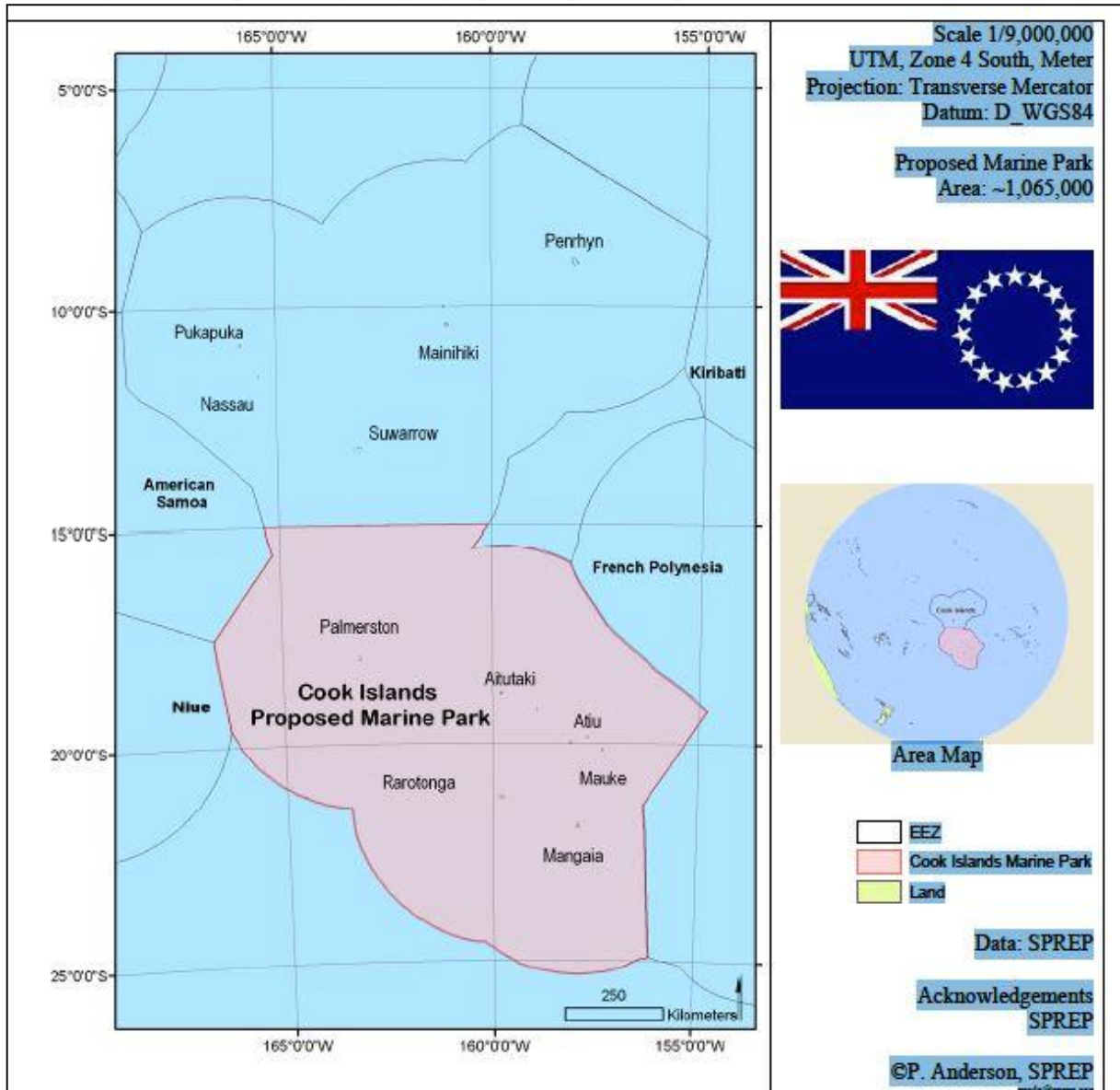


Annex 3: Project Technical Reports

1. Project Site Maps

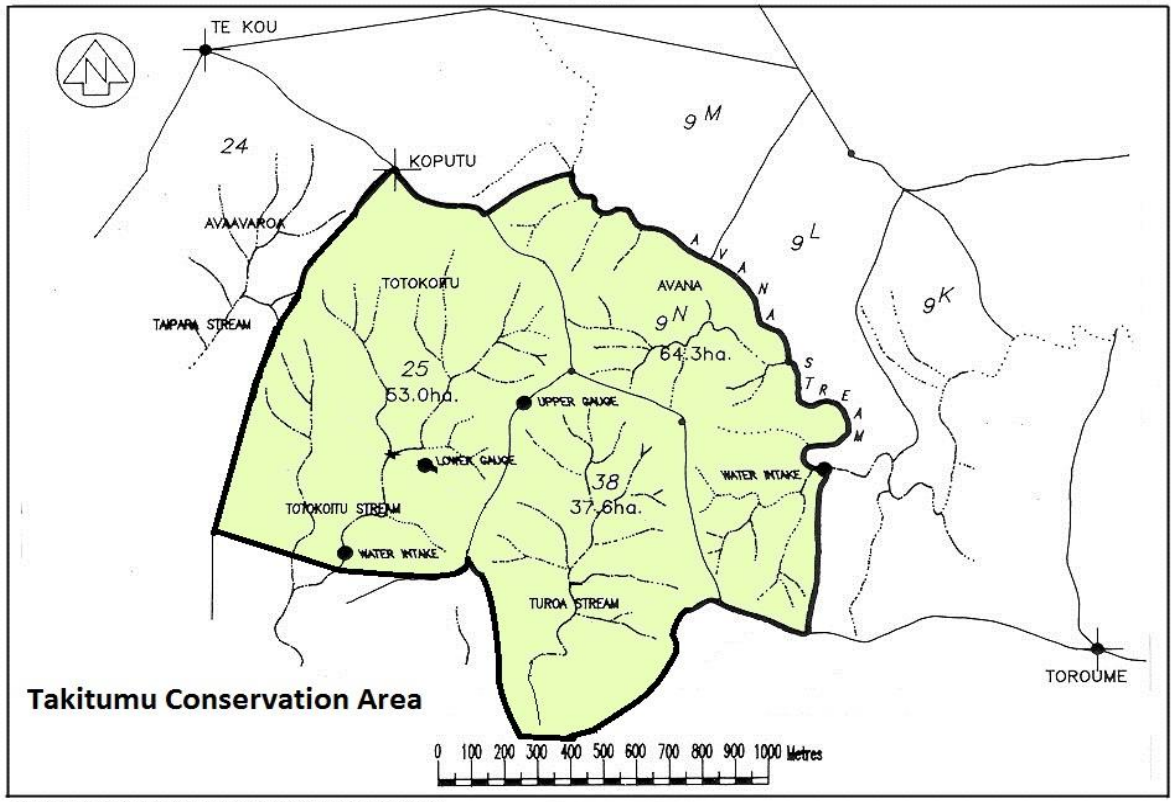
National

Figure 1. Map showing the geographic scope of the project, which is south of 15°S.



Rarotonga

Figure 2. The Takitumu Conservation Area



Based on an original map from Cook Islands Survey Department.

Figure 3. This photograph shows the location of the proposed Cloud Forest Reserve (red) and the Takitumu Conservation Area (blue)

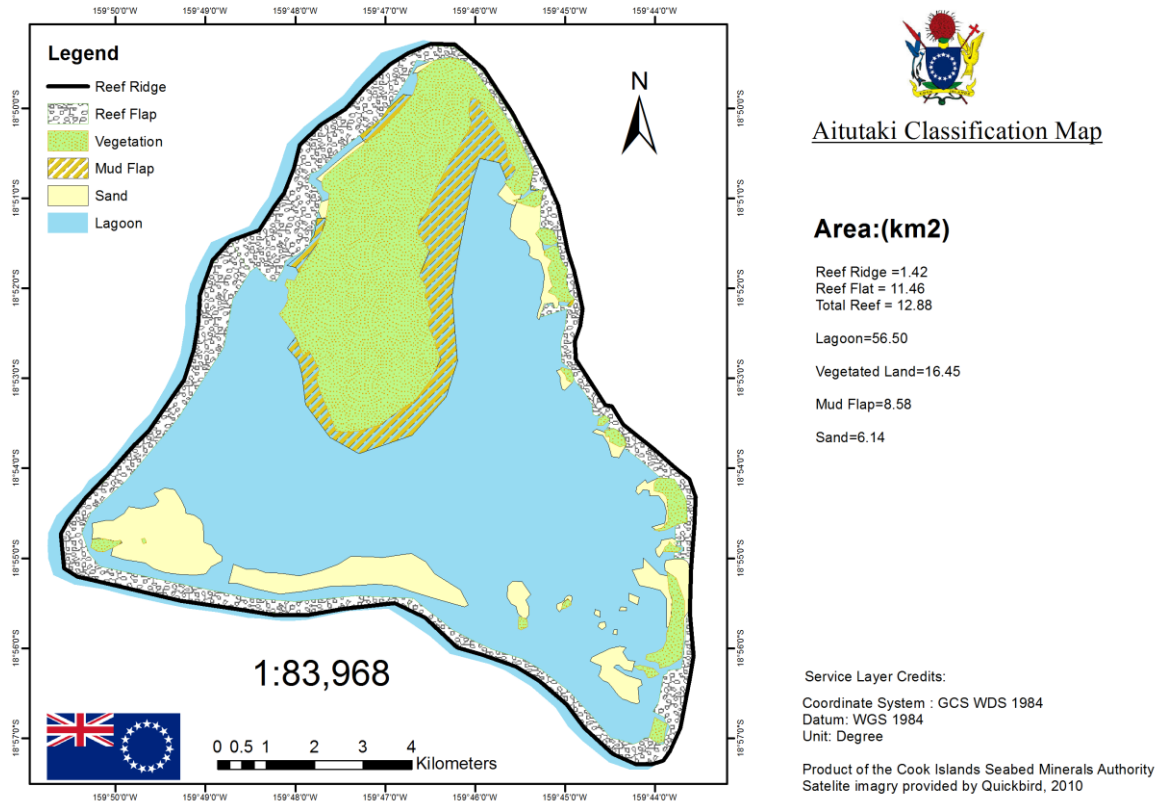


Figure 4. Map showing ra'ui of Rarotonga over the years. Note the project will initially focus on ra'ui numbers 1,2,3,4, Aroa and Tokerau



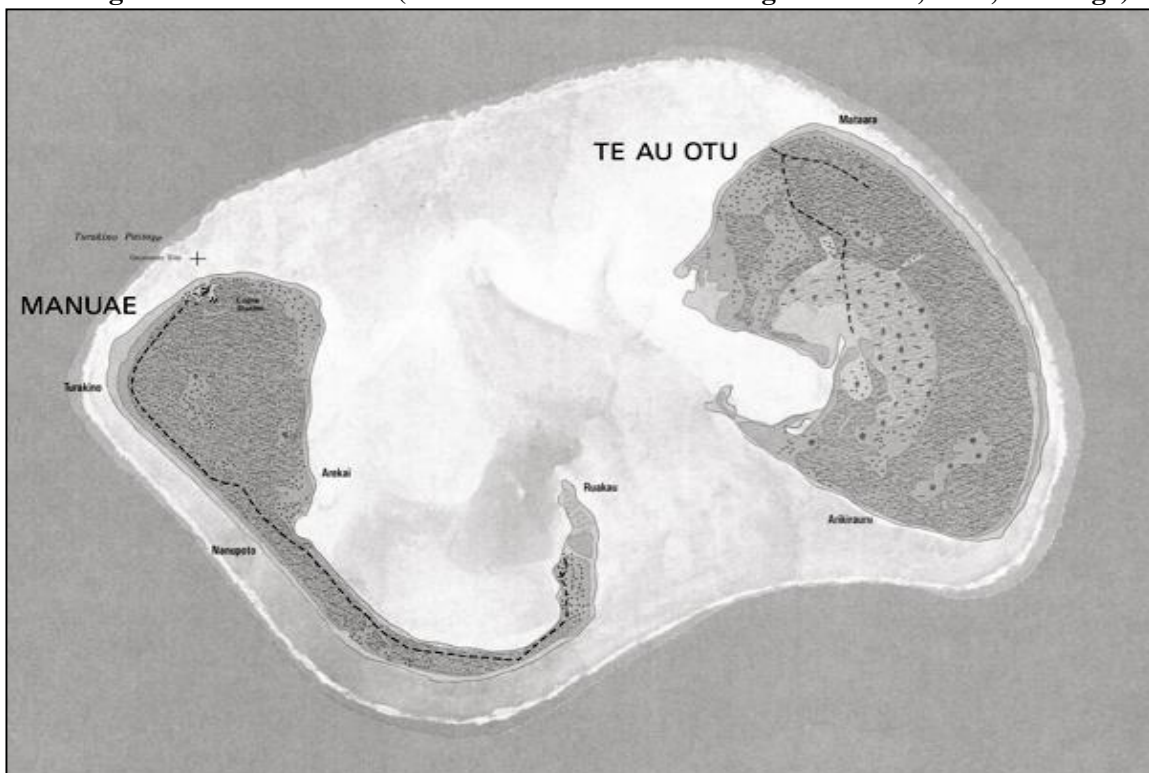
Aitutaki

Figure 5. Land and marine areas of Aitutaki



Manuae

Figure 6. Manuae Atoll. (source. Draft Manuae Management Plan, 2006, T. Rongo)



Atiu

Figure 7. Land and marine areas of Atiu

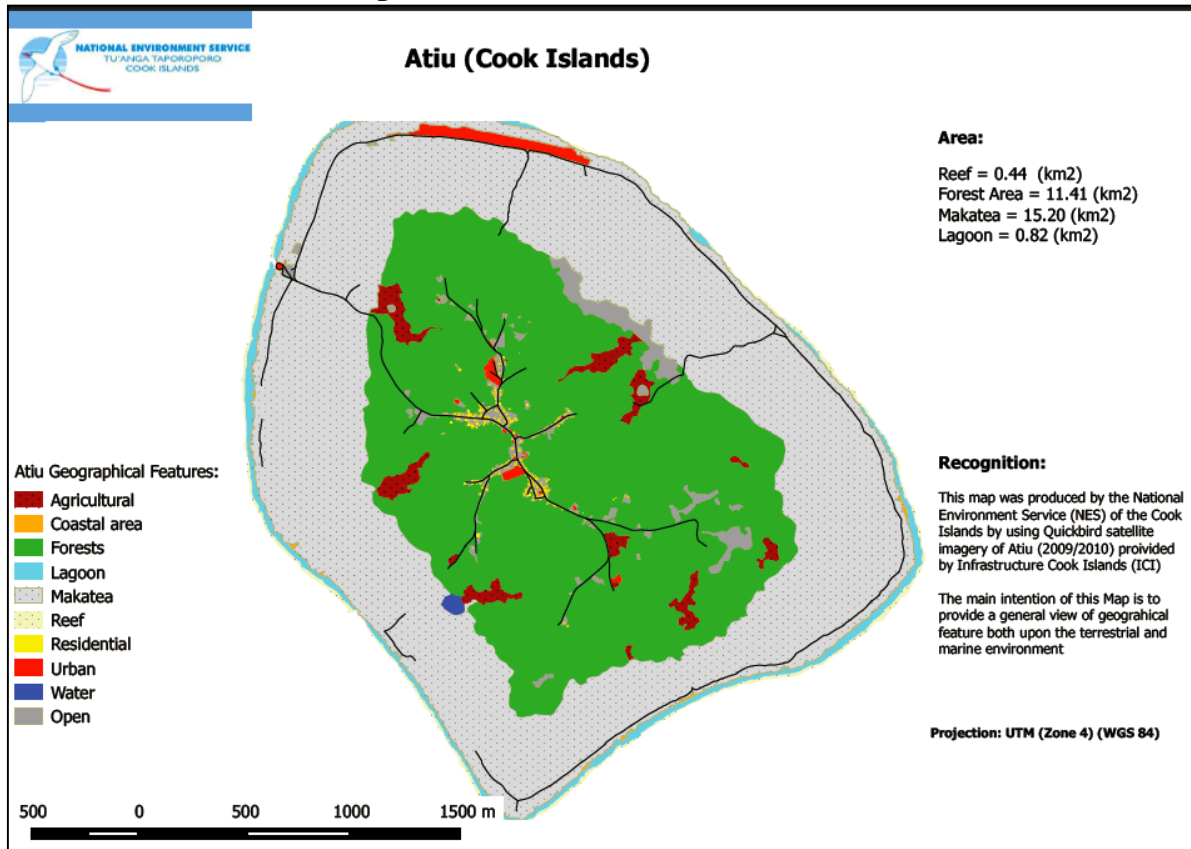
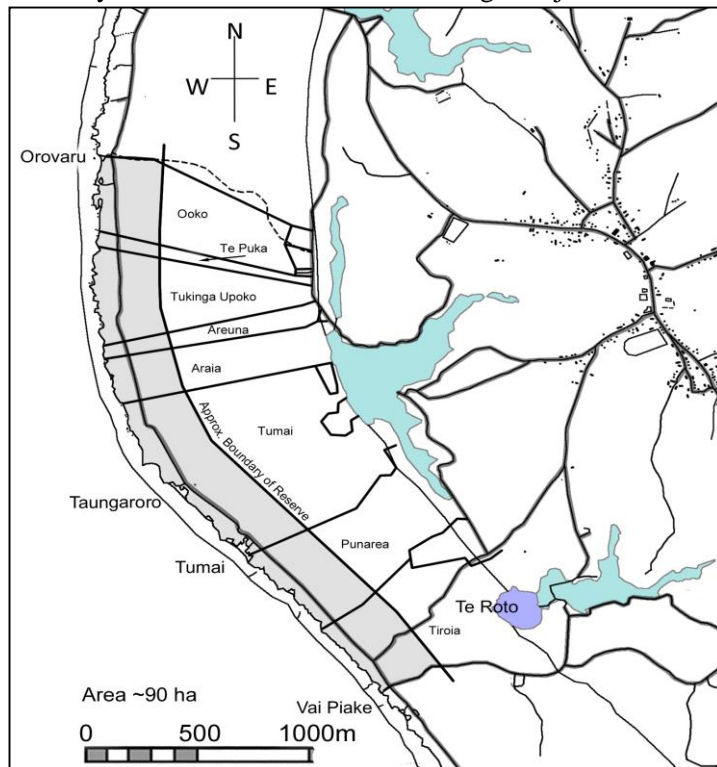
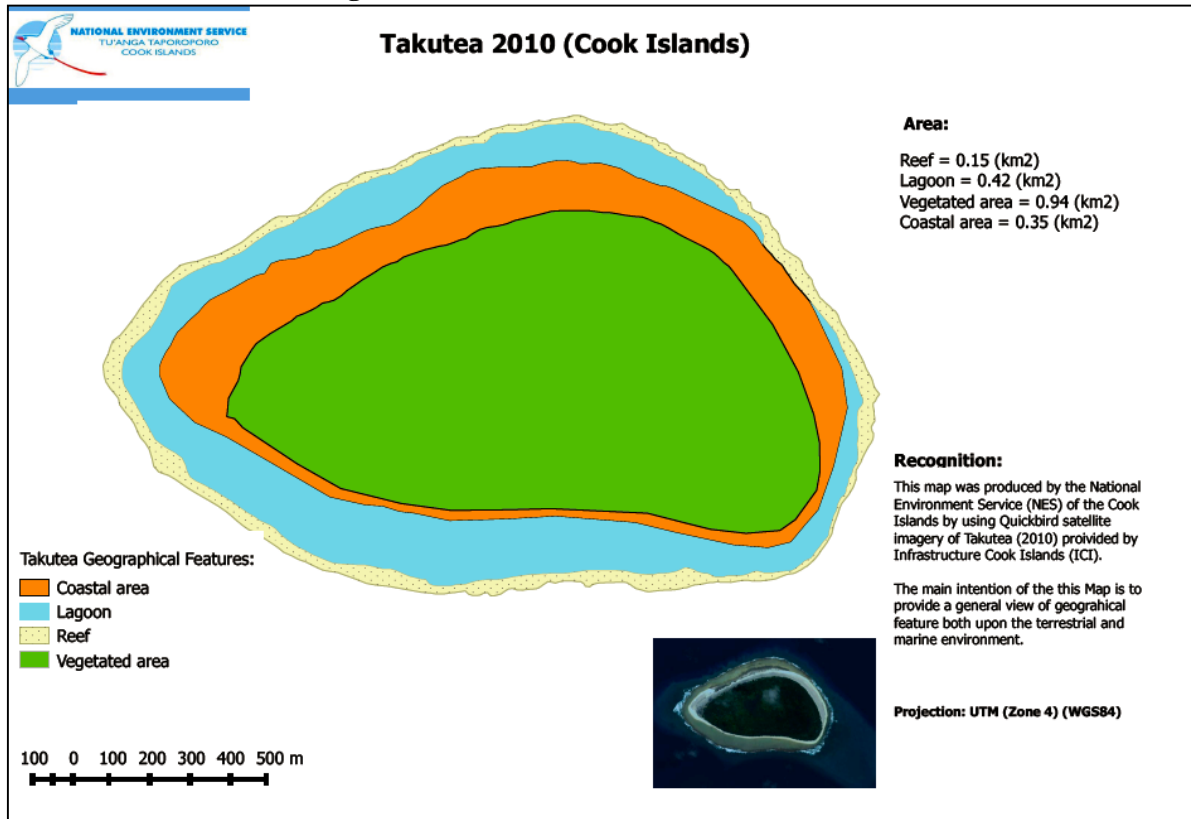


Figure 8. Map showing the Moko Ero Nui Leeward Forest Reserve
 Courtesy of Cook Islands Natural Heritage Project



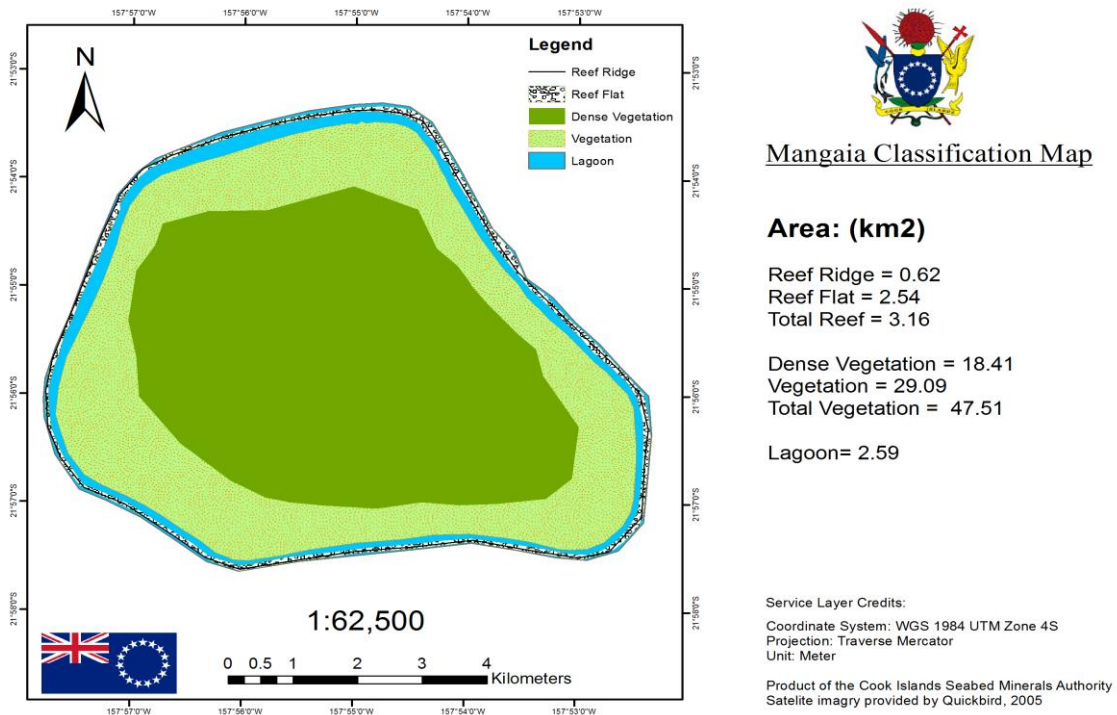
Takutea

Figure 9. Land and marine areas of Takutea



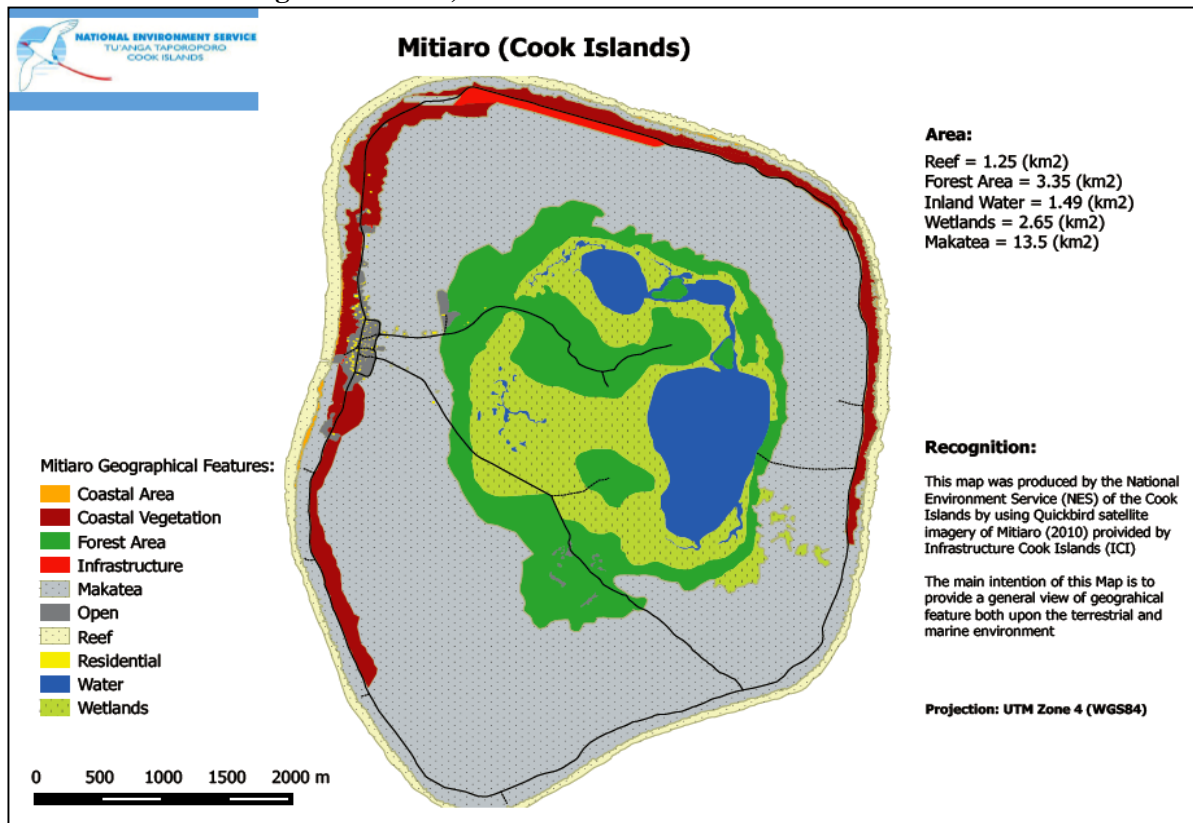
Mangaia

Figure 10. Land and marine areas of Mangaia



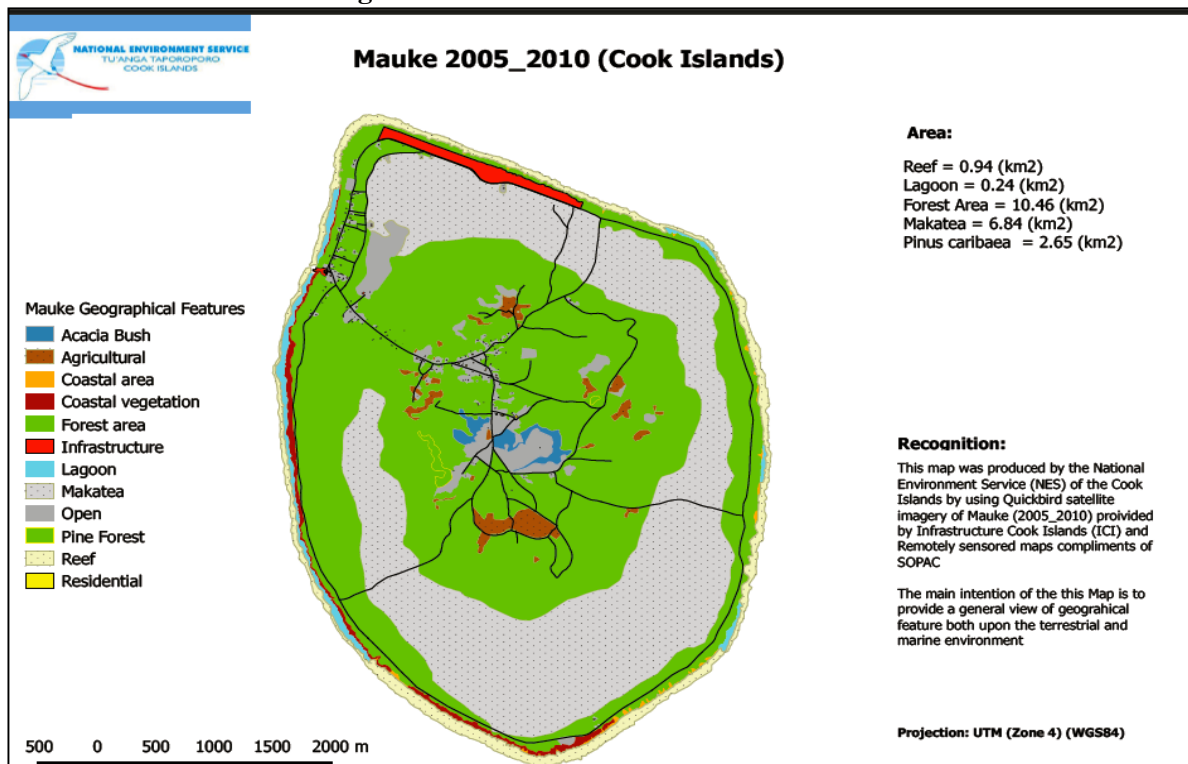
Mitiaro

Figure 11. Land, freshwater and marine areas of Mitiaro



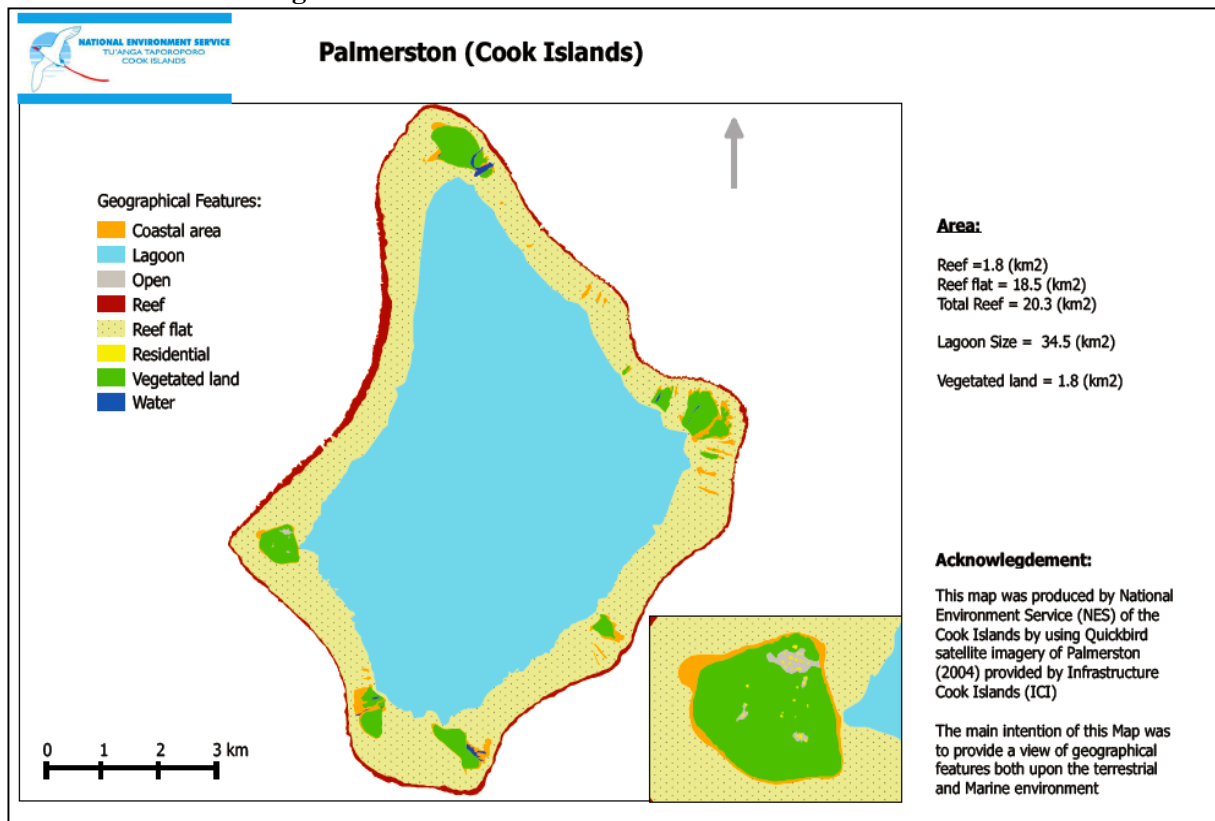
Mauke

Figure 12. Land and marine areas of Mauke



Palmerston

Figure 13. Land and marine areas of Palmerston Atoll



2. Selected Information on Biodiversity in the Cook Islands

Table 1: Cetaceans found within the Cook Islands Marine Park (Source: Cook Islands Whale Research and Cook Islands Natural Heritage Project)

Species – Common Name	Species – Scientific Name
Humpback whale	<i>Megaptera novaeangliae</i>
Sei whale	<i>Balaenoptera borealis</i>
Blue whale	<i>Balaenoptera musculus</i>
Antarctic minke whale or Dwarf common minke whale	<i>Balaenoptera bonaerensis</i> or <i>Balaenoptera acutorostrata</i> sp
Sperm whale	<i>Physeter macrocephalus</i>
Killer whale	<i>Orcinus orca</i>
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>
Cuvier's beaked whale	<i>Ziphius cavirostris</i>
Blainville's beaked whale	<i>Mesoplodon densirostris</i>
Melon-headed whale	<i>Peponocephala electra</i>
Bryde's Whale	<i>Balaenoptera edeni</i>
False Killer Whale	<i>Pseudorca crassidens</i>
Common dolphin	<i>Delphinus delphis/frontalis</i>
Peale's dolphin	<i>Lagenorhynchus australis</i>
Spinner dolphin	<i>Stenella longirostris</i>
Striped/Spotted dolphin	<i>Stenella attenuate</i>
Fraser's dolphin	<i>Lagenodelphis hosei</i>
Risso's dolphin	<i>Grampus griseus</i>
Rough Toothed dolphin	<i>Steno bredanensis</i>
Bottle-nosed dolphin	<i>Tursiops truncates</i>

Table 2: Shark species found within the Cook Islands Marine Park

Species – Common Name	Species – Scientific Name
Nurse Shark Aitutaki	<i>Nebrius ferrugineus</i>
Grey Reef Shark	<i>Carcharhinus amblyrhynchos</i>
Blacktip Reef Shark	<i>Carcharhinus melanopterus</i>
Whitetip Reef Shark	<i>Triaenodon obesus</i>
Bluntnose Sixgill Shark	<i>Hexanchus griseus</i>
Whale Shark	<i>Rhincodon typus</i>
Silky Shark	<i>Carcharhinus falciformis</i>
Galapagos Shark	<i>Carcharhinus galapagensis</i>
Oceanic Whitetip Shark	<i>Carcharhinus longimanus</i>
Tiger Shark	<i>Galeocerdo cuvier</i>
Blue Shark	<i>Prionace glauca</i>
Scalloped Hammerhead Shark	<i>Sphyrna lewini</i>
Pelagic Thresher Shark	<i>Alopias pelagicus</i>
Shortfin Mako Shark	<i>Isurus oxyrinchus</i>
Cookiecutter Shark	<i>Isistius brasiliensis</i>
Prickly Shark	<i>Echinorhinus cookie</i>

3. Protected Areas in the Cook Islands

Table 3: General Information on Existing and Proposed Protected Areas in the Cook Islands

Notes on Table: Various studies and reports have proposed designating sites in the Cook Islands under different international and national classifications or priorities, as follows:

- KBA = Key Biodiversity Area and IBA = Important Bird Area. These classifications are based on a 2010 study, but they do not have any legal or official standing in the Cook Islands. With the exception of Rarotonga, the small size (100 - 5,200 ha.) of the islands, and the widespread distribution of some species on each island, resulted in the classification of entire islands as KBAs/IBAs. Such delineation is important considering that each island must be managed as a single unit where the introduction of invasive species can have a devastating effect on the biodiversity.
- EBSA = Ecologically or Biologically Significant Areas. These classifications are based on a 2012 study carried out for the Convention on Biological Diversity, but they do not have any legal or official standing in the Cook Islands.
- NEW = Priority sites for establishing new protected areas, as listed in the Report “Protected Natural Areas In The Cook Islands Within A Proposed National System” prepared for the National Environment Service in 2004.

Island	Name of Area	Current Natl. Classification	Other Designations	Total Area	Ecosystems	Legal Status / Current Protection	Management Resp.	Targeted in PIF
Southern Group of Islands								
Cook Islands Waters	Existing Sites							
	Cook Islands Marine Park	None	?	1.1 million sq. km.	Terrestrial and Marine	Declared by Government, but no official status yet	Natl. Steering Committee	YES
	Cook Islands Whale Sanctuary	None	?	2.0 million sq. km.	Marine	?	None	
	Cook Islands Shark Sanctuary	None	?	?	Marine	?	None	
	Proposed Sites							
	Rarotonga Outer Reef Slopes EBSA	None	EBSA	8,000 km ² (50 km out from the reef edge)	Marine	None	None	
Ua Puakaoa Seamounts	None	EBSA	???	Marine	None	None		
Rarotonga	Existing Sites (Rarotonga)							
	Takitumu Conservation Area	Nature Conserved Area	KBA & IBA	155 ha.	Terrestrial	Established in 1996 to protect endangered native birds and their habitat	Landowners Committee	
	Highland Paradise	Nature Reserve		32.5 ha	Terrestrial	Reserve containing natural features of cultural significance	Family Operated	

Island	Name of Area	Current Natl. Classification	Other Designations	Total Area	Ecosystems	Legal Status / Current Protection	Management Resp.	Targeted in PIF	
	Nikao Social Centre	Recreation Reserve		?	Terrestrial	Established in 2000 for Public Recreation	???		
	Takuvaine Water Catchment	Community Managed Area	KBA (candidate)	229 ha	Terrestrial	Established in 2006 under Environment (Takuvaine Water Catchment) Regulations	National Environment Service		
	Aroa Raui	Marine Reserve		32.5 ha	Marine	Established in 2006 to allow the rejuvenation of natural resources	Traditional Leaders		
	Tokerau Raui	Marine Reserve		4 ha	Marine	Established in 2007 to allow the rejuvenation of natural resources	Traditional Leaders		
	Pouara Raui	Marine Reserve		5 ha	Marine	Established to allow the rejuvenation of natural resources	Traditional Leaders		
	Aroko Raui	Marine Reserve		71.1 ha	Marine	Established in 1998 to allow the rejuvenation of natural resources	Traditional Leaders		
	Titikaveka Raui	Marine Reserve		ha	Marine	Established to allow the rejuvenation of natural resources	Traditional Leaders		
	Tikioki Raui	Marine Conserved Reserve		40	Marine	Permanent reserve area	Traditional Leaders		
	Proposed Sites (Rarotonga)								
		Te Manga-Te Kou –Te Ata Kura-Maungatea Cloud Forest Nature Reserve (forests >400m elevation)	None	KBA	118 ha	Land	None	None	
		Rarotonga Peaks Rainforest Park Above au hibiscus belt	None	NEW	4,600 ha (est.)	Land	None	None	
		Rarotonga Marine KBA	None	KBA	1,600 (reef area around island)	Marine	None	None	YES
		Avana-Muri Marine Park	None	NEW	200 ha (est.)	Terrestrial and Marine	None	None	
Aitutaki	Existing Sites (Aitutaki)								
	Ootu Raui	Marine Reserve		220 ha	Marine	Established in 2000 as a 140 ha reserve, additional 70 ha included as restricted	Traditional Leaders		

Island	Name of Area	Current Natl. Classification	Other Designations	Total Area	Ecosystems	Legal Status / Current Protection	Management Resp.	Targeted in PIF	
						entry zone			
	Motu Kitiu Raii	Marine Reserve		407 ha	Marine	Established in 2000 as a 210 ha reserve, additional 197 ha included as restricted entry zone	Traditional Leaders		
	Maina Raii 1	Marine Reserve		128 ha	Marine	Established in 2000 as a No Entry reserve, predominantly reef flat	Traditional Leaders		
	Maina Raii 2	Marine Reserve		81 ha	Marine	Established in 2000 as a Restricted Entry reserve, 80ha is inclusive of lagoon	Traditional Leaders		
	Rapota	Bonefish spawning		307 ha	Marine				
	Takitaki	Bonefish spawning		253 ha	Marine				
	Papau	Bonefish nursery area		175 ha	Marine				
	Proposed Sites (Aitutaki)								
	Aitutaki Island KBA	None	KBA & IBA	1,800 (land) 4,300 (reef)	Terrestrial and Marine	None	None	YES (marine only)	
Manuae	Proposed Sites (Manuae)								
	Manuae Wildlife Sanctuary	None	NEW	617 ha (land) 1,800 ha (lagoon & reef)	Terrestrial and Marine	None	None		
Atiu	Proposed Sites (Atiu)								
	Atiu Island KBA	None	KBA & IBA	2,900	Land	None	None	YES	
	Atiu Kopeka Caves Reserves	None	NEW	20 ha (est.)	Land	None	None		
	Moko Ero Nui Leeward forest reserve	None	NEW	?	Land	None	None		
Takutea	Existing Sites (Takutea)								
	Takutea Wildlife Sanctuary	Wildlife Sanctuary (also “community conserved area”?)	KBA & IBA	100 ha	Terrestrial	Established 1903, re-established 1950 by Takutea Island Trust. Endorsed as a Community Conserved Area under Atiu and Takutea Environment Regulation 2008. Inclusion of lagoon undetermined	Takutea Island Trust	YES	

Island	Name of Area	Current Natl. Classification	Other Designations	Total Area	Ecosystems	Legal Status / Current Protection	Management Resp.	Targeted in PIF
Mangaia	Proposed Sites (Mangaia)							
	Mangaia Island KBA	None	KBA & IBA	5,200 (land) 400 (reef)	Terrestrial and Marine	None	None	YES
	Mangaia Tanga'eo Reserve	None	NEW	65 ha	Terrestrial	None	None	
Mitiaro	Existing Sites (Mitiaro)							
	Te Roto Nui	Wetland		?	Terrestrial	Reserved for habitat protection and rejuvenation of freshwater eels (<i>Anguilla obscura</i>)	Traditional Leaders	
	Proposed Sites (Mitiaro)							
	Mitiaro Island KBA	None	KBA & IBA	3,000 ha	Terrestrial	None	None	YES
	Mitiaro Pritchardia Palm Reserve	None	NEW	25 ha	Terrestrial	None	None	
Mauke	Proposed Sites (Mauke)							
	Mauke Island KBA	None	KBA	2,000 ha	Terrestrial	None	None	
Palmerston	Proposed Sites (Palmerston)							
	Palmerston Marine KBA	None	KBA	5,400 ha (reef and lagoon)	Marine	None	None	YES
	Palmerston Turtle Ra'ui	None	NEW	20 ha (est.)	Terrestrial (coastal)	None	None	
Northern Group of Islands								
Suvarrow	Existing Sites (Suvarrow)							
	Suvarrow National Park	National Park	KBA & IBA	160 ha (KBA proposes 200 ha land & 1,240 ha reef)	Terrestrial and Marine	Established in 1978 under the Prime Minister's Office. Inclusion of the lagoon not determined	National Environment Service	
	Proposed Sites (Suvarrow)							
	Suvarrow EBSA	None	EBSA	8,700 km ² (50 km out from the reef edge)	Marine	None	None	
Pukapuka	Existing Sites (Pukapuka)							
	• Motu Kotawa	Marine and		90 ha	Marine	Reserved for Yato Village, inclusive of	Traditional	

Island	Name of Area	Current Natl. Classification	Other Designations	Total Area	Ecosystems	Legal Status / Current Protection	Management Resp.	Targeted in PIF	
		Terrestrial Reserve				entire islet and surrounding Lagoon	Leaders		
	• Motu Ko	Marine and Terrestrial Reserve		300 ha	Marine	Reserved for Ngake Village, inclusive of entire islet and surrounding lagoon	Traditional Leaders		
	• Motu Uta	Marine and Terrestrial Reserve		90 ha	Marine	Reserved for Loto Village, inclusive of 30% of the islet	Traditional Leaders		
	• Motu Niua	Marine and Terrestrial Reserve		10 ha	Marine	Reserved for Yato Village	Traditional Leaders		
	Proposed Sites (Pukapuka)								
	Pukapuka Marine KBA	None	KBA & IBA	2,800 ha (reef and lagoon)	Marine	None	None		
Rakahanga	Existing Sites (Rakahanga)								
	• Te Taha ki Raro	Lagoon		?	Marine	?	Traditional Leaders		
	• Paerangi	Marine Reserve		?	Marine	?	Traditional Leaders		
	• Te Kainga	Marine and Terrestrial Reserve		?	Terrestrial and Marine	?	Traditional Leaders		
	Proposed Sites (Rakahanga)								
	Rakahanga Marine KBA	None	KBA (candidate)	700 ha (reef and lagoon)	Marine	None	None		
Manihiki	Existing Sites (Manihiki)								
	Lake Porea and Tepuka Roto	Salt-marsh lakes		?	Terrestrial	Traditional ponds for Milkfish (<i>Chanos chanos</i>) to supplement food supply	Traditional Leaders		
	Proposed Sites (Manihiki)								
	Manihiki Marine KBA	None	KBA (candidate)	5,200 ha (reef and lagoon)	Marine	None	None		
Manihiki Plateau EBSA	None	EBSA	Underwater plateau from 3,000–5,000 meters	Marine	None	None			
Tongareva (Penryhn)	Proposed Sites (Tongareva)								
	Tongareva Marine KBA	None	KBA & IBA	22,700 ha (reef and lagoon)	Marine	None	None		