Despite this, it is recognised that these terms are in use globally, regionally and nationally, and that there is a need to be clear how the Cook Islands PACS would interface and interact with other approaches. This interaction is outlined in Table 5.

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<sup>24</sup> <http://Immanetwork.org/>

Table 5. Interaction between PACS and other approaches

Type	Community Conservation Area (CCA)	Locally Managed Marine Area (LMMA)	Marine Managed Area (MMA)	Other Effective Area-Based Conservation Measures (OECM) <sup>25</sup>
<b>Terrestrial protected areas</b>				
Ra'ui mutukore	x			
Nature Reserve	Note 1			
National Park				
<b>Marine protected areas (MPAs)</b>				
Ra'ui mutukore	x	x	x	
Marae Moana (Cook Islands Marine Park) zones				
Marine Conservation Zone			x	
National Marine Park Zone			x	
Preservation Zone			x	
<b>Managed areas (note 2)</b>				
Island Ra'ui	x			x
Marine Ra'ui	x	x	x	x
Conservation Area	x			x
Other land areas				x
Marae Moana (Cook Islands Marine Park) – parts that are non-MPA			x	x
Marae Moana (Cook Islands Marine Park) zones (non-MPA zones)				
Seabed Mining Zone			x	?
General Use Zone			x	?

<sup>25</sup> Indicative only; each managed area would need to be assessed against IUCN criteria to ascertain if it qualified as an OECM

Notes:

1. Where a Nature Reserve is community designated and managed, it would fall within the CCA definition. Where a Nature Reserve was designated under national legislation and managed by a government agency (as is potentially the case under PACS: see Section 4.2), it would not be a CCA.
2. All Managed Areas would need to be assessed

It can be anticipated that the Cook Islands will be required to report against OECMs as part of its global obligations under the CBD and SDGs. The PACS accommodates this requirement and proposes that each individual 'Managed Area' is assessed to determine if they meet the OECM definition (refer Section 7.5).

## 5. Marae Moana and Marine Protected Area designation

Throughout the development of this PACS, and through the course of other national protected area management activities which the author is involved, it is evident that there is considerable confusion among government officials and other stakeholders about what Marae Moana is and what it isn't. This extends to the international community where different names have been used to describe Marae Moana<sup>26</sup>.

One important issue is whether or not Marae Moana can be classified as a Marine Protected Area (MPA). The situation is complex and fluid.

As explained elsewhere in this paper, the Marae Moana Act does establish MPAs around each island and makes provision for establishment of more (Section 25). However, the Act provides no definition of MPAs and the label of Marae Moana itself provides no signals about status. Based on discussion between the author and senior government officials involved in the development and passage of the Marae Moana Act, it seems that this was a deliberate decision as the government wanted to maintain flexibility for future economic development, namely commercial fishing and potentially seabed mining.

In 2019, the IUCN itself specifically recognised Marae Moana as an MPA. In its global report - *Guidelines for applying the IUCN protected area management categories to marine protected areas* (Day et al. 2019) - Marae Moana was used as a case study of a MPA.

Despite this lack of clarity, recent IUCN policy provides guidance about the MPA status of Marae Moana.

### 5.1 Mining

At the 2016 World Conservation Congress (WCC), there was a declaration regarding environmentally damaging industrial activities in protected areas as follows:

*"... 3. CALLS ON governments to prohibit environmentally damaging industrial activities and infrastructure development in all IUCN categories of protected area, and to take measures to ensure that all activities are compatible with the conservation objectives of these areas, through appropriate, transparent and rigorous pre-emptive appraisal processes, such as international best practice environmental and social impact assessments, strategic environmental assessments, and appropriate regulation.*

*5. CALLS ON governments not to de-gazette, downgrade or alter the boundaries of all categories of protected areas to facilitate environmentally damaging industrial activities and infrastructure development;...<sup>27</sup>.*

Since the 2016 WCC, "IUCN now considers that large-scale industrial activities, such as mining and fossil fuel extraction, are inappropriate in all categories of protected areas including MPAs" (Day et al. 2019; p19).

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<sup>26</sup> Marine park, marine protected area, marine managed area, multiple use MPA

<sup>27</sup> [https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC\\_2016\\_REC\\_102\\_EN.pdf](https://portals.iucn.org/library/sites/library/files/resrecfiles/WCC_2016_REC_102_EN.pdf)

This policy means that if seabed mining were to be undertaken in Marae Moana (as provided for by the Marae Moana Act and Seabed Minerals Act), then the area where such mining was undertaken would not be defined and recognised internationally as an MPA.

## 5.2 Fishing

When considering fishing in MPAs, understanding the protected area definition (see Section 3.1) and other IUCN policy is critically important. Areas subject to some form of extractive resource management could be MPAs; in some other cases, only parts of a broader seascape might be defined as a MPA. IUCN emphasise that MPA status should not be assumed and decisions must be made on a case-by-case basis; the essential criterion is whether or not nature conservation is the primary objective (Day et al. 2019).

Recent global policy decisions have served to clarify the situation about commercial fishing and MPAs. In September 2020, the IUCN WCC specified that industrial fishing is not allowed in MPAs and OECMs<sup>28</sup>. In this context:

*“ ‘industrial fishing’ is defined here as (>12 m long x 6 m wide) motorised vessels, with a capacity of >50 kg catch/voyage, requiring substantial sums for their construction, maintenance, and operation and mostly sold commercially, and that all fishing using trawling gears that are dragged or towed across the seafloor or through the water column, and fishing using purse seines and large longlines, is defined as industrial fishing.” (author’s emphasis added).*

Under the Marine Resources Act, large-scale commercial fishing (long-line and purse seine fishing) are licenced activities in parts of Cook Islands waters. It is the opinion of the author that this fishing activity is ‘industrial fishing’ as per the IUCN definition: vessels involved all exceed length and catch limits, and are purse seine and longliners. On this basis, those areas of the Marae Moana where industrial fishing occurs - areas 50-200 nm offshore - cannot be defined as an MPA (or OECM).

### Box #5. Implications of fishing on use of MPA labelling

Commercial fishing activity undertaken in Cook Islands waters (all long-line and purse seine fishing) is ‘industrial fishing’ as per the IUCN definition. IUCN consider that areas where environmentally damaging industrial activities occur (e.g. mining, industrial fishing, oil and gas extraction), and/or infrastructure developments associated with those industries, are not MPAs. On this basis, offshore areas of Marae Moana (from 50-200nm) cannot be considered a MPA and should not be badged as or communicated as such.

**Recommendation #9: Because national legislation and policy allows for large-scale industrial activities, namely seabed mining and commercial fishing, Marae Moana should not be branded as, referred to, or reported as being a MPA.**

## 5.3 Marae Moana zones as MPAs

Within the broader Marae Moana, there is already a system of MPAs. The Act establishes a zone around all islands (from the coastline to 50 nautical miles) - and named as MPAs - with the purpose being to protect all inshore habitats from mining and large-scale commercial fishing.

The Marae Moana Act 2017 also makes provision for development of an offshore marine spatial plan (MSP) that will use a system of zones to achieve multiple-use objectives. These zones are named and defined in the Act, with changes proposed in the MSP Policy Paper (Twyford 2021). The MSP process that is currently underway will result in a system of zones being applied throughout the Marae Moana. Some of these zones will meet the MPA definition (see Section 7.1 of this paper); in this way, there will be a network of MPAs within the broader Marae Moana.

<sup>28</sup> <https://www.iucncongress2020.org/motion/066>

**Recommendation 10: It is noted that a system of MPAs – around each of the 15 islands - already exists within the broader Marae Moana, and that this network of MPAs is expected to be added to once the full zoning scheme is applied through the marine spatial planning (MSP) process.**

#### 5.4 Application of IUCN protected area categories

Section 3.1.2 introduced the IUCN system of management categories that aim to classify protected areas based on their primary management objectives (Dudley 2008; Annex 3 of this paper). Table 3 describes the zones and allocates an indicative IUCN category to each of the proposed Marae Moana MPA zones as follows:

- existing Marine Conservation Zone around all islands (from the coastline to 50 nautical miles): category IV
- any additional Marine Conservation Zone areas: category IV
- National Marine Park Zone: category II
- Preservation Zone: category Ia.

It is important to stress however that the zones require more development and criteria (through amendments to the Act and development of Regulations) and government approval. Once the design of the zoning scheme is completed, IUCN categories can be applied with greater confidence.

#### 5.5 Branding

The analysis in Section 5 makes it clear that Marae Moana, as a whole, does not meet the global definition of a MPA. However, currently there are parts that do qualify as MPAs and it is expected that this will be added to in future. This policy paper advocates that marketing campaigns and communication activities take care to not badge or label Marae Moana as a MPA because this would cause misunderstanding in the market and potential reputational damage.

It is proposed that Marae Moana is also known by, and formally branded as, *Marae Moana (Cook Islands Marine Park)*; this will allow for enhanced communication, marketing and understanding of the status and purpose of Marae Moana by non-Cook Islanders, visitors, tourists and the regional and global conservation community. This naming approach is already in wide use and this policy paper advocates that the practice be formally adopted by the government, tourism industry, destination developers and others.

There are significant benefits that can be accrued from use of the Cook Islands Marine Park moniker. These include:

- Culture. The joint appellation of Cook Islands Maori and English recognises the cultural significance of the ocean to Cook Islanders and allows for widespread understanding.
- Ease and clarity of communication. Being able to refer to the Marae Moana as a whole 'entity' or thing (ie. Cook Island Marine Park), and using terminology that is widely understood, brings advantages to communication and understanding.
- Marketing and communication. The Marine Park 'badge' and brand is widely understood by tourists and visitors. Increasingly, international tourists seek out well managed natural areas as places to visit and recreate. Use of the Marine Park label would align well with the Cook Islands destination marketing strategy that aims to position the country as a global 'green' leader in environmental sustainability.
- Regional and global 'bragging rights'. Cook Islands has been able to use the fact that Marae Moana is one of the largest marine managed areas in the world to advance its prestige and reputation across the region and globally. Use of the Marine Park label in a clear and consistent way, as part of a proactive communications and marketing campaign, would strengthen the reputation of the country as a global leader in marine management and build the potential to attract interest and funding from donors and partners.

- Improved understanding among Cook Islanders and a basis upon which to further build local pride in Marae Moana as one of the world's great Marine Parks.

**Recommendation #11: Marae Moana is formally named, and branded as, Marae Moana (Cook Islands Marine Park); this will allow for enhanced communication, marketing and understanding of the status and purpose of the area.**

## 6. Inventory of protected areas and managed areas

There are many different lists of protected areas in existence for the Cook Islands, developed and added to over the past 20 years. The foundation list originates from the first National Biodiversity Strategy and Action Plan (NBSAP) (McCormack 2002) which was added to by a NBSAP report into a potential protected area system for the country (Saul & Tiraa 2004). National reports to the CBD (Passfield & Rongo 2011; Butler 2017) built on and updated the NBSAP work. In 2016, a community workshop was conducted to identify and map protected areas and ra'ui in existence in the Southern Group (Rasmussen 2016).

These lists are a valuable resource, however there are some issues including:

- format and data fields vary greatly
- accuracy of some data is questionable
- inconsistencies in information between one list and another, especially year of establishment and area (ha/km<sup>2</sup>)
- naming of areas is inconsistent and duplicates are likely.

A common problem is determining whether ra'ui are still in existence or not. By their very nature ra'ui are ephemeral – they start and stop, they come and go – and this means it is difficult to maintain up-to-date records.

One of the aims of this policy paper (refer Section 1.2) is to bring together existing lists of protected and other areas into a consolidated inventory and database. Development of the inventory relied on primary sources especially McCormack (2002), Saul & Tiraa (2004), Passfield & Rongo (2011), Rasmussen (2016) and Butler (2017), and complemented by other unpublished lists and sources.

Annex 5 provides a consolidated inventory of terrestrial and marine areas for the Cook Islands. Where information is not available, data fields have been left blank. The database can be readily adapted for global reporting of protected areas information through the WDPA and World Database for Other Effective Area-Based Conservation Measures (WD-OECM).

It is emphasised that this inventory is incomplete and needs checking; errors certainly exist, particularly the geographic area (ha/km<sup>2</sup>) and year of establishment; it is also likely that some of the listed ra'ui are no longer in existence.

**Recommendation #12: A study is commissioned that aims to validate and update the inventory of protected areas and managed areas in Annex 5 with emphasis upon:**

- **Verification that ra'ui and ra'ui mutukore are still in existence.**
- **Production of GIS maps and area statements of all areas.**
- **Confirmation of year of establishment of all areas.**

## 7. Classification and designation of existing areas

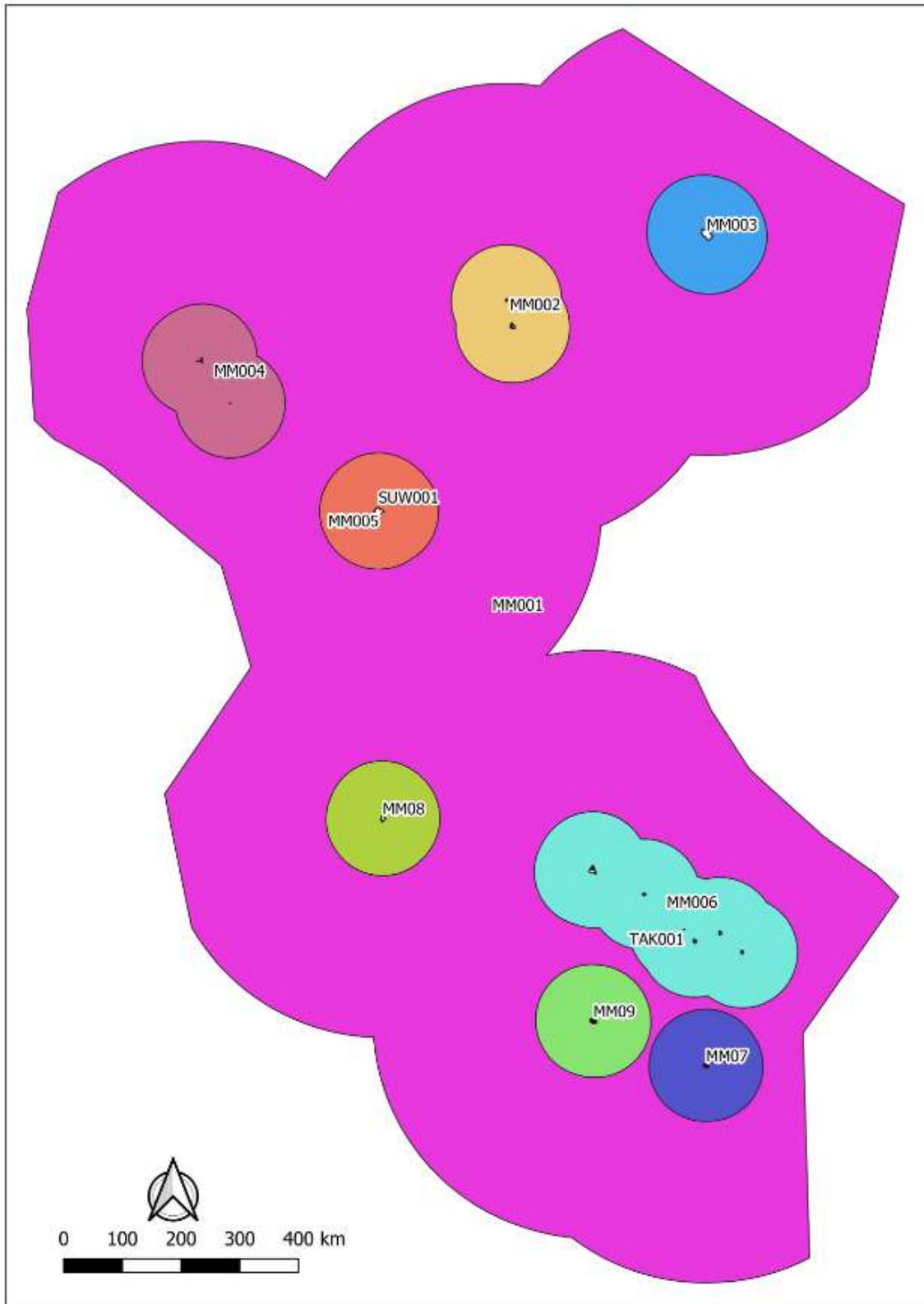
The database at Annex 5 includes the designation of each area using the classification system in Section 4.2 and naming convention in Section 4.4. Results are summarised in the following sections.

### 7.1 Classification and naming of existing protected areas

There are a total of 10 areas in the Cook Islands that meet the protected areas definition in this PACS (Figure 1, Table 6). These, with Cook Islands unique identifier numbers and area, are:

- Suvarrow National Park (SUW001) (160ha)
- Takutea Nature Reserve (TAK001) (120ha)
- the 15 Marae Moana Marine Conservation Zones surrounding each island. As discussed in Section 4.4.2, due to adjoining and overlapping zones around some islands, eight contiguous MPAs are in place (refer Figure 1) (total area of 309,136 km<sup>2</sup>) and are proposed to be named as follows:
  - Rakahanga/Manihiki Marine Protected Area (MM002) (37,690 km<sup>2</sup>)
  - Penrhyn Marine Protected Area (MM003) (32,760 km<sup>2</sup>)
  - Pukapuka/Nassau Marine Protected Area (MM004) (31,362 km<sup>2</sup>)
  - Suvarrow Marine Protected Area (MM005) (31,274 km<sup>2</sup>)
  - Aitutaki & Ngaputara Marine Protected Area (MM006) (86,674 km<sup>2</sup>)
  - Mangaia Marine Protected Area (MM007) (29,506 km<sup>2</sup>)
  - Palmerston Marine Protected Area (MM008) (29,780 km<sup>2</sup>)
  - Rarotonga Marine Protected Area (MM009) (30,084 km<sup>2</sup>).

Figure 1. Cook Islands protected areas



**Legend:**

Suvarrow National Park (SUW001); Takutea Nature Reserve (TAK001); Rakahanga/Manihiki Marine Protected Area (MM002); Penrhyn Marine Protected Area (MM003); Pukapuka/ Nassau Marine Protected Area (MM004); Suvarrow Marine Protected Area (MM005); Aitutaki & Ngaputora Marine Protected Area (MM006); Mangaia Marine Protected Area (MM007); Palmerston Marine Protected Area (MM008); Rarotonga Marine Protected Area (MM009).

Table 6. Protected areas of the Cook Islands

Name	IUCN category (see notes)		Comments
	Management	Governance	
<b>Mixed sites (island and marine protected areas)</b>			
Suvarrow National Park	II	A	<p>On 29 June 1978, “<i>Suvarrow Islands and its superjacent waters in the territorial sea of the Cook Islands</i>” were declared a national park pursuant to Section 11(1) of the Conservation Act 1975 by the Chief Justice. Cabinet Minute No. 5910 dated 2 May 1978 associated with the declaration specified that the goal of the park was “<i>to ensure the conservation of Island of Suvarrow and avoid undue exploitation, encroachment and damage; and to provide opportunities for the public to fulfill recreational and educational needs without despoiling or endangering natural resources.</i>”</p> <p>The legal status of Suvarrow remains a matter of some conjecture. Investigations undertaken as part of the NBSAP found that although the Environment Act 1987 repealed the Conservation Act 1975, the 1987 Act was later found to be invalid. The Environment Act 2003 (which is silent about designation of Suvarrow as a national park) then repealed the Rarotonga Environment Act 1994 but not the Conservation Act 1975 hence it appears that it (the 1975 Act) is still in force (Karika 2004). On this basis it would seem that Suvarrow National Park is still legally in existence. This requires formal opinion of Crown Law Office.</p> <p>In 1991, a Suvarrow management plan was produced but not adopted (Karika 2008). In 2004, an Act to establish a National Park Authority to administer Suvarrow National Park was drafted but also never adopted (Karika 2008).</p> <p>Refer below for consideration of the marine area around Suvarrow.</p>
Takutea Nature Reserve	II	D	<p>From 1903-1950, Takutea was a sanctuary under individual ownership. In 1950, Takutea was vested by court order in the board of trustees that includes most of the Aronga Mana of Atiu and is thus a good example of how to maximise ownership by traditional leadership (Saul &amp; Tiraa 2004). Takutea has been declared a “community conserved area under the management and control of the Trustees of Takutea” (section 4 of <i>Environment (Atiu and Takutea) Regulations 2008</i>).</p> <p>The <i>Regulations 2008</i> specify that “Takutea” means the island of Takutea and includes the waters within 12 nautical miles of Takutea. On this basis, the author’s interpretation is Takutea is a mixed terrestrial and marine protected area, covering the entire island (120ha) and adjoining waters to 12nm (760 ha – Butler 2017).</p>

Name	IUCN category (see notes)		Comments
	Management	Governance	
			<p>Takutea is known by various names: Takutea Wildlife Sanctuary, Takutea Wildlife Sanctuary/Marine Sanctuary (UNDP 2015) and Takutea Community Conserved Area<sup>29</sup> (2006 Regulations).</p> <p>Under PACS, the terrestrial (island) part would be renamed as Takutea Nature Reserve.</p> <p>Refer below for consideration of marine area.</p>
<b>Marine protected areas</b>			
Marae Moana (Cook Islands Marine Park) zones			Section 5 provides detailed discussion of Marae Moana and how parts meet the definition of a MPA.
Rakahanga/Manihiki Marine Conservation Zone	IV	B	
Penrhyn Marine Conservation Zone	IV	B	
Pukapuka/Nassau Marine Conservation Zone	IV	B	
Suwarrow Marine Conservation Zone	IV	A <sup>30</sup>	<p>Two designations exist:</p> <ul style="list-style-type: none"> <li>• Suwarrow Marine Conservation Zone, as established under the Section 24 of the Marae Moana Act, extends from the coastline to 50 nm.</li> <li>• Suwarrow National Park that includes the “superjacent waters in the territorial sea” which is interpreted to mean the marine area surrounding the island, from the coastline to 12 nm. Designation of the marine area as a national park under this arrangement needs further consideration and resolution.</li> </ul>

<sup>29</sup> "Community Conserved Area" is defined in the Regulations as any natural and modified ecosystem, with significant biodiversity, ecological and related cultural values, voluntarily conserved by indigenous and local communities, through customary laws or other effective means.

<sup>30</sup> Suwarrow is an uninhabited island and not subject to customary ownership by other islands; therefore governance is by government (type A).

Name	IUCN category (see notes)		Comments
	Management	Governance	
Aitutaki and Ngaputora Marine Conservation Zone	IV	B	Comprises the following islands: Aitutaki and Manuae, and the island group known as Ngaputora which includes Atiu, Takutea, Mitiaro and Mauke. The situation at Takutea is complex and described separately below.
Takutea Marine Conservation Zone	IV	B	<p>Two designations exist:</p> <ol style="list-style-type: none"> <li>1. <u>Takutea Marine Conservation Zone</u>, as established under Section 24 of the Marae Moana Act, extends from the coastline to 50 nm.</li> <li>2. <u>Takutea Community Conservation Area (CCA)</u>. Section 4 of the Regulations 2008 designates Takutea as a Community Conservation Area, and Section 3 defines “Takutea” as meaning the island of Takutea and the waters within 12 nautical miles (nm). On this basis the author’s interpretation is that the Takutea CCA extends to 12nm mark. Section 4(2) and 4(3) of the Regulations then go on to specify the management regime and stipulate that there shall be no-take of any plants and animals in the CCA (ie. as defined, to 12nm). Inconsistency and uncertainty in the Regulations is introduced through Section 4(2)(d) which specifies that “no person shall fish in the lagoon, reef and within 5 nautical miles of the reef”. Furthermore, Section 4(3d) explicitly states that any harvest or take of paua requires the written permission of the Takutea Trustees and Island Council.</li> </ol> <p>Hence there is some uncertainty as to whether the no-take provisions apply out to the 12nm mark [ie. as defined under Section 4(1) and 4(2a-2c)] or whether to the 5nm mark [as per Section 4(2d)]. Regardless, the Regulations effectively establish a “no take” reserve over the island and marine waters; fishing is prohibited “within 5 nm of the reef” (and potentially to 12 nm depending on how the Regulations are interpreted). This arrangement puts in place stronger protections and management than the Section 24 zone; this needs further consideration and resolution.</p>
Mangaia Marine Conservation Zone	IV	B	
Palmerston Marine Conservation Zone	IV	B	

Name	IUCN category (see notes)		Comments
	Management	Governance	
Rarotonga Marine Conservation Zone	IV	B	

Notes:

**Management categories** (refer Section 3.1.2 and Annex 3 for details):

- II: Large natural or near-natural areas protecting large-scale ecological processes with characteristic species and ecosystems, which also have environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.
- IV: Areas to protect particular species or habitats, where management reflects this priority. Many will need regular, active interventions to meet the needs of particular species or habitats, but this is not a requirement of the category.

**Governance types** (refer Section 3.1.3 for details):

- Type A: Governance by government
- Type B: Shared governance
- Type C: Private governance
- Type D: Governance by local communities

**Recommendation #13: The 10 areas that meet the definition and classification of protected areas are adopted and form the basis of Cook Islands' reporting obligations against national plans and global conventions (CBD, SDGs).**

**Recommendation #14: The legal status of Suvarrow National Park (terrestrial parts) is resolved. Regazettal and designation as a national park under the *Environment Act 2003*, once amended to reflect this PACS and the PAMP (under development), is probably the most effective means of achieving this outcome.**

**Recommendation #15: The legal status of the marine area surrounding Suvarrow Island (dual designations under *Marae Moana Act 2017* and former *Conservation Act 1975*) is assessed and addressed. The high levels of protection attained through national park designation of the territorial sea should be maintained if possible.**

**Recommendation #16: The legal status of the marine area surrounding Takutea Island (dual designations under *Marae Moana Act 2017* and *Environment (Atiu and Takutea) Regulations 2008*) is assessed and addressed. The high levels of protection attained through the *Environment Regulations 2008* (effectively “no take” to 5nm or potentially 12nm) should be maintained if possible.**

## 7.2 Areas requiring further investigation

Seven areas require further investigation to ascertain if they meet the protected areas definition:

- **Moko'ero Nui (Atiu):** potentially a Nature Reserve. The Moko'ero Nui Nature Reserve on Atiu was created in 2016 with a declaration signed by representatives of the landowner families, as part of a project funded by the Critical Ecosystem Partnership Fund delivered by Cook Islands Natural Heritage Trust (Butler 2017). Further research is required to ascertain if the area meets the definition of a protected area, in particular whether any written, binding agreement between landholders is in place that ensures the area is protected in perpetuity<sup>31</sup>. The objective of the area and the priority placed upon nature conservation as the overriding priority also needs consideration.
- **Tikioki Ra'ui mutukore (Rarotonga):** potentially a marine protected area. Further investigation is required into the actual area that is covered by ra'ui mutukore (permanent closure) and by ra'ui (seasonal closure).
- **Oótu Ra'ui mutukore (Aitutaki):** potentially a marine protected area. Further investigation is required into the actual area that is covered by ra'ui mutukore (permanent closure) and by ra'ui (seasonal closure). The existence or not of any bylaws for this area needs investigation.
- **Ra'ui at Pukapuka:** ra'ui exist across four motu (Ko, Kotawa, Niua, Uta) and are understood to have been in place for generations. Covering a relatively large area of 450ha, these ra'ui are likely a mix of island and marine environments. Further investigation is required to ascertain if these ra'ui are in effect ra'ui mutukore and if so whether they meet the protected areas definition.

**Recommendation #17: the seven areas of uncertain classification status – Moko'ero Nui (Atiu), Tikioki ra'ui mutukore (Rarotonga); Oótu ra'ui mutukore (Aitutaki), and four motu at Pukapuka – are further investigated to ascertain if they meet the protected areas definition.**

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<sup>31</sup> Efforts were made to secure a copy of the written agreement for Moko'ero Nui. Approaches to the Natural Heritage Trust (NHT), who played a lead role in establishment of the area, and Atiu community leaders, have proven inconclusive at time of writing.

### Box #6: Current protected areas of Cook Islands

Based on application of the classification system, currently there are 10 protected areas in the Cook Islands:

- Suvarrow National Park (160 ha) and Takutea Nature Reserve (120 ha), both of which extend across island and marine environments (mixed terrestrial and marine protected areas)
- the Marae Moana Marine Conservation Zones surrounding each island that collectively form eight contiguous MPAs (309,136 km<sup>2</sup>).

A further seven areas require further investigation: Moko'ero Nui (Atiu), Tikioki Ra'ui mutukore (Rarotonga); Oótu Ra'ui mutukore (Aitutaki), and four motu at Pukapuka.

### 7.3 Managed Areas

There are 89 'Managed Areas' that include Marae Moana (EEZ from 50-200nm), island and marine ra'ui (exact number yet to be determined), Takitumu Conservation Area, Takuvaine Water Catchment Management Area, and others (Annex 5). In summary, there are:

- 39 terrestrial managed areas (17, 44% in Northern Group; 22, 56% in Southern Group)
- 50 marine managed areas (14, 28% in Northern Group; 36, 72% in Southern Group)
- Total of 89 managed areas [39 terrestrial (43%), 50 marine (57%)].

Once again, it is emphasised that this inventory is incomplete and needs checking and refinement (refer Recommendation #12).

The designation of these places as 'Managed Areas' - and not protected areas - is explained below.

#### Marae Moana (Cook Islands Marine Park)

Section 5 analysed the Marae Moana and found that it was not a MPA, although parts are (Marine Conservation Zones surrounding each island). The balance of the Marae Moana (1,660,647 km<sup>2</sup>), being all areas of the EEZ from 50- 200 nm) is currently a Managed Area. This large area is currently not zoned, although this will change in future once the offshore MSP is completed. At that time, Marae Moana would be a mixed MPA and managed area with zones having different designations as follows:

MPA	Managed area
Marine Conservation Zone	Seabed Mining Zone
National Marine Park Zone	General Use Zone
Preservation Zone	

#### Island and marine ra'ui

Ra'ui do not qualify as protected areas because ra'ui are a temporary designation, a restriction on resource use and/or access for a set period; at the end of the closure, the area is once again opened to resource use. To qualify as a protected area, areas should be managed in perpetuity and not as a short-term or temporary management strategy (see definition at Annex 2). On this basis, ra'ui do not meet a fundamental part of the protected area definition.

Furthermore, the objectives of ra'ui are often, although not always, focused on short-term resource management for the purposes of local food production and livelihoods, rather than nature conservation.

### Takitumu Conservation Area

Takitumu Conservation Area (TCA) is a 155-ha area of forested lowland hills on southern Rarotonga. It was informally protected by three landowning families in 1996, primarily to protect the small endemic forest bird, the kākērōri (Rarotonga flycatcher) (*Pomarea dimidiata*), that was once confined to this site (Robertson et al. 2020).

The TCA has no legal existence or definition; it exists by the continuing informal agreement of the three landowning families. Robertson et al. (2020) provide an overview of the history of the area and the process that led to the agreement. They also highlight that a fundamental problem with the current informal TCA structure is the lack of legal standing – this makes it difficult to solicit funds or own property. A possible solution would be the three land-owning families to incorporate themselves, with others if they wished, as a trust. Saul & Tiraa (2004) made a similar recommendation.

TCA does not qualify as a protected area because it is not long term or designated “in perpetuity”. The agreement between families is informal and there is always a possibility that the agreement could be discontinued by one or more parties at any time.

### Takuvaine Water Catchment Management Area

This area is established under the Environment (Takuvaine Water Catchment Management Plan) Regulations 2006. The objectives of this area are not defined however the intent from the Regulations is to protect the quality of water in the Te Kou catchment of Rarotonga.

On the basis that the primary objective of the area is focused on protection of water quality, rather than nature conservation, Takuvaine is not considered to be a protected area.

**Recommendation #18: The areas that do not meet the definition and classification of protected areas as identified in Annex 5 are categorised as ‘Managed Areas’.**

### Manuae

The status of Manuae Island (off Aitutaki) has recently become clouded. Both Butler (2017, p8) and SPREP (2018, p129) state that the island is a wildlife reserve. This is an error and probably originates from the R2R design document that stated a project aim was to establish Manuae as a wildlife reserve (UNDP 2015). Despite being an aim of the R2R Project, it has not been enacted.

It is noted that Schedule 3 of the draft *Environment (Aitutaki and Manuae) Regulations 2020* include Manuae as a ‘protected area’. These Regulations are not yet approved. Even when they are, that does not mean that Manuae is a ‘protected area’ as per the definition proposed in this PACS (Section 3.1). The issues and confusion that surround use of this ‘protected area’ terminology in Environment Regulations are discussed in detail in Section 2.1.

Due to the global significance of Manuae, Saul & Tiraa (2004, p26) proposed that the whole island, lagoon and surrounding seas be designated as a wildlife sanctuary or national park. They also suggested a community trust approach, as used for Takutea, to address long-standing land tenure disputes.

#### **Box #7: ‘Managed Areas’ of Cook Islands**

Based on application of the classification system, there may be up to approximately 89 ‘Managed Areas’ across the Cook Islands, the most numerous being island and marine ra’ui. Although these ‘Managed Areas’ do not meet the definition of a protected area, they still play a very important role in local and national biodiversity conservation and are an enduring example of customary resource conservation and management and Cook Islands culture.

## 7.4 World Database on Protected Areas (WDPA)

The WDPA is the most comprehensive global database of marine and terrestrial protected areas, comprising both spatial data (ie. boundaries and points) with associated attribute data (ie. tabular information). It is available online through Protected Planet<sup>32</sup> where the data are viewable on a single map and downloadable (Bingham et al. 2019).

There are many benefits of using the WDPA; these include:

- **Global and national reporting obligations.** The WDPA is used to calculate country progress in achieving globally agreed targets under the CBD and SDGs. The WDPA is also a valuable tool for countries to report against national policy and plans such as the NDSP.
- **Inventory of national data.** Throughout the Cook Islands, protected and other areas are managed by different organisations and governmental agencies, including landholders and community groups. Storage of data on a centralised national database helps to provide the country with a clearer picture of the protected area network as a whole.
- **Contribute to research and planning.** By using the WDPA for scientific research, gaps in protected area and OECM networks can be identified and highlighted. Data from the WDPA can also be used to inform conservation planning and to identify the most suitable places for the establishment of new protected areas or OECMs in the country.
- **Regional partnerships.** Improved provision of protected area information at the regional level has the additional benefit of building regional partnerships between countries and capacity development through knowledge transfer (UNEP-WCMC 2019).

An aim of the PACS (refer Section 1.2) is to develop a database framework to record information about protected and other areas (current and future), enter data for existing areas, and meet needs for national planning, analysis and recording, and for global reporting, including to the WDPA. An anticipated outcome is that accurate and current data for all Cook Islands protected areas is loaded onto the WDPA.

Annex 6 takes the protected areas information from Section 7.1 and Annex 5 and incorporates it into the required format for the Cook Islands WDPA<sup>33</sup>.

**Recommendation #19: Updated information for the Cook Islands protected areas (as per Annex 6) is entered onto the WDPA.**

## 7.5 World Database for Other Effective Area-Based Conservation Measures (WD-OECM)

In November 2018, Parties to the CBD adopted a definition of an "other effective area-based conservation measure" (OECM) as well as guiding principles, common characteristics and criteria for identification of OECMs (CBD 2018). An OECM is defined as:

*"A geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values"* (CBD 2018).

The World Database for OECMs (WD-OECM) has been established so that countries can submit their data for inclusion. The WD-OECM can be combined with the WDPA to provide a more comprehensive picture of national and global conservation networks. IUCN's WCPA has produced guidelines to assist with the identification and reporting of OECMs (IUCN WCPA 2019).

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<sup>32</sup> [www.protectedplanet.net](http://www.protectedplanet.net)

<sup>33</sup> In October 2020, Cook Islands protected area data was submitted to UNEP-WCMC for inclusion in the updated 2020 Protected Planet Report. This data needs updating to take account of the recent decision regarding industrial fishing in MPAs (refer Section 5.2) and implications for Marae Moana.

Because this definition and guidelines were only recently adopted, most countries including the Cook Islands have not yet provided data to the WD-OECM. It is likely that many of the Cook Islands' Managed Areas listed in Appendix 5 will meet the definition of an OECM. The WCPA guidance is comprehensive and could be used to undertake a comprehensive assessment of Cook Islands Managed Areas and identification of those that are OECMs; identified OECMs could then be included on the WD-OECM.

**Recommendation #20: Cook Islands managed areas are assessed and OECMs are identified and entered onto the WD-OECM, and be used to report against the Cook Islands' global obligations under the CBD and SDGs.**

## 8. Conclusion

This policy paper aims to establish a national protected areas classification system (PACS) and a consistent suite of definitions and terminology, and to apply this system to the diverse array of protected areas and managed areas that exist throughout the Cook Islands.

The PACS aims to address a range of long-standing issues and misunderstandings and attain consistency in how terms are used. It provides a glossary of definitions for protected areas and managed areas and a robust system for consistent classification and designation of current and future areas. These standardised protected areas definitions and typology can be incorporated into legislation, policy and plans.

Application of this PACS demonstrates that the Cook Islands has an extensive network of 10 terrestrial and marine protected areas already in existence, and another 89 or so managed areas that contribute to biodiversity conservation, resource management and livelihoods. This information means that the Cook Islands, for the first time, can accurately report against targets as set in national plans and global conventions.

A simple and easily understood classification system and consistent terminology will also assist the tourism sector in better communicating and promoting protected areas to visitors and international markets.

It is advocated that once PACS is agreed to and fully implemented, then an important outcome will be achieved:

*When considering protected areas, Cook Islanders will be speaking a common language.*

This and many other benefits will also eventuate.

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## Annex 1. Extracts from Environment Act 2003 and Regulations regarding 'protected areas'

### Environment Act 2003

#### 41. Protected Areas -

(1) Where an Island Environment Authority proposes to designate an area within its island having ecological, cultural, archaeological, historical or scenic importance as a protected area for the purpose of environment and natural resource conservation and management (including protection, conservation and management of animals and plants and their habitats), the Island Environment Authority may cause to be issued in respect of that area a notification to that effect in accordance with the procedure set out in this section.

(2) Every notification issued pursuant to this section shall specify -

(a) the description of the area to which the notification relates including, in the case of native freehold land, the legal description of the land concerned, or in the case of native customary land, a survey description; and

(b) the particulars of the ecological, cultural, archaeological, historical or scenic importance and the resources, animals, plants, and their habitats; and

(c) the name of the management plan that relates to the area concerned (or, in the case of an amendment to a management plan, the number and date of the amendment); and

(d) where the management plan (or, as the case may be, the amendment) may be viewed during normal office hours.

(3) An Island Environment Authority shall not issue a notification -

(a) in respect of native freehold land, unless and until there has been concluded pursuant to the Land (Facilitation of Dealings) Act 1970 between the Director and the owners of the land and any other person having an interest in the land to which the notification relates, a shared resource management agreement as provided for in subsection (4);

(b) in respect of native customary land, unless and until there has been concluded between the Director and the members of the Aronga Mana of the district in which the land is situated (and the Ariki of the island, where there is only one Ariki for the that island) and any other person having an interest in the land to which the notification relates, a shared resource management agreement as provided for in subsection (4);

(c) in respect of any other land., unless and until there has been concluded between the Director and the owners of the land and any other person having an interest in the land to which the notification relates, a shared resource management agreement as provided for in subsection (4).

(4) Every shared resource management agreement shall -

(a) identify the resource, animals, plants and habitats to be protected, conserved, or managed; and

(b) include the management plan to be notified under subsection (2); and

(c) describe the manner in which the management plan shall be implemented so as to achieve the objectives of the plan; and

(d) provide a procedure for agreeing to an amendment to or substitution of the management plan following notification of that plan under subsection (2).

(5) No notification may be made-

(a) In respect of any area, unless the Aronga Mana of the relevant district (and the Ariki of the island, where there is only one Ariki for that island) concur with the notification;

(b) Of any amendment to or substitution of a management plan, unless that amendment or substitution has been approved in terms of section 38(1)(a) and agreed to in accordance with the procedure referred to in subsection (4) (d.).

(6) A notifications shall come into force and take effect from the date of its publication in the Gazette.

(7) Without limiting the powers conferred by sections 27 and 28, an Environment Officer may at all reasonable times enter and inspect any premises within a protected area to-

- (a) implement the provisions of the management plan notified in relation to the area; and
- (b) determine whether the provisions of that management plan are being complied with; and
- (c) monitor the attainment of the objectives of that management plan.

## **Environment (Atiu and Takutea) Regulations 2008**

### **15. Designation of Protected Areas –**

- (1) The areas listed in Schedule 3 are hereby declared protected areas.
- (2) No person shall, within a protected area designated under subclause (1), without the permission of the Island Environment Authority, remove, destroy or harm any plant, fish, bird or animal.
- (3) No person shall litter or deposit any waste, chemicals, soaps, shampoos, detergents in a protected area designated under subclause (1).
- (4) No person shall set a fire in a protected area designated under subclause (1).
- (5) No person may introduce any plant, fish, bird or animal into a protected areas designated under subclause (1) without written permission from the Landowners, Island Environment Authority and the Island Council.
- (6) No person shall undertake any construction or building within a protected area designated under subclause (1) without written permission from the Landowners, Island Environment Authority and the Island Council.
- (7) No person shall undertake any commercial tour operation within a protected area designated under subclause (1) without written permission from the Landowners and the Island Council
- (8) The Island Environment Authority may, following consultation, with the Landowners concerned, declare other protected areas on the island.

### **16. Management Plan –**

- (1) The Island Environmental Authority may from time to time, in consultation with the Island Council and landowners, prepare a draft management plan for any protected area designated pursuant to Regulation 15 (1) and (8), for the protection, conservation, management, and control of -
  - (a) wildlife including species in the opinion of the Island Environment Authority are at risk and the habitat of such species;
  - (b) water resources or any watershed area;
  - (c) Atiu waters; and
  - (d) any other matter relating to the environment which in the opinion of the Island Council will benefit from a management plan.
- (2) A draft management plan prepared pursuant to the provisions of subclause (1) must -
  - (a) take into account the environmental policies of the Island Council and Government;
  - (b) receive the approval of any landowners affected prior to adoption by the Island Council.

## **Environment (Mitiaro) Regulations 2008**

### **14. Designation of Protected Areas –**

- (1) The areas listed in Schedule 3 are hereby declared protected areas.
- (2) No person shall, within a protected area designated under subclause (1), without the permission of the Island Environment Authority, remove, destroy or harm any plant, fish, bird or animal.
- (3) No person shall litter or deposit any waste in a protected area designated under subclause (1).
- (4) No person shall set a fire in a protected area designated under subclause (1)
- (5) No person may introduce any plant, fish, bird or animal into a protected areas designated under subclause (1) without written permission from the Ui Ariki and the Island Council.

(6) No person shall undertake any construction or building within a protected area designated under subclause (1) without written permission from the Ui Ariki and the Island Council.

(7) No person shall undertake any commercial tour operation within a protected area designated under subclause (1) without written permission from the Ui Ariki and the Island Council.

(8) No person shall possess or use any soaps, shampoo, conditioner or detergent in any Caves that has been declared a protected area, with the exception of Vai Marere.

(9) The Island Environment Authority may, following consultation, with the Landowners concerned and the Island Council, declare other protected areas on the island.

#### 15. Management Plan –

(1) The Island Environmental Authority may from time to time and shall when directed by the Island Council, prepare a draft management plan for any protected area designated pursuant to Regulation 14 ,for the protection, conservation, management, and control of -

(a) wildlife including species in the opinion of the Island Council are at risk and the habitat of such species;

(b) Water resources or any watershed area;

(c) Mitiaro waters; and

(d) any other matter relating to the environment which in the opinion of the Island Council will benefit from a management plan.

(2) A draft management plan prepared pursuant to the provisions of subclause (1) must take into account the environmental policies of the Island Council and Government.

(3) A draft management plan prepared by the Island Environment Authority must seek and obtain the approval of the Aronga Mana and any Landowners affected prior to approval by the Ui Ariki and the Island Council.

## Annex 2. Explanation of protected area definition

Phrase	Explanation provided in the 2008 Guidelines (Dudley 2008)	Discussion and example of application in the marine realm (Day et al. 2019)
<b>Clearly defined</b>	Clearly defined implies a spatially defined area with agreed and demarcated borders. These borders can sometimes be defined by physical features that move over time (e.g. river banks) or by management actions (e.g. agreed no-take zones)	This implies that MPAs must be mapped and have boundaries that are legally defined. However, while some MPAs can be clearly defined (e.g. an entire bay bounded by headlands), for others it may be difficult to mark the boundaries, especially if the MPA is offshore. Even boundaries on the landward side, where tide levels can be used (e.g. Low Water Mark), can be difficult to establish (see Box 1). Increasingly, MPA or zone boundaries are defined by high resolution latitude and longitude coordinates, as determined by Global Positioning System (GPS) instruments. <b>Example:</b> • The US National Marine Sanctuary System identifies sanctuaries legislated under the National Marine Sanctuaries Act with boundaries defined in a series of associated maps.
<b>Geographical space</b>	Includes land, inland water, marine and coastal areas or a combination of two or more of these. 'Space' has three dimensions, e.g. as when the airspace above a protected area is protected from low-flying aircraft or in marine protected areas when a certain water depth is protected or the seabed is protected but water above is not: conversely subsurface areas sometimes are not protected (e.g. are open for mining).	All protected areas exist in three dimensions, but the vertical dimension in MPAs is often a substantial management consideration. In MPAs, management may need to address the airspace above the sea surface, the water surface, the water column (or parts of it), the seabed and the sub-seabed, or just one or a combination of two or more of these elements. For example, some MPAs protect just the seabed/benthos and not the water column above. It is therefore important that an MPA has a clear description of the dimensions that are actually protected. Vertical zoning can be problematic because many of these elements have strong ecological interactions. In consequence, IUCN has a strong presumption against vertical zoning of MPAs (see also section 5.5). <b>Example:</b> • In Australia's Great Barrier Reef Marine Park (GBRMP), the boundary is clearly defined by legal proclamation. The zones in the GBRMP are legally defined in the statutory Zoning Plan. The MPA goes to a depth of 1000 metres below the seabed and a height of 915 metres (airspace) above the surface of the water.
<b>Recognised</b>	Implies that protection can include a range of governance types declared by people as well as those identified by the state, but that such sites should be recognised in some way (in particular through listing on the World Database on Protected Areas – WDPA).	<b>Example:</b> • The Government of Canada and the Council of the Haida Nation comanage Gwaii Haanas National Park Reserve and Haida Heritage Site, and the Gwaii Haanas National Marine Conservation Area Reserve off the Pacific coast of Canada.
<b>Dedicated</b>	Implies specific binding commitment to conservation in the long term, through e.g.: • International conventions and agreements	<b>Example:</b> • The Galápagos Marine Reserve is designated under national law and is also an integral part of the Galápagos Islands World Heritage site

Phrase	Explanation provided in the 2008 Guidelines (Dudley 2008)	Discussion and example of application in the marine realm (Day et al. 2019)
	<ul style="list-style-type: none"> <li>• National, provincial and local law</li> <li>• Customary law</li> <li>• Covenants of NGOs</li> <li>• Private trusts and company policies</li> <li>• Certification schemes.</li> </ul>	
<b>Managed</b>	Assumes some active steps to conserve the natural (and possibly other) values for which the protected area was established; note that 'managed' can include a decision to leave the area untouched if this is the best conservation strategy.	<p>The requirement that a site is managed applies to both marine and terrestrial situations. As on land, many types of MPA management are possible. Examples:</p> <ul style="list-style-type: none"> <li>• Bonaire National Marine Park in the Netherlands Antilles has clearly defined regulations that apply to all users of the park.</li> <li>• ProtectedSeas.net provides boundary data and regulations for marine protected areas and other managed areas</li> </ul>
<b>Legal or other effective means</b>	Means that protected areas must either be gazetted (that is, recognised under statutory civil law), recognised through an international convention or agreement, or else managed through other effective, but non-gazetted, means, such as through recognised traditional rules under which community-conserved areas operate or the policies of established non-governmental organisations.	<p>As for terrestrial protected areas, 'effective means' include agreements with indigenous peoples groups; Example:</p> <ul style="list-style-type: none"> <li>• Dhimurru Indigenous Protected Area, an area of land and sea in the Northern Territory of Australia, on the Gulf of Carpentaria, is run by the Dhimurru Land Management Aboriginal Corporation which works with the Traditional Owners to manage the protected area.</li> </ul>
<b>... to achieve</b>	Implies some level of effectiveness – a new element that was not present in the 1994 definition but which has been strongly requested by many protected area managers and others. Although the category will still be determined by objective, management effectiveness will progressively be recorded on the WDPA and over time will become an important contributory criterion in identification and recognition of protected areas.	<p>As for terrestrial protected areas, this implies some level of effectiveness and therefore requires that the MPA is subject to monitoring, evaluation and reporting. One way to address this is by meeting certain agreed management standards, such as those of the IUCN Green List.</p> <p>Example:</p> <ul style="list-style-type: none"> <li>• An assessment of the Tortugas Ecological Reserve, part of the Florida Keys National Marine Sanctuary, found that this no-take area was meeting its objectives, benefitting both fish populations and recreational and commercial fishers.</li> </ul>
<b>Long-term</b>	Protected areas should be managed in perpetuity and not as short-term or a temporary management strategy.	<p>As with terrestrial protected areas, long-term protection (over timescales of human generations) is necessary for effective marine conservation. Seasonal closures of an area for a specific purpose (such as fish spawning, whale breeding, etc.), in the absence of any additional biodiversity protection and any primary nature conservation objective are not considered to be MPAs. Seasonal protection of certain species or habitats may be a useful component of management in an MPA.</p> <p>Examples:</p>

Phrase	Explanation provided in the 2008 Guidelines (Dudley 2008)	Discussion and example of application in the marine realm (Day et al. 2019)
		<ul style="list-style-type: none"> <li>• The Cockle Bay Shellfish Seasonal Closure area in New Zealand is NOT an MPA as it is only in force for the months of October to April when collection of shellfish is banned.</li> <li>• In the Marine Mammal Protection Zone of the Great Australian Bight Marine Park (Commonwealth Waters) the use of vessels is prohibited 1 May – 31 October each year to protect an important calving and breeding area for Southern Right Whales</li> </ul>
<b>Conservation</b>	In the context of this definition, conservation refers to the in situ maintenance of ecosystems and natural and semi-natural habitats and of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.	<p>Examples:</p> <ul style="list-style-type: none"> <li>• Ecological Reserves in the Florida Keys National Marine Sanctuary in the United States are designed to provide natural spawning and nursery areas for the replenishment and genetic protection of marine life and aim to protect and preserve all habitats and species found throughout the Sanctuary.</li> <li>• The protection of at least 20% of all 30 reef and 40 non-reef bioregions within the Great Barrier Reef Marine Park provides in situ protection of representative examples of all species and ecosystem processes.</li> </ul>
<b>Nature</b>	In this context nature always refers to biodiversity, at genetic, species and ecosystem level, and often also refers to geodiversity, landform and broader natural values. All protected areas, whether terrestrial or marine should aim to protect all the features of conservation importance within their boundaries.	<p>Example:</p> <ul style="list-style-type: none"> <li>• The overall statutory objective of the Great Barrier Reef Marine Park is to provide for the long-term protection and conservation of the environment, biodiversity and heritage values of the Great Barrier Reef Region (see section 2A(1)).</li> <li>• The primary statutory objective of the Alaska Maritime National Wildlife Refuge is the conservation of animals and habitats in their natural biodiversity.</li> </ul>
<b>Associated ecosystem services</b>	Means here ecosystem services that are related to but do not interfere with the aim of nature conservation. These can include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious and other nonmaterial benefits.	<p>MPAs provide a wide range of ecosystem services:</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• Cultural ecosystem services: The MPA network in Belize has been estimated to contribute nearly US\$20 million annually in reef-related visitor expenditure.</li> <li>• Regulating ecosystem services, for example seagrass meadows, mangroves and tidal wetlands as carbon sinks: MPAs initially designated by the Malta Environment and Planning Authority aimed to protect Malta's Posidonia (seagrass) beds, a Natura 2000 priority habitat type for European waters.</li> </ul> <p>Areas set up for wave/wind power are generally NOT MPAs (see section 2.3)</p>
<b>Cultural values</b>	Includes those that do not interfere with the conservation outcome (all cultural values in a protected area should meet this criterion), including in particular:	<p>Areas set aside for cultural values are only protected areas under the IUCN definition if they have nature conservation as a primary aim. However, many MPAs contain sacred sites or have significant cultural and heritage value, and understanding of this is important.</p> <p>Examples:</p>

Phrase	Explanation provided in the 2008 Guidelines (Dudley 2008)	Discussion and example of application in the marine realm (Day et al. 2019)
	<ul style="list-style-type: none"> <li>• Those that contribute to conservation outcomes (e.g. traditional management practices on which key species have become reliant)</li> <li>• Those that are themselves under threat.</li> </ul>	<ul style="list-style-type: none"> <li>• Nosy Ve, an island in southern Madagascar protected under a local 'dina' agreement is both a sacred site and an area important for corals and as a tropicbird nesting colony.</li> <li>• Papahānaumokuākea Marine National Monument in the North West Hawaiian Islands is important for Native Hawaiians at genealogical, cultural and spiritual levels. It is also a World Heritage property designated because its natural and cultural values are considered to be universally outstanding</li> </ul>

### Annex 3. IUCN protected area management categories

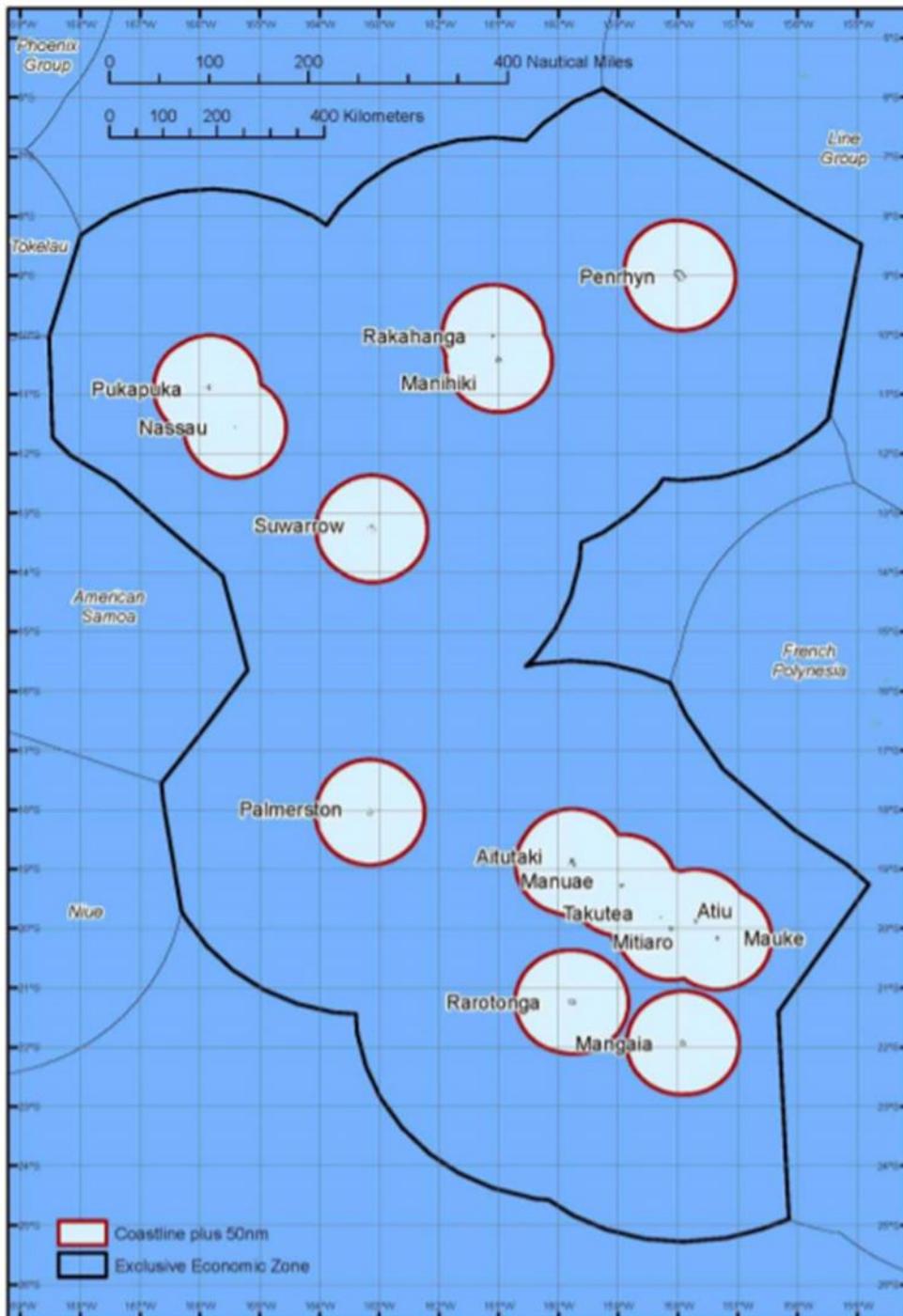
(after Dudley 2008)

Management category	Name	Description	Primary objective
1a	Strict nature reserve	Strictly protected for biodiversity and also possibly geological/ geomorphological features, where human visitation, use and impacts are controlled and limited to ensure protection of the conservation values.	To conserve regionally, nationally or globally outstanding ecosystems, species (occurrences or aggregations) and/or geodiversity features: these attributes will have been formed mostly or entirely by non-human forces and will be degraded or destroyed when subjected to all but very light human impact.
1b	Wilderness area	Usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, protected and managed to preserve their natural condition.	To protect the long-term ecological integrity of natural areas that are undisturbed by significant human activity, free of modern infrastructure and where natural forces and processes predominate, so that current and future generations have the opportunity to experience such areas.
II	National park	Large natural or near-natural areas protecting large-scale ecological processes with characteristic species and ecosystems, which also have environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.	To protect natural biodiversity along with its underlying ecological structure and supporting environmental processes, and to promote education and recreation <sup>34</sup> .
III	Natural monument or feature	Areas set aside to protect a specific natural monument, which can be a landform, sea mount, marine cavern, geological feature such as a cave, or a living feature such as an ancient grove.	To protect specific outstanding natural features and their associated biodiversity and habitats.
IV	Habitat/species management area	Areas to protect particular species or habitats, where management reflects this priority. Many will need regular, active interventions to meet the needs of particular species or habitats, but this is not a requirement of the category.	To maintain, conserve and restore species and habitats.

<sup>34</sup> Note that the name “national park” is not exclusively linked to Category II. Places called national parks exist in all the categories (and there are even some national parks that are not protected areas at all). The name is used here because it is descriptive of Category II protected areas in many countries. The fact that an area is called a national park is independent of its management approach. In particular, the term “national park” should never be used as a way of dispossessing people of their land (Dudley 2008).

Management category	Name	Description	Primary objective
V	Protected landscape or seascape	Where the interaction of people and nature over time has produced a distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.	To protect and sustain important landscapes/seascapes and the associated nature conservation and other values created by interactions with humans through traditional management practices.
VI	Protected areas with sustainable use of natural resources	Areas which conserve ecosystems, together with associated cultural values and traditional natural resource management systems. Generally large, mainly in a natural condition, with a proportion under sustainable natural resource management and where low-level non-industrial natural resource use compatible with nature conservation is seen as one of the main aims.	To protect natural ecosystems and use natural resources sustainably, when conservation and sustainable use can be mutually beneficial.

## Schedule 1 Marine protected area established by this Act



Note: these MPAs are proposed to be renamed as *Marine Conservation Zones* [refer Twyford (2021) for rationale and justification].

## Annex 5. Cook Islands protected and managed areas database

INVENTORY OF MANAGED AREAS - TERRESTRIAL (as at 08.01.2021)								
GROUP	ISLAND	NAME	Source	AREA	AREA	Status_Yr	Comments	MA count
				km2	ha			
N	Manihiki	Lake Porea	Saul & Tiraa (2004 p25); Butler (2017, p27); SPREP (2018, p130)	0.26	26		Bylaws in place (2001, 2003) but not clear if any ra'ui are covered; Lake Porea & Lake Tepuka Roto ra'ui are not in the bylaws schedule	1
N	Manihiki	Lake Tepuka Roto	Saul & Tiraa (2004 p25); Butler (2017, p27); SPREP (2018, p130)	0.15	15		Bylaws in place (2001, 2003) but not clear if any ra'ui are covered; Lake Porea & Lake Tepuka Roto ra'ui are not in the sbylaws schedule	1
<b>N</b>	<b>Manihiki</b>	<b>Sub-total</b>		<b>0.41</b>	<b>41</b>			<b>2</b>
N	Nassau	Nassau birds	Munro (2018)	0.00	0		Ra'ui for Takupu (Red footed booby)	1
N	Nassau	Taki	Munro (2018)	0.00	0		Whole area and resources under ra'ui; terrestrial and marine ra'ui (Munro 2018)	1
<b>N</b>	<b>Nassau</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>2</b>
N	Penrhyn			0.00	0			0
<b>N</b>	<b>Penrhyn</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>0</b>
N	Pukapuka	Motu Ko	Ra'ui are likely a mix of motu + lagoon/reef; total land area is 450ha; bylaws in place (Saul & Tiraa 2004, p21, p25); McCormack (2002), SPREP (2018), Munro (2018); area (ha) discrepancy with Butler (2014, p27), needs checking	3.00	300		Ancient to Ngake Village, whole islet (McCormack 2002)	1
N	Pukapuka	Motu Kotawa		0.90	90		Ancient to Yato Village, whole islet (McCormack 2002)	1
N	Pukapuka	Motu Niua (Niu-Ya?)		0.10	10		Ancient to Yato Village, on Wale islet (McCormack 2002)	1
N	Pukapuka	Motu Uta		0.50	50		Ancient to Loto Village, on Wale islet, 30% of islet (McCormack 2002)	1
<b>N</b>	<b>Pukapuka</b>	<b>Sub-total</b>		<b>4.50</b>	<b>450</b>		All Pukapuka ra'ui are under Ture o te Enuia (Munro 2018)	<b>4</b>
N	Rakahanga	Te Kainga ra'ui	Five ra'ui on five motu, approx. 3sq km, with bylaws in place (Saul & Tiraa 2004, p20, 21, 25); Te Paerangi (28ha) & Te Taha ki Raro (104ha) covered separately (see below); exact area needs checking. All ra'ui have bylaws in place (Saul & Tiraa 2004, p21).	1.68	168		8.8ha according to SPREP 2018, p130; mixed island & marine	1
N	Rakahanga	Moturoa ra'ui					1	
N	Rakahanga	Paerangi ra'ui					1	
N	Rakahanga	Te Taha Ki Raro ra'ui					1	
N	Rakahanga	Teturone ra'ui					1	
N	Rakahanga	Te Paerangi ra'ui	MMR (2011)	0.28	28		Mixed marine + terrestrial (MMR 2011)	1
N	Rakahanga	Te Taha Ki Raro ra'ui	SPREP (2018)	1.04	104		Terrestrial area (104 ha); marine area of 239 ha (SPREP 2018). Area (ha) needs checking - MMR (2011) has terrestrial = 2.21 km2, marine = 3.43 km2	1
N	Rakahanga	Te Tukono ra'ui	Munro (2018)		0	2012	Est approx 2012 when island council members elected (Munro 2018)	1
N	Rakahanga	Rakahanga Island	Munro (2018)		0		From Paerangi to Motu Roa, extends to the reef, crayfish and coconut crab under ra'ui (Munro 2018); likely a mixed island & marine ra'ui site	1
<b>N</b>	<b>Rakahanga</b>	<b>Sub-total</b>		<b>3.00</b>	<b>300</b>			<b>9</b>
N	Suvarrow							0
<b>N</b>	<b>Suvarrow</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>0</b>
<b>N</b>		<b>Sub-total Northern Group</b>		<b>7.91</b>	<b>791</b>			<b>17</b>

INVENTORY OF MANAGED AREAS - TERRESTRIAL (as at 08.01.2021)								
GROUP	ISLAND	NAME	Source	AREA	AREA	Status_Yr	Comments	MA count
				km2	ha			
S	Aitutaki	Te Akauroa	MMR (2011)	0.71	71	2010	MMR (2011) - mixed site: terrestrial 71ha, marine 71ha: areas need checking	1
<b>S</b>	<b>Aitutaki</b>	<b>Sub-total</b>		<b>0.71</b>	<b>71</b>			<b>1</b>
S	Atiu	Mokoero Forest	Rasmussen (2016)	1.03	103			1
S	Atiu	Moko'ero Nui	Butler (2017)	1.20	120	2014	Similar name to Mokoero Forest ra'ui however maps by Butler (2017) & Rasmussen (2016) clearly show these are different ra'ui	1
S	Atiu	Te Ana	Rasmussen (2016); Butler (2017, p26)	0.23	23		Area according to Butler (2017, p26) is 1.9h	1
S	Atiu	Te Miro	Rasmussen (2016)	0.30	30			1
S	Atiu	Te Miroiro	Butler (2017)	0.09	9		Mix of terrestrial and marine (Butler 2017, p26)	1
S	Atiu	Te Roto	Rasmussen (2016)	0.17	17			1
S	Atiu	Vaipiake	Rasmussen (2016)	0.31	31			1
<b>S</b>	<b>Atiu</b>	<b>Sub-total</b>		<b>3.33</b>	<b>333</b>			<b>7</b>
S	Mangaia	Keia Puna (Moakirikiri, Unga, Mokora)	Rasmussen (2016); Butler (2017, p26)	7.42	742	2014		1
S	Mangaia	Mangaia Tanga'eo Sanctuary	Butler (2017)	48.35	4835	2016	Entire island is a sanctuary (4835ha) (Butler 2017); confirmed by Puna Rakanui (HoA) & Alanna Smith (TIS); sanctuary overlays other ra'ui	1
S	Mangaia	Tavaenga Puna (Moakirikiri, Unga)	Rasmussen (2016); Butler (2017, p26)	11.50	1150	2014		1
<b>S</b>	<b>Mangaia</b>	<b>Sub-total</b>		<b>67.27</b>	<b>6727</b>			<b>3</b>
S	Manuae	Manuae Wildlife Reserve (proposed only, not in place)	Butler (2017); SPREP (2018)		0		SPREP (2018) list entire island as a wildlife reserve; appears to be an error that probably originates from UNDP R2R ProDoc that has an aim to establish Manuae as a reserve.	0
<b>S</b>	<b>Manuae</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>0</b>
S	Mauke	Auru	Rasmussen (2016); Butler (2017, p26)	0.43	43			1
S	Mauke	Kakemaunga	Rasmussen (2016); Butler (2017, p26)	0.13	13	2014?		1
S	Mauke	Unga Ra'ui	Rasmussen (2016); Butler (2017, p26)	2.67	267	2014		1
<b>S</b>	<b>Mauke</b>	<b>Sub-total</b>		<b>3.23</b>	<b>323</b>			<b>3</b>
S	Mitiaro	Te Roto Iti	Rasmussen (2016); Butler (2017, p27)	1.28	128	2008	Teroto-iti Te Pito o Kare listed in Schedule 3 of <i>Environment (Mitiaro) Regulations 2008</i>	1
S	Mitiaro	Te Roto Nui	Rasmussen (2016); Butler (2017); SPREP (2018)	1.14	114	2008	Listed in Schedule 3 of <i>Environment (Mitiaro) Regulations 2008</i> ; freshwater lake & swampland (Rasmussen 2016); SPREP (2018) state area is 321.7ha	1
S	Mitiaro	Tiara to Tevairoa (Mitiaro Fan Palm) (Mitiaro)	Rasmussen (2016)	1.31	131			1
<b>S</b>	<b>Mitiaro</b>	<b>Sub-total</b>		<b>3.73</b>	<b>373</b>			<b>3</b>
S	Palmerston	Leicester (Bird) Island/motu	Saul & Tiraa (2004, p26)	0.00	0			1
S	Palmerston	North Island/motu	Saul & Tiraa (2004, p26)	0.00	0			1
<b>S</b>	<b>Palmerston</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>2</b>

INVENTORY OF MANAGED AREAS - TERRESTRIAL (as at 08.01.2021)								
GROUP	ISLAND	NAME	Source	AREA	AREA	Status_Yr	Comments	MA count
				km2	ha			
S	Rarotonga	Highland Paradise	Rasmussen (2016)	0.32	32			1
S	Rarotonga	Takitumu Conservation Area	Rasmussen (2016); Robertson et al. (2020)	1.55	155	1996		1
S	Rarotonga	Takuvaine Water Catchment Area	<i>Environment (Takuvaine Water Catchment Management Plan) Regulations 2006</i> ; Rasmussen (2016)	2.29	229	2006	Established under <i>Environment (Takuvaine Water Catchment Management Plan) Regulations 2006</i>	1
<b>S</b>	<b>Rarotonga</b>	<b>Sub-total</b>		<b>4.16</b>	<b>416</b>			<b>3</b>
S	Takutea							0
<b>S</b>	<b>Takutea</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>0</b>
<b>S</b>		<b>Sub-total Southern Group</b>		<b>82.43</b>	<b>8243</b>			<b>22</b>
<b>N+S</b>		<b>Grand total: Cook Islands</b>		<b>90.34</b>	<b>9034</b>			<b>39</b>

INVENTORY OF MANAGED AREAS - MARINE (as at 08.01.2021)								
GROUP	ISLAND	NAME	Source	AREA	AREA	Status_Yr	Comments	MA count
				km2	ha			
N+S	all	Marae Moana (Cook Islands Marine Park) (EEZ 50-200 nm)	Marae Moana Act	1,660,647	166,064,700	2017	The balance of the Marae Moana (1,660,647 km2), being all areas of the EEZ from 50- 200 nm).	1
<b>N+S</b>		<b>Sub-total National</b>		<b>1,660,647</b>	<b>1,660,647</b>			<b>1</b>
N	Manihiki	Manihiki Lagoon (part)	Saul & Tiraa (2004, p20)	0.00	0		Portion of lagoon set aside by Island Council for marine research; no pearl farming or fishing permitted (Saul & Tiraa 2004, p20)	1
<b>N</b>	<b>Manihiki</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>1</b>
N	Nassau	Nassau Lagoon	Munro (2018)	0.00	0		Marine ra'ui for Koura & unga (Munro 2018)	1
N	Nassau	Taki	Munro (2018)	0.00	0		Whole area and resources under ra'ui; terrestrial and marine ra'ui (Munro 2018)	1
<b>N</b>	<b>Nassau</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>		All Nassau ra'ui are seasonal and under Ture o te Enea. Seasonal ra'ui (Munro 2018)	<b>2</b>
N	Penrhyn			0.00	0			0
<b>N</b>	<b>Penrhyn</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>0</b>
N	Pukapuka	Motu Ko	refer Pukapuka terrestrial areas	0.00	0			1
N	Pukapuka	Motu Kotawa		0.00	0			1
N	Pukapuka	Motu Niua (Niu-Ya?)		0.00	0			1
N	Pukapuka	Motu Uta		0.00	0			1
N	Pukapuka	Pukapuka birds	Munro (2018)	0.00	0		Seasonal; ra'ui under mana of Ture Enea (Munro 2018)	1
N	Pukapuka	Pukapuka Lagoon	Saul & Tiraa (2004, p25); Munro (2018)	0.00	0		Ra'ui for Turtles, Paua and Parau; restricted fishing type (fishnet fishing only, no spear fishing allowed) (Munro 2018). Whole lagoon (Saul & Tiraa 2004, p25)	1
<b>N</b>	<b>Pukapuka</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>		All ra'ui are seasonal and under Ture o te Enea. Seasonal ra'ui (Munro 2018)	<b>6</b>
N	Rakahanga	Motu Roa	Mix terrestrial & marine; established in approx 2012 when island council members elected (Munro 2018)	0.00	0			1
N	Rakahanga	Paerangi ra'ui	Mixed terrestrial & marine ra'ui; Butler (2017, p27); MMR (2011)	0.44	44			1
N	Rakahanga	Te Kahuka	Whole pond area; marine ra'ui for milk fish; main spawning area for milk fish & other species of fish (Munro 2018)	0.00	0			1
N	Rakahanga	Te Kainga	Butler (2017, p27); SPREP (2018)	0.06	6		SPREP (2018) list Te Kainga Island as a mixed marine & terrestrial reserve, total area of 8.83 ha	1
	Rakahanga	Te Taha Ki Raro ra'ui (Rakahanga lagoon)	Saul & Tiraa (2004, p25); Butler (2017, p27); SPREP (2018); Munro (2018)	0.00	0		Area (ha) needs checking - Saul & Tiraa (2004, p25) state total lagoon below 2m depth; about 2 sq. km; MMR (2011) has terrestrial 221 ha, marine 343 ha; SPREP (2018) has terrestrial area 104 ha & marine 239 ha; Munro (2018) says whole lagoon area is a marine ra'ui for pa'ua and parau; harvesting of fish allowed.	1
<b>N</b>	<b>Rakahanga</b>	<b>Sub-total</b>		<b>0.50</b>	<b>50</b>			<b>5</b>
N	Suvarrow			0.00	0			0
<b>N</b>	<b>Suvarrow</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>0</b>
<b>N</b>		<b>Sub-total Northern Group</b>		<b>0.50</b>	<b>50</b>			<b>14</b>

INVENTORY OF MANAGED AREAS - MARINE (as at 08.01.2021)								
GROUP	ISLAND	NAME	Source	AREA	AREA	Status_Yr	Comments	MA count
				km2	ha			
S	Aitutaki	Te Akauroa	MMR (2011) - mixed site: terrestrial 71ha, marine 71ha: needs checking	0.71	71	2010		1
S	Aitutaki	Bonefish ra'ui	Bonefish nursery (Rasmussen 2016)	1.22	122			1
S	Aitutaki	Maina ra'ui 1	Passfield & Rongo (2011)Rasmussen (2016); Butler (2017)	1.28	128	2000	Area (ha) needs checking; Saul & Tiraa (2004, p26) state areas of two ra'ui as 210ha and 230ha	1
S	Aitutaki	Maina ra'ui 2	McCormack (2002); Rasmussen (2016); Butler (2017)	0.81	81	2000	Area (ha) needs checking; Saul & Tiraa (2004, p26) state areas of two ra'ui as 210ha and 230ha	1
S	Aitutaki	Motu Kitiu ra'ui (Tapuaetai)	McCormack (2002); Rasmussen (2016)	4.07	407	2000	Area needs resolving as Saul & Tiraa (2004, p26) state that Motu Kitiu marine ra'ui is only 80ha; Butler (2017, p26) states area of 40ha; MMR (2011) list as mixed: land 398ha, marine 415ha	1
S	Aitutaki	Ootu ra'ui	McCormack (2002); Rasmussen (2016)	2.20	220	1993?	No take, permanent (Rasmussen 2016); area (ha) needs resolving as Saul & Tiraa (2004, p26) state it is two reserves of 190 ha; Butler (2017, p26) states ra'ui mutokore is just 2ha; MMR (2011) list as mixed site: terrestrial 265ha, marine 276ha	1
S	Aitutaki	Papau	Rasmussen (2016)	1.75	175		Bonefish nursery area (Rasmussen 2016)	1
S	Aitutaki	Rapota	Rasmussen (2016)	3.07	307		Bonefish nursery area (Rasmussen 2016)	1
S	Aitutaki	Taketake ra'ui	MMR (2011); Rasmussen (2016)	2.62	262	2009	MMR (2011) list as mixed site: terrestrial 75ha, marine 40ha	1
S	Aitutaki	Takitaki	Rasmussen (2016)	2.53	253		Bonefish nursery area (Rasmussen 2016)	1
S	Aitutaki	Tavaerua (trochus) ra'ui	Saul & Tiraa (2004, p20, 26); Rasmussen (2016)	0.32	32		Area (ha) as per Rasmussen (2016); bylaws in place (Saul & Tiraa 2004, p21)	1
<b>S</b>	<b>Aitutaki</b>	<b>Sub-total</b>		<b>20.58</b>	<b>2058</b>			<b>11</b>
S	Atiu	Te Miromiro	Butler 2017	0.11	11		Mix of terrestrial and marine (Butler 2017, p26)	1
S	Atiu	Te Vai (Coral Gardens)	Saul & Tiraa (2004, p20)	0.00	0			1
<b>S</b>	<b>Atiu</b>	<b>Sub-total</b>		<b>0.11</b>	<b>11</b>			<b>2</b>
S	Mangaia	Karanga	Rasmussen (2016)	0.11	11			1
S	Mangaia	Keia ra'ui	Rasmussen (2016); Butler (2017, p26)	0.38	38			1
S	Mangaia	Tamarua ra'ui	Rasmussen (2016)	0.19	19			1
S	Mangaia	Tavaenga ra'ui	Rasmussen (2016); Butler (2017, p26)	0.32	32			1
S	Mangaia	Veitatei ra'ui	Rasmussen (2016); Butler (2017, p26)	0.06	6			1
<b>S</b>	<b>Mangaia</b>	<b>Sub-total</b>		<b>1.06</b>	<b>106</b>			<b>5</b>
S	Manuae	Manuae Lagoon Trochus Sanctuary	WDPA	0.74	74		Not reported in other primary sources; needs checking if in existence or not	1
<b>S</b>	<b>Manuae</b>	<b>Sub-total</b>		<b>0.74</b>	<b>74</b>			<b>1</b>
S	Mauke	Patito Inaio	Rasmussen (2016); Butler (2017, p26)	0.05	5			1
<b>S</b>	<b>Mauke</b>	<b>Sub-total</b>		<b>0.05</b>	<b>5</b>			<b>1</b>
S	Mitiaro	Oponui te Vai	Rasmussen (2016)	0.23	23			1
<b>S</b>	<b>Mitiaro</b>	<b>Sub-total</b>		<b>0.23</b>	<b>23</b>			<b>1</b>
S	Palmerston	Ra'ui #1	Saul & Tiraa (2004, p21)	0.00	0			1
S	Palmerston	Ra'ui #2	Saul & Tiraa (2004, p21)	0.00	0			1
<b>S</b>	<b>Palmerston</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>2</b>

INVENTORY OF MANAGED AREAS - MARINE (as at 08.01.2021)								
GROUP	ISLAND	NAME	Source	AREA	AREA	Status_Yr	Comments	MA count
				km2	ha			
S	Rarotonga	Akapouao	McCormack (2002); Munro (2018)	0.37	37	2000	Area (ha) from McCormack (2002)	1
S	Rarotonga	Aroa ra'ui	Rasmussen (2016); Butler (2017); Munro (2018)	0.33	33	2006	Area (ha) as per Rasmussen (2016); ra'ui mutukore (no take), managed by resort & others (Munro 2018; Butler 2017)	1
S	Rarotonga	Avana/Aroko/Muri ra'ui	McCormack (2002); NES/IUCN (2011); Butler (2017)	0.37	37	1998	Butler (2017, p26) area is 71 or 87 ha	1
S	Rarotonga	Edgewater Reserve	Munro (2018)	0.15	15		Ra'ui mutukore; managed by resort & others (Munro 2018)	1
S	Rarotonga	Kavera/Betela ra'ui	McCormack (2002)	0.36	36	1999		1
S	Rarotonga	Nikao Social Centre Recreation Reserve	McCormack (2002); MMR (2011); Rasmussen (2016)	0.25	25	1998	MMR (2011) list as mixed site: 201ha land, 17ha marine: needs resolving	1
S	Rarotonga	Parliament ra'ui	McCormack (2002)	0.20	20	2000		1
S	Rarotonga	Pouara ra'ui	McCormack (2002); Butler (2017); Munro (2018)	0.05	5	1998	Management plan in place (2003) (Munro 2018); area (ha) from McCormack (2002)	1
S	Rarotonga	Rutaki ra'ui	McCormack (2002); Munro (2018)	0.18	18	1998	End of the Rarotongan Beach Resort & Spa to the end of the Rutaki Bridge (Munro 2018); area (ha) from McCormack (2002)	1
S	Rarotonga	Tikioki ra'ui	Saul & Tiraa (2004, p30); Rasmussen (2016); Butler (2017)	0.71	71	1998	Part is permanently reserved (ra'ui mutu kore) (Saul & Tiraa 2004, p30); area is 40ha according to Butler (2017, p26)	1
S	Rarotonga	Titikaveka ra'ui	Rasmussen (2016); Butler (2017)	0.05	5	1998		1
S	Rarotonga	Tokerau ra'ui	Rasmussen (2016); Butler (2017)	0.04	4	2007		1
S	Rarotonga	Vaimaanga ra'ui	McCormack (2002)	0.66	66	2000		1
<b>S</b>	<b>Rarotonga</b>	<b>Sub-total</b>		<b>3.72</b>	<b>372</b>			<b>13</b>
S	Takutea	Takutea						0
<b>S</b>	<b>Takutea</b>	<b>Sub-total</b>		<b>0.00</b>	<b>0</b>			<b>0</b>
<b>S</b>		<b>Sub-total Southern Group</b>		<b>26.49</b>	<b>2649</b>			<b>36</b>
<b>N+S</b>		<b>Grand total: Cook Islands</b>		<b>26.99</b>	<b>2699</b>			<b>50</b>

**INVENTORY OF PROTECTED AREAS - TERRESTRIAL & MARINE (as at 08.01.2021)**

CI ID	GROUP	ISLAND	NAME	Source	AREA	AREA	Status_Yr	Comments	PA count
					km2	ha			
<b>Terrestrial protected areas</b>									
SUW001	N	Suvarrow	Suvarrow National Park	Saul & Tiraa 2004, p25)	1.60	160	1978	Covers all land (160ha)	1
TAK001	S	Takutea	Takutea Nature Reserve	Saul & Tiraa (2004, p27); Rasmussen (2016)	1.20	120	1903	No take area; designated as ra'ui mutukore (Rasmussen 2016). Status of beach & reef areas unclear (Saul & Tiraa 2004, p27). Area of 120ha from McCormack (2002)	1
<b>Total</b>					<b>2.80</b>	<b>280</b>			<b>2</b>
<b>Marine protected areas</b>									
MM002	N	Rakahanga, Manihiki	Rakahanga/Manihiki Marine Protected Area	Section 24 Marae Moana Act	37,690	3,769,000	2017	Zone nested within broader MM	1
MM003	N	Penrhyn	Penrhyn Marine Protected Area	Section 24 Marae Moana Act	32,766	3,276,600	2017	Zone nested within broader MM	1
MM004	N	Pukapuka, Nassau	Pukapuka/Nassau Marine Protected Area	Section 24 Marae Moana Act	31,362	3,136,200	2017	Zone nested within broader MM	1
MM005	N	Suvarrow	Suvarrow Marine Protected Area	Section 24 Marae Moana Act	31,274	3,127,400	2017	Zone nested within broader MM	1
MM006	S	Aitutaki, Manuae, Atiu, Takutea, Mitiaro, Mauke	Aitutaki & Ngaputara Marine Protected Area	Section 24 Marae Moana Act	86,674	8,667,400	2017	Zone nested within broader MM	1
MM007	S	Mangaia	Mangaia Marine Protected Area	Section 24 Marae Moana Act	29,506	2,950,600	2017	Zone nested within broader MM	1
MM008	S	Palmerston	Palmerston Marine Protected Area	Section 24 Marae Moana Act	29,780	2,978,000	2017	Zone nested within broader MM	1
MM009	S	Rarotonga	Rarotonga Marine Protected Area	Section 24 Marae Moana Act	30,084	3,008,400	2017	Zone nested within broader MM	1
<b>Total</b>					<b>309,136</b>	<b>30,913,600</b>			<b>8</b>
<b>GRAND TOTAL</b>					<b>309,138.80</b>	<b>30,913,880</b>			<b>10</b>

## Annex 6. Cook Islands World Database on Protected Areas (WDPA)

CI ID	NAME	DESIG	DESIG_TYPE	IUCN_CAT	REP_M_AREA (km2)	REP_AREA (km2)	NO_TAKE	STATUS	STATUS_YR	GOV_TYPE	OWN_TYPE	MANG_AUTH
SUW001	Suvarrow National Park	National Park	National	II	0	1.6	Not Applicable	Designated	1978	Federal or national ministry or agency	State	National Environment Service
TAK001	Takutea Nature Reserve	Nature Reserve	National	IV	0	1.2	Not Applicable	Designated	1903	Collaborative governance	Joint ownership	Takutea Trustees (management committee)
<b>Sub-total terrestrial PAs</b>						<b>2.8</b>						
MM002	Rakahanga/ Manihiki Marine Protected Area	Marine Conservation Zone	National	IV	37,690	37,690	None	Designated	2017	Collaborative governance	State	Marae Moana Council
MM003	Penrhyn Marine Protected Area	Marine Conservation Zone	National	IV	32,766	32,766	None	Designated	2017	Collaborative governance	State	Marae Moana Council
MM004	Pukapuka/ Nassau Marine Protected Area	Marine Conservation Zone	National	IV	31,362	31,362	None	Designated	2017	Collaborative governance	State	Marae Moana Council
MM005	Suvarrow Marine Protected Area	Marine Conservation Zone	National	IV	31,274	31,274	None	Designated	2017	Collaborative governance	State	Marae Moana Council
MM006	Aitutaki & Ngaputera Marine Protected Area	Marine Conservation Zone	National	IV	86,674	86,674	None	Designated	2017	Collaborative governance	State	Marae Moana Council
MM007	Mangaia Marine Protected Area	Marine Conservation Zone	National	IV	29,506	29,506	None	Designated	2017	Collaborative governance	State	Marae Moana Council
MM008	Palmerston Marine Protected Area	Marine Conservation Zone	National	IV	29,780	29,780	None	Designated	2017	Collaborative governance	State	Marae Moana Council
MM009	Rarotonga Marine Protected Area	Marine Conservation Zone	National	IV	30,084	30,084	None	Designated	2017	Collaborative governance	State	Marae Moana Council
<b>Sub-total MPAs</b>						<b>309,136</b>	<b>309,136</b>					
<b>Total PAs</b>						<b>309,136</b>	<b>309,139</b>					

### Notes:

- This table represents a 'cut-down' version of the full file; WDPA columns with no data are hidden.
- Full file is available from the author or Cook Islands National Environment Service.