



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

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PART I: Project Information

Project Title:	Strengthening national and regional capacities to reduce the impact of Invasive Alien Species on globally significant biodiversity in the Pacific		
Country(ies):	Kingdom of Tonga , Niue, Republic of the Marshall Islands, Tuvalu,	GEF Project ID: ¹	9410
GEF Agency(ies):	UNEP	GEF Agency Project ID:	01406
Other Executing Partner(s):	SPREP, SPC, Ministries of Environment of participating countries	Resubmission Date:	November, 16, 2016
GEF Focal Area(s):	Biodiversity	Project Duration (Months)	60
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP <input type="checkbox"/>	
Name of parent program:	N/A	Agency Fee (\$)	593,986

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
BD 2 - Programme 4: Prevention, control, and management of invasive alien species	GEF	6,252,489	12,680,000
Total Project Cost		6,252,489	12,680,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Reduce the threats from Invasive Alien Species (IAS) to terrestrial, freshwater and marine biodiversity in the Pacific by developing and implementing comprehensive national and regional IAS management frameworks						
Project Components	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
1. Strengthening institutional frameworks and capacities for IAS management	TA	1.1 All participating countries have a comprehensive and effective administrative framework established and countries are enabled to manage invasive alien species <u>Indicators</u> - 4 Technical Advisory Groups are operating - 1 new & 3 revised NISSAPs under implementation - Increased score on GEF IAS Tracking Tool with a minimum of 74% (20/27) achieved for each of the four countries	1.1.1 National cross-sectoral and gender-balanced IAS technical advisory groups established and operational in all four participating countries 1.1.2 Strengthened IAS legislation, regulations and policies in place in four countries 1.1.3 One NISSAP written for Tuvalu; three NISSAPs reviewed for the other countries 1.1.4 NISSAPs are under implementation in all participating countries 1.1.5 Implementation teams are trained and operational in best practice and standard operational procedures in four countries	GEFTF	649,663	1,445,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCE](#).

³ Financing type can be either investment or technical assistance.

2. Establishing national systems for prioritizing IAS management	TA	<p>2.1. Enhanced IAS surveillance and control strategies reduce introduction rates and contain populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries: IAS surveillance and control strategies can be relied on to reduce the risk posed by the introduction of new IAS and contain established IAS populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries</p> <p><u>Indicators</u></p> <ul style="list-style-type: none"> - IAS risk protocols established - Species & site-specific IAS management plans on small islands completed 	<p>2.1.1 Baseline studies of the distribution and status of invasive species, and programme for detecting change, completed in four countries</p> <p>2.1.2 Effective protocols for assessing risk and prioritising IAS for management developed and implemented in four countries</p> <p>2.1.3 Species and site specific management plans, aligned with the Pacific Biocontrol Strategy as appropriate, developed for priority IAS and priority areas for all four countries</p>	GEFTF	694,919	1,625,000
3. Implementing programmes for IAS risk reduction, Early Detection and Rapid Response (EDRR), eradication, control and restoration	TA	<p>3.1. Biosecurity risks are reduced for the highest risk pathways and IAS</p> <p><u>Indicators</u></p> <ul style="list-style-type: none"> - IAS of high risk to biodiversity prevented from entering the 4 countries <p>3.2. Impacts of priority IAS species (identified in component 2) reduced</p> <p><u>Indicators</u></p> <ul style="list-style-type: none"> - Stable or increased numbers of populations of Friendly Ground Dove (IUCN VU), Tonga Whistler (IUCN NT, Endemic) Boettger's Emo Skink (IUCN EN and Endemic) and Saw-tailed gecko (IUCN EN and Endemic) in the targeted sites - Increased success of hawsbill and green turtle eggs hatching and hatchlings 	<p>3.1.1 Priority risk mitigation measures are identified and necessary actions taken to reduce or eliminate risks in the four countries</p> <p>3.1.2 EDRR protocols operational in four participating countries</p> <p>3.2.1 At least two sustainable IAS control programmes are established in each of at least three participating countries</p> <p>3.2.2 Successful eradications of priority species are completed on islands or island groups in at least two countries</p> <p>3.2.3 At least two sites demonstrate measurable restoration outputs as described in restoration plans</p>	GEFTF	2,602,822	4,965,000

		reaching the ocean				
4. Establishing a Pacific islands regional support framework for IAS management	TA	4.1. Sustainable support service comprised of Council of Regional Organisations in the Pacific (CROP) agencies and partners established and enabling four countries to respond to existing and potential IAS threats, and is up-scalable to at least the Pacific region <u>Indicators</u> - New regional IAS information system in place - New regional “Guidelines” produced and disseminated - Increase in funding towards biosecurity and IAS management across the Pacific region (baseline and target to be established during the PPG)	4.1.1 Support Service supporting the three other components for the four countries and the region, including providing advice on NISSAP development and implementation as required, is operationalized 4.1.2 Sustainable financing mechanisms in place to support long-term programs of Support Service and national IAS management programs 4.1.3 Capacity developed in to systematically measure the success of IAS management objectives as described in national, regional and international instruments 4.1.4 Regionally capable information system in place delivering case studies, guidelines, standard operating procedures and tools generated by components one to three 4.1.5 Based on project outputs, new version of the “Guidelines” for Invasive Species Management in the Pacific (Guidelines) is produced and formally approved	GEFTF	2,007,347	4,041,190
Subtotal				GEFTF	5,954,751	12,076,190
Project Management Cost (PMC) ⁴					297,738	603,810
Total Project Cost					6,252,489	12,680,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: () NA

C. INDICATIVE SOURCES OF **CO-FINANCING** FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
GEF Agency	UNEP	Grant	500,000
Others	SPREP (Secretariat of the Pacific Regional Environment Programme)	Grant	2,000,000
Others	SPC (Secretariat of the Pacific Community)	Grant	2,000,000
CSO	Island Conservation	Grant	1,000,000
Others	Landcare NZ	Grant	2,500,000
Others	Tokelau Yellow Crazy Ant Project	Grant	1,400,000
Others	US Coastguard	In-kind	60,000
Others	Maritime New Zealand	In-kind	60,000
Others	Australian Maritime Safety Authority	In-kind	60,000
Others	International Maritime Organisation	Grant	300,000
Others	STDF (Standards and Trade Development Facility) Regional Programme	Grant	1,000,000
Recipient Government	Government of the Republic of the Marshall Islands (RMI)	Grant	400,000
Recipient Government	Government of the Kingdom of Tonga	Grant	600,000
Recipient Government	Government Niue	Grant	400,000
Recipient Government	Government of Tuvalu	Grant	400,000
Total Co-financing			12,680,000

⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES) AND THE PROGRAMMING OF FUNDS ^{a)}

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b) ^{b)}	Total (c)=a+b
UNEP	GEFTF	Kingdom of Tonga	Biodiversity		1,506,362	143,103	1,649,465
UNEP	GEFTF	Niue Island	Biodiversity		887,321	84,296	971,617
UNEP	GEFTF	Republic of the Marshall Islands	Biodiversity		887,321	84,296	971,617
UNEP	GEFTF	Tuvalu	Biodiversity		887,321	84,296	971,617
UNEP	GEFTF	Regional/Global Set-aside	Biodiversity		2,084,164	197,995	2,282,159
Total GEF Resources					6,252,489	593,986	6,846,475

a) Refer to the [Fee Policy for GEF Partner Agencies](#).

E. PROJECT PREPARATION GRANT (PPG)⁵

Is Project Preparation Grant requested? Yes No If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: \$182,650					PPG Agency Fee: \$17,350		
GEF Agency	Trust Fund	Country/ Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ⁶ (b)	Total c = a + b
UNEP	GEFTF	Kingdom of Tonga	Biodiversity		44,004	4,180	48,184
UNEP	GEFTF	Niue Island	Biodiversity		25,921	2,462	28,383
UNEP	GEFTF	Republic of the Marshall Islands	Biodiversity		25,921	2,462	28,383
UNEP	GEFTF	Tuvalu	Biodiversity		25,921	2,462	28,383
UNEP	GEFTF	Regional/Global Set-aside	Biodiversity		60,883	5,784	66,667
Total PPG Amount					182,650	17,350	200,000

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁷

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	95,394 Hectares ⁸
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	NA

⁵ PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$50k for PF up to \$2m (for MSP); up to \$100k for PF up to \$3m; \$150k for PF up to \$6m; \$200k for PF up to \$10m; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁶ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

⁷ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the [GEF-6 Programming Directions](#), will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and/or SCCF.

⁸ Includes the terrestrial areas of Tonga (71,871 ha.), Niue (2,833 ha.), RMI (18,100 ha.), Tuvalu (2,590 ha.)

3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	NA
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	NA
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	NA
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	NA
	Reduction of 1000 tons of Mercury	NA
	Phase-out of 303.44 tons of ODP (HCFC)	NA
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	NA
	Functional environmental information systems are established to support decision-making in at least 10 countries	NA

PART II: PROJECT JUSTIFICATION

1. Project Description. Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area⁹ strategies, with a brief description of expected outcomes and components of the project, 4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; 5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

1.1 The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

The proposed project will take place primarily in four countries in the Pacific - the Kingdom of Tonga, Niue Island, the Republic of the Marshall Islands and Tuvalu. Like most small island countries, these four nations are highly vulnerable to the impacts of Invasive Alien Species (IAS) on their biodiversity, ecosystem functioning, resilience to climate change impacts, economic productivity, and human health. IAS, which have been defined as “introduced species (plants, animals and other organisms taken beyond their natural range by people, deliberately or unintentionally) that become destructive to the environment or human interests; they can also include native species that proliferate and become destructive following environmental changes caused by human activities”¹⁰, are the second biggest drivers of biodiversity loss worldwide, second only to habitat destruction. The native flora and fauna of oceanic islands throughout the world are highly vulnerable to biological invasions, as they experience long periods of evolution in isolation from the threats faced by plants and animals on continents. The relatively small populations of native species on isolated islands, and the intensity of human impacts on the small land areas of islands, make the situation worse by increasing most islands' susceptibility to invasion.¹¹

In addition to being implicated in the extinction of many native plants and animals (e.g. land mammals, birds, amphibians, snails, plants), IAS have also degraded native ecosystems and ecological communities, and caused a reduction in key ecosystem functions such as water provision (by obstructing waterways) and fisheries production (by degrading habitat, preying on native species, etc.). IAS also impact agricultural production (by infecting and/or competing with crops and other productive plants; infecting livestock), tourism (through diminishing the appeal of natural ecosystems or eliminating native species that attract tourists), trade and transportation, and other productive sectors. Because most island countries are highly dependent on natural resources production, introduced pests and weeds can seriously impact the agricultural and

⁹ For biodiversity projects, in addition to explaining the project’s consistency with the biodiversity focal area strategy, objectives and programs, please also describe which [Aichi Target\(s\)](#) the project will directly contribute to achieving.

¹⁰ State of Conservation in Oceania 2013: Regional Report

¹¹ United States Department of the Navy. 2015. Regional Biosecurity Plan for Micronesia and Hawaii, Eds. University of Guam and the Secretariat of the Pacific Community.

forestry sectors, and create regional or international trade barriers, leading to poverty and reduced priority given to conservation in national policies. IAS have also been known to endanger human health and decrease labour productivity (through allergies and poisonings and the transmission of pathogens).

Pacific island ecosystems make up one of the world's biodiversity hotspots, with high levels of endemism. However, Pacific islands are particularly vulnerable to invasive species; because of their isolation and relatively recent human occupation, native species have not evolved to cope with the impacts of predators, herbivores, insect pests, highly competitive weeds, and diseases brought in from continental areas. As a result, Pacific islands face some of the highest extinction rates and threats to endemic species globally.¹² Of the 2,189 single-country endemic species recorded in the region, 5.3% are already extinct and 0.5% only exist in captivity, and of the remaining 2,062 extant species, 45% are at risk of extinction. The biggest threat to single-country endemic species¹³ in the Pacific region is the spread of IAS (SPREP, 2014). Most, if not all, countries continue to experience incursions of new introduced/invasive species. The State of Conservation in Oceania 2013: Regional Report noted that “the extent of impact of invasive species across the 22 Pacific Island Countries and Territories was examined and the status was deemed to be poor, with only a small number of success stories overall: the majority of invasive species are not managed, are spreading, and continue to have devastating impacts on native species and ecosystems”.

In the Pacific region, 87% of recorded introduced species are plants, 10% animals and 3% other taxa. Terrestrial ecosystems are the most invaded followed by freshwater and marine, however there is a lack of information about introduced and invasive species in marine ecosystems. Invasive plants have had a profound impact on forest structure and composition, causing reductions in native plant diversity, changes in soil fertility, altered nutrient cycling and increased erosion. At least 30 invasive plants are considered to have become serious threats to native habitats on Pacific islands. Invasive animals such as pigs, cattle and goats degrade forests by eating or damaging tree seedlings; invasive mammals such as rats, cats, mongooses and dogs have greatly reduced the number of native bird species; invasive birds can spread invasive plants in their droppings and outcompete native bird species; invasive ants have significantly reduced populations of crabs, snails and aquatic and semi-aquatic invertebrates; and invasive land snails have decimated native snail species. In the marine environment, IAS have been known to impact native species through predation and competition for food and habitat and to impact ecosystem functioning through altering natural cycles and habitats. The threats to biodiversity from marine IAS, both deliberate and accidental introductions (e.g. in contaminated ballast water or as encrusting organisms on ships, are an increasingly serious, but very poorly understood, concern throughout the region.

The Pacific region is fortunate to have an established IAS management framework – the “Guidelines for Invasive Species Management in the Pacific: a Pacific Strategy for managing pests, weeds and other invasive species”¹⁴ (referred to hereafter as the “Guidelines”), which is a policy and strategy setting document that countries can use to guide the development and implementation of specific IAS management activities, procedures and protocols. The Guidelines have been endorsed by all 21 countries and their five supporting “metropolitan” countries (SPREP, 2009). However, the lack of the financial, technical and human resources and capacities needed to implement programmes under this management framework is a significant barrier to effective IAS management in the target countries. Since the late 1990's, the response to IAS in the Pacific has been progressive but fragmented and insufficient to address the scale of the threat posed by IAS. Most countries in the Pacific still have little experience in implementing many specific types of IAS management activities, and almost none have the experience or capacity needed to implement the complex, technical and varied interventions that are needed to protect biodiversity at a given site from invasive species, particularly if they must be implemented across many islands and communities and up to the high technical modern standards which ensure efficacy, public safety, M and E etc. For example, a single IAS management program may require equipment for weed management, predator control, fencing, monitoring, awareness raising, and community outreach and participation, with each element requiring considerable expertise in logistics, procurement, training, technical experience, health and safety and others. Apart from these general capacity constraints, a number of other barriers exist to effective IAS management in the target countries. At the policy and planning level, existing legal and policy frameworks generally focus on IAS that impact agriculture, trade and human health, without addressing the impacts of IAS on biodiversity. Although some of the countries have completed their

¹² CEPF Ecosystem Profile: Polynesia-Micronesia Biodiversity Hotspot. 2007.

¹³ Classified under the IUCN red list.

¹⁴ http://www.sprep.org/att/publication/000699_RISSFinalLR.pdf

National Invasive Species Strategy and Action Plans, (NISSAPs), they do not have the technical capacities or partnerships in place to implement the plans, nor have they established technical advisory groups to guide such work and to ensure the involvement of relevant sectors. The lack of adequate information and data on IAS, and their impact on biodiversity, is another key barrier, including the fact that most information on the status and distribution of invasive species has not been confirmed with ground surveys, and that there is little information on the relationship between areas of IAS spread and biodiversity hotspots. Because of this lack of information, none of the target countries has established clear protocols for assessing IAS risk or for prioritising IAS management interventions. Biosecurity, including risk mitigation, prevention and Early Detection and Rapid Response (EDRR) measures, has been poorly supported to date (see Annex 1) and is generally weak in all of the countries; as a result, IAS continue to be introduced into and spread within the target countries at an alarming rate. While the countries have put more resources into IAS control, eradication and restoration efforts, there remains very limited practical experience with such measures in the region. Hence, the development of best practices and established cost-effective protocols is sorely needed to increase support for and improve implementation of these measures. In addition, while successes and failures in IAS control and eradication have been recorded, they have yet to be compiled and disseminated across the region. Finally, because of their small size the target countries must depend on regional support and collaboration in order to effectively address the enormous impacts of IAS within their borders. However, existing regional mechanisms and programs are mostly limited to ad hoc policy advice, information sharing and training activities tied to specific projects and short-term funding windows. As a result, regional countries have had only limited success in integrating IAS management into their existing institutions, and they continuously face the challenge of finding technical and financial support for IAS management programs (which is typically very expensive to out-source and find on-demand). In addition, while various databases on invasive species in the region exist, but there is no regional information system linking such information to risk assessments and prioritization of IAS management practices, nor any mechanisms for sharing best practices on IAS management, so that countries face significant challenges in locating, synthesising and deciding on actions to take to solve invasive species issues as they develop.

1.2 The baseline scenario or any associated baseline projects

The Guidelines for Invasive Species Management in the Pacific (the “Guidelines”) outline the essential components of a comprehensive, long-term invasive species management framework for Pacific countries and the region. The “Guidelines” were developed in consultation with SPREP and SPC member countries, all of whom endorsed the “Guidelines” in 2009, and the countries are now at various stages of implementing the “Guidelines”. The “Guidelines” consist of three components: 1) Foundations: Generating Support, Building Capacity, Legislation, Policy and Protocols; 2) Problem Definition, Prioritization and Decision-Making: Baseline & Monitoring, Prioritisation, Research on Priorities; and 3) Management Action: Biosecurity, Management of Established Invasives, Restoration. As of the end of 2013, countries utilizing the “Guidelines” have focused mostly on “Capacity Building”, with 50% of countries achieving a “medium” level of activity, followed by “Generating Support”, “Legislation, Policy and Protocols”, “Biosecurity” and “Management Action”, all of which saw 30% of countries achieving a “medium” level of activity. The success or failure to achieve the objectives outlined in the “Guidelines” have been a critical tool in identifying gaps in IAS management in the Pacific region, and these gaps have been further monitored and identified in the “State of Conservation in Oceania” (SOCO) report and the “Pacific Invasive Species Capacity Development Strategy” (PISCDS). Based on this, several large projects have been oriented around addressing critical gaps, including the Critical Ecosystem Partnership Fund’s “Polynesia, Micronesia Hotspot” project and the GEF PAS “Prevention, control and management of invasive alien species in the Pacific islands” project.

Government programs for IAS management in the four countries are managed by various National Ministries / Departments of Environment, Agriculture, Quarantine, Forestry, and Fisheries. The extent of the countries’ existing IAS-related programs varies widely, in part because three countries (Tonga, Niue and RMI) have participated in the GEFPAS project, while Tuvalu has not. With regard to the marine environment, none of the four countries has any significant programs to address marine IAS, even though all of them have signed up to the Pacific Oceans Pollution Prevention Programme (PACPOL). Overall, the baseline situation with regard to the management of IAS that threaten biodiversity in each country is:

- Tonga and Niue: In recent years, both countries have made significant progress in strengthening their management of IAS that threaten biodiversity, and this issue now has high political and public support in both Tonga and Niue. In each country, an IAS Co-ordinator is in place in Government, a cross-sectoral IAS Committee has been established, a

National Invasive Species Strategy and Action Plan (NISSAP) has been completed and approved, biosecurity measures are being implemented by the Quarantine Divisions, and desktop studies have been completed to identify IAS present within each country and to identify pathways of IAS at risk of arrival. In Tonga, baseline studies have been completed for priority biodiversity sites on Tongatapu and the Vava'u Islands (although additional priority sites in other island groups also need to be assessed); the country has implemented two community restoration projects (Toloa rainforest and Mt. Talau), which include controlling rats and weeds, excluding pigs, and translocation and propagation of threatened plant species. Rats have also been eradicated from several islands in the Vava'u Group and off the coast of Tongatapu. In Niue, baseline studies and management plans have been completed for priority weeds. Feral pig management trials have also been conducted and a long-term pig management plan completed, and an IAS baseline survey has been completed for the Huvalu Conservation Area.

- Republic of the Marshall Islands (RMI): RMI has also made some positive strides in recent years to strengthen its management of IAS that threaten biodiversity. RMI is a member of the Micronesia Regional Invasive Species Committee; and has established its own cross-sectoral IAS Committee;. RMI is included in the Regional Biosecurity Plan (although this has not yet been implemented); has completed and approved a NISSAP; and has completed a desktop survey of IAS in priority sites. In RMI, biosecurity exists at official international ports of entry, there is capacity in EDRR. Weeds are being managed on Majuro, Bikini and Kili atolls.
- Tuvalu: Progress on management of IAS that threaten biodiversity has been relatively limited. In Tuvalu, an Invasive Species Committee was recently established and is currently developing a National Ballast Water Management Strategy that reflects the high value of the marine environment to the country.

Several inter-governmental organizations play a key role in supporting IAS management in the Pacific. The Secretariat of the Pacific Regional Environment Programme (SPREP) is the primary intergovernmental environmental organisation working in the Pacific, and its Invasive Species Programme provides technical, institutional, and financial support to regional invasive species programs in coordination with other regional bodies. SPREP also manages the Pacific Invasives Learning Network (PILN), a network of over 400 practitioners throughout the Pacific. The Secretariat of the Pacific Community (SPC) has a Land Resources Division (LRD) that is also active in IAS issues, including managing an Information Knowledge Management system and the Pacific Plant Protection programme. Another important baseline program is the Regional Biosecurity Plan for Micronesia and Hawaii (which includes one of the participating countries in this project - RMI), which is developing important regional policies and approaches through such arrangements as the Pacific Invasives Partnership. In the marine environment, the International Maritime Organisation's GloBallast project, the Pacific Oceans Pollution Prevention Programme (PACPOL), and the Shipping Related Invasive Marine Pests in the Pacific (SRIMP-PAC) are all addressing the spread of marine IAS in varying degrees and constitute important baseline activities for those countries that wish to address marine IAS (i.e. Tuvalu and Niue). Several bilateral projects in the region also form an important part of the baseline as they are developing key lessons learned and best practices that can be utilized by this project. These include projects offunded by the New Zealand Ministry Foreign Affairs and Trade to eradicate the Yellow Crazy Ant on Tokelau island and another to carry out biocontrol measures in the Cook Islands, and. Another project involves a biocontrol strategy for Melanesia being managed by the Australian Centre for Innovation Agriculture Research. Various CSOs/NGOs are involved in IAS management activities in the Pacific. Local groups such as the Vava'u Environmental Protection Association in Tonga have worked with government and local communities on IAS management activities. Conservation International has significant projects in RMI and general support of SIDS in the region on IAS and other related issues. Island Conservation has completed feasibility studies for various eradication projects and is preparing to implement some of these projects in the region (e.g. potentially Tonga). Birdlife International has a Pacific Programme including an active invasive alien species programme. The Royal Society for the Protection of Birds has managed a number of eradications of IAS in the insular Pacific, including one of the largest ever attempted – the eradication of rodents from Henderson Island (Pitcairn Group). This programme failed despite employing the best expertise and technology available. The latter experience illustrates why optimising the design, execution, monitoring and evaluation, and dissemination of lessons learnt is so critical for successful IAS programmes in the region – a demand this project seeks to meet by bringing to bear in the Pacific an inclusive, coordinated, collaborative best practice approach to tackle IAS.

1.3 The proposed alternative scenario, with a brief description of expected outcomes and components of the project

A number of studies have confirmed that biodiversity in Pacific island countries has experienced the greatest rates of extinction in the world, and that invasive alien species have been and continue to be the single greatest threat to the remaining biodiversity in the region.¹⁵¹⁶ The Guidelines and each country's NISSAP are the primary mechanisms agreed to by countries in the region for addressing the threat posed by IAS, and constitute the underlying frameworks for the design of the proposed project. Progress has been made in implementing the "Guidelines" and the NISSAPs in each country, including activities under the GEF PAS project. In three of the four countries targeted in this project, pilot activities and some best practices for IAS management have been established. The proposed project will build on this progress by extending these pilot activities to additional sites and new countries, and institutionalizing and replicating the best practices. Under Components 1-3, the project will strengthen policy and legal frameworks, support the implementation of the NISSAPs, improve information on IAS threats and potential solutions, and undertake priority actions in IAS prevention, response, control, eradication and restoration. To support the participating countries in undertaking these activities, and in response to a critical lesson learnt from the GEF PAS project on the need for on-going support and mentoring, under Component 4 the project will establish a comprehensive regional Support Service to assist in technical capability, capacity development and the compilation of guidelines and best practice procedures for managing IAS. This Support Service will increase information sharing and collaboration among countries, and help to avoid duplication of activities and thereby to reduce costs for IAS management in the participating countries. The project will encompass the management of IAS in both terrestrial and marine environments; while all four countries are likely to address terrestrial IAS concerns. In addition some countries (notably Tuvalu, but also Niue) will address key issues (ballast water management; spread of IAS into marine protected areas), related to IAS impacts in the marine environment.

Component 1: Strengthening institutional frameworks and capacities for IAS management:

Outcome 1: All participating countries have a comprehensive and effective administrative framework established and countries are enabled to manage invasive alien species

Under Component 1, the project will ensure that each of the four participating countries has a comprehensive and effective administrative framework in place for the management of invasive alien species as well as the technical capacities necessary to support such management.

Output 1.1.1: National cross-sectoral and gender –balanced IAS technical advisory groups established and operational in all four participatory countries.

Cross-sectoral and gender-balanced IAS technical advisory groups will be established and operational in all four countries to provide technical guidance and monitoring of IAS management activities. The advisory groups will be composed of representatives from government (including Agriculture, Quarantine/Biosecurity, Tourism, Climate Change) and non-government stakeholders such as community groups and national environmental societies.

Output 1.1.2: Strengthened IAS legislation, regulations and policies in place in four countries.

Advisory groups will vet changes to policy, regulations and new interventions involving IAS control, eradication and biosecurity, ensuring that due diligence occurs with respect to technical standards and the views of stakeholders, such as local communities. The recommendations of the advisory groups should be required to be considered before final decisions are made. Laws, regulations and policies relating to IAS management will be reviewed and revised as necessary, with emphasis placed on ensuring that legal and policy frameworks specifically address the management of IAS that threaten biodiversity, rather than simply focusing on IAS that impact agriculture, trade and human health.

Output 1.1.3: One NISSAP written for Tuvalu; three NISSAPs reviewed for the other countries.

Among other legal and policy changes, the project will support the four participating countries in harmonising their biosecurity laws, in establishing cross-sectoral EDRR Plans, in creating protocols for agri-chemical management, and in adopting any policy or regulatory changes necessary to enable the implementation of comprehensive IAS programs, i.e. each country's NISSAP. Tonga, Niue and RMI: For those countries that already have draft or completed NISSAPs (Tonga, Niue and RMI), the project will review and propose changes to strengthen those plans (and related policies, protocols, regulations etc) on an annual basis during the period of the project, and it will assist these countries in 2021-2022 in redrafting their NISSAPs to align them with the expected new Aichi Targets. Tuvalu: In Tuvalu which has not yet drafted a NISSAP, the project will support the drafting and adoption of its first NISSAP.

¹⁵ CEPF Ecosystem Profile: Polynesia-Micronesia Biodiversity Hotspot. 2007. Page 45.

¹⁶ United States Department of the Navy. 2015. Regional Biosecurity Plan for Micronesia and Hawaii, Eds. University of Guam and the Secretariat of the Pacific Community.

Output 1.1.4: NISSAPs are under implementation in all participating countries.

In all countries, the project will support the implementation of priority activities identified in the NISSAPs.

Output 1.1.5: Implementation teams are trained and operational in best practice and standard operational procedures in four countries.

The project will provide capacity building to NISSAP implementation teams in standard operational procedures and best practices in IAS management, drawing on lessons learned in the GEF PAS project, and in disseminating information on IAS prevention, EDRR, control, eradication and restoration efforts. The makeup of the NISSAP implementation teams will vary by country, depending on existing capacities and priority activities under each NISSAP. For example, Tonga intends to establish a dedicated team within the Environment Department (consisting of a coordinator and four additional staff, all of which are expected to become permanent positions) with the capacity and resources to address invasive species on a daily basis. The Tonga Environment Department implementation team will also involve, as required, local communities for specific projects and NGOs such as VEPA (Vava'u Environmental Protection Agency). In Niue, the coordinator will be located in the Department of Agriculture, Forestry and Fishing (DAFF) who will work alongside existing staff. Local communities will be consulted as required for specific projects (noting the extremely small size of Niue with only about 1200 people and the close links that DAFF staff will already have with communities). RMI intends to establish the coordinator in the Department of Agriculture to ensure connecting properly with departments of Environment, Forestry and Fisheries, who will be partners in carrying out activities. The Government of RMI has formally adopted the Reimaanlok policy/strategy, which obligates the Government to carry out work in the archipelagos in a coordinated and unified fashion in collaboration with local communities. The proposed project will support this *modus operandi*. Given Tuvalu is all but starting from scratch, it will position its coordinator in the Ministry of Environment, which is tiny (less than four staff) and will necessitate close collaboration with the Ministry of Agriculture and Fisheries plus the communities forming virtual working groups for individual projects – in the first instance primarily focussing on community efforts to manage marine IAS. If possible, the country GEF project coordinators will also be NISSAP coordinators. This may depend on local Government policies and procedures. Membership of GEF country project teams will consist of existing Government staff already working on IAS and biosecurity plus any new staff hired by the project in the Environment Departments or other related departments (e.g. Quarantine). NGO's and the support service (refer Component 4) will also support the country teams along with communities as appropriate.

In each of the participating countries, project activities will include training and utilising local communities to participate in IAS management interventions, based on the model established during the GEF PAS project. The holistic, interactive and inclusive approach to project implementation with the participating countries implementing their NISSAPs (as identified in Components 2 and 3) will be facilitated by activities under Component 4, which will provide regional-level technical support and coordination to each country. The latter will avoid much duplication of effort across all countries because the same technical support will be available to support activities in countries from the one source via the Executing Agency (SPREP in collaboration with SPC).

Component 2: Establishing national systems for prioritizing IAS management:

Outcome 2.1: Enhanced IAS surveillance and control strategies reduce introduction rates and contain populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries

Under Component 2, the project will support each of the four countries in clearly identifying priority IAS threats and developing protocols and plans (to international standards – facilitated through Component 4) for addressing each of those threats.

2.1.1. Baseline studies of the distribution and status of invasive species, and programme for detecting change, completed in four countries

In each country the project will start by supporting baseline studies on the status and distribution of invasive species which will provide a frame of reference for assessing priorities and measuring future success. Next, it will develop methodologies and programmes for monitoring and detecting change in the status and distribution of invasive species. This work will add to any existing, but incomplete, knowledge of the status and distribution of invasive species and mechanisms for detecting change. For example, RMI, Niue and Tonga have completed baseline desk studies of IAS to help establish priorities in their NISSAPs, but these have been supplemented with very few ground surveys to verify the information gathered, and important gaps remain including lack of information on IAS in recognised biodiversity hot-spots (e.g. Ha'apai Group in Tonga). Thus, gaps will be identified in baseline information and existing data will be ground-truthed in order to ensure that

recognised biodiversity hotspots and key biological areas are comprehensively covered in terms of assessing threats posed to these areas by IAS.

Output 2.1.2. Effective protocols for assessing risk and prioritizing IAS for management developed and implemented in four countries

Based on these new and existing data, the project will support the creation and implementation of protocols for assessing risk and prioritising IAS for management interventions in each country. In some countries (e.g. Tonga and Niue), robust protocols are already in place. In Tuvalu, there are almost no protocols established, so work will focus on building a risk and prioritisation framework that is customised to its unique atoll environment and with an emphasis on marine IAS. Where possible, every opportunity will be taken to transfer knowledge, lessons learnt etc. between Tuvalu and the other atoll country participating in the project – RMI. This will be carried out via activities under Component 4 using existing regional networks such as the Pacific Invasives Learning Network (another leveraging programme involving IAS that is run through the SPREP).

Output 2.1.3. Species and site specific management plans, aligned with the Pacific Biocontrol Strategy as appropriate, developed for priority IAS and priority areas for all four countries

Building on the baseline studies and protocols for risk assessment and management prioritisation, the project will support the participating Governments in developing species and/or site-led IAS management plans (aligned with the Pacific Biocontrol Strategy and Guidelines as appropriate) for the most urgent cases where IAS threaten globally significant biodiversity (threatened species according to the IUCN Red List or endemic species). These plans will be used to guide the implementation of IAS programs under Component 3 of the project. Additionally, participating countries can use the management plans to seek funding from other partners for priority actions that cannot be addressed through this project.

Component 3: Implementing demonstration programmes for IAS risk reduction, EDRR, eradication, control and restoration:

Under Component 3, the project will achieve two primary outcomes: 1) demonstrating reduced biosecurity risks through the establishment of functioning EDRR mechanisms for high risk pathways and IAS, and 2) reducing the impact of priority IAS on globally significant biodiversity at specific sites in selected countries.

Outcome 3.1. Biosecurity risks are reduced for the highest risk pathways and IAS

Output 3.1.1. Priority risk mitigation measures are identified and necessary actions taken to reduce or eliminate risks in the four countries

To address biosecurity risks, the project will support countries in identifying priority risk mitigation measures to prevent the introduction and spread of IAS, based on information compiled under Component 2 and the NISSAPs (including Tuvalu's NISSAP when it is completed).

Output 3.1.2. EDRR protocols operational in four participating countries

The project will assist countries implementing these priority measures, including training personnel, improved biosecurity inspection procedures and the establishment of EDRR protocols in all participating countries (only Niue presently has any EDRR mechanisms in place). While the project cannot support comprehensive EDRR systems covering all IAS, it will support the creation of EDRR protocols for the highest priority IAS, and the implementation of actions in response to detected IAS in order to provide each country with direct experience in detecting and responding to new introductions of IAS. IAS prevention and response activities will include activities to prevent the introduction of IAS into the marine environment from ballast water.

Outcome 3.2. Impacts of priority IAS species (identified in component 2) reduced

As described in Section 1.1, IAS already present in the target countries have had and continue to have severe negative impacts on ecosystem functioning, biodiversity, climate change resilience, economic productivity, and human health. For these reasons, the project will complement the biosecurity approaches described above with pilot control, eradication and restoration activities to address IAS already present in the participating countries, focused on protecting areas of critical biodiversity habitat (e.g. Key Biodiversity Areas; Important Bird Areas; officially recognized Protected Areas; etc.) and recognized globally significant species (e.g. those species categorised as Critically Endangered, Endangered or Vulnerable on the IUCN Red List or endemic species). The following description of IAS to be targeted for control, eradication and restoration activities may be adjusted as further co-financing and other support is solicited during the PPG phase and roll-out of the project.

Output 3.2.1. At least two sustainable IAS control programmes are established in each of at least three participating countries

At least two control programmes for priority IAS will be established in each participating country, with a focus on the use of best practices such as Integrated Pest Management and bio-control agents to ensure conservation of native biota, and on interventions that involve significant community leadership and participation (based on models and lessons learned established under the GEF PAS project). IAS control activities will focus primarily on sites within or adjacent to protected areas, including programs to address the spread of IAS into marine protected areas.

Output 3.2.2. Successful eradication of priority species are completed on islands or island groups in at least two countries

For IAS where on-going control is not feasible or cost effective, the project will undertake a targeted number of eradication programmes¹⁷ of IAS that threaten globally significant biodiversity on small islands. The preliminary focus areas of high biodiversity where the eradication projects will take place are: Tonga: Vava’u and Tongatapu island groups and Late Island and the Republic of the Marshall Islands: one island in the Arno Lagoon (to be identified during PPG). For the island groups, specific islands will be selected during the project implementation based on the Rat Eradication and Prevention of Re-establishment Plans to be developed for each island group (see below). The eradication of rats, both the Pacific rat (*Rattus exulans*) and the black rat (*Rattus rattus*) will be targeted where these invasive rats have a direct impact on the following threatened or endemic species (see Annex 2 for more information): Tonga: Friendly Ground Dove (*Gallicolumba stairii* – IUCN Vu), Tongan Whistler (*Pachycephala jacquinoti* – IUCN NT), Hawksbill Turtle (*Eretmochelys imbricata* IUCN Cr EN) and Green Turtle (*Chelonia mydas* IUCN EN). RMI: Boettger's Emo Skink (*Emoia boettgeri* – endemic and IUCN EN) and the Saw tailed gecko (*Perochirus ateles* – endemic and IUCN EN). Rats have been prioritised because the methodologies have been proven to work in the GEF PAS project. These have been customised from accepted best practices for rat eradications in temperate countries like New Zealand and Australia. Rats effect biodiversity through predation on birds, invertebrates and seeds, all of which are required to sustain resilient terrestrial ecosystems and adjacent near shore marine habitat. Rats are accepted as the biggest driver of species extinctions in the Pacific. They are also the most recognisable invasive species in the Pacific due to their effects on livelihoods, including consuming local food crops and spreading disease. Detailed Rat Eradication and Prevention of Re-establishment Plans will be developed for each of the two island groups and two islands, together with a financing plan. These plans will within the island groups define which islands are the most cost-effective to eradicate first and to be supported by GEF financing (based on a methodology developed by Island Conservation targeting smaller islands first, and then moving to medium and larger islands). Spatial aspects and movement of rats between islands will also be considered. As a first step before any eradication start, the project will undertake a study on the present and potential economic impacts of the rat populations have on biodiversity, production sectors and livelihoods (if relevant). The case of non-action and the economic impact should be clearly articulated and communicated to obtain public support, but also additional financing for the further eradication projects. A monitoring programme will be developed for each targeted island in order to monitor the recovery of targeted threatened and endemic species. A communication and awareness-raising programme will also need to be developed not only communicating the eradication, but also the measure that are needed to prevent re-establishment. All eradications will follow formally accepted best practices from countries which are internationally recognized regular users of IAS eradication tools. These best practices will include protecting public health, safe use standards for field operators, safe (*sensu* environment and public health) disposal of target species and minimizing risks to non-target species. These are often legal standards captured by regulations described in the “directions for use” usually found on the official labeling of toxins approved as “fit for purpose” for the destruction of pest species. Island Conservation (vertebrate pests) and other specialist agencies as appropriate will provide technical guidance on how to conduct eradication and other programmes albeit SPREP and SPC will be formally the Executing Agencies and responsible for project delivery.

Output 3.2.3. At least two sites demonstrate measurable restoration outputs as described in restoration plans.

Recognizing that IAS have already degraded important ecosystems in the participating countries, the project will also support restoration of at least three areas of critical biodiversity habitat, using lessons learned under the GEF PAS project (which undertook restoration at the Toloa rainforest and Mt. Talau in Tonga and Mt. Vaea in Samoa). Sites for restoration activities will be targeted to those directly linked to sites of control and eradication undertaken by the project (due to

¹⁷ The project will follow accepted global practices on eradication of IAS with regards to humane treatment and disposal of the deceased.

logistical/administrative reasons, but also in order to maximise success in habitat reverting back to natural state¹⁸). Other sites within and adjacent to protected areas where control of invasive alien species will take place through co-financing will also be considered. Final selection of the restoration sites will be done during PPG.

The successful IAS eradications will be upscaled with country resources (as per formal and accepted protocols) as part of the ongoing country IAS programme (which the project aims to embed into the core business of the Government). Control activities will be sustained in a similar manner or through the action of ongoing bio-control agents and/or community involvement. Restoration projects will also be sustained through community involvement which will be built up during the project.

While there is some capacity and experience in the four countries in the aforementioned activities, including managing pigs and weeds in Niue, rodent and weed control and ecosystem restoration in Tonga, and weed control and rodent eradication in RMI, the project will provide significant capacity building in these areas of IAS management to government agencies and local communities. Community participation will be critical to the site-based activities under Component 3, and the project will build on the extensive experience developed under the GEF PAS project in community engagement in both the design and implementation of site-based activities, including site selection, IAS management approaches, monitoring of success, problem resolution, etc. The project also will utilize the existing networks of SPREP and other partners to engage with and build the trust of local communities. A key objective of the project is to firmly establish national capacities to design and implement basic and essential control, eradication and restoration activities, again building on proven successes under the GEF PAS project these areas. Nevertheless, it is recognized that Pacific island countries will continue to require assistance for large-scale IAS management interventions that require substantial resources and complex logistics, and this need is addressed under Component 4.

Component 4: Establishing a Pacific islands regional support framework for IAS management: Under component 4, the project will establish regional mechanisms to guide, support and coordinate the activities of Pacific region countries and territories, in responding to existing and potential IAS threats. Under this component, the project responds to the decision of the 2013 SPREP meeting in which all countries of the region, plus the metropolitan countries of USA, France, Australia, New Zealand and Britain, 1) unanimously approved a project concept that included the establishment of a regional service to support all countries in the region in IAS management, and 2) directed SPREP and its partners (UNEP and SPC) to develop such a project for GEF funding. Subsequently, all Pacific SIDS were invited to participate in an integrated project where national IAS activities were supported by a regional service, and four countries have elected to take advantage of this opportunity (some of the other countries have opted to address IAS issues through Ridge to Reef and other projects). However, all countries in the region have signalled their desire to participate in and benefit from a regional support service to strengthen IAS management, and therefore Component 4 will establish the first regional mechanisms in the Pacific for technical and financial support and collaboration to address IAS issues. Because of the benefits to the whole region, this project is seeking set-aside funds to meet this regional demand for strengthened and coordinated IAS management.

Outcome 4.1. Sustainable support service comprised of Council of Regional Organisations in the Pacific (CROP) agencies and partners established and enabling four countries to respond to existing and potential IAS threats, and is up-scalable to at least the Pacific region

Output 4.1.1. Support Service supporting the three other components for the four countries and the region, including providing advice on NISSAP development and implementation as required, is operationalized

Under the project, a regional Support Service will be established to assist countries in developing their long-term planning and capacities for IAS management. Capacity-building, mentoring, and assistance delivered through workshops, training courses, technical guides and other materials, information resources, etc. will be provided to national partners in designing and implementing IAS management programmes and activities, with a special focus on activities to support implementation of the Guidelines for Invasive Species Management in the Pacific, and to develop and/or implement each country's

¹⁸ In many cases control of invasive alien species without restoration will lead to a re-invasion of the same species or invasion of another species as the site remains disturbed. By providing the conditions for native species restoration and through active restoration in sites where the IAS are control, the chances of the same/other IAS establishing are minimized. Further the threatened/endemic species which are threatened by rats on the island groups/islands where eradication will take place, are in many cases also threatened by loss of natural habitat. For example, Boettger's Emo Skink's numbers are also closely linked to the availability of natural, undisturbed habitat. The restoration of natural habitat will therefore further assist in maintaining and even increasing the current populations of these species.

NISSAP. The Support Service also will provide technical guidance to country programs on IAS control, eradication and restoration, and biosecurity with the goal of continually improving (and making more cost efficient) relevant techniques and protocols and supporting their replication in the Pacific region. In order to generate lessons learned and support adaptive management, the Support Service will help to develop national capacities to systematically measure the success of IAS prevention and management activities and to report on the achievement of objectives in national, regional and international instruments to which they are signatories. Finally, the Support Service will seek to leverage the high level of interest and commitment within the region in order to establish regional approaches and efficiencies. An example is improving coherency by establishing agreements between assistance providers which will improve effectiveness by clearly identifying providers of services in relation to the Guidelines and by making available case studies and invasive species information. In turn this will improve efficiency by providing services to countries that share a common need, thereby avoiding duplication and wasting of resources. The Support Service will be a coordinated group of experts from within and outside the Pacific Region, facilitated by SPREP and drawing upon the services of various agencies with mandates to support invasive species management. These will include SPC, the University of the South Pacific (USP), the Pacific Invasives Partnership (PIP) (a group of agencies who assist Pacific countries with invasive species) and the Pacific Invasive Learning Network (PILN) (a peer learning network of country cross-sectoral teams of invasive species practitioners). In addition to establishing the Support Service, the project will work towards institutionalising the Support Service into the core operations of SPREP and SPC, which already have core IAS and biosecurity programmes, in order to ensure that its activities continue over the long-term.

Output 4.1.2. Sustainable financing mechanisms in place to support long-term programs of Support Service and national IAS management programs/Output 4.1.3. Capacity developed in to systematically measure the success of IAS management objectives as described in national, regional and international instruments

As described already, Tonga and Niue, and to some extent RMI, already have government staff dedicated to IAS management who will act as key partners to the project and who will receive capacity building through project activities (Tuvalu does not yet have any significant IAS management capacity). Nevertheless, improved IAS management will require additional sustainable financing resources, and the project will therefore explore new and additional financing mechanisms for IAS management to benefit the four target countries, as well as the rest of the region. To date there have been some lessons learnt from the GEF PAS Pacific IAS project including how country Governments respond to project activities and institutionalise positions (paid for by the Government) and establish higher levels of protection for areas receiving IAS management (e.g. adding these areas to national parks). Other examples are various including schools adopting natural areas for continuing IAS management as part of their education programme and local NGO's taking over continuing management of IAS. Based on these and other's lessons, the project will start the study by assessing the feasibility of developing and introducing/implementing financial instruments and mechanisms to support IAS management, in particular to reduce the risk of intentional introductions of IAS that threaten biodiversity.

The study will assess options for establishing dedicated national funds for IAS prevention activities, based on cost recovery mechanisms such as (i) Border cost recovery including port inspection services for imported goods, materials and passengers, sterilisation and decontamination services, importing clearance duties, tariffs, regulations and protocols to fund biosecurity, poaching and biosecurity hazard law enforcement penalties to foreign vessel owners, penalties for regulation violations including poaching (e.g. fishing vessels in marine protected areas), green fees charged to the tourist sector to fund biosecurity and IAs control and eradication in support of biodiversity conservation using lessons learnt from Palau, Cook Islands, etc.; and (ii) Post border cost recovery including, Pest and invasive alien species control advice charges to the agricultural and horticultural sectors including registration and inspection fees, risk assessments, infringements on regulations relating to biosecurity, importing etc., Eradication and emergency response (identification, delineation surveys, containment, etc) fees for new incursions, fees on disposal of vector material (e.g. contaminated soil).

The study will also assess the possibility of directing monies collected from fines imposed for IAS-related infractions into the national funds for IAS prevention. In addition, the feasibility of more general taxes, fees or levies to pay for IAS prevention, based on the volume or risk level of imported goods, will be investigated. Once completed, the study will be presented to national partners to discuss the feasibility of the proposed financing mechanisms and to initiate on-going dialogue on funding and cooperation for IAS management aimed at implementing the studies' recommendations. It is anticipated that the results of the study (plus evidence from others already done for sub-sets of the region) will make an economic case for IAS control, eradication, prevention and biosecurity (as has been elsewhere in the world) which will be

used to advocate and justify funding IAS/Biosecurity by Governments and regional organisations. By establishing/implementing funding mechanisms for IAS management based on systems of fees and/or fines for IAS-related infractions, the project will, through the implementation of results of the study, facilitate increased and sustainable funding levels for IAS management among Pacific region countries, while also incentivizing, based on the results of the study, public and private actors to shift towards low-risk practices and to substitute the use of exotics for native species. In addition, the project will build the economic or business case for increased funding for IAS management by governments and other partners, based on the results of the study. Building on preliminary studies carried out in the region on the economic impacts of IAS on livelihoods, production sectors, human health, ecosystem services, etc., the project will undertake more detailed analyses with expanded information and scope (including marine IAS) to help countries understand the true impacts/costs of IAS. Furthermore, utilizing the proven costs of effective IAS management demonstrated at national levels under Component 3 and at the regional level by the Support Service, the project will establish cost coefficients for different IAS management strategies (prevention, EDRR, control, eradication, etc.) under varying conditions (i.e. depending on species type; ecosystems; local pressures; etc.), with a focus on IAS that impact biodiversity, which will allow countries to compare the costs of different IAS management approaches and to see efficiently they mitigate IAS costs/impacts. In addition to providing important guidance for future policies and priority setting on IAS management, this information will be used to make the case to governments to invest more in IAS management activities and to solicit increased funding from regional and international donors.

Further, the output will focus on establishing a platform for engagement of the private sector in order to enhance support and leverage increased resources for IAS management at national levels as well as for the Pacific region. Any partnerships with the private sector will be coordinated with the relevant Government agencies in part to leverage cooperation as well as ensuring maximised local ownership for longterm commitments. The project will facilitate organisation of donor coordination and multi-stakeholder consultations (including Pacific region countries, bilateral and multilateral development agencies and the private sector), leading to developing long-term financing strategy and commitment to the support of IAS management in the Pacific and to the support of the Pacific IAS Support Service. An important accomplishment will be the establishment of dialogue platforms at both national and regional levels to engage with the private companies that are increasing the risk of IAS invasion through their operations (e.g. shipping/import companies, airline companies, agricultural companies, mining companies and tourism companies) and those companies benefitting in maintaining the natural resources of the region (e.g. tourism companies, fishing companies, agriculture companies etc.). Topical discussions such as IAS invasion pathways and loss of economic value due to IAS and reliance of tourism and fishing on the sustainable natural resource management (including IAS management) will be organised in order to explore possibilities of private sector engagement in IAS management. The increased interest generated, besides changing practices to reduce impacts, will also result in increased resources from the private sector to IAS management in the Pacific region, and particular targeted to financing the Pacific Region Support Service.

The Regional Support Service will build on the existing core-budgeted IAS/Biosecurity related positions and activities already established in the partnering Regional agencies responsible for the execution of this project – Secretariat of the Pacific Regional Environment Programme (SPREP) and Secretariat of Pacific Community (SPC). The project should validate existing (and expanded future) work and mandate continued and hopefully expanded funding for these positions and allied positions, activities and *modus operandi* from the donors that already support the agencies (e.g. Australia and New Zealand). This project will demonstrate to these donors proof-of-concept of the regional support model and further secure their support. Further, as part of the current project, the development of a priority projects database will classify IAS/biosecurity needs across the region and rank order them which will make targeting funding streams for regional level (and country) significantly more effective. Specific options for financial sustainability of the regional support mechanism will be developed during the PPG when countries (including donor countries of the EA's) will be consulted. It should also be noted that the UN Environment Programme has a strong collaborating partnership (MoU) with SPREP and has a presence at SPREP HQ. This partnership covers work in seven strategic priorities areas including maintaining biodiversity and sustainable provision of ecosystem services and is regularly reviewed and reported on at the highest level of the UN Environment Assembly (UNEA). UN Environment Programme will during the project implementation seek additional financing to support the regional service centre with donors, other than the GEF. It will also make sure that any lessons learnt from partnerships developed in allied UNEP/GEF projects outside the Pacific (e.g. Caribbean, Asia) will be brought to bear in the Pacific project.

Output 4.1.4. Regional capable information system in place delivering case studies, guidelines, standard operating procedures and tools generated by components one to three/Output 4.1.5. Based on project outputs, new version of the “Guidelines “ for Invasive Species Management in the Pacific (Guidelines) is produced and formally approved.

Under Component 4, the project also will establish a regional information system on IAS management which will be maintained by the SPREP / SPC and their member countries beyond the term of the project. This system will allow countries in the region for the first time to link existing databases on invasive species to risk assessment criteria and analyses in order to prioritize IAS management activities. The system also will allow participating countries to efficiently share best practices and lessons learned on IAS management, and will deliver case studies, guidelines, standard operating procedures and tools generated by activities under project Components 1-3 for use throughout the wider Pacific¹⁹ (as well as other oceanic regions and especially sharing with ongoing other GEF 6 funded projects such as in the Caribbean). The project will use the Guidelines as the classification system for constructing and populating a regional information system, which will be that easily accessible to Pacific island practitioners via the PILN webpage hosted by SPREP. Finally, the project will use the practical experiences gained in implementing IAS management in the four countries, as well as the information and guidance generated through the Support Service, to develop a new version of the Guidelines for Invasive Species Management in the Pacific, and to gain endorsement of this new version after necessary consultation and peer review

Activities under Component 4 will be facilitated via the existing SPREP regional IAS programme and the existing SPC regional biosecurity programme, which have developed extensive capacities and experience in IAS management over the past 20 years. Both SPREP and SPC have well-established communication and outreach programs, which will facilitate the regional information sharing and collaboration elements of the project. UNEP, which oversaw implementation of the Pacific GEFPAS IAS project as well as a similar project in the Caribbean, and is currently preparing a PIF for a project similar to this one in the Caribbean region, will ensure that lessons learned are shared between countries, regions and participating agencies via such mechanisms as UNEP-Live and social media. Regular virtual meetings between the participants in the various regional projects will be arranged to facilitate an active, real-time exchange of information and problem solving, and technical advice will also be shared between regions.

1.4 Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

In the baseline scenario, the SPREP Guidelines for Invasive Species Management in the Pacific provide the framework for a comprehensive and coordinated invasive species management programme for countries in the region. All of the States and Territories in the region are now engaged in some invasive species management activity; six countries have completed a National Invasive Species Strategy and Action Plan (and additional countries are developing their own NISSAPs); 11 out of the 12 countries with NBSAPs have included objectives and/or actions to address invasive species threats; and as of 2013, 13 countries had an operating national invasive species committee. On-the-ground activities are being carried out by governmental and non-governmental agencies, including successful eradications of invasive animals (rodents, cats, pigs, goats, rabbits) in some countries. While these are important positive developments, to date most of the accomplishments have been limited to capacity building and the establishment of national policies, and considerable effort is still required across all of the thematic areas of the “Guidelines” to comprehensively address the invasives species threat. Without the proposed project with its aim of regional coordination, collaboration and support of national programmes, countries will be unlikely to successfully address the continuing invasion and spread of IAS, which will lead to a state from which the islands may never recover and which will undermine efforts to promote biodiversity conservation and food, health and livelihood security, and prevent countries from meeting their national and international obligations for IAS management.

In the alternative scenario, the proposed project will build on and add value to the significant investments already made in IAS management in the region (see Annex 1) by: assisting countries in the region to create and/or strengthen IAS policies, regulations and planning frameworks; increasing information on IAS and use that information to assess risks and identify priority IAS management interventions (including prevention measures); strengthening biosecurity and EDDR protocols and systems; expanding small island programs for IAS control, eradication and restoration and developing cost-effective

¹⁹ As described within the Pacific Invasive Species Capacity Development Strategy, which was supported by all countries at the 2013 SPREP meeting

demonstrations for replication and up-scaling; and establishing for the first time in the Pacific inter-agency regional mechanisms for technical and financial support and collaboration that are critically important to addressing IAS in small island developing countries. The project will provide models for IAS legislation, capacity building, baseline studies, developing NISSAPs, identification, prioritization and mitigation of high risk pathways, eradication to protect globally significant species and ecosystems, management of IAS in protected areas (terrestrial and marine), integrated pest management including the use of biocontrol agents, and restoration techniques. These activities will respond to a critical need in the region; to date, IAS programs in the region have primarily consisted of one-off projects that have not been effectively integrated into the programs of relevant Government agencies or structured so as to empower them to undertake responsibility for IAS management over the long term. By providing technical and financial support to Pacific island countries through a coordinated regional mechanism (see Component 4), the project will facilitate continuity between on-the-ground level projects and government (and non-governmental) programs so that the latter can follow through and retain the benefits of initial interventions, and can focus their funds and energies on local projects rather than on expensive and time consuming technical capacities and programs that are difficult to sustain in SIDS. Improved prevention, early detection, control and management of IAS in the Pacific will support the conservation of globally significant biodiversity and ecosystem services, while also benefitting agricultural production, food security and overall economic performance, thereby helping to alleviating poverty and improve the well-being of women.

The project will seek to build on the gains made from existing initiatives for IAS management and biosecurity in the region and coordinate with them. Members of the Pacific Invasives Partnership (PIP) have been consulted throughout the development of this project and have signalled their intention to support this project during the PPG process and implementation. Members of the PIP, such as the Pacific Invasives Initiative and Island Conservation, will be able to potentially contribute expertise in areas such as capacity development and eradication/control operations respectively – often in tandem. Other members of the PIP are also well placed to contribute to policy and regulation development related to same-state inter-island biosecurity (three of the participating countries include complex archipelagos and inter-island biosecurity is a serious problem). The proposed project will advance the existing NISSAP processes which are underway already in Tonga, Niue and RMI (their NISSAPs are Government endorsed) and help to further strengthen their cross-sectoral IAS task-forces. Thus the project is capitalising on significant recent investment in these countries' NISSAP processes. The project will also progress the NISSAP process in other countries in the region which have NISSAP's already (Tuvalu is the only country without one and is one of the four country partners to the current project and will receive support completing its NISSAP). Work already underway by the project's regional partner agency, SPC, will also contribute to the project including – SPC's training programme for border biosecurity and quarantine officers and integrating IAS control/management and biosecurity best practices into mixed agricultural and natural environment scenarios.

Tonga has two sustainable community-led restoration projects underway involving IAS control and eradication which benefit the Tongan Whistler (*Pachycephala jacquinoti*), a critically endangered bird, and *Casearia buelowii*, a critically endangered tree endemic to Mount Talau. Tonga has also completed rodent eradications on four islands identified as Important Bird Area islands, some of which are important nesting sites for the hawksbill and green turtles. Preparatory work has also been completed for IAS operations on which the current project can capitalise (e.g. an operational plan to restore Late Island). The success of these projects has established networks and increased community awareness and many of the government/non-government agency skills and systems and processes which can now be further mobilised to achieve significantly more towards combatting the threat of IAS. In effect therefore the current project is leveraging or making use of significant past investment.

Niue has also set up networks and many of the systems and processes for running an IAS/biosecurity programme based on recent past experience on which the current project will be able to capitalise. For example, Niue has weed control and pig management programmes already underway. As with Tonga, Niue (and to a lesser extent Tuvalu and RMI, due to the fact that they are in the early stages of setting up IAS/Biosecurity national programmes) is able to capitalise on these and other recent past investments in IAS/Biosecurity programmes (e.g. the GEF PAS projects). Future work in Niue could be carried out to build on the existing structures and expertise put into place by these recent projects include management of yellow crazy ants (e.g. on Tokelau Islands funded by Government of New Zealand), terrestrial weed species and marine biosecurity.

As already signalled, RMI and Tuvalu are in their relative infancy setting up national IAS/biosecurity programmes, although RMI has some of the necessary national networks, systems and processes underway from the GEF PAS Pacific IAS project. Tuvalu has recently completed a ballast water management plan which is a national priority for this atoll state that is highly dependent on the marine environment and its biodiversity. The proposed project is designed to build on these early accomplishments and use the lessons learned and capacities developed to date to greatly increase these countries' IAS/biosecurity capabilities.

The IAS/Biosecurity service component captured by Component 4 of the project will in the same sense as above benefit from about 20 years of institutional experience between SPREP and its partner SPC plus the collective expertise of the Pacific Invasive Learning Network (PILN) which is a peer led network of over 400 practitioners. The PILN will be key in the provision or distribution of services to the wider Pacific (and beyond) (see Component 4 description). UNEP also brings to bear considerable experience in IAS management, including two SIDS region and two continental programmes. SPREP has employed full-time Advisor level staff since 1998 and this position with its various allied employees have managed many projects throughout the region and established a permanent network within and beyond the Pacific which will benefit the proposed project. One such network is the Pacific Invasives Partnership (PIP), which includes members such as USA APHIS, Island Conservation, New Zealand Landcare (a New Zealand Crown-owned Research Institute which is a leader in science and technology associated with IAS/biosecurity), University of Auckland New Zealand (a recognised leader in theoretical and practical research into IAS control and eradication best practices), SPREP, SPC, Pacific Invasives Initiative (which includes IUCN's Invasive Species Specialist Group), etc. The Pacific Invasives Initiative will fill a role in the regional support network, most likely to be support for inter-island biosecurity and other initiatives for which they are both technically and financially competitive with other providers. In summary, the current project and particularly Component 4 will in effect provide the focal point to bring to bear these allied corporate support agencies.

1.5 Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

By mitigating the impacts of IAS, the project will help to sustain populations of critically endangered species, endangered, threatened and single-island endemics, and ecosystems; protect the resilience of natural ecosystems in the region to the impacts of climate change; and contribute to natural disaster risk reduction. The project will help countries to undertake activities required under a basket of related Conventions related to IAS in the terrestrial and marine sectors, as defined in the table in Section 6. Action on IAS is prioritised under the GEF-6 Biodiversity Strategy as a key means of addressing biodiversity loss, and this project will directly contribute to improved practices for IAS management and reducing biodiversity loss in the Pacific. This directly contributes to reducing global biodiversity loss, as Polynesia-Micronesia has been identified by Conservation International as one of the world's 25 biodiversity hotspots and the epicentre of the current global extinction crisis²⁰. The project contributes to the goals of the CBD in implementing activities identified in the countries' National Biodiversity Strategy and Action Plans, and it will directly assist implementing countries with achievement of the Aichi targets 1, 5, 7, 9, 11-15, 19 and 20. The best practices established and lessons learned by the four countries from this project will have significant benefits for the whole Pacific the four countries involved include at least one each of the three main biogeographic island categories – “high” islands [Tonga]; atolls [Tuvalu and RMI] and “raised platforms” [Niue]). The lessons learned from individual countries will provide guidelines and other technical support, such as best practices, for other countries, thereby promoting the transfer of expertise and knowledge through the Pacific Invasives Learning Network (PILN) as well as peer learning between countries, which has long been considered one of the most effective means of exchanging skills. The project will contribute to a reduction in the loss of biodiversity and in the negative impacts and costs of IAS on livelihoods and economic development. Furthermore, by demonstrating an integrated national and regional approach to IAS management and information sharing, the project will showcase a modus operandi for other SIDS regions globally and a model for other GEF IAS projects in SIDS regions.

1.6 Innovativeness, sustainability and potential for scaling up

²⁰ <http://www.cepf.net/resources/hotspots/Asia-Pacific/Pages/Polynesia-Micronesia.aspx>

As noted in the GEF-6 Biodiversity strategy, IAS remain one of the key direct threats to biodiversity globally, only a small proportion of GEF projects in the Pacific over the past 20 years have specifically or indirectly addressed IAS. The project proposes a highly innovative approach to IAS management where regional collaboration and information and resource sharing will leverage results that none of the participating SIDS countries could hope to achieve on their own. In addition, for the first time in the Pacific, this project will integrate the IAS management that addresses both the terrestrial and marine environments, a logical approach for SIDS and one that should provide valuable lessons for other SIDS regions. The project also has high potential for scaling up: project benefits will accrue to the entire region via the on-going programs and activities of SPREP and SPC, and other countries in the region will benefit from improved outreach, training and information systems (e.g. Palau and Cook Islands have stated their interest in participating in capacity building workshops run by this project on a “pay as you go” basis). Furthermore, the Pacific Islands region is the only oceanic region to have a comprehensive IAS management framework; by strengthening this framework, the project offers the opportunity to create a model that can be replicated in other SIDS regions (especially the Indian and Caribbean Oceans), as well as for continental countries which have islands within their territories. As project implementing agency, the United Nations Environment Programme will ensure maximum cross-benefits accrue to related IAS projects it is responsible for outside of the Pacific, and with on-going UNEP Global programmes such as UNEP Live and the WCMC. The sustainability of the project outcomes will be supported in several ways. Component 4 of the project involves establishing multi-country Support Service (which should be scalable to a regional network) established within one or both of the participating regional agencies (SPREP / SPC) that can help to attract sustainable funding for IAS management in the region. The project will facilitate the development of standard operating procedures (protocols) during control/eradication/restoration projects that will make it easier to manage IAS in a cost-effective manner over the long-term. The project will establish and support the NISSAP implementation teams during the project, with the expectation that participating governments will sustain these teams post-project (similar to the action taken by most of the governments under the GEFPAS IAS Project to institutionalize and support Invasive Species Coordinators after that project ends).

2. Stakeholders. Will project design include the participation of relevant stakeholders from [civil society](#) and [indigenous people](#)? (yes /no) If yes, identify key stakeholders and briefly describe how they will be engaged in project design/preparation

Project design will include all relevant stakeholders, including local NGOs and communities. Participating countries and the project executing agencies have well-established working relationships with many of the relevant stakeholders, and others will be identified.

Stakeholder	Expected Role in Project Preparation
Secretariat of the Pacific Regional Environment Programme (SPREP) and Secretariat of the Pacific Community (SPC)	SPREP and SPC will act as Executing Agencies for the project, collaborating under an existing working Letter of Agreement relating to this project. Both institutions will play a key role in assisting countries to develop their country programmes within the project, and in designing the regional support elements (Component 4) of the project so that they effectively address priority needs in each country.
National Ministries / Departments of Environment	These agencies will be involved in the development of project activities related to their mandates and priorities (supported by the EA’s), for example national plans such as NISSAPs and NBSAPs, and protection of globally significant biodiversity.
National Ministries of Agriculture, Quarantine, Forestry, Fisheries and Finance	These agencies will be involved in the development of project activities related to their mandates and priorities, for example the management of biosecurity systems and protocols to prevent the introduction and spread of IAS.
Local communities / land owners	Communities and landowners will provide information and participate in the design and implementation of site-based activities, including site selection, IAS management approaches, monitoring of success, problem resolution, etc., thereby ensuring that activities of the full project are aligned with local traditional and cultural requirements and involve local participation.
Local NGOs and CSOs	These organizations are expected to contribute to the development of project activities, particularly site-level activities where NGO and CSO participation and ownership will help to ensure the long-term benefits of the project (the project will use models developed under the GEF PAS project, where the Vavau’u Environmental Protection Association was a key partner in ecosystem restoration activities.
International NGOs	NGOs such as Island Conservation, Conservation International, Birdlife International and the Royal Society for the Protection of Birds have wide experience with IAS management in the Pacific Island.

	Conservation International, in particular, has experience in the Pacific and elsewhere on the eradication of rats from small islands. During PPG the comparative advantages of the various NGOs will be assessed and where applicable may assist in designing specialised (often large-scale) activities such as eradication and restoration plans and implement such. The exact execution modalities of such subcontracts (through the executing agencies) will be defined during the PPG.
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3. Gender Considerations. Are **gender considerations** taken into account? (yes /no). If yes, briefly describe how gender considerations will be mainstreamed into project preparation, taken into account the differences, needs, roles and priorities of men and women.

During the remaining phases of developing the project the IA and EA will ensure gender equity is built into the design and roll out of the project and sub-projects at country level. This commitment recognises the necessity of providing equal opportunity for sustainable use of biodiversity and the specific skill-set each gender group can bring to the the management of IAS and biosecurity. The project will focus on equality in participation and benefit sharing related to project activities and achievements. Implementation of specific activities will pay particular attention to identifying and minimising the gender-differentiated consequences of negative environmental and social impacts of invasive alien species, and participatory consultation processes will ensure that specific interventions are accepted and owned by communities and are gender-sensitive and equitable. The project proponents have used the services of UN Women (Fiji/Apia regional office) in the past to ensure that there is a satisfactory score card for gender considerations and that appropriate consideration is given to gender issues, and proponents intend to again work with UN Women office colleagues during the roll-out of the project. Experience gained from the GEF PAS IAS project which successfully engaged women from Ministries, local CSO’s and communities will be used to again make sure women play a significant role in this project.

4 Risks. Indicate risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design (table format acceptable).

Risk	Degree of Risk	Risk Mitigation Strategy
1. Loss of institutional and subject matter knowledge through high staff turnover within government agencies	Medium	The project will be designed so that it does not overly rely on specific individuals by establishing standard operating procedures and ensuring that capacity building and technical assistance is provided broadly (e.g. to all members of NISSAP implementation teams) so as to allow easy migration of staff roles if required. In addition, mentoring of staff through the regional support component will provide professional training and development and hopefully improve job satisfaction.
2. Lack of community cooperation in achieving project objectives	High	Changes in community leadership and cohesiveness may result in land ownership disputes and/or disagreement regarding project priorities and activities. In order to gain full community buy-in, the project will prioritize community consultation and awareness programmes throughout the life of the project, and wherever possible use the partnership approach with communities.
3. Willingness and ability of participating actors to share data	Medium	The project will support the use of statutes and regulations to allow information transfer between countries and agencies with existing data; facilitate the transfer of IAS information and knowledge between countries and repositories; and develop protocols and other mechanisms to protect intellectual property and thereby encourage information sharing
4. Insufficient long-term commitment of governments and other partners to IAS management	Medium	The project will work to mainstream IAS management systems into standard government practices to ensure the on-going fulfilment of IAS management requirements; the project also will provide regular feedback on successes to foster confidence in IAS management and reinforce best practices.
5. Climate change may alter the threats and risks posed by IAS	Medium	Climate change may raise the threat of IAS by increasing disturbances to ecosystem functioning (e.g. frequency/severity of fires, floods, storms, etc.) and by changing local climatic regimes (e.g. changes in frequency / duration of droughts; in humidity levels; etc.), all of which may decrease ecosystem resilience and create conditions where invasive species can more easily become established. Climatic parameters will be included in the IAS risk assessments supported by the project, and the results of climate modelling will be integrated into the revised “Guidelines” and NISSAPs.

5. Coordination. Outline the coordination with other relevant GEF-financed and other initiatives.

The proposed project will build on and extend the advances made in IAS management in the Pacific region through the UNEP-GEF project “Prevention, Control and Management of Invasive Alien Species in the Pacific” (GEF PAS). The GEF PAS demonstrated the feasibility of control and eradication programmes for IAS that were demonstrated threats to BD assets. The proposed project will build on these initial pilot activities by tackling IAS that pose larger scale threats to BD assets (e.g. as recognised in NBSAPs). The GEF PAS project also demonstrated that IAS management is a very broad issue requiring a large set of knowledge, skills, competencies and confidence, and that Pacific Island countries, with small economies/administrations faced with massive issues relative to their monetary and technical resources, need significant and on-going technical and financial support to implement IAS management programs (under the GEF PAS, the countries that received the most support were the most successful, regardless of their pre-project capabilities), and that large-scale IAS management interventions (including large and complex control, eradication and restoration activities) require that capacity is developed at the sub-regional or regional levels given the limited resources in each country and the fact that such interventions would be so few and far between in a given country that it would be very difficult to sustain capacities. For these reasons, the proposed project will establish a multi-country Support Service (see Component 4) for IAS management that will help to institutionalize and disseminate best practices and pilot activities completed under the GEF PAS project. The project also will seek to coordinate with relevant activities of the various GEF 5 Ridge-to-Reef projects in the region, including the regional coordinating project “Ridge to Reef: Testing the Integration of Water, Land, Forest & Coastal Management to Preserve Ecosystem Services, Store Carbon, Improve Climate Resilience and Sustain Livelihoods in Pacific Island Countries”, and some of the specific national projects (including those in the four participating countries of this project, as well as Palau [for which UNEP is again the IA] among others) where invasive species management is a critical component of ridge-to-reef approaches and resources and lessons learned can be shared between the projects. UNEP will ensure coordination between the proposed project and the regional project “Building national and regional capacity to implement MEAs by strengthening planning, and state of environment assessment and reporting in the Pacific Islands” (for which UNEP is IA and SPREP is again EA), in particular by making available the systematic data collection on SOE variables, including those related to IAS/Biosecurity, developed under the capacity building project. In Palau, the proposed project will collaborate with the pending UNEP-GEF project “Advancing sustainable resource management to improve livelihoods and protect biodiversity in Palau”, which will support the country in integrating and mainstreaming IAS management across sectors, and will focus on addressing invasive alien species “with immediate consequences towards Protected Area Network sites”. The project also has linkages with UNEP’s Caribbean and Asian Forest IAS projects, which will facilitate trading lessons learnt between projects, between regions and globally via such mechanisms as UNEP Live and its partner agencies, such as WCMC. The project also will seek to share lessons learned on intra-island biosecurity approaches and eradication of IAS fauna with the pending project in Fiji “Building Capacities to Address Invasive Alien Species to Enhance the Chances of Long-term Survival of Terrestrial Endemic and Threatened Species on Taveuni Island and Surrounding Islets”. With regard to all of the aforementioned projects, UNEP will engage with the relevant GEF project Implementing and Executing Agencies on how project activities under Component 4 can and should be provided to countries participating in these other projects.

6. Consistency with National Priorities. Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes /no). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

The proposed project was endorsed by all fourteen regional member countries (including the four countries participating in the project), Pacific Territories, and five metropolitan member countries (U.S., England, France, Australia and NZ) of the SPREP at the organization’s annual meeting in September 2013. The project will assist countries in implementing International Maritime Organisation agreements including the Ballast Water Management Convention, International Convention of the Control of Harmful Anti-fouling Systems on Ships, Guidelines for the Control and Management of Ship Bio-fouling, and the Regional framework for managing ship sourced marine pollution (including IAS); it will also help countries to implement the SRIMP-PAC (Shipping related invasive marine pests in the Pacific), and obligations under the Pacific Oceans Pollution Prevention Programme (PACPOL), including baseline surveys of their ports, economic impact assessments, risk assessments, strategy and actions defined within NISSAP, and the review and update of legislation. The project will support national progress towards paragraph 95 of the S.A.M.O.A. Pathway (3rd UN World Conference of SIDS

2014, Outcome document), which calls for “support for the efforts of small island developing States: a) to enhance multisectoral collaboration at the national, regional and international levels, including through expanded support to existing structures, to effectively address invasive alien species; b) to improve efforts to eradicate and control invasive alien species, including through the provision of support for research on and the development of new technologies by expanding collaboration and supporting existing regional and international structures; and c) to develop and strengthen their capacity to address invasive alien species issues, including prevention, as well as increasing public awareness in small island developing States about this issue. In addition, the project supports national priorities and plans, and commitments under international conventions, relevant to invasive alien species as described in the table below.

Relevant Strategies / Plans / Reports and Conventions	Project Consistency
Convention on Biological Diversity	The project design supports objectives under each country’s NBSAP, NISSAP, and NCSA, as well as Aichi Targets 1, 5, 7, 9, 11, 15, 19 and 20, and the Global Invasive Alien Species Partnership (GIASP)
Guidelines for Invasive Species Management in the Pacific	Project design is highly integrated with the “Guidelines”, which all four participating countries endorsed when they were finalized in 2008 and have adopted as the organizing framework for their efforts related to IAS management.
Regional Biosecurity Plan for Micronesia and Hawaii	Project activities to improve risk assessment and EDRR will support biosecurity objectives and therefore the goals of this regional plan, to which both FSM and RMI are signatories
Cartegena Protocol on Biosafety	Project will assist countries in making their National Communications required for the Cartegena Protocol and National Capacity Self Assessments.

7. Knowledge Management. Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

Under component 4, the proposed project will undertake significant activities towards establishing a regional information management system to deliver case studies, guidelines, standard operating procedures and tools generated under components 1-3, as well as data and other information on priority species and pathways, best practices and lessons learned in IAS management (prevention, EDRR, control, eradication, restoration), etc. This work will build on previous projects from within and outside the Pacific region, using networks and resources provided to the project by the implementing and executing partners, namely UNEP, SPREP and SPC, as well as information from other partners such as Conservation International, The Nature Conservancy and the Micronesia Conservation Trust. Care will be taken to avoid duplicating past and present efforts and to enhance existing methods of managing knowledge, using for example existing Clearing House Mechanisms such as the Global Invasive Species Database and the Pacific Invasives Learning Network, as well as alliances such as the Pacific Invasives Partnership. Steps will be taken to ensure networking will include other GEF 6 invasive alien species projects within the region (e.g. Palau/Fiji UNDP) and outside the region (e.g. Caribbean regional IAS project and Asian forests IAS project). Pacific island countries will also contribute to the regional pool of knowledge. One key mechanism (amongst others) enabling the collation of information will be the annual PILN meetings. The PILN members typically include people from countries’ NISSAP implementation teams (which are by definition multi-sectoral). SPREP and SPC will act as “keepers” of compiled regional information storing it on existing institutional databases (available through their institutional websites) which will be used in training and made available to other processes and projects such as the GEF 5 Pacific CCD project (GEF ID 5195) plus the wider public. Global dissemination will be achieved by the use of global facilities such as “UNEP Live” if feasible. The above actions and approach to knowledge management should ensure its sustainability beyond the life of the current project and into others.


PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT²¹ OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):
(Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template)

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Bruce Kijiner	Director, GEF Operational Focal Point	Marshall Islands Office of the President, Office of Environmental Planning and Policy Coordination	17 FEB 2016
Sauni Tongatule	Director, GEF Operational Focal Point	Department of Environment, Niue	9 FEB 2016
Asipeli Palaki	GEF Operational Focal Point	Tonga Ministry of Land Environment, Climate Change and Natural Resources	15 FEB 2016
Mataio Tikinene	GEF Operational Focal Point	Ministry of Environment, Tuvalu	15 FEB 2016

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies²² and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Brennan Van Dyke Director, GEF Coordination Office, UNEP		November 16, 2016	Mohamed Sessay Senior Programme Officer	+254 20 7624294	Mohamed.sessay@unep.org

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required [GEF Project Agency Certification of Ceiling Information Template](#) to be attached as an annex to the PIF.

²¹ For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

²² GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, and SCCF

Annex 1: Previous & On-going IAS Spending in the Pacific Region

Lists of Previous & On-going IAS Spending / Programmes by Country and Funder*

Table 1: Spending by Country (2010-2015)

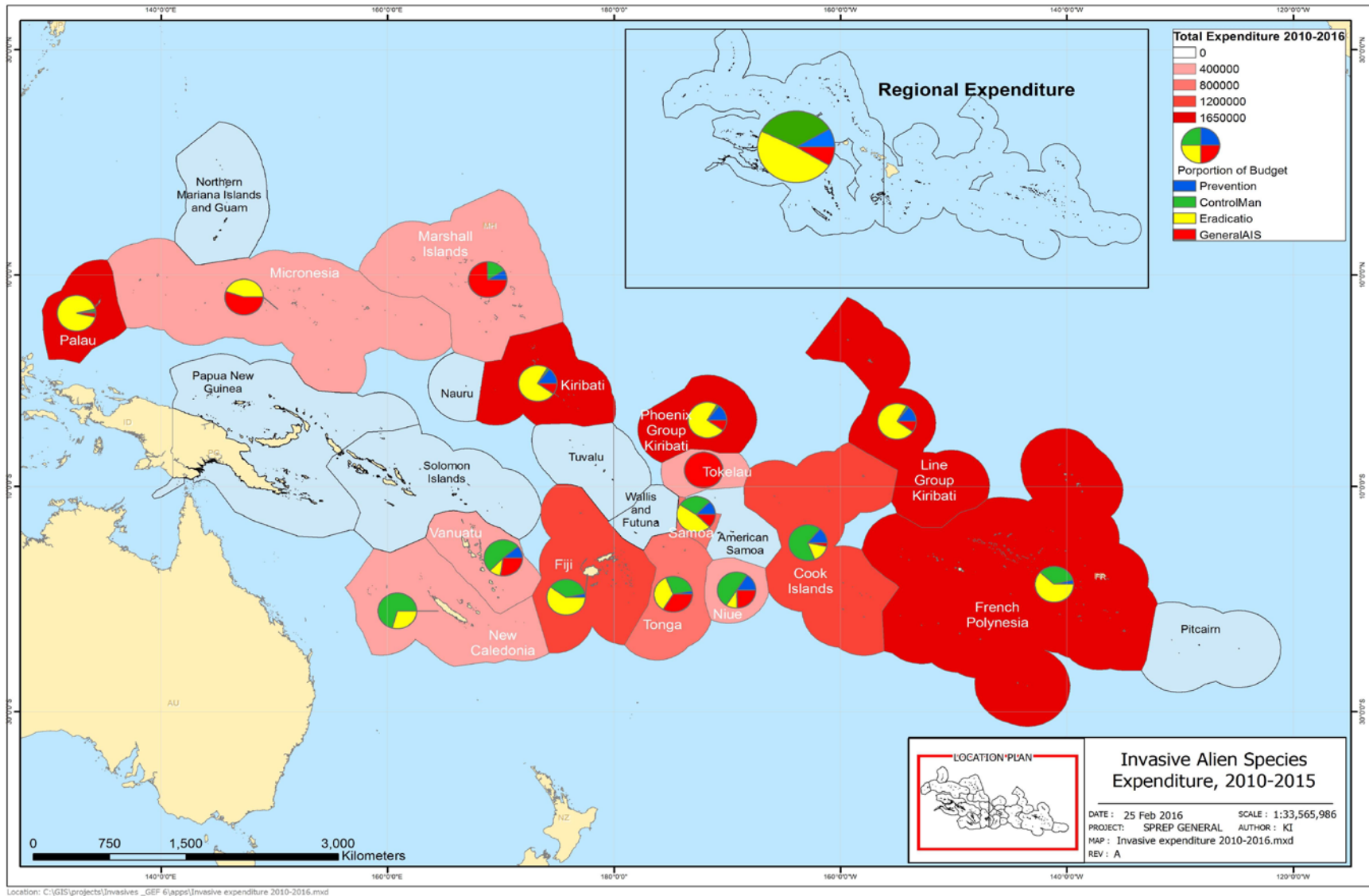
Country	Prevention	Control / Management	Eradication	General IAS	Total
Cook Islands	291,393	1,378,236	327,427	69,000	2,066,056
Fiji	35,280	400,934	652,250	-	1,088,464
FSM	-	-	50,000	61,180	111,180
Kiribati	245,005	35,000	1,230,479	165,561	1,676,045
Niue	50,000	157,000	30,000	77,040	314,040
Palau	17,000	24,775	951,802	39,180	1,032,757
RMI	6,549	12,000	-	54,631	73,180
Samoa	75,000	173,398	286,040	75,642	610,080
Tonga	17,131	159,891	200,000	192,397	569,419
Vanuatu	67,506	310,079	59,427	166,028	603,040
Regional	157,488	391,344	70,000	2,072,666	2,691,498
Easter Island	-	40,068	-	-	40,068
New Caledonia	-	280,000	50,000	-	330,000
French Polynesia	88,638	750,000	1,369,745	-	2,208,383
Tokelau	-	-	-	31,000	31,000
Total	1,050,990	4,112,725	5,277,170	3,004,325	13,445,210

Table 2: Spending by Funder (2010-2015)

Donor	Prevention	Control / Management	Eradication	General IAS	Total
GEF PAS	416,783	655,365	315,333	1,634,337	3,021,818
CEPF	574,207	1,037,360	981,837	644,988	3,238,392
NZ MFAT		1,000,000			1,000,000
RSPB	40,000				40,000
Birdlife International Pacific		1,420,000	2,480,000		3,900,000
Island Conservation			700,000		700,000
Packard Foundation			800,000		800,000
PILN (SPREP)				725,000	725,000
SOP Manu RFPBS	20,000				20,000
Total	1,050,990	4,112,725	5,277,170	3,004,325	13,445,210

* The data in the above tables includes inputs from the primary known funders of IAS management activities in the insular Pacific, but it is likely that it does not include all the funds spent on IAS in the region. However, it is believed to fairly represent the relative expenditure between the four categories.

Map of Previous & On-going IAS Spending / Programmes in the Pacific Region



Annex 2: Information regarding Threatened or Endemic Species threatened by rats on Islands where eradication will be undertaken

Friendly Ground Dove (<i>Alopecoenas stairi</i>)²³
Redlist Category: Vulnerable
Geographic Description: <i>Alopecoenas stairi</i> has a discontinuous and poorly-documented distribution in central Polynesia including Fiji , where it is described as scarce on the four larger islands, but common on small offshore islands such as Makodroga and Namenalala (Waitling, 2000, V. Masibalavu in litt. 2012); Tonga , where healthy population survives on the isolated and largely undisturbed island of Late (Baptista <i>et al.</i> 1997) with others on Fonualei (D. Watling in litt., 2007), a few smaller in Vava'u, and formerly, or perhaps still, on a few islands in the Ha'apa and Nomuka groups' Samoa, where in recent years it has only been seen breeding on the tiny islands of Nu'utele (about 23ha), where the population numbered at least 26 individuals in 2009 (Baptista <i>et al.</i> , 1997, A. Tye in litt., 2012) and Nu'ulua,(about 8ha) where the population numbered at least 6 individuals in the same year (H. Roberts in litt., 2009, A. Tye in litt., 2012) with one injured bird recovered from the main island of Upolu in 2006 (A. Tye in litt., 2012); American Samoa , where there was a sighting in 1993 on the island of Ofu (Baptista <i>et al.</i> , 1997) and another in 1996 on Olosega (H. Freifeld in litt. 1999) and on the islands of Wallis and Futuna (to France)
Population Trend: Decreasing
Habitat-Ecology: It is found in both scrubby bush and bamboo thickets on smaller islands and lowland and montane forest on larger ones. It feeds on seeds, fruits, buds, young leaves, snails, insects and caterpillars on the forest floor and in the undergrowth (Waitling 1982, Clunie 1984).
Major Threats and mitigation: It appears particularly sensitive to disturbance, usually leaving areas with logging or planting activities within days of occurrence, and not re-inhabiting even five years after the cessation of human activity (J.S. Kretzschmar in litt., 2000). The reasons for this may relate to changes in forest characteristics (e.g. leaf-litter, food-resources), structure (e.g. openness) or invasion by ground predators, especially mongoose <i>Herpestes auropunctatus</i> , which are present on both the two larger islands in Fiji (J.S. Kretzschmar in litt., 2000, V. Masibalavu in litt., 2007). The major threat to the two small Samoan populations is predation by Polynesian rat <i>Rattus exulans</i> (H. Roberts in litt., 2009) and will be a target for eradication.. This action will secure the Samoan populations of the species.
Tongan Whistler (<i>Pachycephala jacquinoti</i>)²⁴
Redlist Category: Near Threatened
Geographic Description: <i>Pachycephala jacquinoti</i> is endemic to the Vava'u group of islands in Tonga, where it is reportedly common and widespread (Pratt <i>et al.</i> 1987, Steadman <i>et al.</i> 1999).
Population Trend: Decreasing
Habitat-Ecology: It is an understorey omnivore and forest obligate, and occurs in successional habitats only when adjacent to mature forest (Steadman <i>et al.</i> 1999). Since only very limited areas of native forest remain, it now occurs primarily in very steep or inaccessible places, coastal littoral areas and swamps (Thistlethwaite <i>et al.</i> 1993).
Major Threats and mitigation: A varying set of <u>non-native mammals</u> occurs on each of the 16 islands of Vava'u, including Pacific rat <i>Rattus exulans</i> and black rat <i>R. rattus</i> , which are likely predators, and ungulates which over-browse native understorey vegetation (Steadman <i>et al.</i> 1999). If deforestation outpaces forest regrowth, the population of <i>P. jacquinoti</i> will surely decline (Steadman <i>et al.</i> 1999). Two eradications are planned to secure Tonga's population.
Boettger's Emo Skink (<i>Emoia boettgeri</i>)²⁵

²³ Citation from <http://www.iucnredlist.org/details/22691042/0>

²⁴ Citation from <http://www.iucnredlist.org/details/22705510/0>

Redlist Category: Endangered
Geographic Description: This species is endemic to the Caroline and the Marshall Islands in eastern Micronesia (Adler <i>et. al.</i> 1995). In the Carolines, it has been recorded on Pohnpei (Ponape) (Brown and Marshall 1953), on the Sapwuahfik Atoll (e.g. Buden 2000) and the Mortlock Islands (Buden 2007). In the Marshall Islands, this species has been recorded on Ine, Dodo and Autore, three islets within Arno Atoll (Brown and Marshall 1953), and historically from Majuro Atoll. No recent records exist for this latter, which is now heavily-developed, but it is possible that it survives on more remote islets within Majuro (R. Fisher pers. comm. 2013). It is generally found in low lying areas up to around 780 m (but has only been recorded below 400 m on Pohnpei – R. Fisher pers. comm. 2013). It has an approximate distributional extent across this range of approximately 522 km ² , calculated as the sum of the areas of each of the islands where this lizard occurs.
Population Trend: Decreasing
Habitat-Ecology: This species is a ground-dweller which lives among rocks. It is primarily found in open areas of the forest interior. It is also found around the bases of breadfruit trees, in houses, and in piles of coconut and thatch (Brown and Marshall 1953)..
Major Threats and Mitigation: This species' three populations in the Marshall Islands inhabit Arno Atoll, the atoll with the highest human population (Brown and Marshall 1953); on Arno islet the skink has been found in the vicinity of the largest village (R. Fisher unpubl. Data). Habitat loss due to conversion of forest to agricultural land presents a threat on the Caroline Islands, where there is increasing commercial cultivation of sakau. Invasive species also present a threat to these oceanic islands. Avian extinctions have already attributed to <u>introduced rats</u> , and although no pre-invasion data exist for lizards, a threat from rats has been inferred from increases on populations of lizards on islands where rats have been removed (R. Fisher pers. comm. 2012). Climate change impacts may threaten this lizard's habitat, through sea level rise, increased storm frequency and intensity and saltwater intrusion which destroys critical forest on these low-lying atolls (R. Fisher pers. comm. 2012). Introductions of species known to have led to declines or extinctions of lizards elsewhere, including brown tree snake, are a realistic possibility that could have devastating effects on the population of this species (R. Fischer pers. comm. 2012). Rat control on at least Arno Atoll and biosecurity up-grades are planned to secure this species.

Micronesia Saw-tailed Gecko (<i>Perochirus ateles</i>) ²⁶
Redlist Category: Endangered
Geographic Description: This species is distributed throughout the Marianas Islands (including Guam, where it is now presumed to be extinct); the Federated States of Micronesia, where it is present on about a third of the islands (including Yap, Truk, Chuuk, Pohnpei, Kosrae, Kapingamarangi Atoll); and the Marshall Islands. It is also known from Minami Tori Shima (=Marcus Island) and Minamiouzima, Japan (G. Rodda, pers. comm. October 2011). These islands have a combined land area of 2,035 km ² . It likely is most common below 200 m but may range up to 500 m asl.
Population Trend: Decreasing
Habitat-Ecology: This species has been collected from palm leaf axils in shrubs and bushes, and under loose flaking bark on standing trees (Buden 1998). It is apparently highly arboreal and appears to be somewhat adaptable, occurring on islands where the only vegetation consists of coconut and breadfruit trees as well as in natural forest (A. Allison pers. comm. 2012). It is oviparous.
Major Threats and Mitigation: Displacement by the introduced gecko <i>Hemidactylus frenatus</i> appears to be a serious threat to this species, and has led to substantial declines in abundance most especially in the Marianas Islands (G. Rodda pers. comm. October 2011). This species is probably extinct in Guam through predation by the introduced brown tree snake (<i>Boiga irregularis</i>). It is also preyed on by cats, <u>rats</u> and other introduced predators. Populations on low-lying atolls are inherently susceptible to increases in sea level. Options for predator control or eradication will be investigated to secure at least two RMI populations against extinction.

Green Turtle (<i>Chelonia mydas</i>) ²⁷

²⁵ Citation from <http://www.iucnredlist.org/details/178469/0>

²⁶ Citation from <http://www.iucnredlist.org/details/178469/0>

Redlist Category: Endangered
Geographic Description: The Green Turtle has a circumglobal distribution, occurring throughout tropical and, to a lesser extent, subtropical waters. Green turtles are highly migratory, and they undertake complex movements and migrations through geographically disparate habitats.
Population Trend: Decreasing
Habitat-Ecology: Like most sea turtles, green turtles are highly migratory and use a wide range of broadly separated localities and habitats during their lifetimes. Upon leaving the nesting beach, it has been hypothesized that hatchlings begin an oceanic phase (Carr 1987), perhaps floating passively in major current systems (gyres) that serve as open-ocean developmental grounds (Carr and Meylan 1980, Witham 1991). After a number of years in the oceanic zone, these turtles recruit to neritic developmental areas rich in seagrass and/or marine algae where they forage and grow until maturity (Musick and Limpus 1997). Upon attaining sexual maturity green turtles commence breeding migrations between foraging grounds and nesting areas that are undertaken every few years (Hirth 1997). Migrations are carried out by both males and females and may traverse oceanic zones, often spanning thousands of kilometers (Carr 1986, Mortimer and Portier 1989). During non-breeding periods adults reside at coastal neritic feeding areas that sometimes coincide with juvenile developmental habitats (e.g., Limpus <i>et al.</i> 1994, Seminoff <i>et al.</i> 2003).
Major Threats and mitigation : Green turtles, like other sea turtle species, are particularly susceptible to population declines because of their vulnerability to anthropogenic impacts during all life-stages: from eggs to adults. Perhaps the most detrimental human threats to green turtles are the intentional harvests of eggs and adults from nesting beaches and juveniles and adults from foraging grounds. Unfortunately, harvest remains legal in several countries despite substantial subpopulation declines (e.g., Humphrey and Salm 1996, Fleming 2001, Fretey 2001). In addition, a number of incidental threats impact green turtles around the world. These threats affect both terrestrial and marine environments, and include bycatch in marine fisheries, habitat degradation at nesting beaches and feeding areas, and disease. Mortality associated with entanglement in marine fisheries is the primary incidental threat; the responsible fishing techniques include drift netting, shrimp trawling, dynamite fishing, and long-lining. Degradation of both nesting beach habitat and marine habitats also play a role in the decline of many Green Turtle stocks. Nesting habitat degradation results from the construction of buildings, beach armoring and re-nourishment, and/or sand extraction (Lutcavage <i>et al.</i> 1997). These factors may directly, through loss of beach habitat, or indirectly, through changing thermal profiles and increasing erosion, serve to decrease the quantity and quality of nesting area available to females, and may evoke a change in the natural behaviors of adults and hatchlings (Ackerman 1997). The presence of lights on or adjacent to nesting beaches alters the behavior of nesting adults (Witherington 1992) and is often fatal to emerging hatchlings as they are attracted to light sources and drawn away from the water (Witherington and Bjorndal 1990). Habitat degradation in the marine environment results from increased effluent and contamination from coastal development, construction of marinas, increased boat traffic, and harvest of nearshore marine algae resources. Combined, these impacts diminish the health of coastal marine ecosystems and may, in turn, adversely affect green turtles. For example, degradation of marine habitats has been implicated in the increasing prevalence of the tumor-causing Fibropapilloma disease (George 1997). Pacific and black rats prey on green turtle (<i>Chelonia mydas</i>) and Hawksbill turtle (<i>Eretmochelys imbricata</i>) eggs and hatchlings (Ohashi and Oldenburg, 1992, Meier and Varnham, 2004) ²⁸ . Rat eradications on nursery islands will be investigated and implemented compliant with protocols and standards mentioned elsewhere in the PIF.

Hawksbill Turtle (<i>Eretmochelys imbricata</i>)²⁹
Redlist Category: Critically Endangered
Geographic Description: The Hawksbill has a circumglobal distribution throughout tropical and, to a lesser extent, subtropical water of the Atlantic Ocean, Indian Ocean and Pacific Ocean. Hawksbill nesting occurs in at least 70 countries although much of it now only at low densities. Their movements within the marine environment are less understood but Hawksbill are believed to inhabit coastal waters in more than 108 countries (Groombridge and Luxmore 1989, Baillie and Groombridge 1996).
Population Trend: Decreasing

²⁷ Citation from Seminoff, J.A. (Southwest Fisheries Science Center, U.S.) 2004. *Chelonia mydas*. In: IUCN 2014. IUCN Red List of Threatened Species. Version 2014.1. <www.iucnredlist.org>. Downloaded on **29 June 2014**.

²⁸ Harper, G.A. and Bunbury, N. 2010. Invasive rats on tropical islands: Their population, biology and impacts on native species. Global Ecology and Conservation, see http://ac.els-cdn.com/S2351989415000244/1-s2.0-S2351989415000244-main.pdf?_tid=97177876-1547-11e6-aa16-00000aacb35f&acdnt=1462730970_7b9b2ba3b8b999a3444eb23d154f0dba

²⁹ Citation from <http://www.iucnredlist.org/details/8005/0>

Habitat-Ecology: Hawksbills nest on insular and mainland sandy beaches throughout the tropics and subtropics. They are highly migratory and use a wide range of broadly separated localities and habitats during their lifetimes.

Major Threats and Mitigation: Tortoiseshell Trade, egg collection, slaughter for meat, destruction of nesting habitat, destruction of foraging habitat, entanglement and ingestion of plastic debris, and oil pollution. Pacific and black rats prey on green turtle (*Chelonia mydas*) and Hawksbill turtle (*Eretmochelys imbricata*) eggs and hatchlings (Ohashi and Oldenburg, 1992, Meier and Varnham, 2004)³⁰. Rat eradications on nursery islands will be investigated and implemented compliant with protocols and standards mentioned elsewhere in the PIF.

³⁰ Harper, G.A. and Bunbury, N. 2010. Invasive rats on tropical islands: Their population, biology and impacts on native species. Global Ecology and Conservation, see http://ac.els-cdn.com/S2351989415000244/1-s2.0-S2351989415000244-main.pdf?_tid=97177876-1547-11e6-aa16-00000aacb35f&acdnat=1462730970_7b9b2ba3b8b999a3444eb23d154f0dba