VANUATU NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN (NSAP) 2018 - 2030

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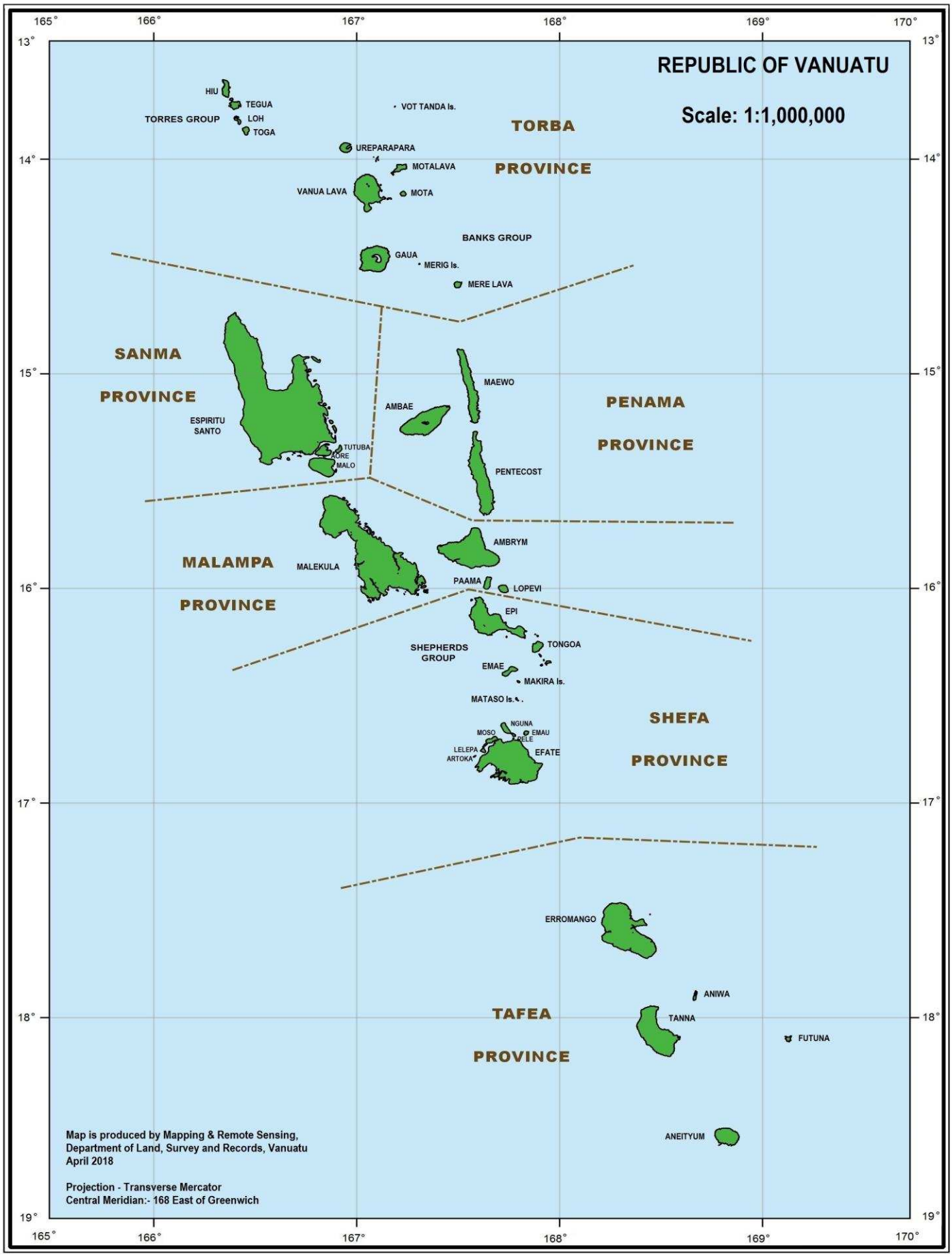
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Map is produced by Mapping & Remote Sensing,
Department of Land, Survey and Records, Vanuatu
April 2018
Projection - Transverse Mercator
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Foreword

In Vanuatu, biodiversity is our food, our culture, our tradition, our money, our medicine, our shelter, our fresh air (oxygen), our firewood, our coastline stabiliser, our protector against storm surge, protector of our freshwater systems, our carbon sequester, our ecosystem-based adaptation to climate change, our ecosystem-based approaches to disaster risk reduction, our beautiful sceneries for our enjoyment through camping, picnicking, swimming and snorkelling. Our biodiversity is vital for our survival.

Vanuatu signed and ratified the United Nations Convention on Biological Diversity (UNCBD) joining other 190 CBD parties to protect our global biodiversity. Vanuatu's first National Biodiversity Strategy and Action Plan (NBSAP) was developed and endorsed in November 1999. Revision of this NBSAP has led Vanuatu to develop this new NBSAP (2018-2030). This revised NBSAP indicates the progress, successes and gaps that lie within the organisational, systemic and individual capacities at national, provincial and community levels to protect, conserve and wisely use our biodiversity. The NBSAP (2018-2030) has seven strategic areas with country indicators and targets towards achieving the Global Strategic Programme of 2020 Aichi targets. The new NBSAP includes the views of the national and provincial government, non government organisations (NGOs), community based organisations (CBOs) and local communities, which are indicated in seven strategic areas. These are:

1. Conservation Area Management
2. Forest and Inland Waters Ecosystems Conservation and Management
3. Coastal and Marine Ecosystems Conservation and Management
4. Species and Genetic Diversity Conservation
5. Invasive Species Eradication and Control
6. Mainstreaming Biodiversity across sectors and society
7. Resource Mobilisation

The strategy and action plan also includes the provincial implementation plans, which outline specific local actions to address threats affecting the islands' biodiversity, including identifying potential conservation areas. This create the avenue for local communities to actively participate in implementing the NBSAP.

Vanuatu is within the East Melanesian Islands Biodiversity Hot Spot region that needs attention for the protection of its unique flora and fauna. Vanuatu has a number of endemic plant and animal species that are not found elsewhere and some are at risk of becoming extinct if measures are not continuously taken to protect them.

We also show our commitment to protect and conserve our biodiversity through the inclusion of environment as one of the three main pillars of the National Sustainable Development Plan (NSDP) that is directly linked to policy objectives of the National Environment Policy and Implementation Plan (NEPIP). Other relevant policies ranging from climate change and overarching productive sectors' policy and other respective natural resource management sector policies also include measures towards protection, conservation and sustainable use of biodiversity.

The Vanuatu NBSAP will be the main implementing strategy for the Environment Pillar of the National Sustainable Development Goals and Policies 2016-2030 environment goals and policy objectives which are: (1) A nation that ensures our food and nutrition security needs are adequately met by all people through increasing sustainable food production, (2) An economy which fosters sustainable growth and development through low impact industries and modern technologies to ensure the well-being of future generations systems, (3) A strong and resilient nation in the face of climate change and risks posed by hazards and natural disasters and improving household production, (4) A nation which utilizes and

sustainably manages our land, water and natural resources and (5) A nation committed to ensuring the conservation and sustainable management of our biodiversity and ecosystems. I am glad that the mainstreaming biodiversity strategic area have been dedicated to ensure this strategy is aligned into our NSDP.

The government will take a critical role in this strategy but it needs the cooperation and commitments of wider stakeholders ranging from provincial governments, NGOs, private sector, local communities, landholders and individuals to implement the measures in the NBSAP (2018-2030). We congratulate the Department of Environment Protection and Conservation for developing Vanuatu's 2018 – 2023 NBSAP through a 3 year consultation process with local communities, provincial government and national stakeholders.

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Department of Environmental Protection
and Conservation (DEPC)

Hon. Ham Lini Vanuaroroa (MP)
Minister for Climate Change Adaptation,
Meteorology and Geo-Hazards, Environment, Energy
and Disaster Management

Acknowledgement

The Department of Environmental Protection and Conservation (DEPC) would like to thank the government and non-government stakeholders that were part of the review of the previous NBSAP (1999). A number of one to one sectoral consultations, and provincial and national consultations took place that resulted in this current NBSAP (2018-2030). DEPC would like to make mention of the following stakeholders:

Department of Forest	SANMA Province
Vanuatu Fisheries Department	PENAMA Province
Department of Agriculture and Rural Development	MALAMPA Province
Biosecurity Vanuatu	SHEFA Province
Livestock Department	TAFEA Province
Department of Tourism	Wan Smol Bag
Department of Trade	Live and Learn
Cultural Centre	Vanuatu Environment Science Society
Department of Lands	Vanuatu Environment Association Network
Department of Customs	VANGO
Department of Provincial Affairs	Vila-based CSOs
MOCC Project Management Unit	Other NGOs
Shefa Province	
TORBA Province	

Without your commitment and participation in the series of meetings and workshops we would not have been able to complete this document.

We are also grateful to the following projects and programmes: the Marine and Coastal Biodiversity in Pacific Islands Countries and Atolls (MACBIO) Project, Critical Ecosystem Partnership Fund (CEPF), Vanuatu Environment Science Society (VESS) and Birdlife International through Vanuatu Environment Association Network that also provided information.

The DEPC extends its profound gratitude to the IUCN Oceania Regional Office as the organisation leading the review, and in particular to Etika Rupeni Qica, the review leader and Seema Deo for editing the document. DEPC also thank Mark Kalotap, the former NBSAP Coordinator, for the work done during his term with the project and Trinison Tari for his great assistance with the six provincial validation workshops. A huge appreciation goes to the following for their tireless efforts during the series of final reviews and for ensuring the final compilation and production of the document together with IUCN:

- Josephine Rambay, NBSAP Coordinator
- Donna Kalfatak, Principal Officer, Biodiversity and Conservation
- Vatumaraga Molisa, MACBIO Project and CEPF Liaison Officer.
- DEPC Biodiversity and Conservation Division staff for their support

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ACRONYMS

ABS	Access and Benefit Sharing
AZE	Alliance for Zero Extiction
BIOFIN	Biodiversity Finance
CA	Conservation Area
CBAM	Community Based Adaptive Management
CBD	Convention Biological Diversity
CCA	Community Conservation Area
CEPF	Critical Ecosystem Partnership Fund
CHM	Clearing House Mechanism
CITES	Convention on International Trade in Endangered Species
CME	Coastal and Marine Ecosystems
CMS	Conservation of Migratory Species
COP	Conference of the Parties
CR	Critically Endangered
CSO	Civil Society Organization
DARD	Department of Agriculture and Rural Development
DEPC	Department of Environmental Protection and Conservation
DGMWR	Department of Geology & Mines and Water Resources
DLA	Department of Local Authorities
DoE	Department of Education
DoF	Department of Forestry
DoFT	Department of Financial Treasury
DoL	Department o Lands
DoLiv	Department of Livestock
DoT	Department of Tourism
EEZ	Exclusive Economic Zone
EIA	Environment Impact Assessment
EN	Endangered
EPC	Environment Protection and Conservation Act
FIW	Forest and Inland Waters
FLR	Forest Landscape Restoration
FPAM	Forest Protected Area Management
GDP	Gross Domestic Product
GEF	Global Environment Facility
GOV	Government of Vanuatu
IAS	Invasive Alien Species
IBA	Important Bird Area
IBAT	Integrated Biodiversity Assessment Tool
ICCA	Indigenous and Community Conserved Areas
IOSEA	Indian Ocean and South-East Asian (Marine Turtle MOU)
IUCN	The International Union for Conservation of Nature
IW	Internationall Waters
KBA	Key Biodiversity Area
LMMA	Locally Marine Managed Area

MACBIO	Marine & Coastal Biodiversity in Pacific Islands Countries & Atolls
MAT	Mutually Agreed Terms
MEA	Multi-lateral Environment Agreements
MESCAL	Mangrove Ecosystems for Climate Change Adaptation and Livelihoods
MESV	Marine Ecosystem Service Valuation
MIS	Management of Invasive Species
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MSG	Melanesian Spearhead Group
MSP	Marine Spatial Plan
NAB	National Advisory Board
NBSAP	National Biodiversity Strategy and Action Plan
NEPIP	National Environmental Policy and Implementation Plan
NGO	Non Government Organisation
NISSAP	National Invasive Species Strategy and Action Plan
NRI	National Resource Inventory
NSDP	National Sustainable Development Plan
PA	Protected Area
PES	Payment for Ecosystem Services
PIC	Prior Informed Consent
PWD	Public Works Department
RM	Resource Mobilisation
SDG	Sustainable Development Goals
SPREP	Secretariat of the Pacific Regional Environment Programme
SUMA	Special and Unique Marine Area
UN	United Nation
UNCCD	United Nations Convention to Combat Desertification
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VANGO	Vanuatu Association of Non Government Organization
VBSAP	Vanuatu Biodiversity Strategy and Action Plan
VESS	Vanuatu Environmental Science Society
VFD	Vanuatu Fisheries Department
VNSO	Vanuatu National Statistic Office
WDPA	World Database on Protected Areas
WHC	World Heritage Convention

1.0 INTRODUCTION

1.1 Overview of Vanuatu

Vanuatu is located in the South Pacific Ocean (about three quarters of the way from Hawaii to Australia) and includes more than 80 islands, of which about 65 are inhabited. The combined land area of all islands in the group is over 12,000 km^2 with a combined coastline of 3,132 km. Vanuatu's island chains are mostly of volcanic origin and are mountainous by Pacific standards, with many island interiors remaining uninhabited. The highest peak of Mount Tabwemasana on Espiritu Santo rises to 1,879 m above sea level. The weather is tropical characterised by moderate rainfall from April to November and cyclones from December to April.

A mini-census conducted in 2016 puts the population of Vanuatu at 272,459 people, with a growth rate of 2.3% per annum (Vanuatu National Statistics Office, 2016). The population is relatively young and 38% is under 15 years old. 24% of the population lives in urban areas.

Over 110 different cultural and linguistic groups are recognised and, with its small population, Vanuatu is considered to be the third most linguistically diverse country in the world (Regenvanu, 2009). On average, 2,000 people speak each language. English, French and Bislama are the common languages that allow the people of Vanuatu to communicate with each other. Although the ni-Vanuatu culture is similar across the country, there are three cultural regions: northern; central; and southern. In the northern cultural region, men and women can acquire wealth by demonstrating how much they can give away (through mats and killing of pigs). This increased status does not transfer to having greater authority. The central cultural region exhibits a more typical Melanesian cultural system, involving the inheritance of titles through lineage and being active in ceremonies as dictated by custom. In the southern cultural region there is a system of granting titles and privileges, which appears to have been influenced by religion and western culture.

Vanuatu's economy is based on small-scale agriculture, which provides a living for about two thirds of the population. Fishing, offshore financial services and tourism are other key sectors. The total visitor arrivals to Vanuatu in the third quarter of 2017 stood at 76,836, an increase of 6% over the corresponding quarter in 2016, and 13% over the previous (second) quarter (Vanuatu National Statistics Office, 2017). The main suppliers of tourists and foreign aid are Australia and New Zealand. The service sector accounts for 77% of Gross Domestic Product (GDP). Other service industries include food and fish freezing, wood processing and meat canning. Agricultural products include copra, coconut oil, kava, cocoa, coffee, taro, yams, fruits, vegetables, beef and fish. Mineral deposits are negligible.

In addition to the formal economic sector, there is the informal economy which involves at least 84% of the population. This rural-dwelling component of the population depends on the informal economy to support their livelihood on a daily basis (Regenvanu, 2009). Even urban-dwellers depend on it to subsidise their modern lifestyles. The informal economy is centred on production, processing and sale of agricultural and marine products, supplemented by provision of services such as carpentry and transportation, and production of baskets, mats and other handicrafts. These activities depend on the natural environment and the living and non-living resources it provides. Protection and conservation of these natural resources–Vanuatu's biological diversity–is thus essential to the nation's long-term well-being and sustainable development.

1.2 Biodiversity Conservation in Vanuatu

Biodiversity is defined as: *The variety of life forms, the different plants, animals and micro-organisms, the genes they contain, and the ecosystems they form. It is usually considered at three levels, genetic diversity, species diversity, and ecosystem diversity.*

Biological diversity underpins ecosystem functioning and the provision of ecosystem services essential for human well-being. It provides for food security, human health, and clean air and water; contributes to local livelihoods, and economic development; and is essential for the achievement of the Sustainable Development Goals (SDG), including poverty reduction. In addition, it is a central component of many belief systems, worldviews and identities. Yet despite its fundamental importance, biodiversity continues to be lost.

In recognition of the need to address biodiversity loss, the Vanuatu Government signed the Convention on Biological Diversity (CBD) at its launch in 1992 and ratified it in 1993. As a party to the CBD, the government is obliged to report to the other convention signatories on in-country biodiversity management activities and to develop a strategy and action plan to manage and conserve Vanuatu's biological diversity (Box 1).

The Convention places clear obligations on Contracting Parties. Specifically, Article 6, General Measures for Conservation and Sustainable Use states that the Contracting Parties shall prepare national strategies, plans or programmes for the conservation and sustainable use of their biological resources. The first Vanuatu Biodiversity Strategy and Action Plan (VBSAP) was launched in 1999. The VBSAP has been reviewed and has resulted in this revised NBSAP for 2018–2030. The NBSAP also addresses the commitments made by parties at the 12th CBD Conference of Parties (COP12) in 2010 to align their NBSAPs to the CBD Strategic Plan and it's Aichi Targets (Box 2).

2.0 THE CBD AND NBSAP REVIEW PROCESS

2.1 The CBD Strategic Plan and Aichi Targets

In 2010, Parties to the CBD meeting in Nagoya, Japan, adopted the Strategic Plan for Biodiversity 2011–2020 with the purpose of inspiring broad-based action in support of biodiversity over the next decade by all countries and stakeholders. In recognition of the urgent need for action the United Nations General Assembly has also declared 2011–2020 as the United Nations Decade on Biodiversity (United Nations General Assembly, 2010) The CBD Strategic Plan for Biodiversity 2011–2020 is a ten-year framework for action by countries and stakeholders to save biodiversity and enhance its benefits for people. The parties are obligated to reviewing and updating their current NBSAPs in line with the Strategic Plan for Biodiversity 2011–2020. This involves developing national targets and using the Strategic Plan and Aichi Target and integrating these national targets into the updated NBSAPs and taking into account national priorities.

2.2 Vanuatu NBSAP Review Process

The 1999 VBSAP identified six key objectives and more than 20 priority actions for effective management of biological resources. The six objectives were:

1. Protection and wise use of biodiversity;
2. Application of policy, planning and legal mechanisms to enable sustainable management of biodiversity;
3. Research, assessment and monitoring of biodiversity;
4. Capacity building for environmental management;
5. Environmental education, awareness and information sharing; and

6. Participation of local communities in the management of biodiversity.

Box 1: Convention on Biological Diversity Objectives:

The conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and technologies, and by appropriate funding (*Article1*).

Obligations:

The convention obliges governments to take a number of measures, these include:

- Monitoring and identification of biodiversity
- Environmental Impact Assessments;
- National Strategies, plans or programmes to conserve and use the components of biological diversity sustainably, and
- The integration of biodiversity policy into relevant sectoral or cross sectoral plans, programmes and policies.

The Convention constitutes an historic commitment by nations of the world to address directly the detrimental impacts of human activity on biodiversity. It is the first time that biodiversity is comprehensively addressed in a binding global treaty, the first time genetic diversity is specifically recognized and the first time that the conservation of biodiversity conservation in inter-generational equity, the assurance that future generations gain equal access to essential biological resources.

The review process for the 1999 VBSAP was initiated in 2014 when Vanuatu undertook an extensive provincial awareness and consultation process to assess the priorities of the communities in terms of the sustainable use and conservation of biodiversity. In 2015, a consultant was engaged to assist. The process included the review of existing national strategies to identify NBSAP-related priorities and conducting sector and national stakeholder consultations to finalise the NBSAP. The review was also informed by some of the latest assessments such as the SPREP/IUCN State of Conservation in Oceania Report for the Pacific (SPREP, 2013), which provided recent information on the status and trends of biodiversity in Vanuatu.

The strategic areas of the NBSAP 2018–2030 have been aligned to the CBD Strategic Plan and Aichi Targets and also to two key national strategies: the National Sustainable Development Plan (NSDP) and the National Environment Policy and Implementation Plan (NEPIP). It is important to note that the Vanuatu NBSAP has been aligned with the NSDP timing which is 2016–2030 and this should align with the next CBD 2020–2030 Strategic Plan.

3.0 OVERVIEW OF THE STATUS OF BIODIVERSITY IN VANUATU

Vanuatu's biodiversity remains poorly known, with detailed studies of only a few genera and few studies of the biota of smaller or less accessible islands. However a review of studies of the flora and fauna of Vanuatu has shown that there are endemic species, rare species and uncommon variants within many of the genera that have been studied in detail. Much of Vanuatu's diversity beneath the species level has only been classified by indigenous knowledge systems that vary from one language group to another and are not documented.

Patterns of species diversity reflect classic island biogeography, where island size and distance from continental source are key determinants of number of species. The larger and older islands generally support a greater diversity of terrestrial ecosystems, and a greater diversity of plants and animals (Taiki et al., *Unpublished*). The islands are separated by the sea, and catchments and lowland habitats are separated by mountains – these are barriers to many species, and produce conditions whereby relatively rapid sub-speciation and speciation occurs. Altitudinal gradients provide opportunities for montane endemics, such as the Mountain Starling (*Aplonis santovestris*) of Santo, which add diversity to high island faunas that is not possible on low islands no matter how large they are. Frequent disturbance due to tropical cyclones, earthquakes and volcanic activity also affects the distribution and abundance of species, especially on the smaller islands. Lastly, there is significant variation with latitude, with species that occur at high altitudes in the tropical north occurring at much lower altitudes in the sub-tropical south. Consequently, there is considerable variation in the distribution of species within and between islands, and Vanuatu's biodiversity is of particular interest for its on-going processes of immigration, range extension and contraction, and sub-speciation (Department of Environmental Protection and Conservation, 2014).

3.1 Threats to Biodiversity

The greatest threats to biodiversity conservation result from human activities. Human settlements are generally found concentrated in the coastal lowlands. Consequently, biodiversity is most at risk in lowland and coastal areas and small islands, yet remains relatively intact in the high altitude forests of larger islands.

Land cannot be alienated from the traditional landholders, but can be leased from the landholders for fixed periods and agreed purposes. This system of land and resource management limits the capacity of government to conserve biodiversity without the support, understanding and commitment of landholders. This therefore, creates an imperative for landholders as resource owners and managers to work independently or in cooperation with other landholders, organisations or government to conserve biodiversity (VEU MSP, 2003).

The 2010 Vanuatu National Assessment Report notes that Vanuatu's environment quality is rapidly deteriorating. It lists increasing frequency and severity of natural disasters, including cyclones, flooding and coral bleaching; and deforestation, air, land and marine pollution as growing problems. The assessment observes that population growth leads to more pressure for food and investment resulting "not only in land degradation and overfishing, but also destruction of mangroves and fish breeding areas" (GOV, 2010). Invasive Alien Species (IAS) is an existing and growing concern, threatening forests and biodiversity of Vanuatu. The direct effects of climate change and their interactions with the current threats will only exacerbate the risks to biodiversity. These pressures work singly or in tandem with each other in complex ways.

3.2 Terrestrial Biodiversity

3.2.1 Overview

Seventy four percent (74%) of land in Vanuatu is covered with natural vegetation. Forest types include tropical lowland evergreen rain forest, broad-leaved deciduous forest, closed conifer forest, montane rain forest, cloud forest and coastal forest. Other notable vegetation includes swamp forest on Efate, kauri pine strands on Erromango and scattered mangrove forests covering around 3,000 ha (most of which occur on Malekula Island).

Lowland forest has largely been cleared and replaced by anthropogenic vegetation but forested areas remain the dominant landscape element on most islands. High forests are restricted on most of the islands (especially those that are densely populated, such as Pentecost, Ambae, Tanna and Shepherd; or have active volcanoes, such as Ambrym). However low montane forests are generally well preserved and occupy large areas. Secondary forests (often consisting of a *Hibiscus* community) are dense and extensive in Vanuatu.

There are about 1,000 vascular plant species in Vanuatu of which around 150 are endemic. There is high diversity of orchids with 158 species and palms with 21 species, including 14 endemic species (GOV, 2014). There are 121 bird species, 28 species of reptiles and 12 species of Chiropterae (Flying Foxes and Bats). Invertebrate diversity is not fully described but includes the coconut crab (*Birgus latro*) the largest land crab, which is an important food resource in Vanuatu (GOV, 2014).

Invasive animal species are a threat in Vanuatu and include the Indian Mynah (*Acridotheres tristis),* the Giant African Snail (*Achatina fulica)* and the Rosy Wolf Snail (*Euglandina rosea). E. rosea* was introduced as a biological control agent for *Achatina fulica* but the species has caused the extinction of numerous native snails in other countries. Another species of concern in Vanuatu is the Little Fire Ant (*Wasmannia auropunctata),* which has reduced arthropod species diversity in other locations, and may threaten crab species, including the coconut crab (Bakeo and Qarani 2005).

Vanuatu has one recorded extinction: the Tanna Ground Dove (*Gallicolumba ferruginea*). Extinction drivers for this species are believed to have been hunting and predation by domesticated and feral mammals.

3.2.2 Threats

The forests of Vanuatu have been impacted by human activities, which have diminished and altered forest cover and biodiversity. There has been immense pressure on some timber species on the larger islands, where harvesting is concentrated. In 1998, for instance, 92% of logs harvested were of just two species, *Endospermum medullosum* (Whitewood or Basswood), and *Antiaris toxicaria* (known in Vanuatu as Milk Tree) (Bakeo and Qarani, 2005).

Agriculture, Fishing and Forestry has recovered from a decline in 2015 by registering a positive growth of 5.1%; an increase of 10.7 percentage points. The components of agriculture that contribute to this positive growth, were crop production, it grew by 5.9%, followed by animal production at 2.6%, fishing at 3.9% and forestry at 0.7% (Vanuatu National Statistic Office, 2017). In the mid-2000s, natural forest cover in Vanuatu was estimated at 444,000 ha, equivalent to 36% of the total land area (1.22 million ha) (FAO, 2010), and at least 40% of the commercial forest area was regarded as degraded (King, 2007). Most of the high value forests were over-exploited in the 1980s and 1990s, until the government imposed a ban on the export of round logs in 1998. However, large scale logging has been banned since the late 1990s. Many landowners have used their logged forest lands for alternative activities like commercial agriculture.

In addition to traditional forest management concerns, such as declining forest cover and imbalance between utilisation and reforestation, invasive alien species are of significant concern and several have been identified as priority species for management under Vanuatu's National Invasive Species Strategy and Action Plan (NISSAP) 2014–2020. Of all invasive plants in Vanuatu, perhaps the most widely cited pest is Ecuador Laurel or Salmwood *(Cordia alliodora).* Introduced as a forestry tree to Vanuatu in the 1970s, this species has now become dominant and is considered a serious pest in locations where it was planted. Another invasive plant species that is common in the drier parts of certain islands, is kasis *(Leucaena leucocephala),* which forms dense monospecific thickets and is difficult to eradicate, rendering extensive areas unusable and inaccessible (Bakeo and Qarani, 2005).

Exploitation is the most significant threat faced by (or potentially faced by) Vanuatu's threatened (Critically Endangered, Rare, Endangered or Vulnerable) species recorded in the IUCN Red List. Hunting and exploitation affect 66% of total threatened species in Vanuatu, while agriculture and invasive alien species impact 20% and 15% of threatened species in Vanuatu, respectively. Some species face multiple threats. For example the Endangered Santa Cruz Ground Dove (*Gallicolumba sanctaecrucis*) is threatened by hunting and exploitation, the establishment of the invasive vine *Merremia peltata* in the Vatthe Conservation Area, and competition from the common native Emerald Dove (*Chalcophaps indica*) in degraded forest.

Agriculture, farming and forestry impact a number of threatened plant species in Vanuatu including the endangered Fijian Kauri Pine (*Agathis macrophylla*), which faces ongoing unsustainable logging in natural forests in parts of its range. The Pacific Sheath-tailed Bat (*Emballonura semicaudata*) is also impacted by the loss of native forests to agricultural and grazing land. This bat faces multiple threats including disturbance of roosting sites, pesticide use, invasive species and stochastic events.

3.3 Inland Waters Biodiversity

3.3.1 Overview

Large rivers are present on the larger islands but the most common freshwater habitats are steep-gradient mountain streams. Unique and rare habitats include freshwater lakes on several islands (including crater lakes on inactive volcanic islands) and subterranean streams in karst areas. Exploration of caves on Santo revealed four species of invertebrate that were new to science and confined exclusively to these caves (Deharveng, 2011). Atolls and coral islets generally have underground freshwater lenses due to the porosity of the rock.

Most islands of Vanuatu contain a dense network of seas, lakes and rivers. The larger islands are well watered by rapid mountain rivers and creeks. Other freshwater systems include low gradient lowland streams, deep pits called blue holes, some lakes and swamps/marshes on plains. Most of the 25–30 lakes are crater lakes, with Lake Letas on the volcanic island of Gaua, being the largest freshwater system in the Pacific at 19 km^2 in area and 350 m deep (Vanuatu National Museum and Vanuatu Environment Unit, 2004). The caldera lakes of Ambae lie at an altitude of over 1,300m and are the highest of the South Pacific (Scott, 1993). Freshwater swamps and swamp forests are generally restricted to fringing areas around lakes (Efate, Thion), in depressions on plateaux (Efate, Epi, Maewo and Gaua), in extinct volcanoes (Vanua Lava) or on floodplains (East Santo). Dasheen (taro) fields may sometime host freshwater species.

Streams and rivers in Vanuatu are highly variable in size and length and can be divided into six zones depending on altitude and water velocity: spring zone (over 800 m); higher course (450-800 m; steep); middle course (150-450 m; less than 10% slope), upper lower course (50-150 m) and lower course (less than 50 m; tidal) (Keith, *et al,2010*). Understanding this typical zonation allows understanding of the distribution of freshwater species. While the majority of species are found in low velocity reaches,

high velocity reaches often contain unique species adapted to this type of environment (e.g. *Sicyopterus* spp, Gobiidae). The estuarine zone is also an important thoroughfare for a freshwater fauna dominated by migratory species.

All freshwater fishes in the identified important biodiversity areas are amphidromous (i.e. with a marine larval stage), providing a clear linkage between freshwater and marine ecosystems. Diversity is dominated by gobies and some endemism is known in the subfamily Sicydiinae. However, these are very small fish, which are not currently utilised by local communities or represented in indigenous taxonomies. The larger but non-endemic species like eels (*Anguilla spp.*), Spot-tail Bass (*Lutjanus fuscescens*), Mullets (Mugilidae) and Grunters (Terapontidae) are utilised for food, as are neritid snails and prawns, and reduction in their populations is of direct concern to villagers. Surveys in Vanuatu indicate there may be some endemism in freshwater crustacea (Marquet et al. 2002). The intense utilisation of freshwater species for protein in some areas is having an impact on freshwater ecosystems but there is little to no research in this area.

Freshwater fish biodiversity can be highly localised and even small lake or stream systems may harbour unique locally evolved forms of life. The numbers of different species in any given freshwater habitat can be high even if the population numbers of the individual species are low. Generally speaking, the fauna of riverine systems has been better studied than other systems. The number of endemic species is greater in older islands that have retained a good natural vegetation cover and where flows have not been altered. Of the 96 known crustacean and fish species (29 decapod crustaceans and 67 fish), 5 are endemic to Vanuatu and 7 to both Vanuatu and New Caledonia (Keith, *et al, 2010*).

3.3.2 Threats

The major threats to freshwater ecosystems in Vanuatu are from human activities including poor land use practices; catchment alteration primarily for irrigation, weirs or hydropower dams; pollution from urban areas; and invasion of exotic species such as water lily (Water Hyacinths *(Eichhornia crassipes),* Guppy (*Poecilia reticulata*), Mosquitofish (*Gambusia affinis*) and Tilapia *(Sarotherodon occidentalis).*

Poor agricultural practices often result in loss of riparian habitat, erosion of soil and increased turbidity which may disrupt feeding success of fishes. Forest clearance and land reclamation may affect river flows and water temperature in some catchments. Higher course species in particular, require good vegetation cover to survive. Dams or weirs reduce or block flow in others to the extent that lower reaches of waterways can no longer support aquatic life and migratory species such as eels and amphidromous species lose their migratory paths and cannot complete their life cycles.

Pollutants from increased agricultural practices may be washed into the water during rainfall events and affect the chemical and biophysical characteristics of the water, making the habitat non-conducive to aquatic life. Other threats to freshwaters include overfishing. For example, during the Santo expedition in 2006 it was observed that some villages were relying on freshwater fish for food because of the scarcity of marine resources. The aquarium trade is another threat to freshwater fish, especially colourful species (Keith *et al., 2010*).

Vanuatu is particularly exposed to cyclones and hydrological changes resulting from climate change could be significant in some of the catchments.

Conservation initiatives have included freshwater surveys by the Department of Environmental Protection and Conservation (DEPC) and the requirement for an assessment of impacts on freshwater ecosystems as part of development projects and to implement good practice (Keith *et al.,* 2011) have also considered options for optimising conservation of freshwater habitats in Santo.

Vanuatu updated its wetlands inventory (Kalfatak and Jaensch, 2014) and initial work is underway to document GIFT tilapia farms near wetland systems that may have impacts on them if they are not well managed by farmers.

The Teouma River is also a critical ecosystem that is threatened by water hyacinth which covers a large surface area of the river. However, the losses that water hyacinth may have caused is still to be confirmed.

3.4 Marine and Coastal Biodiversity

3.4.1 Overview

Vanuatu's marine and coastal biodiversity contributes to generating goods and services that people value. These values total over VT4.5 billion. The values include, not surprisingly, tourism and tuna. The net value of tourism in 2013 was approximately VT850 million. The value of tuna to Vanuatu, mainly from access fees, was about VT160 million in 2013. The benefits of Vanuatu's tuna to the world is billions of Vatu/year. More surprising is how coastal habitats are valued in terms of what they contribute to subsistence fishers (about VT580 million), small-scale inshore commercial fishers (VT290 million), coastal protection (VT1.6 billion) and carbon sequestration (VT760 million) (Pascal *et al*., 2015).

Vanuatu has a range of marine habitats and species, from inshore coral reefs to deepwater seamounts and canyons that generate these values and some are described in more detail here.

Vanuatu's coral reefs are categorised as either fringing, barrier or atoll reefs. Within each of these categories there are patch reefs, where the coral reef forms patches within a matrix of sand or seagrass. Coral species generally have wide geographic ranges in the Indo-Pacific region, but many are listed as globally threatened due to reef damage and bleaching, and will suffer additional impacts from sea temperature and pH changes associated with climate change. Reefs support a variety of mollusks, crustaceans and fishes, which in turn provide the main source of protein for people living in coastal villages. Coral reefs are also the habitat for most of the threatened coastal fishes of the region, such as Humphead Wrasse (*Cheilinus undulatus*), Green Bumphead Parrotfish (*Bolbometopon muricatum*) and Hump-backed Rock Cod (*Cromileptes altivelis*). White sand beaches adjacent to coral reefs are important nesting sites for Green Turtle (*Chelonia mydas*) and Hawksbill Turtle (*Eretmochelys imbricata*).

Seagrass beds occur in soft-bottom areas and, like coral reefs, require clear water (low turbidity) away from sediment plumes of large rivers. Seagrass beds are the habitat of Dugong (*Dugong dugon*), which reaches the eastern limits of its distribution in Vanuatu.

Results of aerial and postal surveys conducted at least 17 years ago (in 1987) indicated that dugongs occur in small groups (single or pairs of animals) throughout the sheltered waters of Vanuatu (Chambers et al., 1989). Tame dugong are known to reside in Lamen Bay (Epi Island) and Tanna Bay (Tanna Island) (Pacific Island Travel, 1999).

Dugong are protected in Vanuatu under the Fisheries Act 2014, which prohibits the capture of marine mammals in Vanuatu's international waters. Dugongs were formerly hunted but their numbers are so low now that there are few contemporary records of hunting. A recent initiative being implemented by the Vanuatu Environmental Science Society (VESS) involves mapping the distribution of dugong and their seagrass habitat, which will help to identify priority areas of conservation and raise awareness in moving the dugong conservation forward.

Mangroves are a marine habitat and widely recognised as an important nursery for juvenile fish. They also provide coastal buffering against tropical cyclones and other extreme weather events. As with terrestrial forests, mangroves and seagrass meadows remove and store carbon from the atmosphere.

Other ecosystem services include tourism, wood extraction and bioremediation and sediment trapping. In 2009, the Mangrove Ecosystems for Climate Change Adaptation and Livelihoods (MESCAL) project conducted an economic valuation of nine ecosystem services in Crab Bay, Malekula and Eratap on Efate Island. The study found that in 2012, 136.5 ha of mangroves in Crab Bay produced ecosystem services worth US$586,000, while in Eratap, 31.2 ha produced ecosystem services worth US$266,000 (Pascal, 2014).

Rocky shorelines occur along the coasts of islands of recent volcanic origin, or where rapid uplift or steep drop-offs preclude the development of coral reefs. The intertidal zones are frequented by people collecting gastropods for food.

River mouths and sandy beaches often form small lagoons, which are important spawning sites for amphidromous fish. The river mouths themselves are important for larval/juvenile fish exchange between marine and freshwater ecosystems, and thus are favourite sites for fishing during “whitebait” runs, with people targeting both the larval fish themselves and the large predatory fish chasing them, such as trevallies.

Intertidal zones on coral reef flats, mangrove mudflats, rocky shores and river mouths are important habitats for migratory waders (families Charadriidae and Scolopacidae), which migrate from breeding grounds mostly in Siberia but also in Alaska, and include species such as the Bristle-thighed Curlew (*Numenius taitensis*). Most species recorded from the hotspot are passage migrants *en route* to or from “wintering” (i.e. northern hemisphere winter) grounds in New Zealand but a few are regular winter visitors, which remain in the islands through the non-breeding season, and, in some cases, the first few years of life. These include Whimbrel (*Numenius phaeopus*), Ruddy Turnstone (*Arenaria interpres*), common Sandpiper (*Actitis hypoleucos*) and Pacific Golden Plover (*Pluvialis fulva*).

3.4.2 Threats

While the oceans offer great potential in terms of sustainable economic development, they are also under increasing pressure from many uses and impacts. Changes in the marine environment resulting from human activities are occurring faster than previously anticipated, affecting, especially, vulnerable marine ecosystems such as coral reefs. Major threats to the marine ecology of Vanuatu include: impacts associated with climate change including rising ocean temperatures, acidity and sea level rise; coastal and offshore developments (e.g. from Deep Sea Mining, shipping) and the destruction of marine ecosystems such as coral reefs and mangroves; unsustainable and destructive fisheries practices; pollution from land-based and offshore sources including from ships and damage from shipwrecks;; conflicting uses and the increasing intensity of hurricanes and other storm events, as recently experienced.

Many stretches of coastline, notably some important tourism areas within Vanuatu, have experienced dramatic rates of coastal erosion with considerable economic costs to owners and the nation. Nevertheless, significant areas remain relatively pristine and are targeted for tourism and other development.

The marine environment’s ability to maintain its diversity and productivity, and to provide a wide array of valuable services to people, is therefore increasingly being compromised. Designing and implementing effective governance and management strategies is critical to address the challenges posed by the increasing impacts of human activities on the marine environment and to ensure the effective management and sustainable use of living and non-living marine resources (Vanuatu’s National Ocean Policy, 2017).

3.5 Species

Under the IUCN Red List of Endangered Species, 65 species endemic to Vanuatu have been assessed for their conservation status. Of these, 18 were found to be of conservation concern. This includes 12 bird species, one of which, the Tanna Ground Dove (*Gallicolumba ferruginea)* is considered extinct. Five are considered 'vulnerable': the Santo Mountain Starling (*Aplonis santovestris),* Green Palm Lorikeet (*Charmosyna palmarum),* Royal Parrotfinch (*Erythrura regia),* Vanuatu Mountain Pigeon (*Ducula bakeri*) and Vanuatu Megapode (*Megapodius layardi).*

Of the mammals, the Banks Flying Fox (*Pteropus fundutas)* is 'endangered' and the Vanuatu Flying Fox (*Pteropus anetianus)* is 'vulnerable'.

There are nine endemic reptiles of which the Anatom Emo Skink (*Emoia aneityumensis),* found only on Aneityum, is endangered and the common Emo Skink (*E. erronan),* found only on Futuna and Aniwa, is endangered.

One endemic land snail (*Partula milleri)* is critically endangered and *P. eurania* is endangered.

There are 38 recorded endemic freshwater species, of which only the Lobed River Mullet (*Cestraeus plicatilis*) is listed on the IUCN Redlist. The rest still need to be assessed.

These endemic species are threatened with extinction by a variety of factors and invasive species are likely to be one of the most important. Rats, particularly the ship or Black Rat (*Rattus rattus)* which is a very good climber, are known to prey on the eggs and chicks of many birds and take lizards. They are implicated in the extinction of the Tanna ground dove. Big leaf rope (*Merremia peltata*) (or locally, *Big Lif*) and other weeds damage the forest habitats in which most of these species live, and rats and Mice (*Mus musculus)* eat the fruits and seeds of trees and alter the composition of the forest. Native partulid land snails have been wiped out in several countries by the Rosy Wolf-Snail (*Euglandina rosea).* Lizards are a favourite food of feral cats though this is not an issue for the two threatened skinks as they live up in trees, but they will be vulnerable to rats. Yellow Crazy Ants (*Anoplolepis gracilipes*) have been recorded, for example, on Australia's Christmas Island) killing crabs, lizards and nestling birds and can change the forest structure leading to declines in other native species.

Important terrestrial ecosystems occupied by a range of species can also be threatened by invasive species. For example, the Vatthe Conservation Area covers 2,720 ha of Big Bay, on the Island of Espiritu Santo and is Vanuatu's biodiversity hot spot. It is the most significant area of extensive alluvial and limestone forest left in Vanuatu. It provides habitat for a diversity of wildlife, including six of Vanuatu's endemic bird species, including the globally endangered Santa Cruz Ground Dove (*Galliclumba santecrusis*), three vulnerable or near threatened endemic bird species (the Vanuatu Megapode, Royal Parrotfinch, Chestnut-bellied Kingfisher (*Todirampus farquahri*)), three of Vanuatu's six endemic skinks and three endemic freshwater fish. The conservation area hosts many culturally significant *tabu* sites for the communities nearby. The people from Matantas and Sara depend on this area for their daily activities, including tourism, bean tree seed harvesting and copra production. However, this massive primary forest is now threatened by the *Big Lif* vine, which is smothering and killing the native trees. This vine is seen as the number one killer of intact forest in the islands where they exist in Vanuatu. The Teouma River is also a critical ecosystem that was threatened by water hyacinth, which covered a large surface area of the river. The Water Hyacinth (*Eichhornia crassipes)* has been removed through biocontrol processes however the losses that it may have caused is still to be confirmed.

Many communities have concerns about the impact of crown-of-thorn starfish on reef habitats in the country. This species is considered native to Vanuatu but it can occasionally build up in large numbers, usually if the reefs are under stress from pollution or the impacts of natural disasters such as cyclones

and tsunamis. Some parts of the country have experienced unusual outbreaks lasting several seasons. Reef cleaning for crown-of-thorns is happening in some communities with funding from outside donors but that is limited and is not able to fund all the infested reef areas.

4.0 MEASURES IN PLACE TO ADDRESS THREATS TO BIODIVERSITY

4.1 Traditional Governance and Management

In Vanuatu, constitutionally vested, inalienable land ownership rights rests with customary tenure, with recognised leasing arrangements under ministerial consent. All land in Vanuatu belongs to the indigenous 'custom owners' and almost all land is held under customary tenure, whether leased (9.3%) or un-leased (89.7%).

A National Land Summit resolution in 2006, resulted in wider recognition and inclusion of mandatory consultative processes with traditional governance systems, from the national to local (community/village/land owning unit) levels. These recommendations will drive the call for major Constitutional changes giving more jurisdiction to traditionally instituted forums at local levels (and less to the Courts) for land dispute determination/settlement.

Under the National Land Use Planning Policy (GOV, 2013) “Kastom” provides one of three pillar foundations informing the way forward for land use planning. Vanuatu’s traditional societies and the inter-relationships between units of family, clans, and tribes is organised in meaningful patterns of customary resource access rights, which are communally shared, and which in turn supports a highly resilient traditional economy. Of particular note is that such access rights are inextricably linked to kinship ties, which transcend the physical boundaries of defined localities. Although direct and physical access to land and its produce is guaranteed to those that hold active stewardship over customary land/marine areas, participation and access (to land/sea and its produce) is open to kin-folk in urban areas.

Regenvanu (2007) notes:

The ill-considered alienation of land from the traditional economy in Vanuatu through leasehold title, for example, is removing the means for ordinary people to be economically productive and enjoy food and social security, in addition to often massively degrading our natural environment.

Protected Areas (marine and terrestrial) as conservation measures are being increasingly used, by villages/communities, as unique and time-tested customary tools in resource management, accepted and understood by the indigenous population.

4.2 Protected Areas or Conservation Areas

There has generally been little progress towards the establishment of formal protected areas. In part this reflects the limitations of conventional protected area approaches in a context of customary land ownership and resource tenure and limited government capacity, and in part, it reflects conflicting land-uses, especially logging in lowlands and mining in highlands. The World Database on Protected Areas (WDPA) lists four formal protected areas, covering 98 km^2 or 1 per cent of the total land area: Erromango Kauri Forest Conservation Area; Nguna-Pele Marine Protected Area; President Coolidge and Million Dollar Point Marine Reserve; and Vatthe Forest Conservation Area, the latter two on Santo. Although established with government support, these areas are typically managed by, or in collaboration with, customary land owners.

As an alternative to conventional, government-managed protected areas, various approaches to community-managed conservation areas have been piloted in Vanuatu's Key Biodiversity Areas (KBAs) for both terrestrial and marine areas. Government and civil society partners have promoted LMMAs, which are seen as a way to empower local people to manage their marine and coastal resources, while similar approaches have been promoted for terrestrial forests, including community conserved areas (CCAs) and the Emua Marine Protected Area and Vatthe Forest Conservation Area.

4.2.1 Community Conservation Areas (CCAs)

The Pacific has experienced a proliferation of Locally Managed Marine Areas (LMMAs) in the last decade. The approaches being developed at national levels are built on the unique features of the region, customary tenure and resource access, and make use of existing community strengths in traditional knowledge, traditional resource management techniques and traditional governance, combined with a local awareness of the need for action.

Govan (2009) reported that many communities in Vanuatu have preserved traditional management in the form of '*tabu'* areas and, in others, this tradition has been revived with the support of fisheries officers, environment officers, other government organisations and NGOs. Over 40 villages have been reported to manage their marine resources in this manner in Vanuatu but the real numbers may be significantly higher.

An estimated 80 traditional LMMAs exist in Vanuatu, and there is evidence that they have been effective at increasing size and abundance of target species, but they are not well documented.

There has been significant buy-in from local communities and organisations to the model of community-based protected areas, Community Conservation Areas (CCAs), as reflected in the considerable number established to date. These models present an alternative that allows community members to continue to use the areas in accordance with their traditions and needs and have been piloted in the Key Biodiversity Areas (KBAs) for Vanuatu in both terrestrial and marine areas. There are around 50 listed sites which are currently considered to be legally recognised as conservation areas (but not legally registered under the Environment Protection and Conservation Act CAP 283.). This has been supported by initiatives such as GEF 4 Forest Protected Areas Management (FPAM) project which supported sites such as Lake Letas on Gaua Island and Kauri Reserve in Erromango including other projects such as the Nakau Programme and Critical Ecosystem Partnership Fund (CEPF).

4.2.2 Terrestrial Protected Areas

Vanuatu has a total land area of 12,189 km^2. Terrestrial habitat losses from deforestation, urban, agricultural and industrial expansion as well as pollution, pose serious risks.The magnitude of these risks is compounded through a combination of demographic growth, pressure for economic development, changes in natural resource management models and climate change. Vanuatu has set ambitous national targets under the National Sustainable Development Plan (NSDP) and the NEPIP to effectively conserve 15% of natural forest and 10% of wetland areas through community and government management measures by 2030. Targets include 90% of community management committees complying with their CCA reporting obligations by 2020 and 10 registered CCAs in Vanuatu by 2020. The Vanuatu Forestry Policy has set a target to actively manage 30% of Vanuatu's forest by 2030 and the Vanuatu Ocean policy has set a goal to establish, by 2020, a national ecologically representative system of marine protected areas (GOV, 2012 and 2016).

The WDPA lists four formal protected areas, covering 98 km^2 or 1% of the total land area, however the Department of Environment Protection and Conservation (DEPC) has registered three formal forest areas and one mangrove area covering an estimated area of 11,000 ha. Protected terrestrial and inland waters comprise only 4.2% of the total land area and only approximately 45 km^2 of coastal and marine areas are covered by some form of Protected Area status.

This largely reflects the limitations of formal approaches to protected areas in Vanuatu's context of customary land ownership and limited government capacity and the CCA approach, as described above, appears to present a better model.

4.2.3 Marine Protected Areas

In spite of 98% of Vanuatu's total area consisting of ocean there has been very little progress towards the establishment of formal marine protected areas nor traditional management areas in the wider EEZ. Near-shore areas remain focused on local interests but there are significant opportunities to prioritise and plan for the wider EEZ. The Government has outlined a clear way forward under the Vanuatu Ocean policy, including a comprehensive consultation process to ensure all competing interests are taken into account. This will require significant inputs for progress but has the potential to significantly expand the protected area coverage and protect Vanuatu's critical marine biodiversity and ecosystem services. Currently, approximately 45 km^2 of coastal and marine areas are covered by some form of Protected Area status in Vanuatu (Integrated Biodiversity Assessment Tool (IBAT) 2013). DEPC has to date, registered one marine managed area as a conservation area registered under the EPC Act. Initiatives such as the Marine and Coastal Biodiversity Management in Pacific Island Countries project (MACBIO) are assisting the government to carry out assessments to identify important bioregions or areas of high biodiversity, which may help guide priority areas for a network of MPAs. Also included is the GEF 5 National Ridge to Reef project, which aims to expand MPAs and integrated land and coastal management on sites such as Aneityum, Tanna, Efate and South Pentecost.

4.2.4 Species Conservation

The Alliance for Zero Extinction (AZE), a joint initiative of biodiversity conservation organisations from around the world, aims to prevent extinctions by identifying and safeguarding key sites, each one of which is the last remaining refuge of one or more Endangered or Critically Endangered species. AZE is first focusing on species that face extinction either because their last remaining habitat is being degraded at a local level, or because their tiny global ranges make them especially vulnerable to external threats. In order to be designated as an AZE site, a site must meet all of the three criteria: it must contain at least one Endangered (EN) or Critically Endangered (CR) species, as listed on the IUCN Red List; it must be the only area where an EN or CR species occurs, and contain the overwhelmingly significant known resident population (>95%) of the EN or CR species and it must have a definable boundary. There is one AZE site in Vanuatu on Vanua Lava and Mota for the Vanikoro Flying Fox (*Pteropus tuberculatus*).

4.3 Vanuatu International Conventions and Commitment to Biodiversity

Vanuatu has obligations under the following list of international biodiversity conventions and commitments.

Table 1: Environment-related International Agreements to which Vanuatu is party.

Convention/Treaty/MOU	Date Signed	Date Ratified
United Nations Convention on the Law of the Sea (UNCLOS)	December 1982	August 1999
Convention on International Trade in Endangered Species of wild Flora and Fauna (CITES)	July 1989	October 1989
United Convention on Biological Diversity (UNCBD)	June 1992	March 1993
United Nations Convention Framework Convention on Climate Change (UNFCCC)	June 1992	March 1993
United Nations Convention to Combat Desertification (UNCCD)	September 1995	August 1999
Convention Concerning the Protection of the World Cultural and Natural Heritage (WHC)		June 2002
The Memorandum of Understanding (MoU) for the Conservation of Cetaceans and their Habitats in the Pacific Island Region	September 2006	
The Memorandum of Understanding on the Conservation and Management of Dugongs and their Habitats throughout their Range (Dugong MoU).	October 2010	
The Memorandum of Understanding (MOU) on the Conservation of Migratory Sharks.	February 2013	
Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their utilization	November 2014	March 2015
Convention on Wetlands of International Importance (Ramsar)	*2018*	
MARPOL Convention	*1986*	

4.4 Vanuatu Environment-Related Legislation Aimed to Protect Biodiversity and Promote Sustainable-Use

The table below lists legislation and policies that are relevant to the sustainable use and protection of biodiversity in Vanuatu.

Table 2: Legislation and policies of relevance to biodiversity protection and management in Vanuatu.

Name of Instrument	Purpose
Import of Plants Act 1964	Regulates the movement of plants into and within the country
Cocoa Act 1982	Licensing and export of cocoa
Animal Imports Act 1986	Regulates movement of animals into and within the country
Mines and Minerals Act 1986	Regulates the mining industry
Alienated Land Act 1983	Regulates the alienation of land in certain circumstances and to provide for matters connected therewith.
Definition of Land Boundaries Act	Allows the Minister to decide that the boundary of land or of any portion thereof should be more clearly defined or ascertained.
International Trade (Flora and Fauna) Act No. 56 of 1989 [Cap 210].	This Act relates to the CITES which is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
Physical Planning Act 1987	Planning Act – no environmental references – needs amending
Plant Protection Act1997	Provides for the exclusion and effective management of plant pests
Forestry Act 2001	The main piece of legislation regulating the forestry industry.
Water Resources Management Act 2002	Provides for management plans, committees and protection zones for the management of water resources
Environmental Protection and Conservation Act (2002) no. 12.	Provides for the conservation, sustainable development and management of the environment of Vanuatu and the regulation of related activities.
Forest Sector Plan	Legally recognised within the Plant and Forest Act–informs stakeholders of roles and responsibilities.
Industrial Development Act	Makes provision for the implementation of the National Industrial Policy to promote, facilitate and support the growth of sustainable and value added industry in Vanuatu and to provide for related matters.
2010 Decentralization Act	An Act to amend the Decentralization and Local Government Regions.
EIA Regulation 2011	A regulation under section 45 of the Environmental Protection and Conservation Act, concern (preliminary) environmental impact assessment and environmental audit regarding schedueled projects, proposals or development activities.
Trade Policy Framework 2011	Mainstream trade into Vanuatu's national development strategy; enhance development through increased exports of goods and services; guide and inform the workings of Vanuatu's National Trade and Development Committee and inform trade negotiations.
Land Reform Amendment Act 2013Use Planning Policy 2013	Sustainable land use based on Kastom

Name of Instrument	Purpose
Foreshore Development Act (amended 2013)	Regulates the carrying out of works on the foreshore.
National Industry Policy 2010-15	Permits private sectors access of usage; will create more access to markets; and will assist producers to operate in a sustainable environment.
Vanuatu Forest Policy 2013-2023	Sets clear policy directives for the management of Vanuatu's forests and forest resources for the next 10 years (2013 – 2023).
Fisheries Act 2014	Makes provision for management, development and regulation of fisheries in nearshore, offshore and aquaculture and for the control of fishing vessels entitled to fly the flag of Vanuatu outside of Vanuatu waters in a manner consistent with Vanuatu's international obligations, and for related matters.
Vanuatu's National Ocean Policy 2016	Government's policy for the management of its sovereign water and marine ecosystems through to 2030.
Deep Sea Mineral Policy 2016	Sets out Vanuatu's vision and strategic goals in relation to its deep sea minerals, and will form the basis for future drafting of laws in line with the policy.
Vanuatu Forestry Act 2014	Makes provision for the protection, development and sustainable management of forests and the regulation of the forestry industry in Vanuatu, and for related purposes.
Overarching Productive Sector Policy	Pomotes private sector-led agriculture growth which recognises that the private sector - including farmers and fishers (big and small), traders, food vendors, processors and exporters - are the major sector output generators.
National Environment Policy and Implementation Plan	Is an illustration of the Government's commitment to environmental sustainability and meets the requirements of a national policy and plan set out in the Environmental Protection and Conservation Act [CAP 283].
Vanuatu National Sustainable Development Plan	Its vision is: Building a stable, sustainable and prosperous nation. It focuses on three main pillars: society, environment and economy.
Vanuatu Sustainable Tourism Policy 2018	This is important as sustainable tourism is not a discrete special form of tourism, rather, all forms of tourism should strive to be more responsible and sustainable.
Vanuatu National Livestock Policy 2015-2030	Recognizes the major stakeholders in the livestock sector and it defines their respective roles. It also recognizes the impact of livestock activities on the environment and the availability of other natural recourses such as land, water, and wildlife/livestock interaction on livestock production.
Vanuatu Agriculture Sector Policy	This Policy, underpinned by social, economic, ecological and cultural principles and sustainable development pillars, is organized around 13 thematic areas.
Vanuatu National Fisheries Policy 2016-2031	Sets out the vision, high level formal policy directions and implementation strategic framework for the sustainable conservation, management and development of fisheries and aquaculture in the Republic of Vanuatu.

With regard to regulating development activities with potential negative environmental impacts, the key pieces of legislation are the Environmental Protection and Conservation (EPC) Act 2002 CAP 283 and

the Environmental Impact Assessment (EIA) Regulation of 2011. These specify the requirements of an EIA and lay out the process to be followed when carrying one out. The act applies to all development activities that either impact or are likely to impact on the environment of Vanuatu, and which require any license, permit or approval under any law (Clarke et al. 2008).

5.0 VANUATU NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN (NBSAP)

5.1 Mission Statement

1. To manage and safeguard biological resources through government, provinces and local communities so as to maintain fully our natural and cultural heritage for all Ni-Vanuatu.
2. Guide governments, provinces, local communities, landowners and landholders in the sustainable management of Vanuatu's natural resources.
3. Ensure that all Ni-Vanuatu, including future generations, are able to benefit from biodiversity and enjoy its use.
4. Protect the custom, intellectual and legal rights of Ni-Vanuatu as resource custodians and users.

There are various measures that can be used to meet these goals. In developing this strategy and action plan priority has been given to activities that are: affordable, within the capacity of existing government or community institutions, and that meet established needs. It is also recognised that conservation of biodiversity is an ongoing and evolving process.

5.2 Principles Underpinning the Strategy

Principle 1. Community participation and ownership

Most natural resources in Vanuatu are owned and used by indigenous and local communities. Conservation of biodiversity in Vanuatu is greatly dependent on the manner in which landowners, landholders and local user communities choose to manage their landholdings ownership and fishing rights. Community property rights include traditional rights over natural resources, indigenous intellectual property relating to natural resources and cultural knowledge. Any conservation or development work should ensure respect for community decision-making structures, equal participation and ownership of resource owners and active involvement in planning, implementation, monitoring and evaluation.

Principle 2. Biodiversity is the foundation for all development and inter-generational equity

Biodiversity conservation is the collective responsibility of all levels of government, the private sector, resource users and landowners. This principle places biodiversity at the heart of policy, legislation, plans and projects, highlighting the benefits of taking biodiversity into account – and the associated costs – and the risk of business as usual. This is to ensure that future generations of landowners and citizens, as well as today's youth and children, all have an equal opportunity to use and enjoy Vanuatu's biodiversity.

Principle 3. Biodiversity mainstreaming and ownership

This Principle is based on the understanding that lasting conservation in Vanuatu can only be achieved if:

- Biodiversity is mainstreamed into national development and poverty reduction efforts,
- Sectors and development partners (including communities) take responsibility for leadership of the design, implementation and evaluation of all conservation programmes in their respective areas and,
- Sectors and development partners commit to biodiversity-development mainstreaming and cross-sector coordination.

Principle 4: Gender mainstreaming and equality

Gender perspective must be mainstreamed or integrated into all NBSAP related policies, strategies actions and project stages. It must also ensure equal rights, possibilities and obligations for both men and women in society. It will ensure that stereotyped concepts of gender roles must not restrict the opportunities of individuals and equal appreciation of the values, choices and life experiences typical of women and men. It does not mean seeking to make women and men the same.

Principle 5: Adopting an ecosystem-based management approach

All conservation and development programmes should adopt an ecosystem-based, ridge to reef or island-system approach to ensure an integrated approach that sustains healthy, productive and resilient ecosystems and restores connectivity between social, economic and cultural values. Involvement of stakeholders must be ensured through participatory governance, adaptive management and integration of scientific, traditional and local knowledge in designing and implementing conservation programmes.

Principle 6: Managed and Protected Areas for species protection, forest, watersheds and marine should be comprehensive and representative

The establishment of a comprehensive and representative system of marine and terrestrial reserves and conservation areas at the national and local levels is critical to successful biodiversity conservation. A comprehensive and representative system includes examples of all habitats and species.

Principle 7: Improving knowledge, capacity and intellectual property

The intellectual property rights to biodiversity, genetic resources, and bio-derivate knowledge about biodiversity must be recognised and appropriate mechanisms established to ensure that fair remuneration, credit or other benefits are received by local communities, the discoverer or developer, and the nation. Improved scientific knowledge of biodiversity and enhanced ethnobiological understanding is required for improved conservation management and sustainable use. Education, public awareness and local knowledge are essential for enabling the conservation of biodiversity and ensuring conservation is continuously improved by recording, disseminating and incorporating lessons learned and best practices

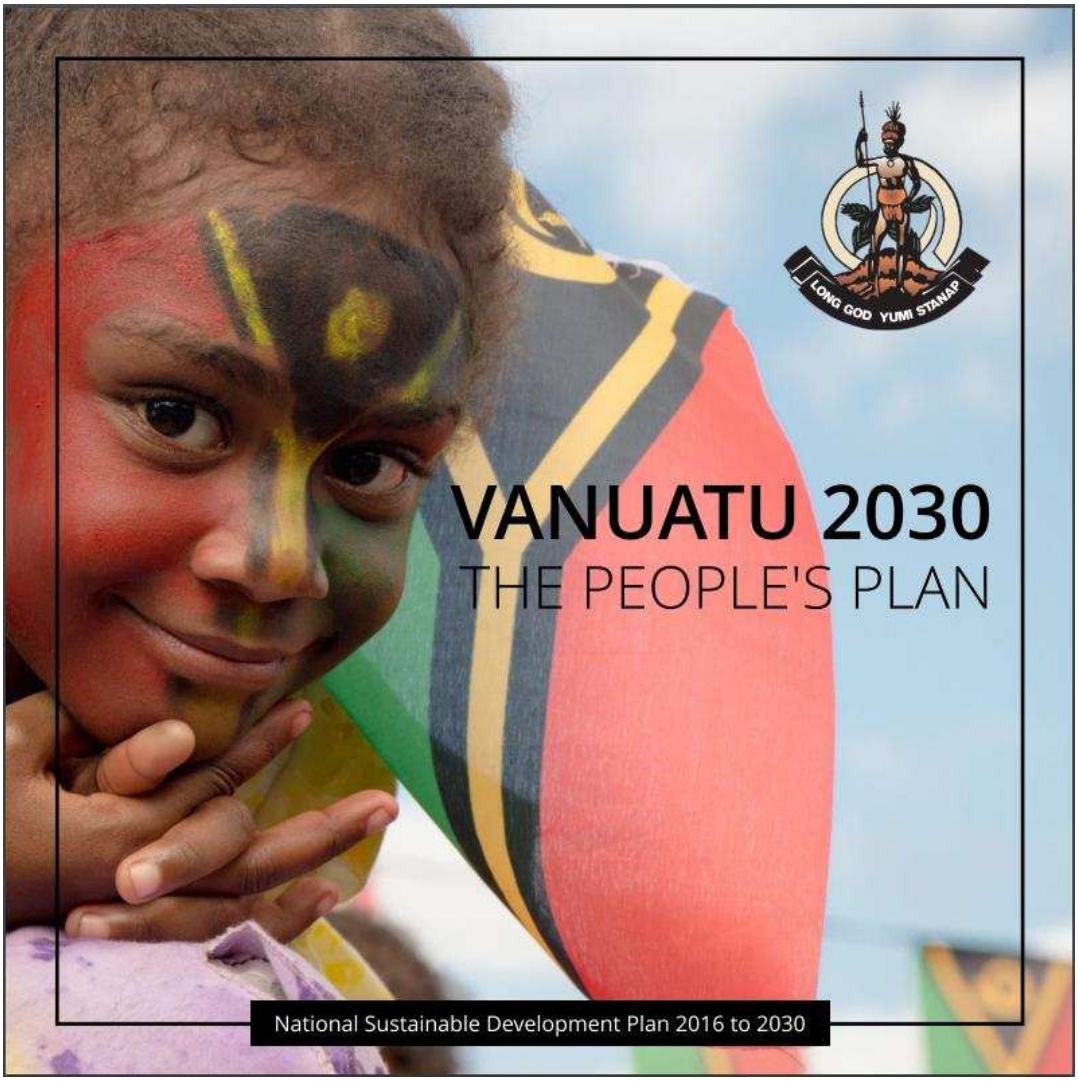
Principle 8. Financial sustainability and accountability

This principle reflects the fact that conservation initiatives must be adequately resourced over time if they are to be successful and that conservation programmes should be of a scale and budget appropriate to the local context. Long-term strategic planning and resource mobilisation that sustains conservation over time is needed. International and national partners will need to be accountable to the communities and countries they work in for their investment and engagement in conservation programmes.

5.3 NBSAP Link to NSDP

The Vanuatu NBSAP will be the main implementing strategy for the Environment Pillar of the National Sustainable Development Goals and Policies 2016-2030 environment goals and policy objectives which are:

- ENVIRONMENT 1: A nation that ensures our food and nutrition security needs are adequately met by all people through increasing sustainable food production.
- ENVIRONMENT 2: An economy which fosters sustainable growth and development through low impact industries and modern technologies to ensure the well-being of future generations systems.
- ENVIRONMENT 3: A strong and resilient nation in the face of climate change and risks posed by hazards and natural disasters and improving household production.
- ENVIRONMENT 4: A nation which utilizes and sustainably manages our land, water and natural resources.
- ENVIRONMENT 5: A nation committed to ensuring the conservation and sustainable management of our biodiversity and ecosystems.



The National Sustainable Development Plan 2016-2030

6.0 VANUATU NBSAP STRATEGIC AREAS

In 2015, Vanuatu reviewed the focal areas of the 1999 NBSAP and identified the following strategic areas of focus. The strategic areas define the key priorities which the NBSAP will focus on to achieve national targets. Through these measures, the NBSAP is responding to the requirements of the CBD and related multilateral environment agreements (MEAs).

Strategic Area 1:	Conservation Area Management
Strategic Area 2:	Forest and Inland Waters Ecosystems Conservation and Management
Strategic Area 3:	Coastal and Marine Ecosystems Conservation and Management
Strategic Area 4:	Species and Genetic Diversity Conservation
Strategic Area 5:	Invasive Species Eradication and Control
Strategic Area 6:	Mainstreaming Biodiversity across sectors and society
Strategic Area 7:	Resource Mobilisation

Motri Primary School Children playing, Pont-Cross, South Pentecost

6.1 STRATEGIC AREA 1: CONSERVATION AREA MANAGEMENT

Aichi Strategic Focus Area: Safeguard ecosystems, species, genes and improving the status of biodiversity to support national income and livelihoods

Aichi Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Aichi Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wilder landscapes and seascapes.

VANUATU CONSERVATION AREAS TARGET

1. By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and kastom importance are conserved through effective community and government management measures.
2. By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
3. By 2030, 90% of CCA management committees are complying with their reporting obligations to DEPC (NEPIP, 2016).
4. Targets for conservation areas set in provincial strategic plans are achieved.

Indicators:

- Total area of representative coverage of legally recognised, other effective conserved areas and locally managed areas in terrestrial and marine areas including sites of particular importance for biodiversity.
- Percentage of terrestrial and marine protected areas that are effectively managed based on agreed national and international protected area conditions and management effectiveness.
- Measure of ecosystem service values and equity of benefits from CAs.
- Level of connectivity of CAs and other area based approaches with broader landscapes and seascapes.

IUCN's "Guidelines for Applying Protected Area Management Categories" defines a **protected area** as: *A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values*. The IUCN guidelines provide an opportunity for Vanuatu to ensure that our CA efforts towards sustainable resource management qualify as protected areas and therefore meet our international commitments and obligations.

Well-governed and effectively managed protected areas are a proven method for safeguarding both habitats and populations of species and for delivering important ecosystem services. Protected areas should be integrated into the wider land and seascape, and relevant sectors, bearing in mind the importance of complementarity and spatial configuration. In doing so, the ecosystem approach should be applied, taking into account ecological connectivity and the concept of ecological networks, including connectivity for migratory species (through, for example, "fly-ways" for migratory birds).

Protected areas should also be established and managed in close collaboration with, and through equitable processes that recognise and respect the rights of indigenous and local communities, and vulnerable populations.

Vanuatu has a rudimentary system of conservation areas, however, none of the areas have been selected through formal planning processes on the basis of ecological knowledge or biodiversity values. In most cases, their existence is historical, traditional or opportunistic. Nonetheless, these sites in combination with other priority sites which have been identified for their biodiversity values, have the potential to provide the basis of a representative system of protected areas. The intention is for the representative system of protected areas to be strengthened by a large number and variety of protected areas which are important at the national, provincial or local level.

FOCUS AREA CA1: **EXPANDED NATIONAL REPRESENTATIVE NETWORK OF CONSERVATION AREAS IN MARINE, TERRESTRIAL AND INLAND WATERS.**

Objective CA1a: To carry out marine, terrestrial and inland waters biodiversity rapid assessment, inventories and threat identification, gap analyses and prioritisation to guide the development of a national representative network of CAs.

ACTION PLANS:

CA1.1 Carry out gap analysis and prioritisation in terrestrial, marine and inland waters ecosystems to identify key biodiversity areas for biodiversity protection to meet our national targets.

CA1.2 Analyse and map the occurrence and status of all existing conservation areas, including their governance structures.

CA1.3 Prioritise key biodiversity areas for focal species, species/groups, habitats and important ecological connectivity and processes.

CA 1.4 Identify sites that can achieve not just biodiversity conservation but also social and economic outcomes to do with, for example, fisheries, culture and heritage, agriculture, timber resources, watershed protection, sustainable tourism, to ensure they provide benefits to local people.

Objective CA 1b: To develop and apply an implementation plan to meet Vanuatu's CA targets in terrestrial, marine and inland waters protected areas systems.

ACTION PLANS:

CA1.5 Conduct a national planning process to develop a CA action and implementation plan for land, marine and inland waters.

CA1.6 Develop priority biodiversity areas maps for terrestrial, marine and inland waters.

CA1.7 Describe the entirety of Vanuatu's natural terrestrial, coastal and marine environment as a basis for selecting ecologically representative areas.

CA1.8 Develop terrestrial and marine protected area typologies.

CA1.9 Describe protected area design criteria to guide placement of different types of protected areas.

FOCUS AREA CA2: Improve Information Management and Monitoring Conservation Area Management Effectiveness and Practice.

Objective CA2a: Develop a national information system, database and monitoring framework for Vanuatu's CAs to assess the management effectiveness of CAs, and promote adaptive management.

ACTION PLANS:

CA2.1 Adopt a national 100% target to support all communities, provinces and districts in Vanuatu through government policies, provincial endorsements and supported by national sector strategies and plans.

CA2.2 Use some of the Conservation Areas as role models whether they are formally registered or not.

CA2.3 Monitor and evaluate protected areas to ensure they are effective and are achieving their core objectives.

CA2.4 Ensure monitoring and evaluation is fed into the national CA network plans for learning and adaptive management.

Objectives CA2b: To develop context specific co-management plans, recognising both informal and formal CA sites at national, provincial and local level.

ACTION PLANS:

CA2.5 For each priority CA, establish opportunities for mutually beneficial co-management arrangements, which takes into account and builds upon good governance practices where they exist.

CA2.6 Ensure at each CA there are wide participatory discussions with local communities and key stakeholders to discuss opportunities for co-management.

CA2.7 Build capacity at all levels, with strong focus on supporting provincial and district level committees to implement PAs.

CA2.8 Apply, as appropriate, a diversity of governance arrangements that include recognition of Indigenous and Community Conserved Areas (ICCA) through national legislation or other effective means of formal inclusion in the national systems.

Objective CA2c: To maintain the integrity of PA networks by ensuring they are recognised and supported by other sectors including in the National Sustainable Development Plan and other government policies and frameworks.

ACTION PLANS:

CA2.9 Coordination between relevant natural resource management sectors such as environment and conservation, agriculture, forestry, fisheries, biosecurity and tourism sector-specific sustainable natural resource management activities to support CA management and systems.

CA2.10 Incorporate CA planning (marine, inland waters and terrestrial) within broader national planning exercises including spatial planning and frameworks such as the National Sustainable Development Plan.

CA2.11 Assess the value and contribution of Protected Areas to national and local economies and to achieving the SDGs.

CA2.12 Develop a Conservation Registry and regularly update this.

FOCUS AREA CA3: Develop Sustainable Finance Mechanisms for New and Existing Protected Areas

Objective CA3: To establish sustainable financing mechanisms to support the establishment, management and long-term effectiveness of protected areas.

ACTION PLANS:

CA3.1 Calculate financial costs for managing a comprehensive and representative CA network for Vanuatu's land, sea and freshwater, including establishment as well as long term-management costs.

CA3.2 Identify innovative sustainable financing mechanisms to support the establishment and management of CAs in Vanuatu. These may include initiatives such as green tax, tax benefit systems for CAs, establishment of trust or endowment funds, etc.

CA3.3 Set up the legal, policy and institutional framework for establishing the financial structures and mechanism for a national CA network.

CA3.4 Ensure meaningful participation and provide equitable incentives and remuneration to resource owners for CA establishment and management.

FOCUS AREA CA4: National awareness and education on conservation areas to share best practices and lessons learned to improve management effectiveness and governance.

Objective CA4: To develop and collate best practice guidelines and disseminate among local and national conservation area sites.

ACTION PLANS:

CA4.1 Collate best practices for management, governance and sustainable financing from existing protected area sites in Vanuatu.

CA4.2 Identify key lessons learned for distribution to management authorities across national protected area sites.

CA4.3 Develop appropriate awareness, information kits, manuals, toolkits specific to different stakeholders such as planners, community leaders, researchers and practitioners.

CA4.4 Promote Vanuatu's best practices for CA management, governance and sustainable financing at national, regional and international fora.

CA4.5 Develop nationally appropriate capacity development programmes, including peer networks, for exchange of experiences in conservation practice.

CA4.6 Develop a CA management national communication strategy, awareness and campaigns.

Coastal Forest of Vatthe Conservation Area, Big Bay, Santo

6.2 STRATEGIC AREA 2: FOREST AND INLAND WATERS ECOSYSTEMS CONSERVATION AND MANAGEMENT

Aichi Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

***Target 6*:** By 2020, all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that: overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

***Target 11 (Aichi Goal C)*:** By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective are-based conservation measures, and integrated into the wilder landscapes and seascapes.

Vanuatu Forest and Inland Waters Target

1. By 2030, at least 17% of important biodiversity areas, livelihoods and *kastom* importance are conserved through community and government effective management measures.
2. By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.
3. By 2030, 30% of Vanuatu's natural forest (Forestry) is being actively managed and protected.

Indicators:

- Trends in forest and inland waters species diversity including traded ones.
- Trend to which biodiversity and ecosystem service values are incorporated into government accounting reporting.
- Percentage of forest and inland waters conservation areas to meet national and global targets.
- Impact of threats to forest and inland waters such as invasive species, deforestation, logging and other threats.

FOCUS AREA FIW1: Reduce major threats to forest and inland waters ecosystems such as unsustainable logging, agriculture, mining and human settlements.

Objective FIW1: The forest and inland waters ecosystem are managed in an integrated and sustainable manner to maintain the ecosystem functions of forest and inland waters and contribute to local and national economies and social well-being.

ACTION PLANS:

FIW1.1 Improve and update information on status of forest and inland waters biodiversity.

FIW1.2 Carry out forest and inland waters resource inventory, biological rapid assessments and identify high biodiversity areas, important cultural sites and other sites of national significance in forest and inland waters.

FIW1.3 Identify the root causes of major threats to forest and inland waters ecosystems at local and national level.

FIW1.4 Develop and implement a national forest and inland waters conservation management plan to address threats and, where possible, their root causes.

FIW1.5 Conduct valuation of wetland services so that they are properly accounted for in decision making

FIW1.6 Conduct awareness and education at local and national level on the importance of conservation and sustainable use of forest and inland waters ecosystems.

FIW1.7 Capture best practice and lessons learning to improve management of forest ecosystems.

FOCUS AREA 2: Establishment of Forest and Inland Waters Conservation Areas in important biodiversity areas such as KBAs.

Objective 2: Establishment of effective forest and inland waters conservation in important biodiversity areas with effective sustainable financing to support management in the long term.

FIW2.1 Support establishment of Forest and inland waters conservation areas at important biodiversity areas.

FIW2.2 Improve effective management of existing forest and inland waters conservation areas.

FIW2.3 Support internal significant forest and inland waters to be registered as Ramsar and heritage sites.

FIW2.4 Establish sustainable financing mechanisms such as payment of ecosystem services, alternative income generating best practices and national financing mechanisms.

FIW2.5 Increase capacities of government departments and ministries such as Forestry, Agricultures, DEPC and Biosecurity to carry out their roles and responsibilities in sustainable management of forest and inland waters

FOCUS AREA 3: Design and facilitate a nationally implemented forest landscape restoration (FLR) project in Vanuatu.

Objective FIW3: To reverse trends in deforestation, enhance land degradation neutrality and improve biodiversity through improved policy support and governance framework, knowledge management and by implementing a strategic forest landscape restoration project to enable long term ecological recovery and increased economic benefits for all forest stakeholders.

FIW3.1 National Forest Landscape Restoration plans and strategies developed with wide stakeholder consultation at island, provincial and local levels based on land tenure systems.

FIW3.2 Soil fertility is improved through the conduct of soils schools and establishing soil improvement nurseries that are established and functioning at community level.

FIW3.3 An increase in subsistence or commercial agricultural activities is recorded in areas when soil fertility has been improved and income from crops are assisting local livelihoods and food security.

Cascades at the proposed East Eden Conservation Area, North Santo

6.3 STRATEGIC AREA 3: COASTAL AND MARINE ECOSYSTEMS CONSERVATION AND MANAGEMENT (CME)

Aichi Strategic Focus Area : Safeguard ecosystems, species, genes and improving the status of biodiversity to support national economy and livelihoods

Aichi Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Aichi Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and at least **10 per cent of coastal and marine areas** of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective are-based conservation measures, and integrated into the wilder landscapes and seascapes.

VANUATU COASTAL AND MARINE ECOSYSTEMS TARGET

1. By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.

Indicators:

- Total area of representative coverage of legally recognised, other conserved areas and locally managed areas in marine areas including sites of particular importance for biodiversity
- Total number of marine protected areas that are effectively managed based on agreed national protected area conditions and management effectiveness
- Measurement of ecosystem services and equitable benefits from CAs
- Account for Payment of Ecosystem Service (PES) and other sustainable financing strategies
- Measure if trends in connectivity of CAs and other area based approaches integrated into landscapes and seascapes
- Assess impact of coastal developments through EIAs and measures of EIA enforcements and compliance

FOCUS AREA CME1: Reduce major threats to Vanuatu's coastal and marine ecosystems such overharvesting, reclamation, unsustainable tourism development, natural disaster impacts, climate change impacts, river dredging and pollution.

Objective CME1: Improve understanding and status of coastal and marine ecosystems through research, resource assessments, threat identification and mitigation and information management

ACTION PLANS:

CME1.1 Carry out coastal and marine resource inventories, biological rapid assessments and identify high biodiversity areas, important cultural sites and other sites of national significance including information on local scale fisheries, conservation area tabu sites, and locally managed area. Use MACBIO report on Vanuatu's special, unique marine areas to inform this work.

CME1.2 Identify root causes of major threats to coastal and marine ecosystems at local and national level.

CME1.3 Develop and implement a national coastal and marine conservation management plan to address major threats and, where possible, their root causes.

CME1.4 Promote recommendations of MACBIO coastal and marine ecosystem service valuation report to government to ensure national budgets and accounting considers and implement recommendations.

CME1.5 Conduct awareness raising and education at local and national levels on the importance of conservation and sustainable use of coastal and marine ecosystems.

CME1.6 Capture best practices and lessons learned about improving management of coastal and marine ecosystems.

CME1.7 Develop and promote partnerships between government, communities and private sector towards sustainable management of coastal and marine ecosystems.

CME1.8 Strengthen national mangrove management through legislation, awareness raising, priority site management and rehabilitation.

CME1.9 Monitor and evaluate effect of coastal developments at different scales including consideration of cumulative impacts.

FOCUS AREA CME2: Inshore Fisheries Management: strengthen management of coastal fisheries to reduce overharvesting and destructive fishing methods to maintain and improve coastal and coral reef ecosystems.

Objective CME2: Scale up successes in sustainable fisheries management in customary fishing grounds including use of locally managed marine areas tools (e.g. *tabus*) and put in place supportive enabling mechanisms.

ACTION PLANS:

CME2.1 Support the development of inshore fisheries management plans at national, provincial and village levels. Increase production and food security, aquaculture and alternative livelihoods.

CME2.2 Promote tools such as the 'Community Based Adaptive Management' (CBAM) in developing integrated community management plans which include managing locally managed marine areas within customary fishing grounds.

CME2.3 Strengthen science and research in inshore fisheries management including regarding aquaculture, target species management, licensing, and marine managed areas.

CME2.4 Support the effective establishment of provincial and district level customary and traditional environment committees to support inshore fisheries management at provincial level.

CME2.5 Encourage coastal rehabilitation in post-disaster/climate change affected areas.

CME2.6 Promote restrictions on illegal importation of illegal fishing gear.

FOCUS AREA CME3: Integrated Offshore fisheries management

Objective CME3: Improve management of Vanuatu's marine resources within the EEZ.

CME3.1 Strengthen surveillance, enforcement and monitoring within Vanuatu's EEZ through strengthened partnerships with international stakeholders and neighbouring states.

CME3.2 Strengthen, support and secure data and information collation, establish central repository, for better decision making.

CME3.3 Conduct valuation of offshore marine ecosystem services so that they are properly accounted for in decision making.

CME3.4 The Government will build on existing spatial planning mechanisms, including traditional spatial management systems (e.g. tabus), for improving management of maritime space to achieve economic development, cultural, social and environmental objectives.

CME3.5 Collate and audit existing marine data to determine data gaps.

CME3.6 Map biological information, including biological regions, and existing and possible future uses of the marine environment by different activities and prioritisation of high biodiversity areas to establish MPAs and other sustainable use areas.

CME3.7 Facilitate workshops and consultations to evaluate and synthesise the data and to start generating a Marine Spatial Plan which provides for zoning of Vanuatu's ocean.

CME3.8 Protected areas within the EEZ, shall be established to ensure the future sustainability of Vanuatu's ocean environment and so established on the basis of, inter alia, ecosystem function, ecological adequacy, representativeness, critical habitats, natural genetic resources, connectivity and scenic values.

CME3.9 Promote the sustainable development of offshore fisheries for large pelagic species including through the development of appropriate regulations for the fishery and manage the fisheries to maximize benefits to Vanuatu.

Amazing coral formation – Mark and Anne’s Sailing Adventures

6.4 STRATEGIC AREA 4: SPECIES MANAGEMENT (SM)

Aichi Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

***Aichi Target 12*:** By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

Aichi Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

Vanuatu Target

1. By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.

Indicators:

- Reduced trend in extinction risks of Vanuatu's five national priority species.
- Increased trend in population of the five priority threatened species for Vanuatu.
- Increased trends in distribution of the five selected (priority) species.

FOCUS AREA SM1: Establish effective management arrangement for the conservation of endemic, endangered and culturally important species and habitats.

Objective SM1: To work with local communities, government, non-government organisations, private sector and research institutions to develop habitat and species management plans and ensure relevant conservation measures are in place.

ACTION PLANS:

SM1.1	Conservation of forest in the area of Homo Bay and Ranwas in South Pentecost (high species diversity and vulnerable).
SM1.2	Document and describe remnant vegetation on Tanna and work with TAFEA and interested landowners to establish an appropriate conservation plan.
SM1.3	Establish a conservation plan for the Petaview catchment on Epi.
SM1.4	Prepare conservation and rehabilitation plans for mangroves on Malekula, Efate, Moso, Emau, Emae, Aneityum, Tanna, Santo and Vanua Lava.
SM1.5	Manage the catchment of Creek Ai, Efate, to protect its high biodiversity value.
SM1.6	Royal Parrot-finch, Wedge-tailed Shearwater, Vanuatu Flying Fox and Megapode - work with chiefs, community leaders and landholders of the Shefa Province to encourage the protection of the birds and their habitat by raising awareness of the rarity of these birds and their limited distribution.

SM1.7 Flying Foxes on Mota Lava –raise awareness of the Mota Lava community that it is the only island supporting four species of flying foxes. Encourage chief, community leaders and landholders to manage the flying foxes and the habitat by implementing conservation site/s and delivering information and education.

SM1.8 Crocodile on Vanua Lava – Facilitate local monitoring of the crocodile population. Prepare a management plan that considers the needs of the local people, financial resources and international scientific concerns.

SM1.9 Conservation of coconut crab habitat on Hui, Tegua, Loh, Toga Linua and Metoma in the Torres Group.

SM1.10 Conservation of bat roosting caves and feeding areas on Malo, northwest Malekula, Vanua Lava, Santo and Efate.

SM1.11 Support the implementation of the Lake Letas management plan noting that it is a registered CCA, one of the national wetland sites as well as the first Ramsar Site for Vanuatu.

SM1.12 Conservation of Megapode bird (Namalau) on Tongoa, Ambrym, Efate and Epi.

SM1.13 Conservation of Collared Petrel on Tanna and Vanua Lava, and of the Vanuatu petrel on Vanua Lava.

SM1.14 Conservation of natural stands of *Carpoxylon macrospermum* on the islands where they exist.

SM1.15 Conservation of Anietyum Skink (*Emoia aneityumensis*).

SM1.16 Conservation of the six hot spots (IUCN Red list/ CBF Ecosystem profile): Aneityum, Futuna, Tanna, Tongoa Laika Island Santo Mountain Range, Gaua (Banks).

SM1.17 Conservation of leatherback, green and hawksbill turtles (Aneityum, Tanna, Erromango, Efate and offshore islands, Epi, Malekula, Santo, Malo, Aore, Gaua, Vanua Lava, Ureparapara and Torres Groups).

SM1.18 Conservation of dugongs (sea grass areas on Aneityum, Efate, Epi, Malekula, Vanua Lava, Santo, Gaua and Vanua Lava).

FOCUS AREA SM2: Establish data collection and storage systems for endemic, endangered, threatened and critical species.

Objective SM2: To establish, maintain and update the National Resource Inventory (NRI) database for all species and their status and link to other relevant global databases..

SM2.1 Conduct appropriate research to develop resource inventory on terrestrial (including insects) and freshwater/marine biodiversity and establish NRI database.

SM2.2 Link the NRI database to Biodiversity Clearing House Mechanism (CHM) and other databases to support MEAS, UNCBD, UNCCD and UNFCCC such as the Vanuatu CCCD national information system maintained by DEPC in collaboration with relevant stakeholders.

SM2.3 Undertake conservation management-oriented research on prioritised species that are threatened or exploited for cultural/subsistence and economic purposes.

SM2.4 Explore potential sustainable use of non-threatened and endangered species in collaboration with Conservation Officers, tourism, customs, biosecurity and community representatives -

SM2.5 Develop a national biodiversity database at DEPC of all species; classifying level of significance and status (IUCN Red List). The database must be accessible to all stakeholders inclusive but not limited to government, non-government organisations, and private business and communities.

SM2.6 Draw up an appropriate framework and mechanism for identifying, monitoring and documenting the status of rare and endangered species.

FOCUS AREA SM3: Decrease in trade of endangered and threatened species

Objective SM3a: To assist in improving enforcement of border control and monitoring, and increase support and capacity for enforcement and monitoring of EPC Act and CITES.

ACTION PLANS:

SM 3.1 Formalise relationships/collaborations with border control and enforcement authorities through memoranda of understanding (Biosecurity, Customs, Border control and DEPC).

SM 3.2 Empower authorised officers from DEPC, Customs, Border control and Biosecurity, to enforce EPC related Acts effectively.

Objective SM3b: To increase capacity for enforcement of the International Trade of Flora and Fauna Act 1989 and its regulations, and increase monitoring of endangered protected species.

ACTION PLANS:

SM 3.3 Quarterly surveillance of markets, traders etc. by trained and gazetted officers under the International Trade (Flora and Fauna) Act No. 56 of 1989 [Cap 210].

SM 3.4 Review all native species and other related provisions in the International Trade (Flora and Fauna) Act No. 56 of 1989 [Cap 210].

SM 3.5 Establish administrative responsibilities and strengthen capacity within relevant line ministries and authorities.

SM 3.6 Appoint of authorised officers under International Trade (Flora and Fauna) Act No. 56 of 1989 [Cap 210].

SM 3.7 Establish an effective electronic CITES permitting system to manage and ease annual reporting.

FOCUS AREA SM4: Extend Government contribution to conservation activities at community levels

Objective SM4: To develop mechanisms for facilitating community feedback to DEPC on management of species of special concern.

ACTION PLANS:

SM4.1 Increase DEPC representation/participation/presentation at islands and provincial governance mechanisms and forums and private sectors.

SM4.2 Develop a reporting mechanism in collaboration with Provincial Councils and other user groups such tourists, farmers and others.

SM 4.3 Increase resources to support communities to annually report to DEPC on their CCA activities.

Endemic Vanuatu Fruit Dove, *Ptilinopus tannensis.*

6.5 STRATEGIC AREA 5: MANAGEMENT OF INVASIVE Alien SPECIES (MIAS)

Aichi Strategic Goal B. Reduce the direct pressures on biodiversity and promote sustainable use

***Aichi Target 9*:** By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

Vanuatu Goal (from NISSAP)
"Yumi ol man Vanuatu I mas wok tugeta blong lukaotem gud envaeromen blong yumi long ol rabis sik blong ol animol mo ol plant, ol rabis kras, wud, rop mo ol animol we I stap afektem laef blo yumi mo hem ya we I no stap yet long Vanuatu blong mekem se yumi save stap gud" - Vanuatu NISSAP.

To facilitate and guide the protection of the pristine biodiversity and livelihoods of Vanuatu from impacts of invasive alien species through strong collaboration.

Vanuatu Target

1. By 2030 Vanuatu's invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
2. Emphasis will be placed on maintaining current status of native species, improving border control, developing inter-island biosecurity programmes, IAS eradication and control.
3. Communities' understanding and knowledge on invasive alien species is increased.

Indicators:

- Assessment and measure of impact of invasive alien species on biodiversity and food security.
- Impact of policy responses, legislation and management plans to control and prevent spread of invasive alien species.
- Required information and data on invasive alien species are available.
- National government commitment through financing of management of IAS.
- Level of invasive alien species understanding increased.
- More improve legal frameworks and policies are available.
- International border control system improved and internal quarantine system established.
- Invasive alien species population density are reduced.
- The population density of invasive species in Conservation Areas are reduced.

Definition: Invasive Alien Species (IAS) are defined by the CBD as organisms found outside their native geographical ranges that have spread and become invasive in their new habitats and cause harm to biodiversity and other things that humans value. IAS include a wide range of weeds, vertebrate and invertebrate animals and micro-organism sand diseases that constitute a "living pollution" just as serious, but often harder to prepare for and recover from than natural disasters, overexploitation, environmental degradation and economic downturns. It should be noted that some indigenous, non-alien, organisms can, given environmental degradation or change, also become invasive.

Invasive alien species are a major threat to agriculture, tourism and biodiversity and ecosystem services, and increasing trade and travel means that this threat is likely to increase unless additional action is taken. Pathways for the introduction of invasive alien species can be managed through improved border controls and quarantine, including through better coordination with national and regional bodies responsible for plant and animal health.

Given the multiple pathways for invasive alien species introductions and that multiple alien species are already present in many countries in the region, it will be necessary to prioritise control and eradication efforts on those species and pathways which will have the greatest impact on biodiversity and/or which are the most resource effective to address. While well-developed and globally-applicable indicators are lacking, some basic methodologies do exist which can serve as a starting point for further monitoring or provide baseline information.

Many introduced species have been found to be invasive and pose threats to Vanuatu's native flora and fauna. These include *Cordia allidora (Cordia), Panicum maximum* (Elephant Grass), *Cycling sp.* (Agriculture Rope), the freshwater fish *Gampusia sp*. *(Gampusia), Oreochromis sp*. (Tilapia) and *Poecilia sp., Acridothere tristis* (Indian Mynah Bird), *Euglandina rosea* (Predatory Snail). The Vanuatu NISSAP 2014–2020 identifies 20 national priority species for focus on management, control and eradication. These species were brought to Vanuatu for commercial cultivation, biological control purposes or as curiosities or pets. Once in Vanuatu, species are spread from one island to another for similar reasons.

Travel within the Vanuatu group is increasing rapidly too and there is a need for measures to be introduced to prevent the spread of invasive alien species within Vanuatu's 80+ islands. Currently there is only very limited awareness of internal quarantine requirements and this is confined to species of agricultural or economic significance; biodiversity values are not included. Biodiversity issues need to be very thoroughly evaluated in the licencing of introduced plants and in biocontrol programmes.

The NISSAP outlines key invasive alien species, their pathways of introduction and possible ways of controlling future introductions.

The actions below mirror the Vanuatu National Invasive Species Strategy and Action Plan (NISSAP) 2014–2020. Note that the NISSAP generally uses the term "invasive species" (IS) rather than "invasive alien species". The terms are used interchangeably here in the NBSAP.

FOCUS AREA MIAS1: Building a strong foundation for effective invasive alien species management

Objective MIAS1a: To increase understanding of the impacts of priority invasive alien species on biodiversity, economies, livelihoods and health and actions to manage them are supported.

ACTION PLANS:

MIAS 1.1 Raise awareness and carry out outreach on impacts of IAS on biodiversity, economy, health and cultural values.

MIAS 1.2 Develop community focused education awareness resources and materials for the wider public.

MIAS 1.3 Develop syllabus in schools on IAS.

MIAS 1.4 Develop materials on marine invasive alien species of most threat to Vanuatu.

MIAS 1.5 Develop Island-specific materials as part of inter-island biosecurity management.

MIAS 1.6 Encourage collaboration in the management of IAS between Vanuatu and other regional countries and institutions.

Objective MIAS1b: To build capacity and develop institutions, skills, infrastructure, technical support, information management, networks, and exchanges required to manage IAS effectively.

ACTION PLANS:

MIAS 1.7 Establish a Vanuatu IAS national committee to provide overall coordination of IAS work and initiatives in Vanuatu.

MIAS 1.8 Upgrade national invasive alien species database and make it accessible for public viewing and information input.

MIAS 1.9 Identify knowledge gaps and prioritise terrestrial, freshwater and marine invasive alien species surveys for Vanuatu.

MIAS 1.10 Collect baseline data for terrestrial, aquatic and marine invasives.

MIAS 1.11 Put in place an IAS Information review process to continually assess capacity, skills, information and research gaps.

MIAS 1.12 Identify training and capacity needs and develop and implement training programmes for key invasives management issues such as inter-island and border control biosecurity.

MIAS 1.13 Encourage environmental science studies for Ni-Vanuatu students.

MIAS 1.14 Provide training for harbour masters, custom officers and other port staff on identifying invasive species issues associated with shipping and border controls.

MIAS 1.15 Provide training to community leaders to identify invasive alien species in the communities.

MIAS 1.16 Upgrade government and NGO technical skills and knowledge on management of invasive alien species.

MIAS 1.17 Advocate for the establishment of a Melanesian IAS council in partnership with the Melanesian Spearhead Group (MSG) with support by the Vanuatu Government.

Objective MIAS1c: To ensure appropriate policies, legislations, protocols and procedures are in place and operating to underpin the effective management of IAS.

ACTION PLANS:

MIAS 1.18 Enact the current draft Biosecurity Bill and translate it into local language.

MIAS 1.19 Include management of invasive alien species in Agriculture, Livestock, Forestry and Fisheries Acts.

MIAS 1.20 Amend the Environmental Protection and Conservation Act to include additional regulations on IAS and regulations of importation of new organisms that are a risk to the environment.

MIAS 1.21 Revise national regulations (DEPC) and the provincial legislation for DEPC Act to override provincial laws and by-laws.

MIAS 1.22 Amend legislation (e.g Ports Act) to address management of ballast water, ship cleaning and the use of anti-fouling paints in line with international conventions.

MIAS 1.23 Revise and update NISSAP.

MIAS 1.24 Develop island or province-based regulations to assist inter-island biosecurity programmes.

MIAS 1.25 Enforce current livestock regulations to prevent cattle spreading weed and seeds between islands.

MIAS 1.26 Revise Public Works Departmetn policy and legislation for clean machinery for new roads developments and inter-island movements.

FOCUS AREA MIAS2: Establish national baselines and monitoring of IAS in Vanuatu.

Objective MIAS2a: Systems are in place to generate baseline information on the status and the distribution of invasive alien species, detect trends and emerging impacts.

ACTION PLANS:

MIAS 2.1 Identify priority islands (e.g Malekula, Santo) to carry out surveys to identify full range of priority IAS at initial stages and then target all islands.

MIAS 2.2 Carry our surveys to delimit priority IAS such as fire-ants, climbing vines (*Merremia peltata),* including others.

MIAS 2.3 Develop an invasive alien species alert system for Vanuatu.

MIAS 2.4 Secure sustainable funding mechanisms for surveillance, monitoring and enforcement.

Objective MIAS2b: Improve research and knowledge for priority IAS biology and impacts and development of effective management techniques.

ACTION PLANS:

MIAS 2.5 Assess and review existing national response framework.

MIAS 2.6 Develop control programmes for priority invasive alien species.

MIAS 2.7 Train government and NGOs on management aspects of IAS.

MIAS 2.8 Secure adequate financial and technical resources for management of invasive alien species.

MIAS 2.9 Develop protocols which require an EIA by an independent body before the introduction of exotic species, in line with theEPC Act.

FOCUS AREA MIAS 3: Improve management of established Invasive Alien Species

Objective MIAS 3: To eliminate or reduce and manage impact of priority established invasive alien species by eradication or control.

ACTION PLANS:

MIAS 3.1 Control/eradicate little fire ants and other invasive ants' species at priority sites following surveys.

MIAS 3.2 Control Mynah to reduce range on locations where control is still feasible on Malekula if recommended following surveys.

MIAS 3.3 Implement biocontrol for African tulip tree when programme and bio-control agent is available.

MIAS 3.4 Encourage spreading of established bio-control agents onto other islands and locations.

MIAS 3.5 Develop biocontrol options for further priority weeds (as part of Melanesian sub-region projects).

MIAS 3.6 Encourage and support the local community to eradicate *Hyptis brevipes* currently found at confined manageable areas on islands.

MIAS 3.7 Include IAS management in protected areas management plans and control priority invasives identified in additions to Merremia, pigs, cats and dogs.

MIAS 3.8 Dispatch of clean machinery by PWD for new road developments to prevent spreading of invasives

MIAS 3.9 Disseminate implementation of control protocol to rural communities.

MIAS 3.10 Develop an IAS Management model for community management of *Merremia peltata.*

MIAS 3.11 Restore sites and biodiversity after IAS management occurs.

MIAS 3.12 Strengthen IAS related policies and legislations to support effective eradication, introduction on new invasive alien species and inter-island introduction of invasive alien species.

Invasion of Meremia peltata in Forari, Efate

6.6 STRATEGIC AREA 6: MAINSTREAMING BIODIVERSITY ACROSS SECTORS AND SOCIETY (MB)

Aichi Strategic Goal A. Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Vanuatu Target

1. By 2020, government has put in place relevant legislations and policies and Access and Benefit-Sharing (ABS) protocols to support NBSAP implementation; businesses and production sectors are adopting Vanuatu's National Sustainable Development Plan; and stakeholders at all levels have taken steps and implemented plans for sustainable production and consumption.

Indicators:

- Trends in population and extinction risk of utilised species, including species in trade.
- Trends in ecological footprint and/or related concepts.
- Ecological limits assessed in terms of sustainable production and consumption.
- Trends in biodiversity of cities (decision X/22).
- Trends in extent to which biodiversity and ecosystem service values are incorporated into organisational accounting and reporting.

Bringing the use of natural resources within safe ecological limits will be an integral part of Vanuatu's NBSAP. Reducing total demand and increasing resource use and energy efficiency contribute to the target which can be pursued through government regulations and/or incentives, education and research, and social and corporate responsibility. Mainstreaming will be achieved through dialogue among sectors and stakeholders, supported by planning tools such as strategic environmental impact assessment and economic tools, such as incentive measures, that integrate biodiversity issues.

Initially, process indicators, such as the establishment of plans with clear and measurable targets and the presence of strategic environmental impact assessment or similar assessment tools, would be the main indicators to monitor progress towards this goal. A further possible indicator is the number of companies (or their market share) with polices for biodiversity-friendly practices. One relevant outcome indicator is the ecological footprint (and related concepts) for which baseline data is available.

The Vanuatu NBSAP will be the main implementing strategy for the Environment Pillar of the National Sustainable Development Goals and Policies 2016-2030 environment goals and policy objectives which are:

ENVIRONMENT 1: A nation that ensures our food and nutrition security needs are adequately met by all people through increasing sustainable food production

ENVIRONMENT 2: An economy which fosters sustainable growth and development through low impact industries and modern technologies to ensure the well-being of future generations systems

ENVIRONMENT 3: A strong and resilient nation in the face of climate change and risks posed by hazards and natural disasters and improving household production

ENVIRONMENT 4: A nation which utilises and sustainably manages our land, water and natural resources

ENVIRONMENT 5: A nation committed to ensuring the conservation and sustainable management of our biodiversity and ecosystems.

FOCUS AREA EEM1: Strengthen legal, policy and institutional frameworks that support implementation of Vanuatu's NBSAP.

Objective EEM1a: Ensure environment and related policy frameworks are in place.

ACTION PLANS:

MB 1.1 Carry out the review of environment-related Acts, Regulations and Environment Policies.

MB 1.2 Establish and strengthen an effective and efficient enforcement system of environment laws at national, provincial and local levels.

MB 1.3 Increase public awareness on environment related Acts, Regulations and Policies.

MB 1.4 Increase political awareness and will to support environmental good governance and implementation.

MB 1.5 Carry out an institutional and capacity building assessment of the environment sector and develop an institutional development strategy to support NBSAP implementation.

MB 1.6 Strengthen enforcement and identify gaps for effective implementation of EIA guidelines/standards and strengthen national capacities of EIA practitioners and enforcement officers.

FOCUS AREA EEM2: **Strengthen application and operationalisation of the Nagoya Protocol on Access to Genetic Resources and Benefit Sharing (ABS) in Vanuatu.**

Objective EEM2a: Strengthen inter-agency collaboration to put in appropriate ABS policies, legislations and institutional arrangements for Vanuatu and strengthen links at regional level for lesson learning and to support regional mechanisms.

ACTION PLANS:

MB2.1 Define the overall ABS strategy, policies and action plan for Vanuatu.

MB2.2 Put in place the appropriate ABS regulation in Vanuatu including review of existing Environmental Protection and Conservation (EPC) Act to cover ABS.

MB2.3 Establish institutional arrangements and assignment of role and responsibilities within national institutional landscape to implement ABS.

MB2.4 Review and define procedures and rules for access to traditional knowledge, to protect the rights of indigenous and local communities and to ensure equitable sharing of

benefits such as Prior Informed Conscent (PIC) and Mutually Agreed Terms (MAT).

MB2.5 Work at regional level with other countries and partners to define common level of ABS arrangements**,** e.g. model laws, guidelines and principles.

MB2.6 Integrate an education and awareness programme on ABS through government ministries, NGOs, schools and provincial government.

MB2.7 Compile an inventory of all ABS-related industries or biotrade industries and strengthen partnership and awareness on ABS related activities.

Objective MB2b: Review and put in place appropriate protocols and procedures for different ABS related activities.

ACTION PLANS:

MB2.8 Strengthen role of the competent authority, focal point and National Biodiversity Advisory Council[1] established under EPC Act to review protocols and procedures of ABS.

MB 2.9 DevelopABS contract agreements, interim guidelines, negotiation procedures and legal/customary protocols in accordance with the Nagoya Protocol and the Traditional Knowledge and Expressions of Culture Act.

MB2.10 Establish national and regional networks amongst research stakeholders (researchers, food security, medicinal, bio-prospecting, community interests including government, NGO's, private sector and community groups).

MB2.11 Organise awareness raising amongst government departments, divisions and provincial level workshops on ABS for stakeholders and facilitate site/field visits where appropriate.

MB2.12 Establish benefit sharing mechanism (e.g. Trust Fund) for ABS and strengthen availability of resources towards the conservation of biological diversity.

MB 2.13 Establish and strengthen administrative systems/procedures for ABS agreement negotiations between the government and relevant Mutually Agreed Terms (MATs) and other relevant agreements.

[1] Has been established, known as the National Biodiversity Advisory Council.Represented by Dept of Forest, Dept of Agriculture, Vanuatu Cultural Centre, Dept of Fisheries, Dept of foreign affairs and DEPC. Other relevant agencies are invited based on the nature of a research application. This body is established under the EPC Act.

THE BIOSAFETY ISSUE

Biological diversity represents the very foundation on which biotechnology could thrive and flourish. Through biotechnology, important advances for the use of genetic and biological resources can be made for the economic development of nations and for human well-being, as well as for our understanding of the living world. Biotechnology may thus aid in assessing and monitoring the biological diversity upon which human life and existence depend.

Because of the potential for great benefits from biotechnology, its use is increasing rapidly and questions about its possible adverse impacts on human health and the environment have been raised. Of particular concern are the questions regarding the capacity of existing regulatory approaches and institutions to effectively address issues related to safety in biotechnological research, development and application, world-wide.

Capacity building for safety in biotechnology, particularly in developing countries, has thus been accorded high priority. It requires concerted and co-ordinated global efforts by all stakeholders at the national, subregional, regional and global levels.

Although Vanuatu has not acceded to the Cartagena Protocol on Biosafety, efforts are under way to address this.

6.7 STRATEGIC AREA 7: RESOURCE MOBILISATION FOR THE NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN

Aichi Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resources needs assessments to be developed and reported by Parties.

At COP 11, October 2012, the parties agreed to include resource mobilisation into the NBSAP reviews and endeavored to include biodiversity in their national priorities or development plans by 2015. This to include assess/evaluate the intrinsic, ecological, genetic, socioeconomic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components.

There is no greater challenge for the NBSAP than locating adequate funding for biodiversity management. Current funding for biodiversity conservation is from two principal sources:

1. Government's annual departmental budget; and
2. Donor assistance.

The NBSAP envisages a major 'step-change' from the current predominantly passive approach based on resource management for extractive purposes with little inherent biodiversity management capacity, to an active, 'hands on' management with adequate domestic technical capacity.

Experience with the national environment strategies and plans has shown that although Government may endorse a strategy, it is most unlikely to have funds available to initiate actions other than provide administrative frameworks. This situation is expected to continue for the NBSAP. The majority of the funding can, therefore, be expected to come initially from donor assistance with government providing a more active funding role in the medium term.

Significant problems which arise as a result of an undue reliance on donor assistance are:

- A lack of continuity in funding and inability to provide recurrent expenditure (i.e. lease-rental and/or management of protected areas; CITES implementation; threatened species management; invasive species management etc.);
- Donors are inevitably selective in their choice of projects and their priorities may not coincide with those of the Government;
- Undue reliance on expatriate technical specialists;
- A lack of flexibility or the ability to meet changing circumstances or emergency situations;
- Government neglecting its funding role because of availability of project funding; and
- Sustainability of donor funded projects.

In these circumstances, the NBSAP envisages the Government's main initial contribution will be:

- To endorse the NBSAP as Government's policy on biodiversity planning and management;

- Put in place the required legislative and administrative framework;
- To develop a national capacity for biodiversity management with trained specialists; and
- Address the issues of a rapidly increasing requirement for recurrent funding for biodiversity management.

Financial mechanisms other than trust funds, projects and increased government allocation have also been used by certain countries. Examples of such alternative initiatives are given in Box 5.4. Some of these initiatives have been used to raise funds for a trust, others become part of Government revenue. Some or all of these initiatives may be appropriate in Vanuatu. Certainly for a country with a growing foreign exchange earner is tourism, a sector which cannot exist in the absence of a clean, green and unspoilt environment, a tourist tax would appear to be appropriate. Similarly, the growing dive industry may need to support a Dive Tax, part of which could be used to increase the participation of Ni-Vanuatu communities.

Developing the user pays principle, water and hydroelectricity users could well be expected to pay for the preservation of the catchments from whence they derive their source of water.

Target: The Ministry of Finanace will need to set realistic annual budgetary targets and DEPC to do 3 yearly resource mobilization plan based on realistic NBSAP Actions & Targets.

Indicators

- Indicator 1: Aggregated financial flows, in the amount and where relevant percentage, of biodiversity related funding, per annum, for achieving the Vanuatu NBSAP National Targets
- Indicator 2: Number of assessments values of biodiversity in accordance with CBD,
- Indicator 3: Identified and reported funding needs, gaps and priorities.
- Indicator 4: Developed National Financial Plans for Biodiversity.
- Indicator 5: Amount of national financial support, per annum, in respect of those national activities which are intended to achieve the objectives of NBSAP.

FOCUS AREA RM1: **Stakeholder engagement, awareness, ecosystem valuation, assessments and mapping.**

Objective RM1a: To increase understading and buy-in from relevant government, NGOs, implementing partners and communities on the resource mobilisation approach, methodology and action plan.

ACTIONS:

RM1.1: Organise stakeholder engagement to consider biodiversity and ecosystem services to be the key priority areas for economic valuation and assessments.

RM1.2: Carry out ecosystem assessments, mapping, indicators and valuation for each focal areas

RM1.3: Carry out capacity building activities to equip actors with necessary skills to carry out value-based actions e.g tools to gather information on biodiversity and ecosystem advising them on how to incorporate biodiversity and ecosystem service values into their business plans make economic and financial sense.

RM1.4: Engage funders strategically and identify key sectors benefitting from biodiversity and ecosystem service values who are primary users, how will they benefit from investing in biodiversity ecosystem services and what ongoing financial mechanism are available to secure sustained funding

RM1.5: Assess financial flows associated with drivers of biodiversity loss such as harmful incentives, and how they can be influenced to reduce their impact.

RM 1.6 Conduct annual stakeholders' meeting to discuss budget and report on progress of NBSAP species component implementation. Species conservation implementation to include enforcement roles of the relevant authorities e.g. biosecurity.

RM 1.7 Establish a conservation trust fund to be managed by DEPC under government budgetary process.

FOCUS AREA RM2: **Development of Vanuatu NBSAP Resource Mobilisation Plan**

Objective RM2: Develop Resource mobilisation plan using best available data and scenario development

ACTIONS:

RM2.1 Conduct an ecosystem service mapping to assess state and trend in ecosystem service provision and human well-being, to provide spatial quantification of ecosystem services and their values

RM2.2 Conduct economic valuation of ecosystems and biodiversity using variety of economic valuation methods to determine monetary value of biodiversity i.e direct market valuation approaches, revealed preferences and stated preference approaches.

RM2.3 Assess the cost of NBSAP strategies and action, identify financial gaps and identify and scale up finance mechanism.

RM2.4 Integrate values of biodiversity and ecosystems into national accounting frameworks using the Biodiversity Finance (BIOFIN) conceptual framework of public expenditure review, pressure-state-response, scenario development and comparison and root cause analysis.

RM2.5 Develop a Vanuatu Resource Mobilisation plan to include policy and institutional analysis, expenditure review, strategies, actions and costs, projected future states with investments, opportunities for mobilisation of resources, making a case of for biodiversity investments and consolidate resource mobilisation plan with finance mechanism, actors and timelines.

RM2.6 Integrate resource mobilisation plans into national plans and identify national synergies and entry points.

Traditional use of biodiversity. Point Cross custom dancers, South Pentecost

7.0 ACTION STRATEGY IMPLEMENTATION FRAMEWORK

The Vanuatu NBSAP Implementation Framework is in two parts. The first is the implementation of each strategic area and the second is the provincial implementation plans.

7.1 THE NBSAP IMPLEMENTATION FRAMEWORK

The implementation plan below outlines

Strategic Area 1:	Conservation Areas Management
Strategic Area 2:	Forest and Inland Waters Ecosystems Conservation and Management
Strategic Area 3:	Coastal and Marine Ecosystems Conservation and Management
Strategic Area 4:	Species and Genetic Diversity Conservation
Strategic Area 5:	Invasive Species Eradication and Control
Strategic Area 6:	Mainstreaming Biodiversity across sectors and society
Strategic Area 7:	Resource Mobilisation

Strategic Area 1: Conservation Areas Management

TARGET

1. By 2030, representative examples of at least 17% of terrestrial and 10% of coastal and marine areas to support 100% of local communities' livelihoods and kastom importance are conserved through effective community and government management measures.
2. By 2020, there are 10 legally registered CCAs and 50% of CCAs are effectively supported and managed in Vanuatu.
3. By 2030, 90% of CCA management committees are complying with their reporting obligations to DEPC (NEPIP, 2016).
4. Targets for conservation areas set in provincial strategic plans are achieved.

INDICATORS:

- Total area of representative coverage of legally recognised, other effective conserved areas and locally managed areas in terrestrial and marine areas including sites of particular importance for biodiversity.
- Percentage of terrestrial and marine protected areas that are effectively managed based on agreed national and international protected area conditions and management effectiveness.
- Measure of ecosystem service values and equity of benefits from CAs.
- Level of connectivity of CAs and other area based approaches with broader landscapes and seascapes.

IMPLEMENTATION PLAN FOR CONSERVATION AREA MANAGEMENT

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CA1: **Expanded National Representative Network of Conservation Areas in Marine, Terrestrial and Inland Waters**	**Objective CA1a:** To carry out marine, terrestrial and inland waters biodiversity rapid assessment, inventories and threat identification, gap analyses and prioritisation to guide the development of a national representative network of CAs.	**CA1.1:** Carry out gap analysis and prioritisation in terrestrial, marine and inland waters ecosystems to identify key biodiversity areas for biodiversity protection to meet our national targets.	• Carry out terrestrial/ forest ecosystem inventory in identify key biodiversity areas. • Use Vanuatu Bioregions and SUMA data report as a baseline to verify and ground truth inventory actions for inshore, coral, mangrove, offshore Species, habitats and ecosystems of Key Marine Biodiversity Areas in the marine environment**.** • Carry out gap analysis and prioritisation in in-land water ecosystem to identify key biodiversity areas.	2018-2021 2019 2018-2024	DoF DEPC VFD DEPC DoL DGMWR DGMWR DEPC
		CA1.2: Analyse and map the occurrence and status of all existing conservation areas, including their governance structures.	Map out wetland sites, national Key Biodiversity Areas (KBA) and existing effective protected/conservation areas.	2018-2022	DEPC DoL
		CA1.3: Prioritise key biodiversity areas for focal species, species/groups, habitats and important ecological connectivity and processes.	Carry out assessment on animal and plant species that are threatened in CAs and protect their habitats.	2018 - 2020	DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CA1: **Expanded National Representative Network of Conservation Areas in Marine, Terrestrial and Inland Waters**	**Objective CA1a:** To carry out marine, terrestrial and inland waters biodiversity rapid assessment, inventories and threat identification, gap analyses and prioritisation to guide the development of a national representative network of CAs.	**CA1.4:** Identify sites that can achieve not just biodiversity conservation but also social and economic outcomes to do with, for example, fisheries, culture and heritage, agriculture, timber resources, watershed protection, sustainable tourism, to ensure they provide benefits to local people.	Develop map that outlines social and economic sites for example, fisheries, culture and heritage, agriculture, timber resources, watershed protection, sustainable tourism and other sites that hold a value.	2018-2030	DoL Relevant Agencies
	Objective CA1b: To develop and apply an implementation plan to meet Vanuatu's CA targets in terrestrial, marine and inland waters protected areas systems.	**CA1.5:** Conduct a national planning process to develop a CA action and implementation plan for land, marine and inland waters.	Update the VANRIS database to outline the national planning areas for R2R CAs using field verification methods.	2018-2025	DoL
		CA1.6: Develop priority biodiversity areas maps for terrestrial, marine and inland waters.	Review, update and map Key Biodiversity Areas (KBA) on important terrestrial and marine areas.	2018-2025	DEPC
		CA1.7: Describe the entirety of Vanuatu's natural terrestrial, coastal and marine environment as a basis for selecting ecologically representative areas.	Review and update Vanuatu Wetlands Directory.	2018-2024	DEPC
		CA 1.8: Develop terrestrial protected area typologies.	Carry out terrestrial protected areas typology.	2018-2030	DEPC DoF

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CA1: Expanded National Representative Network of Conservation Areas in Marine, Terrestrial and Inland Waters	**Objective CA1b:** To develop and apply an implementation plan to meet Vanuatu's CA targets in terrestrial, marine and inland waters protected areas systems.	**CA 1.9:** Describe protected area design criteria to guide placement of different types of protected areas.	Develop protected area maps according to their placements and thematic areas.	2018	DEPC
FOCUS AREA CA2: Improve Information Management and Monitoring Conservation Area Management Effectiveness and Practice.	**Objective CA2a:** Develop a national information system, database and monitoring framework for Vanuatu's CAs to assess the management effectiveness of CAs, and promote adaptive management.	**CA2.1:** Adoption of a national 100% target to support all communities, provinces and districts in Vanuatu through government policies, provincial endorsements and supported by national sector strategies and plans.	Review and update existing policies and corporate plans with all NBSAP Stakeholders and Provincial Governments.	2018-2025	DEPC & NBSAP Stakeholders
		CA2.2: Use some of the Conservation Areas as role models whether they are formally registered or not	Showcase all existing role model Conservation Areas like; Vatthe, Penoru, Eden Hope, Loru, Kerepua, President Coolidge, other Sunset Network CCAs and other potential CCAs.	2018 - 2019	DEPC
		CA2.3: Monitor and evaluate protected areas to ensure they are effective and are achieving their core objectives.	Carry out CCA Annual Reports on management of Community Conservation Areas (CCA) on an annual basis.	Ongoing	DEPC
		CA2.4: Ensure monitoring and evaluation is fed into the national CA network plans for learning and adaptive management.	Providemonitoring and evaluation information to include in the national CA network plans.	Ongoing	DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CA2: Improve Information Management and Monitoring Conservation Area Management Effectiveness and Practice.	**Objectives** **CA2b:** To develop context specific co-management plans, recognising both informal and formal CA sites at national, provincial and local level.	**CA2.5:** For each priority CA, establish opportunities for mutually beneficial co-management arrangements, which takes into account and builds upon good governance practices where they exist.	Setup co-management arrangement for outstanding existing registered and effective managed CCAs.	Ongoing	DEPC
		CA2.6: Ensure at each CA there are wide participatory discussions with local communities and key stakeholders to discuss opportunities for co-management.	Engage local communities to participate in discussions with key stakeholders to consider co-management for their CAs.	Ongoing	DEPC
		CA2.7: Build capacity at all levels, with strong focus on supporting provincial and district level committees to implement PAs.	• Deploy Provincial Environment Officers to work with local communities and support implementation of PAs. • Provide training to building capacity of provincial and district level committees to implement PAs.	2018-2020 2018-2025	DEPC DEPC
		CA2.8: Apply, as appropriate, a diversity of governance arrangements that include recognition of Indigenous and Community Conserved Areas (ICCA) through national legislation or other effective means of formal inclusion in the national systems.	NBSAP Stakeholders to recognise Indigenous and Community Conserved Areas (ICCA) in relevant policies and national legislations.	2018-2030	DEPC Relevant Agencies

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CA2: Improve Information Management and Monitoring Conservation Area Management Effectiveness and Practice.	**Objectives CA2c: :** To maintain the integrity of PA networks by ensuring they are recognised and supported by other sectors including in the National Sustainable Development Plan and other government policies and frameworks.	**CA2.9**: Coordination between relevant natural resource management sectors such as environment and conservation, agriculture, forestry, fisheries, biosecurity and tourism sector specific sustainable natural resource management activities to support CA management and systems.	Promote sustainable use of resources and livelihood activities by natural resources management sectors to support conservation area management and systems.	Ongoing	DEPC Relevant Agencies
		CA2.10: Incorporate CA planning (both marine, inland waters and terrestrial) within broader national planning exercises including spatial planning and frameworks such as the National Sustainable Development Plan.	Implement relevant policy objectives of Environment Pillar in the National Sustainable Development Plan (NSDP).	2018-2030	DEPC Relevant Agencies
		CA2.11: Assess the value and contribution of Protected Areas to national and local economies and to achieving the SDGs.	Carry out periodic assessments to determine the value and contribution of Pas and CCAs to national and local economies to achieving SDGs.	2018-2030	DEPC
		CA2.12: Develop a Conservation Registry and regularly update this.	Develop and regularly update national CCA database	Ongoing	DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CA3: Develop Sustainable Finance Mechanism for new and Existing Protected Areas.	**Objective CA3:** To establish sustainable financing mechanisms to support the establishment, management and long-term effectiveness of protected areas.	**CA3.1:** Calculate financial costs for managing a comprehensive and representative CA network for Vanuatu's land, sea and freshwater, including establishment as well as long term-management costs.	Conduct study on financial costs for management of CA network representative.	2018-2025	DEPC
		CA3.2: Identify innovative sustainable financing mechanisms to support the establishment and management of CAs in Vanuatu. These may include initiatives such as green tax, tax benefit systems for CAs, establishment of trust or endowment funds, etc.	Review working documents/papers and existing PA financing initiatives to establish national PA financing mechanisms.	2018-2022	DoF
		CA3.3: Set up the legal, policy and institutional framework for establishing the financial structures and mechanism for a national CA network.	Review EPC Act CAP 283 to mandate legal establishment of PA financing mechanism.	2018	DEPC
		CA3.4: Ensure meaningful participation and provide equitable incentives and remuneration to resource owners for CA establishment and management.	Develop incentives for management of established CA resources owners.	2018-2030	DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CA4: National Awareness and Education on Conservation Areas to Share Practices and Lessons Learned to Improve Management Effectivenes and Governance.	**Objectives CA4:** To develop and collate best practice guidelines and disseminate among local and national conservation area sites.	**CA4.1:** Collate best practices for management, governance and sustainable financing from existing protected area sites in Vanuatu**.**	Collate and document best practices for CCA management.	2019	DoF DoT
		CA4.2: Identify key lessons learned for distribution to management authorities across national protected area sites.	• Document lessons learned from existing CCAs to manage and encourage new CCAs and protected areas. • Disseminate lessons learned to communities and national protected areas authorities.	2018-2020 Ongoing	DEPC DEPC
		CA4.3: Develop appropriate awareness, information kits, and manuals, toolkits specific to different stakeholders such as planners, community leaders, researchers and practitioners.	• Adapt marine tool kit, guide to fishing communities and bioblitz survey toolkit from existing projects and disseminate to tabu or protected areas. • Develop basic biodiversity monitoring toolkit for community conservation area communities to assess changes of resources population in their CCAs. • Develop and disseminate awareness posters, pamphlets and media information on importance of CCA Sites.	2018-2020 2018-2019 Ongoing	DEPC DEPC DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CA4: National Awareness and Education on Conservation Areas to Share Practices and Lessons Learned to Improve Management Effectivenes and Governance.	**Objectives CA4:** To develop and collate best practice guidelines and disseminate among local and national conservation area sites.	**CA4.4:** Promote Vanuatu's best practices for CA management, governance and sustainable financing at national, regional and international fora.	Show case best practices achieved in registered Community Conservation Areas (CCA) and protected under the EPC Act	2019	DEPC
		CA4.5: Develop nationally appropriate capacity development programmes, including peer networks, for exchange of experiences in conservation practice.	Develop capacity development programme for peer to peer exchange.	2018-2022	DEPC
		CA4.6: Develop a CA management national communication strategy, awareness and campaigns.	Develop a national CA management communication strategy, awareness and campaigns.	2018-2025	DEPC

STRATEGIC AREA 2: FOREST AND INLAND WATERS ECOSYSTEMS CONSERVATION AND MANAGEMENT

TARGET

1. By 2030, at least 17% of important biodiversity areas, livelihoods and *kastom* importance are conserved through community and government effective management measures.
2. By 2030, at least 15% of natural forest and 10% of wetland areas are conserved through effective community and government management measures.
3. By 2030, 30% of Vanuatu's natural forest (Forestry) is being actively managed and protected.

INDICATORS:

- Trends in forest and inland waters species diversity including traded ones.
- Trend to which biodiversity and ecosystem service values are incorporated into government accounting reporting.
- Percentage of forest and inland waters conservation areas to meet national and global targets.
- Impact of threats to forest and inland waters such as invasive species, deforestation, logging and other threats.

IMPLEMENTATION PLAN FOR FOREST AND INLAND WATERS ECOSYSTEMS CONSERVATION AND MANAGEMENT

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA: FIW1: Reduce Major Threats to Forest and Inland Waters Ecoystems such as Unsustainable Logging, Agriculture, Mining and Human Settlements.	**Objective FIW1:** The forest and inland waters ecosystem are managed in an integrated and sustainable manner to maintain the ecosystem functions of forest and inland waters and contribute to local and national economies and social well-being.	**FIW1.1**: Improve and update information on status of forest and inland waters biodiversity.	• Update botanical data base for National herbarium using information from FIW 2.2. • Update wetlands inventory using information from FIW 2.2.	Ongoing Ongoing	DoF DoF
		FIW1.2: Carry out forest and inland waters resource inventory, biological rapid assessments and identify high biodiversity areas, important cultural sites and other sites of national significance in forest and inland waters.	• Update 1991 forest inventory (forest cover, volume of timber) through REDD + program-Forest resources. • Carry botanical assessment – Also refer to CA 1.1. • Carry out fauna assessment on forest and inland water areas not covered in assessment for ecosystems. Also refer to CA 1.1. • Expand current inventory of Wetlands to include new areas.	2019 Ogoing Ongoing 2018-2025	DEPC DoF RAMSAR
		FIW1.3: Identify the root causes of major threats to forest and inland waters ecosystems at local and national level.	• Review analytical studies on drivers of deforestation and degraded forest to identify root causes of deforestation. • Carry out analytical study on inland waters ecosystems to identify root causes of their major threats.	2018-2030 2018-2030	DoF DEPC
		FIW1.4: Develop and implement a national forest and inland waters conservation management plan to address threats and, where possible, their root causes.	• Develop wetlands and forest management plans and include ways to address threats affecting these systems. • Review Livestock and agriculture policy of agricultural clearance and livestock to ensure they comply with EIA standards. • Develop legislation/bylaws to address areas that need to strengthen compliance for EIA.	2018-2030 2018-2030 2018-2030	DEPC DoF DoLIV DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA: FIW1: Reduce Major Threats to Forest and Inland Waters Ecoystems such as Unsustainable Logging, Agriculture, Mining and Human Settlements.	**Objective FIW1:** The forest and inland waters ecosystem are managed in an integrated and sustainable manner to maintain the ecosystem functions of forest and inland waters and contribute to local and national economies and social well-being.	**FIW1.5**: Conduct valuation of wetland services so that they are properly accounted for in decision making.	Carry out valuation of wetlands in Vanuatu.	2018-2025	DEPC
		FIW1.6: Conduct awareness and education at local and national level on the importance conservation and sustainable use of forest and inland waters ecosystems.	• Develop awareness resource materials on importance of wetlands and sustainable forest use.Increase awareness on importance of wetlands and sustainable use.	Ongoing	DEPC DoF
		FIW1.7: Capture best practice and lessons learning to improve management of forest ecosystems.	• Develop alternative livelihoods best practices e.g eco-tourism. • Disseminate best practices such as case studies on Kauri Project in Erromango, Lake Letas in Gaua including other sites.	2018-2024 Ongoing	DEP DoF DEPC DoF
FOCAL AREA 2: Establishment of Forest and Inland Waters Conservation Areas Established in Important Biodiversity Areas such as KBAs.	**Objective FIW2:** Establishment of effective forest and inland waters conservation in important biodiversity areas with effective sustainable financing to support management in the long term.	**FIW2.1**: Support establishment of Forest and inland waters conservation areas at important biodiversity areas	Set up forest and inland waters conservation areas at important biodiversity sites.	2018-2030	DEPC
		FIW2.2: Improve effective management of existing forest and inland waters conservation areas.	• Review existing forest management plan. • Review management systems of existing forest and inland waters conservation areas.	2018-2025 2018-2030	DoF DEPC
		FIW2.3: Support internal significant forest and inland waters to be registered as Ramsar and heritage sites.	Promote wetland sites to become national Ramsar and world heritage sites.	2018-2030	DEPC VKS

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCAL AREA 2: Establishment of Forest and Inland Waters Conservation Areas Established in Important Biodiversity Areas such as KBAs.	**Objective FIW2:** Establishment of effective forest and inland waters conservation in important biodiversity areas with effective sustainable financing to support management in the long term.	**FIW2.4**: Establish sustainable financing mechanisms such as payment of ecosystem services, alternative income generating best practices and national financing mechanisms.	• Create incentives to generate PA financing. • Develop framework to address PES with resources owners. • Develop trust funds to address PA financing.	2018-2030 2018-2030 2018-2030	DEPC DEPC DEPC
		FIW 2.5: Increase capacities of government departments and ministries such as Forestry, Agricultures, DEPC and Biosecurity to carry out their role and responsibilities in sustainable management of forest and inland waters.	Encourage collaboration and participation of all productive sectors.	2018-2030	Relevant Agencies
FOCAL AREA 3: Design and Facilitate National Implemented Forest Landscape Restoration (FLR) Project in Vanuatu.	**Objective FIW3:** To reverse trends in deforestation, enhance land degradation neutrality and improve biodiversity through improved policy support and governance framework, knowledge management and by implementing a strategic forest landscape restoration project to enable long term ecological recovery and increased economic benefits for all forest stakeholders.	**FIW 3.1**: National Forest Landscape Restoration plans and strategies developed with wide stakeholder consultation at island, provincial and local levels based on land tenure systems.	Develop a national forest restoration strategy in Vanuatu.	Ongoing	DoF
		FIW3.2: Soil fertility is improved through the conduct of soils schools and soil improvement nurseries established and functioning at community level.	Encourage best agricultural practices such as agroforestry to address soil fertility.	Ongoing	DARD DoF
		FIW3.3: An increase in subsistence or commercial agricultural activities is recorded in areas when soil fertility has been improved and income from crops are assisting local livelihoods and food security.	• Undertake study in areas where soil fertility has been improved to determine if subsistence and commercial agriculture activities have recorded an increase income from crops contributing to improve livelihoods and food security. • Develop sustainable land management practices.	2018-2030 2018-2030	DARD DoF DoL DoF

STRATEGIC AREA 3: COASTAL AND MARINE ECOSYSTEMS CONSERVATION AND MANAGEMENT (CME)

TARGET:

1. By 2030, at least 10% of important marine biodiversity areas, and areas of livelihood and kastom importance are conserved through effective community and government management areas.

INDICATORS:

- Total area of representative coverage of legally recognised, other conserved areas and locally managed areas in marine areas including sites of particular importance for biodiversity.
- Total number of marine protected areas that are effectively managed based on agreed national protected area conditions and management effectiveness.
- Measurement of ecosystem services and equitable benefits from CAs.
- Account for Payment of Ecosystem Service (PES) and other sustainable financing strategies.
- Measure if trends in connectivity of CAs and other area based approaches integrated into landscapes and seascapes.
- Assess impact of coastal developments through EIAs and measures of EIA enforcements and compliance.

IMPLEMENTATION PLAN FOR MARINE ECOSYSTEMS CONSERVATION AND MANAGEMENT

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CME1: Reduce Major Threats to Vanuatu's Coastal and Marine Ecosystems such as Overharveting, Reclamation, Unsustainable Tourism Development, Natural Disaster Impacts, Climate Change, River Dredging and Pollution.	**Objective CME1:** Improve understanding and status of coastal and marine ecosystems through research, resource assessments, threat identification and mitigation and information management.	**CME1.1**: Carryout coastal and marine resource inventories, biological rapid assessments and identify high biodiversity areas, important cultural sites and other sites of national significance including information on local scale fisheries, conservation areas, tabu sites, and LMMAs. Use MACBIO report on Vanuatu's special, unique marine areas to inform this work.	• Carry out Special Unique Marine Areas (SUMA) with work conducted to identify high biodiversity areas. • Conduct marine biological assessments on Marine Protected Areas (MPA) and identify special fishing grounds, cultural sites, and conservation sites.	2018 Ongoing	VFD MACBIO Project VFD

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CME1: Reduce Major Threats to Vanuatu's Coastal and Marine Ecosystems such as Overharveting, Reclamation, Unsustainable Tourism Development, Natural Disaster Impacts, Climate Change, River Dredging and Pollution.	**Objective CME1:** Improve understanding and status of coastal and marine ecosystems through research, resource assessments, threat identification and mitigation and information management.	**CME1.2**: Identify root causes of major threats to coastal and marine ecosystems at local and national level.	• Ensure that marine and coastal environment root causes analysis are part of development planning e.g. EIAs, foreshore development permits. • Identify, collect and prioritise all threats to coastal and marine biodiversity.	Ongoing 2018	DEPC VFD
		CME1.3: Develop and implement a national coastal and marine conservation management plan to address major threats and, where possible, their root causes.	Ensure the development and implementation of coastal and marine conservation management plan is carried out at community site level.	Ongoing	DEPC
		CME1.4: Promote recommendations of MACBIO coastal and marine ecosystem service valuation report to government to ensure national budgets and accounting considers and implements recommendations.	Integrate recommendations of MACBIO coastal and marine valuation to national government decision making bodies.	2018-2019	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CME1: Reduce Major Threats to Vanuatu's Coastal and Marine Ecosystems such as Overharveting, Reclamation, Unsustainable Tourism Development, Natural Disaster Impacts, Climate Change, River Dredging and Pollution.	**Objective CME1:** Improve understanding and status of coastal and marine ecosystems through research, resource assessments, threat identification and mitigation and information management.	**CME1.5**: Conduct awareness raising and education at local and national levels on the importance of conservation and sustainable use of coastal and marine ecosystems.	Carry out awareness in media mediums, community awareness and posters on the importance of marine conservation and ecosystems.	Ongoing	DEPC
		CME1.6: Capture best practices and lessons learned about improving management of coastal and marine ecosystems.	Showcase best practices for outstanding marine conservation areas in management and long term sustainability.	Ongoing	DEPC VFD
		CME1.7: Develop and promote partnership between government, communities and private sectors towards sustainable management of coastal and marine ecosystems.	Collaborate with government, NGOs and communities in building strong relationship links in management and sustainability of coastal and marine ecosystems.	Ongoing	DEPC
		CME1.8: Develop and promote partnerships between government, communities and private sectors towards sustainable management of coastal and marine ecosystems.	Create a map layer on mangrove occurrence around Vanuatu islands and develop a national mangrove management plan/ strategy.	2018-2019	DoL DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CME1: Reduce Major Threats to Vanuatu's Coastal and Marine Ecosystems such as Overharveting, Reclamation, Unsustainable Tourism Development, Natural Disaster Impacts, Climate Change, River Dredging and Pollution.		**CME1.9**: Monitor and evaluate effect of coastal developments at different scales including consideration of cumulative impacts.	Develop monitoring and evaluation on the effects of foreshore developments to assess mangrove density and threats.	Ongoing	DEPC
FOCUS AREA CME 2: Inshore Fisheries Management: Strengthen Management of Coastal Fisheries to Reduce Overharvesting and Destructive Fishing Methods to Maintain and Improved Coastal and Coral Reef Ecosystems.	**Objective CME2:** Scale up successes in sustainable fisheries management in customary fishing grounds including use of locally managed marine areas tools (e.g. *tabus*) and put in place supportive enabling mechanisms.	**CME2.1**: Support the development of inshore fisheries management plans at national, provincial and village levels. Increase production and food security, aquaculture and alternative livelihoods.	Strengthen, enforce and monitor Fisheries Management Plans according to established species management plans.	Ongoing	VFD
		CME2.2: Promote tools such as the 'Community Based Adaptive Management' (CBAM) in developing integrated community management plans which include managing locally managed marine areas within customary fishing grounds	Promote traditional fishing methods and traditional ways of establishing tabu areas.	2019	VKS DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CME 2: Inshore Fisheries Management: Strengthen Management of Coastal Fisheries to Reduce Overharvesting and Destructive Fishing Methods to Maintain and Improved Coastal and Coral Reef Ecosystems.	**Objective CME2:** Scale up successes in sustainable fisheries management in customary fishing grounds including use of locally managed marine areas tools (e.g. *tabus*) and put in place supportive enabling mechanisms.	**CME2.3**: Strengthen science and research in inshore fisheries management including regarding aquaculture, target species management, licensing, and marine managed areas.	Conduct research studies on target species for proper licencing and management for sustainability of species in marine managed areas.	2019-2030	VFD
		CM2.4: Support the effective establishment of provincial and district level customary and traditional environment committees to support inshore fisheries management at provincial level.	Placement of new Environment Extension Officers at TORBA, PENAMA and SHEFA provinces to support inshore fisheries management at provincial level.	2019-2020	DEPC
		CME2.5: Encourage coastal rehabilitation in post-disaster/climate change affected areas.	Conduct coral reef, mangrove and other marine ecosystems assessments to conduct rehabilitation (coral replanting and mangrove replanting) on post –disaster and climate change issues.	Ongoing	DEPC VFD
		CME2.6: Promote restrictions on illegal importation of illegal fishing gear.	Conduct awareness on restriction of importation of illegal fishing gears.	Ongoing	VFD DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CME 3: Integrated Offshore Fisheries Management	**Objective: CME3:** Improve management of Vanuatu's marine resources within the EEZ.	**CME3.1**: Strengthen surveillance, enforcement and monitoring within Vanuatu's EEZ through strengthened partnerships with international stakeholders and neighbouring states.	Improve and strengthen surveillance, enforcement and monitoring within the Vanuatu EEZ.	Ongoing	VFD
		CME3.2: Strengthen, support and secure data and information collation, establish central repository, for better decision making.	Identify sources and type of marine environment data for both inshore and offshore, collate and set up central repository.	208-2019	DEPC DoL DoFA VFD
		CME3.3: Conduct valuation of offshore marine ecosystem services so that they are properly accounted for in decision making.	Utilize Special Unique Marine Areas (SUMA) and Bioregions of the Vanuatu EEZ. Reports, data and information, and MACBIO MESV report to inform MSP to assist in proper valuation of offshore marine ecosystem services.	2019	VFD DEPC
		CME3.4: The Government will build on existing spatial planning mechanisms, including traditional spatial management systems (e.g. tabus), for improving management of maritime space to achieve economic development, cultural, social and environmental objectives.	Development marine spatial planning.	2018-2020	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA CME 3: Integrated Offshore Fisheries Management	**Objective: CME3:** Improve management of Vanuatu's marine resources within the EEZ.	CME3.5: Collate and audit existing marine data to determine data gaps.	Collate and audit existing marine data to determine data gaps.	2019	VFD
		CME3.6: Map biological information, including biological regions, and existing and possible future uses of the marine environment by different activities and prioritisation of high biodiversity areas to establish MPAs and other sustainable use areas.	Finalise map of biological information and bioregions and report and SUMA maps and report, and marine Zone Typology report.	2018	DEPC
		CME3.7: Facilitate workshops and consultations to evaluate and synthesize the data and to start generating a Marine Spatial Plan which provides for zoning of Vanuatu's ocean.	Develop draft Marine Spatial Plan.	2018	DEPC
		CME3.8: Protected areas within the EEZ, shall be established to ensure the future sustainability of Vanuatu's ocean environment and so established on the basis of, inter alia, ecosystem function, ecological adequacy, representativeness, critical habitats, natural genetic resources, connectivity and scenic values.	• Support the implementation of offshore Fisheries Management Plans to increase sustainability of resources. • Increase awareness of the offshore Fisheries Management plans. • Establish PAs in the EEZ using MSP guidelines.	Ongoing Ongoing	DEPC DEPC
		CME3.9: Promote the sustainable development of offshore fisheries for large pelagic species including through the development of appropriate regulations for the fishery and manage the fisheries to maximize benefits to Vanuatu.	Strengthen Fisheries Management Plans and enhance regulations of offshore fisheries species.	2019	VFD

STRATEGIC AREA 4: SPECIES MANAGEMENT (SM)

TARGET

1. By 2030, the conservation status of at least 10 known threatened species has been improved and sustained, particularly for those most in decline.

INDICATORS:

- Reduced trend in extinction risks of Vanuatu's five priority species.
- Increased trend in population of the five priority threatened species for Vanuatu.
- Increased trends in distribution of the five selected species.

IMPLEMENTATION PLAN FOR SPECIES MANAGEMENT

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA SM1: Establish Effective Management Arrangement for the Conservation of Endemic, Endangered and Culturally Important Species and Habitats.	Objective SM1: Strengthen IAS related policies and legislations to support effective eradication, introduction on new invasive alien species and inter-island introduction of invasive alien species.	SM1.1: Strengthen IAS related policies and legislations to support effective eradication, introduction on new invasive alien species and inter-island introduction of invasive alien species.	Finalise draft Homo Bay CCA management plan. Register Homo Bay CA.	2018-2019 2018-2019	DEPC DEPC
		SM1.2: Strengthen IAS related policies and legislations to support effective eradication, introduction on new invasive alien species and inter-island introduction of invasive alien species.	Conduct Desktop review of existing literature on remnant vegetation of Tanna and prepare report on status of vegetation. Develop conservation plans for all the remnant sites. Update current vegetation map of Vanuatu.	2018 2018-2024 2018-2030	DEPC DEPC DoF
		SM1.3: Establish a conservation plan for the Petaview catchment on Epi.	Conduct community consultation to get their consent to protect Petaview waterfall area on Epi and develop management Plan for the site.	2018-2019	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA SM1: Establish Effective Management Arrangement for the Conservation of Endemic, Endangered and Culturally Important Species and Habitats.	**Objective SM1:** Strengthen IAS related policies and legislations to support effective eradication, introduction on new invasive alien species and inter-island introduction of invasive alien species.	SM1.4: Establish a conservation plan for the Petaview catchment on Epi.	• Develop specific site mangrove management plans for each island. • Develop mangrove occurrence map layer for mangrove sites around Vanuatu.	2018-2025 2018-2025	DEPC DEPC DoL
		SM1.5: Establish a conservation plan for the Petaview catchment on Epi.	Conduct community consultation to get their consent to protect the area and develop management plan for Creek Ai towards registration for CCA.	2018-2020	DEPC
		SM1.6: Establish a conservation plan for the Petaview catchment on Epi.	• Make awareness on proposal for establishing areas on Tongoa as CCA for protection of Royal Parrot Finch and Megapode. • Work with local communities to initiate establishment of the CCAs.	2018-2019	DEPC
		SM1.7: Flying Foxes on Mota Lava –raise awareness of the Mota Lava community that it is the only island supporting four species of flying foxes. Encourage chief, community leaders and landholders to manage the flying foxes and the habitat by implementing conservation site/s and delivering information and education.	Conduct survey on Banks Flying Fox on Banks Islands.	2018	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA SM1: Establish Effective Management Arrangement for the Conservation of Endemic, Endangered and Culturally Important Species and Habitats.	**Objective SM1:** Strengthen IAS related policies and legislations to support effective eradication, introduction on new invasive alien species and inter-island introduction of invasive alien species.	**SM1.8**: Crocodile on Vanua Lava – Facilitate local monitoring of the crocodile population. Prepare a management plan that considers the needs of the local people, financial resources and international scientific concerns.	Assess status of Crocodile population; develop its monitoring tool and its management plan.	2018-2030	DEPC
		SM1.9: Conservation of coconut crab habitat on Hui, Tegua, Loh, Toga Linua and Metoma in the Torres Group.	• Strengthen the existing local CC conservation initiatives with the enforcement of Fisheries Regulation on Coconut Crab. • Carry out awareness to Tourism Product owners and develop information materials.	2018-2030 2018-2030	VFD DEPC DoT
		SM1.10: Conservation of bat roosting caves and feeding areas on Malo, northwest Malekula, Vanua Lava, Santo and Efate.	Conduct community consultation to get their consent to protect the area, establish sites as conservation area and develop the sites (Malo, Malekula, Santo, Vanua Lava and Efate caves) for eco-tourism.	2018-2030	DEPC DoT
		SM1.11: Support the implementation of the Lake Letas management plan as one of the national wetland sites and the- first Ramsar Site for Vanuatu and is also a registered CCA.	Register Lake Letas as CCA and implement its management plan.	2018-2019	DEPC
		SM1.12: Conservation of Megapode bird (Namalau) on Tongoa, Ambrym, Efate and Epi.	Conduct community consultation on Efate, Tongoa, Ambrym and Epi to get their consent to protect and establish megapode sites as CCAs.	2019-2030	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA SM1: Establish Effective Management Arrangement for the Conservation of Endemic, Endangered and Culturally Important Species and Habitats.	**Objective SM1:** Strengthen IAS related policies and legislations to support effective eradication, introduction on new invasive alien species and inter-island introduction of invasive alien species.	**SM1.13**: Conservation of Collared Petrel on Tanna and Vanua Lava, and of the Vanuatu petrel on Vanua Lava.	Conduct community consultation to get their consent to protect and establish Collared Petrels on Tanna and Vanua Lava and Vanuatu Petrels on Vanua Lava as CCAs.	2018-2022	DEPC
		SM1.14: Conservation of natural stands of *Carpoxylon macrospermum* on the islands where they exist.	• Finalise management plan for Nusumetu Conservation Area, Tanna and register to protect *Carpoxylon macrospermum* stands at Nusumetu CCA forest. • Develop management and recovery plan for the *Carpoxylon macrospermum* species.	2018-2022 2018-2030	DEPC DEPC
		SM1.15: Conservation of Anietyum Skink (*Emoia aneityumensis*).	Carry out awareness on Aneityum Skink and habitat, develop information/awareness materials and include in draft specified species regulation.	2018- 2020	DEPC
		SM1.16: Conservation of the six hot spots (IUCN Red list/ CBF Ecosystem profile): Aneityum, Futuna, Tanna, Tongoa Laika Island Santo Mountain Range, Gaua (Banks).	Develop information/awareness materials on the biodiversity Hot Spots (Aneityum, Futuna, Tanna, Tongoa-Laika, Santo Mountain Range and Gaua), set up conservation areas and finalise draft specified species regulation.	2018-2030	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA SM1: Establish Effective Management Arrangement for the Conservation of Endemic, Endangered and Culturally Important Species and Habitats.	**Objective SM1:** Strengthen IAS related policies and legislations to support effective eradication, introduction on new invasive alien species and inter-island introduction of invasive alien species.	**SM1.17**: Conservation of leatherback, green and hawksbill turtles (Aneityum, Tanna, Erromango, Efate and offshore islands, Epi, Malekula, Santo, Malo, Aore, Gaua, Vanua Lava, Ureparapara and Torres Groups).	Set up CCAs on turtle nesting and feeding grounds at specific sites in Vanuatu.	2018-2030	VFD DEPC
		SM1.18: Conservation of dugongs (sea grass areas on Aneityum, Efate, Epi, Malekula, Vanua Lava, Santo, Gaua and Vanua Lava).	Implement dugong management plan and finalize Specified species regulation with wildlife standards.	2018-2030	DEPC VFD
FOCUS AREA SM2: Establish Data Collection and storage systems for Endemic, Endangered, Threatened and Critical Species.	**Objective SM2:** To establish, maintain and update the National Resource Inventory (NRI) database for all species and their status and link to.	**SM2.1**: Conduct appropriate research to develop resource inventory on terrestrial (including insects) and freshwater/marine biodiversity and establish NRI database.	Develop resource inventory on terrestrial and freshwater/marine biodiversity and establish NRI database.	2018-2030	DEPC
		SM2.2: Link the NRI database to Biodiversity Clearing House Mechanism (CHM) and other databases to support MEAS, UNCBD, UNCCD and UNFCCC such as the Vanuatu CCCD national information system maintained by DEPC in collaboration with relevant stakeholders.	Link the NRI database to Biodiversity Clearing House Mechanism (CHM) and other databases to support MEAS, UNCBD, UNCCD and UNFCCC such as the Vanuatu CCCD national information system maintained by DEPC in collaboration with relevant stakeholders.	2018-2022	DEPC
		SM2.3: Undertake conservation management-oriented research on prioritised species that are threatened or exploited for cultural/subsistence and economic purposes.	Undertake research on species for cultural, subsistence and economic uses.	2019	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA SM2: Establish Data Collection and storage systems for Endemic, Endangered, Threatened and Critical Species.	**Objective SM2:** To establish, maintain and update the National Resource Inventory (NRI) database for all species and their status and link to.	**SM2.4**: Explore potential sustainable use of non-threatened and endangered species in collaboration with Conservation Officers, tourism, customs, biosecurity and community representatives.	Develop the framework and mechanism for identification of the status of rare and endangered species of Vanuatu.	2018-2030	DEPC
		SM 2.5: Develop a national biodiversity database of all species at DEPC; classifying level of significance and status (IUCN Red List) that is accessible to all stakeholders inclusive but not limited to government, non-government organisations, and private business and communities.	Link all flora, fauna and environment databases to the national environment information system.	2018-2025	DEPC
		SM 2.6: Draw up an appropriate framework and mechanism for identifying, monitoring and documenting the status of rare and endangered species.	Draw up an appropriate national framework and mechanism for identifying, monitoring and documenting the status of rare and endangered species.	2018-2025	DEPC
FOCUS AREA SM3: Decrease in Trade of Endangered and Threatened Species.	**Objective SM3a:** To assist in improving enforcement of border control and monitoring, and increase support and capacity for enforcement and monitoring of EPC Act and CITES.	**SM3.1**: Formalise relationships/collaborations with border control and enforcement authorities through memoranda of understanding (Biosecurity, Customs, Border control and DEPC).	Follow up with the current status of the MOU in place and have it formalise between DEPC and Biosecurity and Customs with the respective sectors.	2018	DEPC
		SM3.2: Empower authorised officers from DEPC, Customs, Border control and Biosecurity, to enforce EPC related Acts effectively.	Amend EPC Act to empower authorized officers from DEPC, customs, border control and biosecurity, to enforce EPC related Acts.	2018-2025	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA SM3: Decrease in Trade of Endangered and Threatened Species.	**Objective SM3b:** To increase capacity for enforcement of the International Trade of Flora and Fauna Act 1989 and its regulations, and increase monitoring of endangered protected species.	**SM 3.3**: Quarterly surveillance of markets, traders etc. by trained and gazetted officers under the International Trade (Flora and Fauna) Act No. 56 of 1989 [Cap 210].	Carry out quarterly surveillance of markets, traders etc. by trained and gazetted officers under the International Trade (Flora and Fauna) Act No. 56 of 1989 [Cap 210].	2018-2030	Relevant Agencies
		SM 3.4: Review all native species and other related provisions in the International Trade (Flora and Fauna) Act No. 56 of 1989 [Cap 210].	Review all native species and other related provisions in the International Trade (Flora and Fauna) Act No. 56 of 1989 [Cap 210].	2018	DEPC
		SM 3.5: Establish administrative responsibilities and strengthen capacity within relevant line ministries and authorities.	Carry out establishment of administrative responsibilities and strengthen capacity within the NBSAP Stakeholders.	2018-2028	DEPC
		SM 3.6: Appoint of athourized officers under International Trade (Flora and Fauna) Act No. 56 of 1989 [Cap 210].	Appoint of athourized officers under International Trade (Flora and Fauna) Act No. 56 of 1989 [Cap 210].	2018-2024	DEPC
		SM 3.7: Establish an effective electronic CITES permitting system to manage and ease annual reporting.	Set up an effective electronic CITES permitting system to manage and ease annual reporting.	2018-2024	DEPC
FOCUS AREA SM4: Extend Government contribution to Conservation activities at community levels.	**Objective SM4:** To develop mechanisms for facilitating community feedback to DEPC on management of species of special concern.	**SM4**.1: Increase DEPC representation/participation /presentation at islands and provincial governance mechanisms and forums and private sectors.	Carry out capacity building in the Provinces to mechanism representation of DEPC in the provinces and the communities.	2018-2019	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA SM4: Extend Government contribution to Conservation activities at community levels.	**Objective SM4:** To develop mechanisms for facilitating community feedback to DEPC on management of species of special concern.	**SM4.2**: Develop a reporting mechanism in collaboration with Provincial Councils and other user groups such tourisms, farmers and others.	Develop reporting mechanism for the Provicial councils and other user groups to use in reporting conservation status and budgeting.	2019	DEPC
		SM4.3: Increase resources to support communities to annually report to DEPC on their CCA activities.	Carry out capacity building and support resources for CCAs on annual reporting.	2018	DEPC

STRATEGIC AREA 5: MANAGEMENT OF INVASIVE ALIEN SPECIES

TARGET:

1. By 2030 Vanuatu's invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.
2. Emphasis will be placed on maintaining current status of native species, improving border control, developing inter-island biosecurity programmes, IAS eradication and control.
3. Communities' understanding on invasive alien species is increased.

INDICATORS:

- Assessment and measure of impact of invasive alien species on biodiversity and food security.
- Impact of policy responses, legislation and management plans to control and prevent spread of invasive alien species.
- Required information and data on invasive alien species are available.
- National government commitment through financing of management of IAS.
- Level of invasive alien species understanding increased.
- More improve legal frameworks and policies are available.
- International border control system improved and internal quarantine system established.
- Invasive alien species population density are reduced.
- The population density of invasive alien species in Conservation Areas are reduced.

IMPLEMENTATION PLAN- MANAGEMENT OF INVASIVE ALIEN SPECIES

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA MIAS1: Building a strong foundation for effective Invasive Alien Species Management.	**Objective MIAS1a:** To increase understanding of the impacts of priority invasive alien species on biodiversity, economies, livelihoods and health and actions to manage them are supported.	**MIAS1.1**: Raise awareness and carry out outreach on impactof IAS on biodiversity, economy, health and cultural values.	Conduct awareness and inventory on Invasive Alien Species in the Provinces and communities.	Ongoing	DEPC BV DARD
		MIAS1.2: Develop community focused education awareness resources and materials for the wider public.	Develop national priority invasive alien species community tool kit and farmers pocket guide to address awareness resources.	2018-2022	DEPC
		MIAS1.3: Develop syllabus in schools on IAS.	Assess Teacher's guide on Invasive alien species and update sections on Invasive Alien Species Impacts and management control measures.	2018	DEPC
		MIAS1.4: Develop materials on marine invasive alien species of most threat to Vanuatu.	• Develop awareness materials for COTs. • Develop guideline on management measures for COTs eradication.	2018-2020 2018-2025	VFD DEPC VFD

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA MIAS1: Building a strong foundation for effective Invasive Alien Species Management.	**Objective MIAS1a:** To increase understanding of the impacts of priority invasive alien species on biodiversity, economies, livelihoods and health and actions to manage them are supported.	**MIAS1.5**: Develop Island-specific materials as part of inter-island biosecurity management.	Develop Island-specific materials as part of inter-island biosecurity management.	2018-2020	BV DEPC
		MIAS1.6: Encourage collaboration in the management of IAS between Vanuatu and other regional countries and institutions.	Work with MSG secretariat to establish the Melanesian Invasive species council.	2018-2030	DEPC
	Objective MIAS1b: To ensure appropriate policies, legislations, protocols and procedures are in place and operating to underpin the effective management of IAS.	**MIAS1.7**: Upgrade national invasive alien species database and make it accessible for public viewing and information input.	Update the Vanuatu Invasive Alien Species Database, Van Invasive.	Ongoing	DEPC
		MIAS1.8: Identify knowledge gaps and prioritise terrestrial, freshwater and marine invasive alien species surveys for Vanuatu.	Carry out assessment to find out distribution of national priority IAS in Vanuatu.	Ongoing	DEPC
		MIAS1.9: Collect baseline data for terrestrial, aquatic and marine invasives.	Collection and update out baseline data for terrestrial, aquatic and marine invasive alien species.	2018-2030	DEPC
		MIAS1.110: Put in place an IAS Information review process to continually assess capacity, skills, information and research gaps.	Analyse data in the VanInvasive species database and provide informationand research gaps.	Ongoing	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA MIAS1: Building a strong foundation for effective Invasive Alien Species Management.	**Objective MIAS1b:** To ensure appropriate policies, legislations, protocols and procedures are in place and operating to underpin the effective management of IAS.	**MIAS1.11**: Put in place an IAS Information review process to continually assess capacity, skills, information and research gaps.	Identify inter island biosecurity capacity training needs and develop training programme.	2018-2025	DEPC BV
		MIAS1.12: Encourage environmental science studies for Ni-Vanuatu students.	Liaise with Vanuatu Scholarship Office to promote studies in invasive alien species management.	Ongoing	DEPC
		MIAS1.13: Provide training for harbour masters, custom officers and other port staff on identifying invasive species issues associated with shipping and border controls.	Develop trainings for harbour masters and customs officer on Vanuatu priority Invasive Alien Species.	Ongoing	DEPC
		MIAS1.14: Provide training to community leaders to identify invasive alien species in the communities.	Develop training programmes for community leaders on Vanuatu priority Invasive Alien Species.	2018-2020	DEPC
		MIAS1.15: Upgrade government and NGO technical skills and knowledge on management of invasive alien species.	Develop trainings for government and NGOs on identifying Vanuatu priority Invasive Alien Species.	2018-2020	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA MIAS1: Building a strong foundation for effective Invasive Alien Species Management.	**Objective MIAS1b:** To ensure appropriate policies, legislations, protocols and procedures are in place and operating to underpin the effective management of IAS.	**MIAS1.16**: Advocate for the establishment of a Melanesian IAS council in partnership with the Melanesian Spearhead Group (MSG) with support by the Vanuatu Government.	Refer to MIS 1.6	By 2020	DEPC
	Objective MIS1c: To ensure appropriate policies, legislations, protocols and procedures are in place and operating to underpin the effective management of IAS.	**MIAS1.17**: Enact the current draft Biosecurity Bill and translate it into local language.	Finalise and enact Biosecurity Bill.	2018	BV
		MIAS1.18: Include management of invasive alien species in Agriculture, Livestock, Forestry and Fisheries Acts.	Incorporate management of invasive Alien species in Agriculture, Livestock, Forestry and Fisheries Policy review.	2018 & 2030	DEPC
		MIAS1.19: Amend the Environmental Protection and Conservation Act to include additional regulations on IAS and regulations of importation of new organisms that are a risk to the environment.	Develop regulation to control importation of foreign organisms and management of invasive alien species.	2018-2020	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA MIAS1: Building a strong foundation for effective Invasive Alien Species Management.	**Objective MIS1c:** To ensure appropriate policies, legislations, protocols and procedures are in place and operating to underpin the effective management of IAS.	**MIAS1.20**: Revise national regulations (DEPC) and the provincial legislation for DEPC Act to override provincial laws and by-laws.	Amend EPC Act to recognise the provincial by laws on management of invasive alien species.	2018-2020	DEPC, Province
		MIAS1.21: Amend legislation (e.g Ports Act) to address management of ballast water, ship cleaning and the use of anti-fouling paints in line with international conventions.	Amend Ports and Harbour Maritime Act to include ballast water and ship cleaning and use of antifouling paints.	2018-2030	Ports and Harbour
		MIAS1.22: Revise and update NISSAP.	Revise and updateew of NISSAP in 2019.	2019-2020	DEPC
		MIAS1.23: Develop island or province-based regulations to assist inter-island biosecurity programmes.	Develop island or province-based regulations to assist inter-island biosecurity programmes.	2018-2025	DEPC BV
		MIAS1.24: Enforce current livestock regulations to prevent cattle spreading weed and seeds between islands.	Amend Livestock Policy to regulate cattle transport in weed spreading.	2019	DLiv
		MIAS1.25: Revise Public Works Department policy and legislation for clean machinery for new roads developments and inter-island movements.	Collaborate with PWD to ensure clean machinery for new road developments and inter-island movements include in inspection by DEPC and BV prior departure is included in the next revised PWD policy.		PWD

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA MIS2: Establish National Baselines and Monitoring of IAS in Vanuatu	**Objective MIS2a:** To ensure appropriate policies, legislations, protocols and procedures are in place and operating to underpin the effective management of IAS.	**MIAS2.1**: Identify priority islands (e.g Malekula, Santo) to carry out surveys to identify full range of priority IAS at initial stages and then target all islands.	Carry out IAS survey on Malekula and Santo to identify full range of priority IAS.	2018-2024	DEPC BV
		MIAS 2.2: Carry our surveys to delimit priority IAS such as fire-ants, climbing vines (*Merremia peltata),* including others.	Carry out survey and map out priority invasive alien species in all islands of Vanuatu.	2018-2024	DEPC BV
		MIAS2.3: Develop an invasive alien species alert system for Vanuatu	Develop an invasive alien species alert system for Vanuatu.	2018-2030	DEPC BV
		MIAS2.4: Secure sustainable funding mechanisms for surveillance, monitoring and enforcement.	Include sustainable financing mechanism component in regulation to control importation of foreign organisms and management of invasive alien species.	2018-2030	DEPC
	Objective MIS2b: Improve research and knowledge for priority IAS biology and impacts and development of effective management techniques.	**MIAS2.5**: Assess and review existing national response framework.	Assess and review existing national response framework.	Ongoing	DEPC BV
		MIAS2.6: Develop control programmes for priority invasive alien species.	Develop control programmes for priority invasive alien species.	Ongoing	DEPC BV
		MIAS2.7: Train government and NGOs on management aspects of IAS.	Train government and NGOs on management aspects of IAS.	Ongoing	DEPC BV

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA MIS2: Establish National Baselines and Monitoring of IAS in Vanuatu	**Objective MIS2b:** Improve research and knowledge for priority IAS biology and impacts and development of effective management techniques.	**MIAS2.8**: Secure adequate financial and technical resources for management of invasive alien species.	Secure adequate financial and technical resources for management of invasive alien species.	2018-2030	DEPC
		MIAS2.9: Develop protocols which require an EIA by an independent body before the introduction of exotic species, in line with the EPC Act.	Develop protocols for EIA by an independent body prior introduction of exotic species.	2018-2030	DEPC BV
FOCUS AREA MIAS3: Improve Management of established Invasive Alien Species	**Objective MIAS3:** To eliminate or reduce and manage impact of priority established invasive alien species by eradication or control.	**MIAS3.1**: Control/eradicate little fire ants and other invasive ants' species at priority sites following surveys.	Carry out surveys to indicate fire ants and apply control measures.	2018-2030	DEPC
		MIAS3.2: Control Mynah to reduce range on locations where control is still feasible on Malekula if recommended following survey.	Develop and provide training for government and NGOs on management of invasive alien species.	2018-2030	DEPC BV
		MIAS3.3: Implement biocontrol for African tulip tree when programme and bio-control agent is available.	Refer to MIS 2.5		
		MIA3.4: Encourage spreading of established bio-control agents onto other islands and locations.	Develop protocols for EIA by an independent body prior introduction of exotic species.	2018-2030	DEPC BV

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA MIAS3: Improve Management of established Invasive Alien Species.	**Objective MIAS3:** To eliminate or reduce and manage impact of priority established invasive alien species by eradication or control.	**MIAS3.5**: Develop biocontrol options for further priority weeds (as part of Melanesian sub-region projects).	Work with regional institutions or CROP agencies to develop biocontrol for other priority invasive alien species.	2018-2030	BV DEPC
		MIAS3.6: Develop an invasive alien species alert system for Vanuatu	Develop control programme for *Hyptis brevipes* and train local communities to eradicate the species.	2018-2022	DEPC BV
		MIAS3.7: Include IAS management in protected areas management plans and control priority invasives identified in additions to Merremia, pigs, cats and dogs.	Ensure that invasive species found in the PAs are included in the management plan for eradication.	2018	DEPC
		MIAS3.8: Dispatch of clean machinery by PWD for new road developments to prevent spreading of invasives.	Dispatch of clean machinery by PWD for new road developments to prevent spreading of invasive alien species.	Ongoing	DEPC BV
		MIAS3.9: Disseminate implementation of control protocol to rural communities.	Provide training to local communities on control method for COTs.	Ongoing	VFD
		MIAS3.10: Develop an IAS Management model for community management of *Merremia peltata.*	Assess existing models for *Merremia peltta* control and develop handbook for management of the species.	2018-2024	DEPC

FOCUS AREAS	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA MIAS3: Improve Management of established Invasive Alien Species.	**Objective MIAS3:** To eliminate or reduce and manage impact of priority established invasive alien species by eradication or control.	**MIAS3.11**: Restore sites and biodiversity after IAS management occurs.	Promote rehabilitation programmes for restoration sites and biodiversity affected by invasive alien species.	Ongoing	DEPC
		MIAS3.12: Strengthen IAS related policies and legislations to support effective eradication, introduction on new invasive alien species and inter-island introduction of invasive alien species.	Support enforcement of invasive alien species related policies and legislations to support effective eradication, introduction on new invasive alien species and inter-island introduction of invasive alien species.	Ongoing	DEPC BV

STRATEGIC AREA 6: MAINSTREAMING BIODIVERSITY ACROSS SECTORS AND SOCIETY (MB)

TARGET:

1. By 2020, government has put in place relevant legislations and policies and Access and Benefit-Sharing (ABS) protocols to support NBSAP implementation; businesses and production sectors are adopting Vanuatu's National Sustainable Development Plan; and stakeholders at all levels have taken steps and implemented plans for sustainable production and consumption.

INDICATOR:

- Trends in population and extinction risk of utilized species, including species in trade.
- Trends in ecological footprint and/or related concepts.
- Ecological limits assessed in terms of sustainable production and consumption.
- Trends in biodiversity of cities (decision X/22).
- Trends in extent to which biodiversity and ecosystem service values are incorporated into organizational accounting and reporting.

IMPLEMENTATION PLAN- MAINSTREAMING BIODIVERSITY ACROSS SECTORS AND SOCIETY

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA EEM1: Appropriate Legal, Policy and Institutional Frameworks that support Implementation of Vanuatu's NBSAP in place.	**Objective EEM1:** Ensure environment and related policy framework are in place.	**MB1.1**: To carry out the review of environment related Acts, Regulations and Environment Policies	Review existing legislations and policies that supports implementation of NBSAP.	2018-2030	Relevant Agencies
		MB 1.2: Establish and strengthen an effective and efficient enforcement systems of environment Laws at national, provincial and local levels	Support enforcement of environment related legislations and regulations by empowering authorised officers.	2018-2030	Relevant Agencies
		MB 1.3 Increased public awareness on environment related Acts, Regulations and Policies	Carry out nation-wide awareness on related environment Acts, regulations and policies.	Ongoing	DEPC VFD DoF
		MB 1.4: Increase political awareness and will to support environmental good governance and implementation.	Carry out awareness with member of parliaments on environment related Acts.	2018-2025	DEPC
		MB M1.5: Carry out an institutional and capacity building assessment of the environment sector and develop an institutional development strategy to support NBSAP implementation.	Conduct institutional assessment Review organisational structure to support implementation of NBSAP.	2020-2018	DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA EEM1: Appropriate Legal, Policy and Institutional Frameworks that support Implementation of Vanuatu's NBSAP in place.	**Objective EEM1:** Ensure environment and related policy framework are in place.	**MB 1.6:** Strengthen enforcement and identify gaps for effective implementation of EIA guidelines/standards and strengthen national capacities of EIA consultants.	Amend the EIA Regulations to prescribe set penalties for EIA-related offences by the end of 2020: Update the DEPC Guide to Compliance and Enforcement	2018-2020	DEPC
FOCUS AREA EEM2 : **Strengthen application and operationalisation of the Nagoya Protocol on Access to Genetic Resources and Benefit Sharing (ABS) in Vanuatu**	**Objective EEM2a:** Strengthen inter-agencies collaboration to put in appropriate ABS policies, legislations and institutional arrangements for Vanuatuand strengthen links at regional level for lesson learning and to support regional mechanisms.	**MB 2.1**: Define the overall ABS strategy, policies and action plan for Vanuatu.	Develop the ABS strategy, policy and action plan for Vanuatu.	2020-2030	DEPC
		MB 2.2: Put in place the appropriate ABS regulation in Vanuatu including review of existing Environmental Protection and Conservation (EPC) Act covering ABS.	• Review Bioprospecting provision EPC Act of 2018. • Develop national PIC for Vanuatu on ABS. • Develop national contract for Mutually Agreed Terms (MAT).	2018-2022	DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA EEM2 : **Strengthen application and operationalisation of the Nagoya Protocol on Access to Genetic Resources and Benefit Sharing (ABS) in Vanuatu**	**Objective EEM2a:** Strengthen inter-agencies collaboration to put in appropriate ABS policies, legislations and institutional arrangements for Vanuatuand strengthen links at regional level for lesson learning and to support regional mechanisms.	**MB 2.3**: Establish institutional arrangements and assignment of role and responsibilities within national institutional landscape to implement ABS.	• Develop national institutional arrangements and assignment of roles and responsibilities framework. • Recruit Research Officer.	2018-2022 2019	DEPC
		MB 2.4: Review and define procedures and rules for access to traditional knowledge, to protect the rights of indigenous and local communities and to ensure equitable sharing of benefits such as Prior Informed Conscent (PIC) and Mutually Agreed Terms (MAT).	• Develop national PIC for Vanuatu on ABS. • Develop national contract for Mutually Agreed Terms (MAT).	2018-2022 2018-2020	DEPC
		MB 2.5: Define with regional level countries and partners of common level of ABS arrangements**.** Eg. Model laws, guidelines and principles.	Develop regional level model for ABS.	2020-2030	DEPC Relevant Agencies

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA EEM2 : **Strengthen application and operationalisation of the Nagoya Protocol on Access to Genetic Resources and Benefit Sharing (ABS) in Vanuatu**	**Objective EEM2a:** Strengthen inter-agencies collaboration to put in appropriate ABS policies, legislations and institutional arrangements for Vanuatuand strengthen links at regional level for lesson learning and to support regional mechanisms.	**MB 2.6**: Integrate an education and awareness programme on ABS through government ministries, NGOs, schools and provincial government.	Involve other ministries with awareness of ABS.	2018-2030	DEPC
		MB 2.7: Compile and Inventory of all ABS related industries or biotrade industries and strengthen partnership and awareness on ABS related activities.	Conduct inventory of biotrade.	2018-2020	DEPC VANIPO
	Objective MB2b: Review and put in place appropriate protocols and procedures for different ABS related activities.	**MB 2.8**: Strengthen role of the competent authority, focal point and [2]National Biodiversity Advisory Council established under EPC Act to review protocols and procedures of ABS.	Assess capacity building needs for ABS focal point and BAC.	2018-2022	DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA EEM2 : **Strengthen application and operationalisation of the Nagoya Protocol on Access to Genetic Resources and Benefit Sharing (ABS) in Vanuatu**	**Objective MB2b:** Review and put in place appropriate protocols and procedures for different ABS related activities.	**MB 2.9**: ABS contract agreements, interim guidelines, negotiation procedures and legal/customary protocols developed in accordance with the Nagoya Protocol and the Traditional Knowledge and Expressions of Culture Act.	Develop appropriate contracts, interim guidelines, negotiation procedures and legal customary protocols in accordance with NP.	2018-2025	DEPC VANIPO VKS
		MB2.10: Establishment of national and regional networks amongst research stakeholders (researchers, food security, medicinal, bio-prospecting, community interests including government, NGO's, private sector and community groups).	Set up the national network first and expand to include regional network for research stakeholders	2019-2030	DEPC
		MB 2.11: Organise awareness raising amongst government departments, divisions and provincial levels workshops on ABS for stakeholders and facilitate site/field visits where appropriate.	Conduct awareness raising on ABS at provincial and community levels.	2018-2030	DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA EEM2: Strengthen **application and operationalisation of the Nagoya Protocol on Access to Genetic Resources and Benefit Sharing (ABS) in Vanuatu.**	**Objective MB2b:** Review and put in place appropriate protocols and procedures for different ABS related activities.	**MB 2.12**: Establish benefit sharing mechanism (e.g. Trust Fund) for ABS strengthened contributes to the conservation of biological diversity.	Set up national ABS trust fund.	2022-2030	DEPC
		MB 2.13: Establish and strengthen administrative systems / procedures for ABS agreement negotiations between the government and relevant MATs and other relevant agreements.	Strengthen ABS agreement for negotiations between government and other relevant MATs.	2018-2030	DEPC

Strategic Area 7: RESOURCE MOBILISATION FOR THE NATIONAL BIODIVERSITY STRATEGY AND ACTION PLAN

TARGET:

The Ministry of Finanance will need to set realistic annual budgetary targets and DEPC to do 3 yearly resource mobilisation plan based on realistic NBSAP Actions & Targets.

INDICATORS:

- Aggregated financial flows, in the amount and where relevant percentage, of biodiversity related funding, per annum, for achieving the Vanuatu NBSAP National Targets,
- Number of assessments values of biodiversity in accordance with CBD,
- Identified and reported funding needs, gaps and priorities,
- Developed National Financial Plans for Biodiversity,
- Amount of national financial support, per annum, in respect of those national activities which are intended to achieve the objectives of NBSAP.

IMPLEMENTATION PLAN RESOURCE MOBILISATION FOR THE NATIONAL BIODIVERSITY

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA RM1: Resource Mobilisation for the National Biodiversity Strategy and Action Plan.	**Objective RM1:** To increase understading and buy-in from relevant government, NGOs, implementing partners and communities on the resource mobilisation approach, methodology and action plan.	**RM1.1**: Organise stakeholder engagement to consider biodiversity and ecosystem services to be the key priority areas for economic valuation and assessments.	• Conduct awareness to relevant government sectors such as fisheries and forestry on ecosystem valuation principles and approaches. • Develop and costing of ecosystem valuation for marine, terrestrial and wetlands in collaboration with relevant stakeholders.	2019-2030 2019-2030	DEPC DEPC Relevant Agencies
		RM 1.2: Carry out ecosystem assessments, mapping, indicators and valuation for each focal areas.	• Undertake ecosystem assessments and valuation of each ecosystem types such as marine, terrestrial and wetlands ecosystems. • Conduct costing of each focal area of the NBSAP. • Develop sustainable financing strategies for implementing the NBSAP.	2020-2030 2020-2030 2020-2030	DEPC Relevant Agencies DEPC DEPC DoFT

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA RM1: Resource Mobilisation for the National Biodiversity Strategy and Action Plan.	**Objective RM1:** To increase understading and buy-in from relevant government, NGOs, implementing partners and communities on the resource mobilisation approach, methodology and action plan.	**RM1.3**: Carry out capacity building activities to equip actors with necessary skills to carry out value-based actions e.g tools to gather information on biodiversity and ecosystem advising them on how to incorporate biodiversity and ecosystem service values into their business plans make economic and financial sense.	Carry out the capacity building training to equip relevant actors with required skills to carry out value-based actions as indicated in RM 1.3.	2019-2030	DEPC Relevant Agencies
		RM1.4: Engage funders strategically and identify key sectors benefitting from biodiversity and ecosystem service values who are primary users, how will they benefit from investing in biodiversity ecosystem services and what ongoing financial mechanism are available to secure sustained funding.	Carry out a study or survey on this action to map out sectors benefiting from biodiversity and ecosystem service values, who are primary users, how will they benefit from investing in biodiversity ecosystem services and what ongoing financial system are in place to secure sustained funding.	2019-2030	DEPC Relevant Agencies

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA RM1: Resource Mobilisation for the National Biodiversity Strategy and Action Plan.	**Objective RM1:** To increase understading and buy-in from relevant government, NGOs, implementing partners and communities on the resource mobilisation approach, methodology and action plan.	**RM1.5**: Assess financial flows associated with drivers of biodiversity loss such as harmful incentives, and how they can be influenced to reduce their impact.	Carry out the financial assessment with biodiversity loss drivers and how they can be influenced to reduce their impacts.	2019-2030	DEPC DoFT
		RM1.6: Conduct annual stakeholders' meeting to discuss budget and report on progress of NBSAP species component implementation. Species conservation implementation to include enforcement roles of the relevant authorities e.g. biosecurity.	Carry out annual meetings with NBSAP Stakeholder Administration to assess update on species implementation work.	2019-2030	DEPC Relevant Agencies
		RM1.7: Establish a conservation trust fund to be managed by DEPC under government budgetary process.	Initiate the idea of developing a Conservation Trust Fund.	2019-2030	DEPC

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA RM2: Development of Vanuatu NBSAP Resource Mobilisation Plan.	**Objective RM2:** Develop Resource mobilisation plan using best available data and scenario development.	**RM2.1**: Conduct an ecosystem service mapping to assess state and trend in ecosystem service provision and human well-being, to provide spatial quantification of ecosystem services and their values.	Undertake ecosystem service mapping to assess state and trend in ecosystem service provision and human well-being.	2020-2030	DEPC Relevant Agencies
		RM2.2: Conduct economic valuation of ecosystems and biodiversity using variety of economic valuation methods to determine monetary value of biodiversity i.e direct market valuation approaches, revealed preferences and stated preference approaches.	Carry out economic valuation of biodiversity and ecosystems different methods to determine monetary value of biodiversity.	2019-2030	DEPC DoFT
		RM2.3: Assess the cost of NBSAP strategies and action, identify financial gaps and scale up finance mechanism.	Carry out assessment of the NBSAP strategies and actions cost to find out financial gaps and scale up the finance mechanism	2020-2030	DEPC DoFT

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA RM2: Development of Vanuatu NBSAP Resource Mobilisation Plan.	**Objective RM2:** Develop Resource mobilisation plan using best available data and scenario development.	**RM2.4**: Integrate values of biodiversity and ecosystems into national accounting frameworks using the Biodiversity Finance (BIOFIN) conceptual framework of public expenditure review, pressure-state-response, scenario development and comparison and root cause analysis.	Develop project proposal to use the BIOFIN conceptual framework to integrate values of biodiversity and ecosystems into national accounting frameworks.	2019-2030	DEPC DoFT
		RM2.5: Develop a Vanuatu Resource Mobilisation plan to include policy and institutional analysis, expenditure review, strategies, actions and costs, projected future states with investments, opportunities for mobilisation of resources, making a case of for biodiversity investments and consolidate resource mobilisation plan with finance mechanism, actors and timelines.	Develop national Resource Mobilisation plan to implement the NBSAP and address this action.	2019-2030	DEPC DoFT

FOCUS AREA	OBJECTIVES	ACTIONS	SPECIFIC ACTIVITIES	COMPLETED BY	LEAD AGENCY
FOCUS AREA RM2: Development of Vanuatu NBSAP Resource Mobilisation Plan.	**Objective RM2:** Develop Resource mobilisation plan using best available data and scenario development.	**RM2.6**: Integrate resource mobilisation plans into national plans and identify national synergies and entry points.	Integration resource mobilisation plan into national plans and find out national strategies and entry point.	2019-2030	DEPC

8.0 PROVINCIAL PLANS

Most of the NBSAP work will be implemented in partnerships with communities through their provincial government and administration in collaboration with DEPC and national level stakeholders. The six provincial implementation plans provide the background of each province, the population, and total land and sea areas under provincial management. It then provides the provincial vision and mission of the whole province. The key components are:

a. MARINE:

(i) Existing conservation areas,
(ii) Proposed conservation areas,
(iii) Marine biodiversity,
(iv) Threat to marine species,
(v) Action to address threats.

b. FOREST AND INLAND WATERS

(i) Existing conservation areas,
(ii) Proposed conservation areas,
(iii) Forest and inland biodiversity,
(iv) Threat to forest and inland species,
(v) Action to address threats.

c. PROVINCIAL TARGET FOR 2018 –2030

The following provincial NBSAP Implementation plans were developed through an extensive consultation process based on the current NBSAP.

8.1 Torba Province– NBSAP Implementation Plan

8.2 Sanma Province - NBSAP Implementation Plan

8.3 Penama Province - NBSAP Implementation Plan

8.4 Malampa Province - NBSAP Implementation Plan

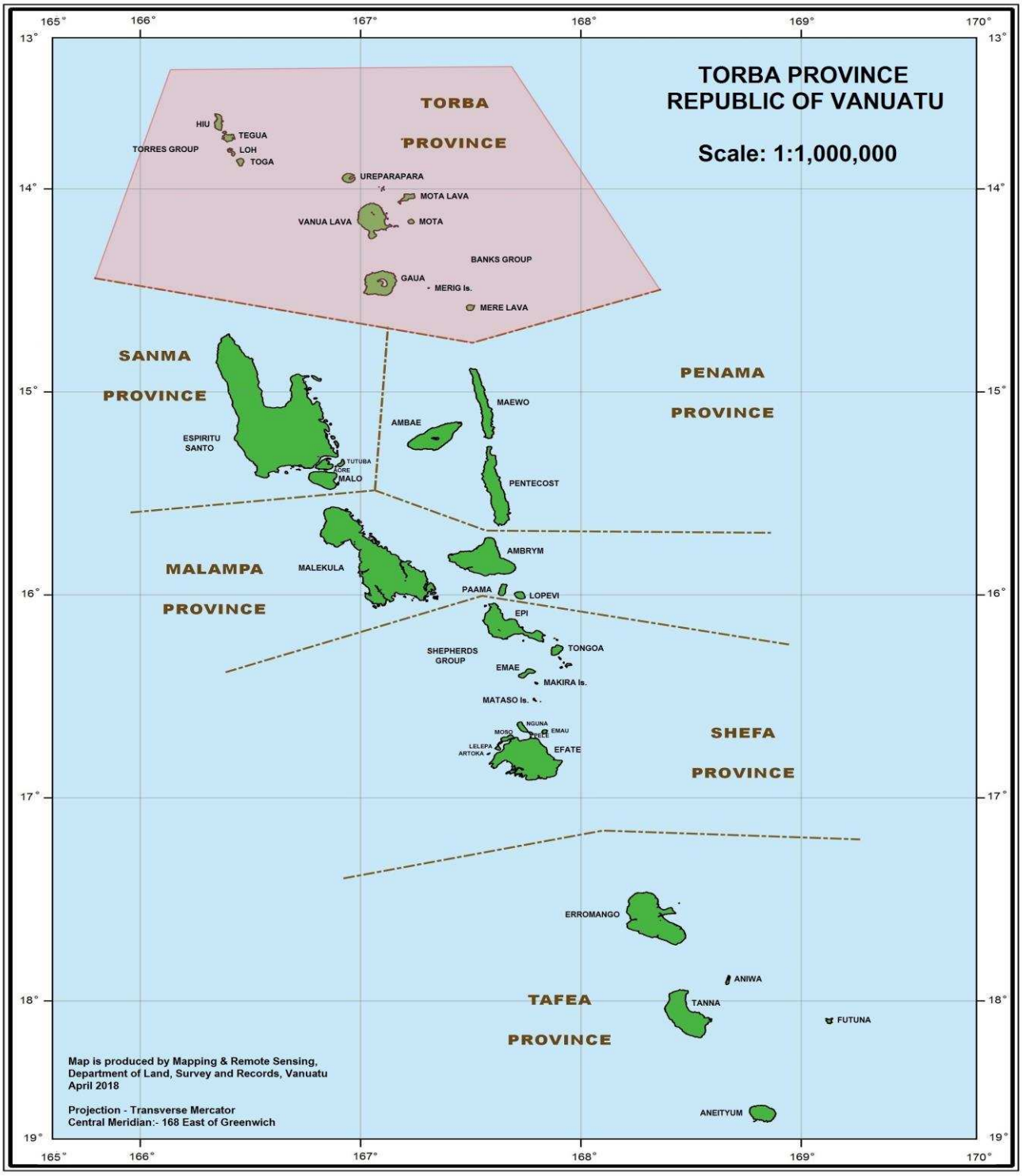
8.5 Shefa Province - NBSAP Implementation Plan

8.6 Tafea Province - NBSAP Implementation Plan

8.1 TORBA PROVINCIAL NBSAP IMPLEMENTATION FRAMEWORK

8.1.1 Background

Torba Province is one of the six provinces in Vanuatu that is located far north of Vanuatu. Torba province is a chain of small islands that include two island groups - the Banks and the Torres group. The name of this province is comprise of these two groups of islands: **Tor** from **Tor**res and **Ba** from **Ba**nks. The islands of Vanuatu were formed in a series of geological activities over three geological time periods, resulting in newer and older islands within Vanuatu. There has been 3 major geological periods of activity resulting in island formation and Torres group of islands were the first islands to form along with Malekula and Espiritu Santo. The Banks group were formed later with some of the other younger islands in the central part of Vanuatu.



8.1.1.1 Population & total land area

The total population of Torba province from the 2016 mini census is 9,875 people with a total land area of 882 km^2 (VNSO, 2016). The main source of income for Torba people comes from copra, cacao, kava, sale of fish, food and root crops, handicrafts and other invertebrates like coconut crab in Torres Islands.
The largest single landmass area of Torba province is the island of Vanua Lava which is where the Torba Provincial headquarters is located in Sola.

8.1.1.2 Torba Provincial Government

Provincial Governments have been established through the Decentralisation Act of 1994. Through this decentralisation system, government extension offices were then established at the provincial headquarters. The department extension services form a Technical Advisory Group (TAG) that makes decisions along with the key personnel of Torba province for the development of the province. Torba Province with the advice of the TAG has developed a provincial policy that guides development of this province for the good of the province and its people.

8.1.1.3 Vision

Torba's future generations enjoying abundant natural resources by 2060 through wise use, improve livelihoods, maintaining custom values and healthy island ecosystems.

8.1.1.4 Mission

To have a healthy, wealthy and sustainable environment by year 2050.

8.1.2 Marine

Torba Province has a large marine area with small land mass. The small islands of Torba are surrounded with a high density of coral reefs. Some of the islands are not inhabited with people and so nearby habited islands use these islands as fishing grounds. Torba province has classified Key Biodiversity Areas /Hotspots wthin its islands according to the Critical Ecosystem Partnership Fund (CEPF).

There is a vast marine biodiversity with different habitats but coral reefs dominate most of the small islands with invertebrates and fishes. Turtles and coconut crabs and various marine mammals are well known in Torba Province especially in the Torres group. Habitats listed for Torba are seagrass beds, coral reefs and mangrove areas with diversity of marine organisms. Offshore having areas of good pelagic and benthic fisheries such as tuna, poulet, snapper, seamounts, canyons, trench, etc. The only management system that is used to protect the marine resources is by community or landowners emphasizing tabu systems on the resources.
The following are the list of areas listed as being protected with community or landownership management system.

8.1.2.1 List of Existing Marine Conservation Areas for Torba Province

Existing Marine Area	Location (Island)	Important to the community	National Priority
Losalava Marine Park (MPA	Gaua	Big lagoon with great fringing reef with marine resource	Process for CCA
Turtle Sanctuary (Northeast Vanualava)	Vanualava	Turtle nesting site and eco-tourism activity	Process for CCA
Crocodile Conservation	Vanualava	Protect marine crocodile species	Process for CCA
Rah	Motalava	Protect fish breeding/ fish nursery ground, coconut crab and MPA	
Totonglang	Motalava	Protect marine resources and fishing grounds	

Existing Marine Area	Location (Island)	Important to the community	National Priority
Qeremangde	Motalava	Protect marine resources and fishing grounds	
Avar	Motalava	Protect nursery grounds	
Nerenigman	Motalava	Protect nursery grounds and MPA	
Rah Rock	Motalava	Protect fishing ground	
Reef Island Conservation Area	Reef Island	Protect marine resources around the island and also good fishing ground	Process for CCA
Toga	Torres	Coconut Crab protection and MPA	
Loh – Lenua Coconut Crab	Torres	Coconut Crab protection and MPA	
Lilepe Coconut Crab	Torres	Coconu Crab protection	
Metoma – Coconut Crab Conservation Area	Torres	Coconu Crab protection and MPA	Process for formal registration
Proposed Marine sites	**Location (Island)**	**Important to the community**	**National Priority**
Lembot- Mangrove	Gaua	Mangrove protection	
Dundu-Mangrove	Gaua	Mangrove protection	
Aver- Mangrove	Gaua	Mangrove protection	
Casca- Mangrove	Gaua	Mangrove protection	
Masivona – Turtle nesting	Gaua	Protect turtle nesting	
Matanoda- Turtle nesting	Gaua	Protect turtle nesting	
Taplon- Turtle nesting	Gaua	Protect turtle nesting	
Biam – Turtle nesting	Gaua	Protect turtle nesting	
Kerebuak-Mangrove	Vanualava	Mangrove protection	
Aligator river-Mangrove & seagrass	Vanualava	Mangrove and seagrass protection	
Quanglap - Mangrove & seagrass & turtle nesting	Vanualava	Mangrove, seagrass and turtle nesting protection	
Leon Bay- Mangrove	Vanualava	Mangrove protection	
Mosina- Mangrove	Vanualava	Mangrove protection	
Divers Bay -Mangrove	Ureparapara	Mangrove protection	
Ambek- Turtle nesting	Vanualava	Protect turtle nesting	
Ravenga – Turtle nesting	Vanualava	Protect turtle nesting	
Honeymoon beach (Lenua)– turtle nesting	Loh, Torres	Protect turtle nesting	
Loh lagoon- Mangrove & seagrass	Torres	Mangrove, seagrass, turtle nesting and coconut crab protection	

The above list is created as a list of important marine sites that are of great significance to the people of Torba Province. Their livelihood is entirely dependent on marine resources for consumption and earning money.

8.1.2.2 Marine Species Biodiversity

Marine biodiversity in Torba is diverse where coral reefs are covered with invertebrates and fishes sea mammals, reptiles, sea birds and other marine species of importance to the Torba people. Offshore having areas of good pelagic and benthic fisheries such as tuna, poulet, snapper, seamounts, etc Marine biodiversity has been

observed to be slowly decreasing over the past few years and today some of the species that were once plentiful are rarely seen.

The species on the list are of importance to the Torba people and all the species are common in most of the islands and suggested marine areas. The ecosystems listed are those that are supporting a good population of marine resources, and hence identified as needed to be protected.

8.1.2.3 List of important Marine Species in Torba

Fish	Invertebrates	Mammals/ birds	Marine Ecosystems
Eelfish	Crabs	Dugong	Beaches
Fish	Green snail	Sea Birds	Coral Reefs
Marine Crocodile	Lobster	Wild Ducks	Mangrove
Turtle	Octopus		Seagrass bed
	Sea cucumber		
	Shells		
	Trochus		

8.1.2.4 Threats to the Marine Species

Marine resources have been decreasing slowly in this province as seen in the smaller sizes and lower numbers of fish catches. Human consumption is stressed as being the major contributing factor that drives the decline of marine resources in Torba and concern was raised during the discussions that fishing grounds extend to the uninhabited islands where resources are currently plentiful.

8.1.2.5 Key Actions to Address Decrease of Marine Resources

The people of Torba know that their marine resources are declining. The chiefs and communities have taken some measures to manage the rate at which resources are declining through initiation of marine tabu areas. Threats to marine resources identified during the validation workshop are population pressure on resources, lack of respect for conservation or tabu areas, lack of technical knowledge on risk of depletion of marine resources, and Crown of Thorns (COTs) infestation on coral reefs.

Threats	Action Plans to Address Threats	Agency responsible	Timeframe
Overfishing/ over harvesting due to rapid population growth	Ban one finger fishing net	VFD Torba Province	2020
Lack of finance	Ecotourism activities	DoT Torba Province	2020
Lack of respect of conservation areas	• Enforcement of conservation management laws • Higher penalties	VFD Torba Province	2020
Lack of Information and technical advice on the risk of depletion of marine resources	Consider registering areas with the Department of Environment	VFD DEPC Torba Province	2030
Crown of Thorn starfish invasion	Eradication method	VFD Torba Province	2020

8.1.3 Forest and Inland Waters

T Torba Province is made up largely of small islands with less land area and thus limited terrestrial resources. Most of the large forest area can be found on the larger islands, of Vanua Lava and Gaua. Since the land mass is scarce, and resources limited there is no real consideration of forest conservation, as every piece of land is vital and can be utilized. There are a number of inland water areas that have given rise to consideration for forest conservation. Inland water are interconnected with forest areas, therefore the inland waters that are listed are very much linked with their surrounding forests/watersheds and catchment areas.

The list below shows the inland water areas that needs to be protected due to their importance as alternative water sources for daily household uses. The surrounding forests must also be conserved to protect these water sources.

8.1.3.1 List of Existing and Proposed Forest and Inland Water Conservation Areas in Torba

Existing Forest/ Inland Waters	Location (Island)	Important to Community	National Priority
Lake Letes	Gaua	Protect forest, water source, lake and species	Process for Ramsar
Doctor Mark Special need school	Gaua	Protect Forest	
Vanualava Geological Park (Volcano Area)	Vanu Lava	Protect site for tourist activity	
Valua Telvet	Mota Lava	Protect forest and water catchment	
Melebay	Mota Lava	Protect forest	
Abet	Mota Lava	Protect water catchment	
Sleeping Mountain	Mota Lava	Protect forest	
Mountain Bird Conservation	Mere Lava	Protect special bird to this island	
Sletes Conservation Area	Ureparapara	Protect forest	
Proposed forest / inland water areas			
Nebehei River	Mota Lava	Protect forest and water catchment	
Tinision Lake	Vanu Lava	Protect forest and water catchment	
Blue lake	Vanu Lava	Protect forest and water catchment	
Port Patterson	Vanu Lava	Protect forest and water catchment	
Alligator River	Vanu Lava	Protect mangrove forest, fish, coconut crab and crabs	
Twin Waterfall	Vanu Lava	Protect forest and water catchment	
Moi River	Ureparapara	Protect forest and water catchment	
Sirifall Waterfall	Gaua	Protect forest and water catchment	
Mount Gharat Boiling Mud	Gaua	Protect geological features	
Hiu	Hiu Island	Protect forest	
Tegua	Tegua Island	Protect forest	
Toga	Toga Island	Protect forest	
Linua	Loh Island	Protect forest	

8.1.3.2 Forest and Inland Water Species Biodiversity

The two larger islands of Torba Province, Gaua and Vanua Lava harbours high numbers of endemic species of flora and fauna. Torba province has classified Key Biodiversity Areas /Hotspots wthin its islands according to Critical Ecosystem Partnership Fund (CEPF) with Gaua being a priority KBA. On Gaua, can be found the largest volcanic lake in Vanuatu and in the Pacific region outside of Papua New Guinea and New Zealand. Lake Letas sits at 450m altitude and Mt Garet is at 600m above sea level. Lake Letas is now a conservation area with a finalized mangement plan ready for legal registration as a recognized CCA. It is also the first Vanuatu national Ramsar wetland sites resultant from the accompanying signing document for Vanuatu to accede to the Ramsar Convention on Wetlands in 2018. The lake is also in the World Heritage tentative listing for Vanuatu as a national World Heritage natural site. Lake Letas has 33 water sources feeding into the 12km by 2km lake. A healthy population of three freshwater eel fish species and freshwater prawn species of *Macrobrachium lar* are found in the Lake. A number of rivers are found in Vanua Lava, including Selva River and Alligator River which are both national wetland sites for Vanuatu and only habitats in Vanuatu which are home to saltwater crocodile populations. The Island constitutes various suitable habitats and ecosystems for endemic sea bird species, such as the Vanuatu Petrel. Mota Island is home to four flying fox species including the endemic Vanuatu Flying Fox and the Banks Flying Fox.

Terrestrial species are restricted to the confines of the land mass areas that make up Torba Province. In addition to diversity of species found in this province, there are also some local lianas/bush ropes and wild cane species of siginificance to the people of Torba which are used for making traditional baskets and traditional house materials and construction. These vines and wild cane must be protected to enable the continuous use and practice of traditional knowledge. This province has a unique traditional way of preserving breadfruit and Canarium nut (Nangae) that can still be consumed months after their fruiting seasons.

8.1.3.3 List of important Forest and Inland Water Species in Torba

Plant	**Animal**
Bara Palm tree	Birds
Blue Water	Coconut crab (*Birgus latro*)
Breadfruit	Crocodile
Bush Vines	Eel fish
Cordia allidora	Flying fox
Flowers	Marine Birds
Glyricidia	Megapod- Incubator bird
Loya cane	Water prawns
Nangai (Ngali nut)	Snakes
Namele	Vanuatu mountain pigeon
Oil Palm	Wild duck
Palms	Wild pigs/ cows

8.1.3.4 Threats to Forest and Inland Waters

The people of Mere Lava have raised concerns over flying foxes and birds that feed on the ripe Canarium fruits. As they are consumed, and the nuts arey dispersed away from the fruiting trees and thus causing a reduction on the local harvest from the fruiting trees, as the canarium nut is an important food source to the people of Mere Lava.

Threats that have impacts on the forest and inland waters biodiversity include over harvesting, population pressure on resource due to low income, clearing forest for gardening activities, weak governing system by village chiefs, invasive *Merremia peltata* and Little Red Fire Ant, and natural disasters such as earthquakes, volcanic ashes and climate change. The provincial validation workshop also set actions to address these threats in the matrix below.

8.1.3.5 Key Actions to Address Decrease of Forest and Inland Water Resources

Forest and Inland waters maintanence are not really a highlighted problem to Torba people for now. The disappearance of some of these important species draws attention to taking actions in conserving their forest and inland waters. The list of measures below is what Torba Province put together to address these threats.

8.1.3.6 List of important Forest and Inland Water Species in Torba

Threats	Action Plans to Address Threats	Agency Responsible	Timeframe
Human being (users)	Environment must be taught in schools syllabus and awareness raised to all people of Vanuatu.	DoE Torba Province	2017- 2030
• Population growth • Low income rate	• Seek for donor support • Integrated farming system (Aquaculture)	DEPC Torba Province	2020
Invasive species (Big leaf & fire ants)	Environment should be part of everyone's business	DEPC Torba Province	2020
Governing system Custom governance	Strengthen existing chiefly governance (enforcement)	DEPC Torba Province	2020
• Land dispute • Garden clearing	Producers cooperative (Agriculture)	Torba Province	2020

8.1.4 Torba Provincial Target for 2018 to 2030

During the NBSAP Torba Provincial Validation Workshop, there was a lot of discussions on existing protected sites and new ones in the marine and terrestrial environment. Torba province decided to put up some of its areas as target sites to contribute to the protection of Vanuatu's natural environment with the timeframe from 2018 until 2030.

8.1.4.1 Forest and Inland Waters Target

Forest Types	Conservation Objectives	Target by 2030
1. Dark Bush: Towlap Hill Forest and catchment (VL)	Protect water catchment, plus source of water supply- Provincial area	Community Management
2. Metoma Hill and forest- Torres	Protect wild life	Community Management
3. Forest interior of land- Touvetman- Motalava-	Protect coconut crab, protect wildlife, benefit through project (Carbon credit- climate change project)	Community Management
4. Vanua Lava Geo Park	Geological landscape	Formal Registration
Inland Waters		
1. Tingsion – Vanua Lava, 2. Twin waterfall plus source (Vanua Lava), 3. Melebay (Mota Lava), 4. Moi (Ureparapara)	Breeding ground for marine life	Formal Registration
5. Blue lake- Vanua Lava 6. Port Nawono (Aligator)- Vanua Lava	Habitat for crocodile- sea crocodile in Vanuatu	Formal Registration
7. Mota-Lava- Melebay	Tourist hotspot	Formal Registration
8. Valua Telvet – Mota Lava	Protection of water source/ catchment	Formal Registration
9. Abit River- Ureparapara-	Main water source, supply for the community - Protect water catchment	Community Management
10. Moi River- Ureparapara	Same as above- continue reason	Community Management
11. Lake Letas	Largest volcanic lake in the Pacific and unique plants and animals in the forest. World heritage site and wetland site	Formal Registration
	Replanting of trees to protect water source	
Total: Formal – 10 & Informal - 5		

8.1.4.2 Marine Areas Target

Potential Marine Area	Conservation Objective	Target by 2030
1. Reef Island	Trochus, green snail, giant clam, sea cucumber- for restock purpose/ tourist attraction	Formal Registration
2. Mangrove area- alligator river (Vanua Lava) 3. Dundu (Gaua) 4. Lembot (Gaua) 5. Aver (Gaua) 6. Divers bay (Ureparapara)	Fish nursery grounds, coastal protection from erosion and cyclone	Formal Registration
7. Metoma Island (Torres) 8. Black Rock- Toga, Island (Torres) 9. Linua (Loh, Torres) 10. Lilepe conservation area (Loh, Torres)	Coconut crab reserve	Formal Registration
11. Masivunu (Gaua) 12. Matanda (Gaua 13. Quanglap (Vanua Lava) 14. Ravenga (Vanua Lava) 15. Ambek (Vanua Lava) 16. Ontar Marine ParK (Gaua)	Turtle Nesting	Community Management through MPA
17. Trochus conservation (Gaua Island)	Continues breeding for economic benefits	On and off conservation
18. Vetangde Stone Island	Fish Breeding & tourism	Formal Registration
19. Losolava (Gaua)	Fish breeding & tourism	Community management
20. Rah Island	Fish breeding	Community management
21. Vetvai Conservation – Mota Lava	Fish breeding	Community management
Total: Formal – 11 & Informal 10		

8.1.5 TORBA Provincial Target Statement

Torba Provincial will protect **11 marine areas and 10 forest and inland waters** with a formal management system under the Environmental Protection & Conservation Act CAP 283 Act for Community Conservation Areas by 2030 and **5 forest & inland waters and 10 marine areas** will be under traditional resource management system by the community and land owners.

8.1.6 Reference

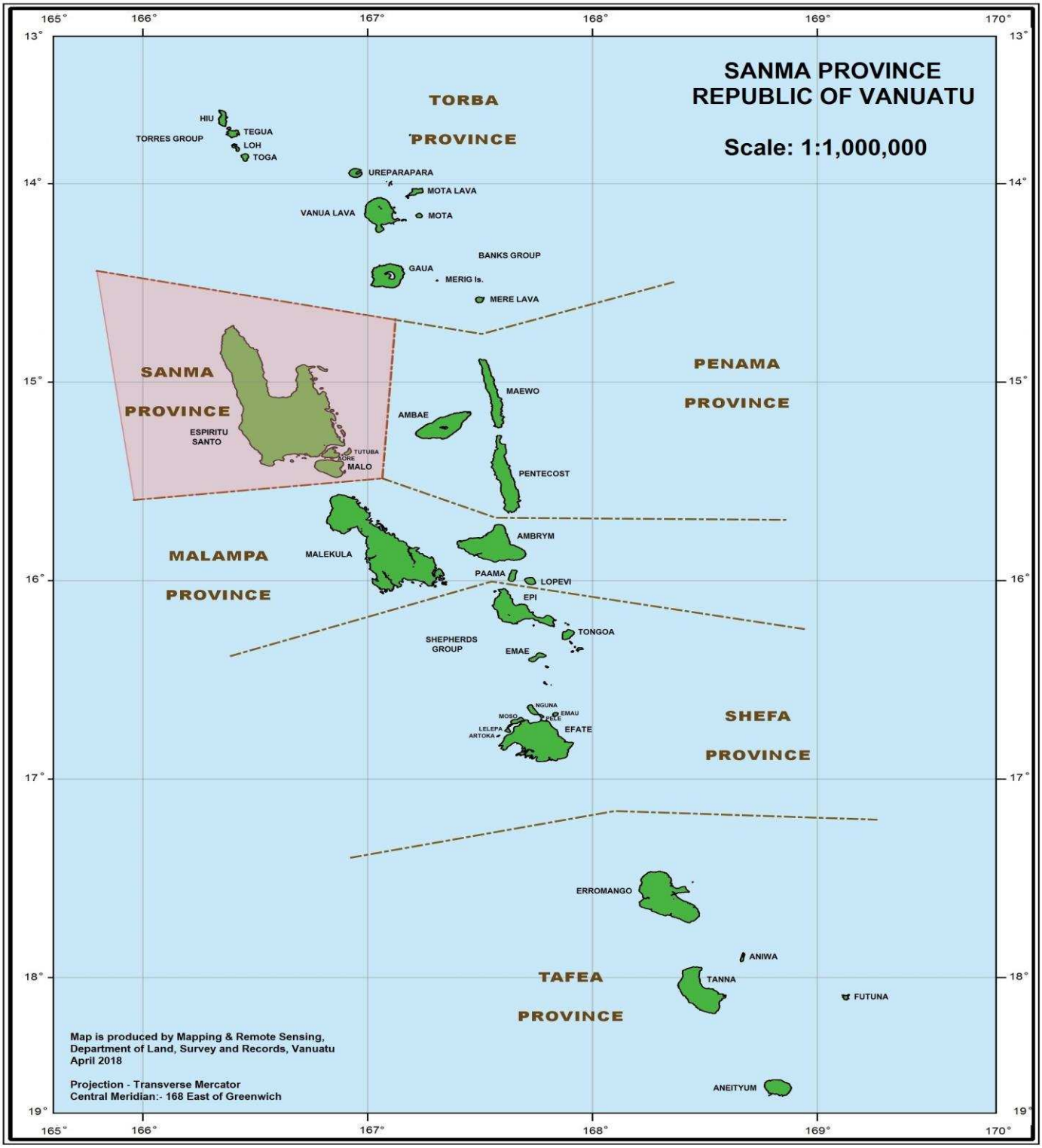
Coleman, P. J. 1970: Geology of the Solomon and New Hebrides Islands, as part of the Melanesian Re-entrant, Southwest Pacific. *Pacific science 24*: pp. 289-314.

Vanuatu National Statistics Office. (2016). 2016 Post- TC PAM Mini- Census Report, Port Vila, Vanuatu

8.2 SANMA PROVINCIAL NBSAP IMPLEMENTATION FRAMEWORK

8.2.1 Background

Sanma Province is located to the northern region of Vanuatu. It has the largest island in Vanuatu, Espiritu Santo, with its neighbouring islands, of Malo and Aore and a number of other offshore islands. The name Sanma is formed from the beginning of the two first letters of the main islands, San from **San**to and Ma from **Ma**lo. Geologically, the islands of Sanma province areamong the oldest islands in the Vanuatu archipelago, comprised of ancient volcanic rock dating back from Late Eocene until the middle Miocene Era (Coleman, 1970).



8.2.1.1 Population & Total Land Area

Sanma Province has a population of 52,145 people with a total land area of 4,248 km². Santo Island is the largest land mass of the province and Vanuatu as a whole with a total of 4,010 km². The highest peak in Vanuatu stands at 1,879 m and is named Mount Tabwemasana in west-central Espiritu Santo. Santo, Malo and Aore are the three main islands with ten more small offshore islands.

The people of Sanma rely on subsistence farming for food, raising cattle, pigs and chicken with yams, taro, root crops and vegetables. The main source of income is from copra, cacao (being the largest exporting island), kava and sale of crops in the market. The neighbouring islands sell fish catches to earn money. Handicraft is becoming one of the increasing sources of income due to increase in tourism. Tourism is on the rise and has developed in Sanma tremendously, now also with upgraded access entry of cruise ships to an improved Luganville harbor, which generates a good source of income for the handicraft markets. In the previous years, Santo received a decent number of cruise ships. However eleven crusise ships are scheduled to arrive in Santo in 2018.

8.2.1.2 Sanma Provincial Government

The headquarters of Sanma Province is located in Luganville Town; which is the second largest township in Vanuatu after Port Vila. All government offices and private businesses are located in Luganville town. The establishment of Sanma provincial government is through the Decentralization Act of 1994. The Provincial Government of Sanma has established area secretaries (Administrators) according to district areas. Sanma Province has 12 area secretaries. The appointed area secretaries represent the voices of their respective areas to the provincial government for different development initiatives including the protection of natural resources. The validation workshop helped the people of Sanma through the area secretaries to raise important areas for protection. Sanma Province has a Corporate Plan that states that each area secretary has to register at least 1 or 2 conservation area (s) with the Environmental Protection and Conservation Act CAP 283 by 2020.

8.2.1.3 Vision

The Sanma Provincial Government Council (SPGC) envisages; building a stronger, developed and self-sustaining province, while sustainably managing its unique abundant natural resources and Key Biodiversity to benefit all its citizens.

8.2.1.4 Mission

To ensuring the conservation and sustainable management of its unique, abundant natural resources and Key Biodiversity for the people of Samna Province and Luganville in a coherent manner: ensuring that resources are utilized efficiently and sustainably.

8.2.2 Marine

Sanma Province constitutes the largest land area in Vanuatu, subsequently with very long stretch of coastline area. Sanma also possesses some of the largest marine areas compared to other provinces in Vanuatu. . The main island has about twelve (12) surrounding smaller sentinel islands. The island of Santo is a tourist diving hotspot with many shipwreck dive sites (like the world renowned “president coolidge”which is also a marine reserve), healthy rich, coral reefs and nice stunning white sandy beaches like the famous champagne beach with its crystal clear water.

People of Sanma province also depend on marine resources for food and income, however, not as heavily dependent on it, as they tend to use more of the resources on land rather than those of their marine environment due to the large size and abundance of resources on Espiritu Santo Island. Participants at the validation workshop however, felt that measures should be taken now to protect the marine resources, even though people do not heavily depend on it at this stage yet. This idea of protection and conservation measures seems to be important at this present time as more immigrants from neighbouring islands are moving to Luganville to live and find job, with rural to urban drift.

Conservation is not a new approach for Sanma Province, as it also has the greatest number of four registered conservation areas that are found in Sanma Province. These are Vatthe Conservation area, covering both terrestrial and marine areas, Loru Protected area (forest); Penoru conservation area (forest and inland waters) and Edehope (forest) conservation area.

The list below shows the existing marine areas that are protected under private/ landownership or community managements with proposed marine areas that are considered important for protection and are threatened in some ways are also listed.

8.2.2.1 List of Existing and Proposed Conservation Areas in Sanma Province

Existing Marine areas	Location (Island)	Importance to the Community	National Priority
East Malo	Malo	Fisheries resource	
Loru Conservation Area (registered)	Santo	Forest Conservation	Registered CCA
Tutuba	Tutuba island	Nursery and fishing ground	
Araki	Araki island	Protect fisheries resources	
Bokisa	Bokisa Island	Protection of marine resource on the island	
Keven Anderson Plantation	Santo	Private owner	Process to CCA registration
Malo pass	Malo Island	Protection for fishing ground with rich marine biodiversity	Proposed for MPA
Olpoe	Santo	Protection of Marine life	
Pasena	Santo	Protection of Marine life	
Baigaragara	Santo	Protection of Marine life	
Tamalum	Santo	Protection of coral reef and fishes	
Ratua	Ratua Island	Private Island	Process for CCA
Oyster	Oyster Island	Private Island	
Pilotin	Pilotin island	Private	
Tangis	Santo		
Natawa (Nerenit fish feeding)	Santo	Tourism, fish feeding	
Banban (Traditional Tabu)	Santo	Overharvesting	
Saint Michelle (Private)	Santo	Private to protect environment	
Cape Quaros (Traditional Tabu)	Santo	Protection of marine resource	
Lajmoli (Traditional Tabu)	Santo	Protection of marine resource	
Beao (Traditional Tabu)	West Malo	Protection of marine resource	
Savakas Plantation (Traditional tabu)	Santo	Protection of marine resource	
Belvus (Traditinal Tabu)	Big bay, Santo	Protection of marine resource	

Proposed Marine Areas Locations			
Sarakata River (Formal)	Santo	Over harvesting	
Unity Park Seafront (Formal)	Santo	Protection of marine and freshwater species	
Beachfront (Red corner near oil mill)	Santo	Protection of Marine resource	
Samansin to Banban	Santo	Protection of Marine resource	
Elephant Island	Santo	Protect the Island marine resource	
Dolphin Island	Santo	Protection of Marine resource	

8.2.2.2 Marine Species Biodiversity

Marine ecosystems that are found in Sanma are mangrove areas, lagoons, seagrass beds largely on the East Coast o the South. Estuarine environments. In parts deep water is close to coast ,as a result benthic and pelagic fishing grounds are close to coast, evidently, also rocky coastline, cliffs, boulder bank areas and long stretches of black sand beaches that drop off into deep are found all along the west coast.

Most widely common ecosystem found throughout are rich with different types of coral reef systems. These ecosystems are populated with a vast great diversity of marine species of vertebrates and invertebrates, fish, sea mammals, sea reptiles, seabirds from coastline to the reefs crest and beyond. Offshore having areas of good pelagic and benthic fisheries such as tuna, marlin, poulet, snapper, proximity to trench, canyons, seamounts, (notably the seamount off the Southwest Coast being protected under fisheries regulation) , etc Marine species are very important for food and generating income.

8.2.2.3 List of important Marine Species in Sanma

Invertebrates	Fish	Sea Mammals	Marine Ecosystems
Clam Coconut crab Crab Green snail Lobster Octopus Prawns Sea Cucumber Shellfish Squid Triton Shell Trochus	Eel fish Dolphin Turtle	Dugong Whale	Coral reefs Mangrove Sand (beaches) Sea grass bed

8.2.2.4 Threats to the Marine Species

The main threat to the sizes and population of marine resources resources is the catch of undersized fish, which are regularly caught in large numbers for subsistence, food and consumption and sale at the stores and local market outlets. This has caused pressure on marine resources especially fish stock.
COTs is also one of the natural threats to coral reefs. In 2015 a huge outbreak of COTs was encountered within and along the main channel between Luganville and Aore Island.

8.2.2.5 Key Actions to Address Decrease of Marine Resources

Different management methods were used to manage different threats. The Fisheries Department for example, has used trialed and tested injection methods using feld tested and locally developed serum and technologies to eliminate COTs along Luganville coastline. (Dumas et al. 2014).

Threats	Action Plans to Address Threats	Agency Responsible	Timeframe
Overharvest of resources	Register Areas (CCA/ MPA)	DEPC VFD	2020
Crown of Thorns invasion	Stop invasive species with management plans Remove Crown of Thorns	VFD	2020
2 (two) finger net	Stop foreign uses of fishing gear	VFD	2020
Soil erosion (Coastal erosion)	Replanting of mangroves	DoF VFD	2020
High population growth	Register CCA	DEPC	2020
Cutting and clearing of mangroves	Create by-laws	DoF DEPC VFD	2020
Lack of respect on tabu areas	• Consultation of laws to community • Enforcement of tabu laws • Improve awareness	VFD Chiefs	2020
Snorkelling with fish gear	Ban snorkelling with fish gear	VFD DEPC	2020

8.2.3 Forest and Inland Waters

Sanma Province has an immense vast expanse of forest area and forest type and inland water systems, that range from coastal to mountain/cloud forest, wet to dry, and deciduous forest, grassland, swamp, marshland, large river systems,(having the largest river in Vanuatu; Jordan River, Big Bay) lakes. water bodies, limestone geology of the island include karst systems that make up vast largely unknown interconnected subterranean waterways some running many kilometers beneath the island, also incorporating the famous ‘blue holes’ the large bodiesof freshwater found mostly on the eastern part of Santo with theirclear prisitine, fresh water, giving it its famous blue hue. Below are list of different forest areas and water zones that are being protected and will be considered for legal protection.

8.2.3.1 List of Existing and Proposed Forest and Inland Water Conservation Areas for Sanma Province

Existing Forest area	Location (Island)	Importance to the Community	National Priority
Kole/ Loru (registered)	Santo	Forest Area Conservation with birds and coconut crab	Registered CCA
Matantas (registered)	Santo	Forest Area conservation	Registered CCA
Penauro (registered)	Santo	Protect for Agathis & Sandalwood Forest, Water Catchment, Endemic & Endangerd Spp	Registered CCA
Tasmate (registered)	Santo	Forest Area conservation	Registered CCA
Botmas (On process for registration)	Santo	Protect for Forest, water Catchment, Endemic & Endangered Spp	In process for CCA registration
Mt Tabwemasana (On process for registration)	Santo	Endemic bird- Santo Mountain Starling	IBA and in process from CCA registrations
Hydro Sarakata River and forest	Santo	Protection of water source	hydropower
Buevunsupe – Eden Hope (Private)	Santo	Protection of forest- Private ownership	
Tawifield (on process for registration)	Malo	Protect forest	In process for CCA registration
Freshwater plantation (Private & landowner)	Aore	Private ownership	
Bokisa	Bokisa Island	Protection of the whole island and its environment	
Proposed Forest and Inland water Area Location (Island)			
Saroa Catchment area (Sarakata River)	Santo	Protection of water sources	
Kerewia River (West Santo) to Lopelope (South East Santo)	Santo	Protection of water sources	
Navaka Catchment	South Santo	Protection of water catchment	
Belie River	North West Santo	Protection of water catchment	
Karaifas river & catchment	Santo	Protection of water catchment	
Lape river &catchment	Big Bay, Santo	Protection of water catchment	
Wanamput catchment & river	Santo	Protection of water catchment	
Jordan river	Big bay, Santo	Protection of water catchment	Vanuatu Wetland Site
Valampil Catchment & river	South East Santo	Protection of water catchment	
Raovi River, Matevulu River	Big Bay, Santo	Protection of water catchment, Tourist site	
Wailapa Catchment & river	South Santo	Protection of water catchment	

Existing Forest area	Location (Island)	Importance to the Community	National Priority
Tavol River, Riri blue hole (Matevulu)	Santo	Protection of water catchment, tourist and recreational site	
Wailo catchment & river	Big Bay, Santo	Protection of water catchment	
Beilapa river	Big Bay Santo	Protection of water catchment	
Bufo Catchment & river	South Santo	Protection of water catchment	
Bua river	North West Santo	Protection of water catchment	
Venua River	South Santo	Protection of water catchment	
Sauriki River	West Santo	Protection of water catchment	
Benavos river	West Coast Santo	Protection of water catchment	
Malo Pass Catchment & river	Malo	Protection of water catchment	

8.2.3.2 Forest and Inland water species biodiversity

Larger and older islands generally support both a greater diversity of terrestrial ecosystems, and a greater diversity of plants and animals (Taiki et al, *2002. Unpublished*). Sanma Province has a wide range of species diversity due to its largeness, the large mass area of land, with its vast and varied terrain. Santo being the the oldest island and largest island in Vanuatu, it it hosts a greater diversity of plant and animal species which allows for high endemism, some are listed in the endemic species list (Annex 8). For example, some of the palm tree species on Santo are special and unique, and have adapted to exist primarily according to the temperature, climate and altitude gradient experienced in the mountain range on the island. It is also home to the Santo Mountain Starling, an endemic bird confined to and aroundthe highest peak in Santo and Vanuatu, Mt Tabwemasana. Sanma is listed as having a number of Key Biodiversity Areas (KBA's). The Santo Mountain chain being the largest KBA, and priority KBA in Vanuatu (according to CEPF classification status), is therefore a highly important KBA as a number of endemic and threatened species are found within this area and warrant significant attention for protection. Conservation is not new to Sanma Province as having the most number of the conservation areas legally registered, and exhibiting special and unique flora and fauna due to high rate ofendemism. Below is the list of plants and animals that are important to Sanma Province;

8.2.3.3 List of important Forest and Inland Water Species in Sanma

Plants	Animals
Bamboo	Birds
Banyan Tree	Coconut crab
Black Palm	Eel fish
Canoe	Flying fox
Namele	Freshwater crabs
Bush Ropes	Fresh water fishes
Watercress	Prawns
Other trees	Santo Starling - Mataweli

8.2.3.4 Threats to Forest and Inland waters

Sanma is the largest and the geologically speaking oldest province in Vanuatu. Its geological age and greater land mass, it harbours abundant terrestrial biodiversity and has a high levelof endemism of plants and animals. Large parts of the island still have intact coastal forests and much of the inland areas still have primary forest remaining, considering size of land area to population density. Alot of the eastern and southern parts of the islands primary forests have been logged in the past and until recentlyand converted into coconut plantations with cattle farms. It is understood that the *Merremia peltata* (Big Lif), the invasive vine regenerates prolifically in areas of disturbed vegetation. This is evident on coastal, middle and high altitude regions of Santo where the invasive vine is invading a lot of garden areas, secondary forest areas, as well as encroaching the primary forests from these disturbed areas. This is creating loss of forest trees as the vine encompasses covers and "crowds out" large tracts of forest. It is spreading at an alarming rate as no management action has been taken in many areas of Santo and in other islands where the vine exists.

Other threats indentified during the consultation workshop include, bush fires, extensive gardening, domestic and feral livestock farming, overharvest of resources, population pressure on resources, agricultural activities, soil erosion and Taccidental introduction of Tilapia into rivers.

8.2.3.5 Key actions to address decrease of forest and inland water resources

Some intact forest areas in Sanma Province have been lost due to *M. peltata* and some measures were taken to manage the invasion of this invasive species in (2005-2006). *M. peltata* has destroyed forests structures and ecology particularly impacted are the large, elder, mature important trees of the forests.

Threats	Action Plans to Address Threats	Agency Responsible	Timeframe
Logging operations	• Registration of forest areas to stop cutting of trees • Management plan for logging operations	DoF	2020
Bush fires	• No burning for gardening • Agro-forestry	DARD	2020
Gardening/ Farming	Agro-forestry	DARD	2020
Invasive species (big rope (Meremia), Piko plant, mahu bird, pengali)	• DEPC and Forestry to deal with big leaf invasion • Stop invasive species with management plans	DEPC DEPC	2020
Overharvest	Register sites to restrict access.	DEPC	2020
Population growth and pressure on forest	Integrated farming; livestock, tilapia farming and crop gardening	DoF DARD	2020
Agricultural activities	Intergraded farming	DARD	2020
Soil erosion	Reforestation	DoF	2020
Tilapia in rivers	Awareness on side effects of tilapia farming	VFD	2020

8.2.4 Sanma Provincial Target for 2016 to 2030

During the NBSAP Sanma Provincial Validation Workshop, a lot of discussions were on existing protected sites from the Marine and Terrestrial environment. Sanma province has shown a good trend with registration of conservation areas since 2004 to date. . Sanma province has decided to put up some of its areas as target sites to contribute to the protection of the natural environment within the timeframe from 2018 until 2030.

8.2.4.1 Forest and Inland Waters Conservation Areas Target

In-land waters	Conservation Objective	Target by 2030
Santo 1. Soroa River & catchment 2. Karaefas River & catchment 3. Wanamput River catchment 4. Valampil river catchment	• Oli link wetem Sarakata river Main water source blong Luganville • Main source blo hydro powerHome blong wild life • Blong usum long future	Formal Registration
Santo 1. Navaka Catchment (S. Santo) 2. Waialo river 3. Ajone river 4. Wailapa river 5. Bufo river 6. Venue river 7. Kerewai river (W. Santo) 8. Sauriki river (W. santo) 9. Penafos river (W. Santo) 10. Belie river NW. santo) 11. Lape river (BBay) 12. Jordan River (BBay) 13. Apuna River (BBay) 14. Aovi river (BBay) 15. Tavol River (BBay) 16. Beilapa river (BBay) 17. Lopelope river (SE Santo) 18. Riri Blue Hole (SE santo)	• Main water source • Home to wildlife inside forest • For future use	Informal
Malo 1. Green river – Navura river 2. Malopass river – wailapa river 3. Sevtirtir river- wainawetu river 4. Assersere river 5. Watabelo river 6. Vathwere river 7. Wairus River	Same as above	Informal Formal Registration
8. Botmas (Canal Fanafo)	Animals and forest area	Formal Registration
9. Nampauk (C/Fanafo)	Sustain living things in forest	Formal Registration
10. Mt, Tabwemasana (W. Santo)	Protect trees and animals	Formal Registration
11. Tawi Field (W. Malo	Protect trees and animals	Formal Registration
12. Hydro Site (C/Fanafo)	Protectem ol plants/ trees and animals	Formal Registration
Total: Formal- 10 Informal - 24		

8.2.4.2 Marine Targets Areas

Marine Areas	Conservation Objective	Target by 2030
1. Malo Pass to waesale (E. Malo) 2. Tutuba Island (SE Santo) 3. Sarakata River, PB Wharf, college De Santo, Rotary Park and Samansin Wharf 4. Hog Harbour 5. Port Olry 6. Lolot 7. Tangis Mainland	Protect water source Protection of Forest Protection of Environment Protection of Fisheries Protection of Coral Protection of Nursery areas Protection of Coral reef Protection/ increase stock of fish Protection of Mangrove and fisheries	2017 – 2030 to legally registered
8. Belvus (Big Bay) 9. Nokuku (NW Santo) 10. Hokua (NW Santo) 11. Pesena (BBay) 12. Wusi	Protect of water source Protection of Forest Protection of Environment Protection of Fisheries Protection of Coral Protection of Nursery areas Protection of Coral reef Protection/ increase stock of fish Protection of mangrove and fisheries	2017 – 2025 to Informal management
13. Malo pass (E. Malo)	Protect mangrove and species that live within	Formal Registration
14. Tasmalum (S/S AI)- South Santo Area 1	Protect fish and reef	Formal Registration
15. Ambakura (E. Malo)	Fish and reef protection	Formal Registration
16. Tutuba Island (SE)	Reproduction of marine life	Traditional Tabu
17. Baigaragar (S/S AI)	Reproduction of marine life	Traditional Tabu
18. Olpoe (N/W Santo)	Reproduction of marine life	Traditional Tabu
19. Pesena (Big Bay Coast)	Reproduction of marine life	Traditional Tabu
Total Formal: 10 **Informal: 9**		

8.2.5 SANMA Provincial Target Statement

By 2030, Sanma Province will legalise **ten (10) forest and inland water areas** and **ten (10) marine areas**. There will be twenty four (24) forest and inland water areas and nine (9) marine areas to be protected under tabu management with landowners or communities. Sanma Province has a corporate plan that includes a plan for all 12 area councils to register at least one (1) terrestrial or marine conservation area by 2020.

8.2.6 Reference

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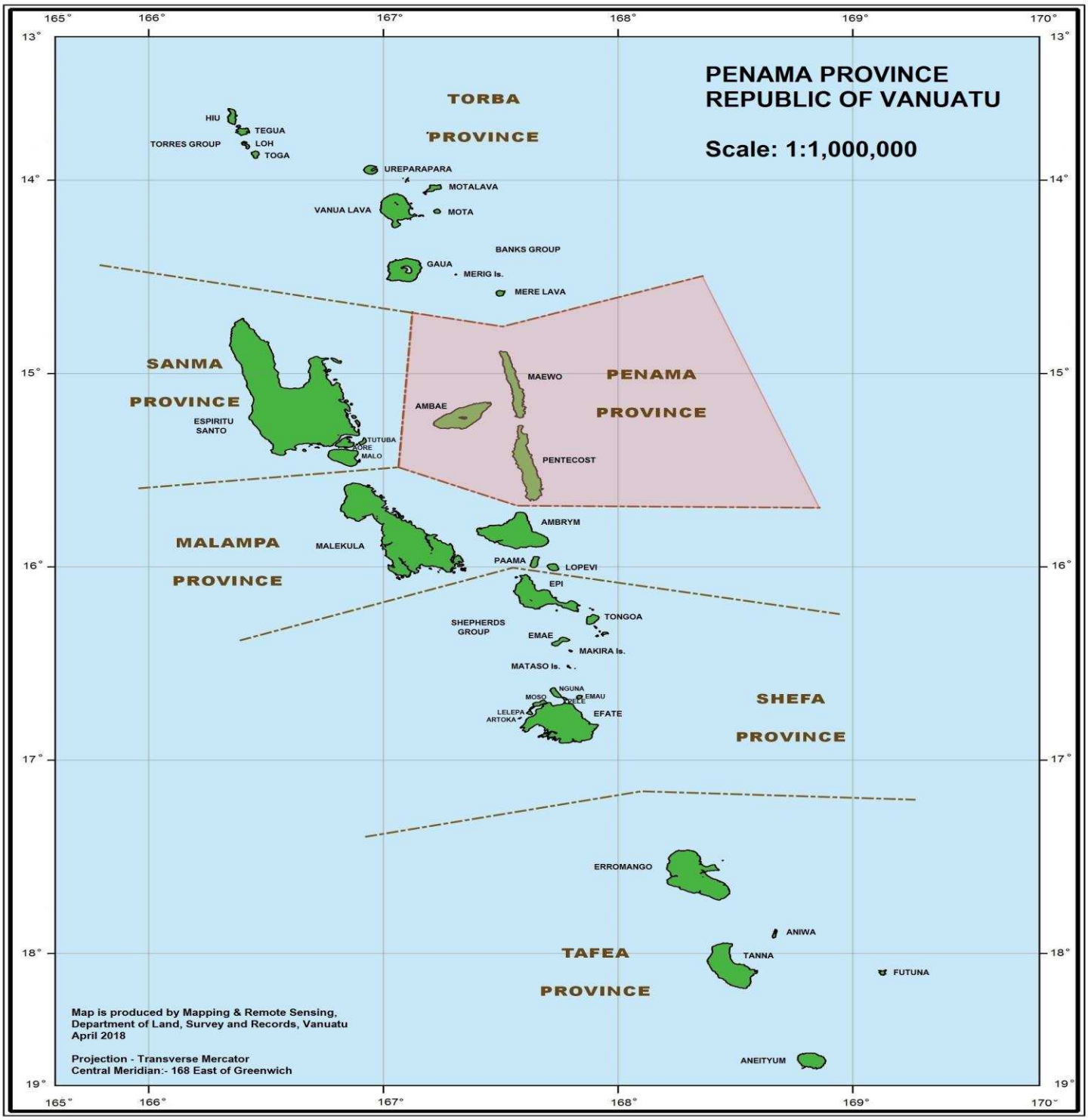
8.3 PENAMA PROVINCIAL NBSAP IMPLEMENTATION FRAMEWORK

8.3.1 Background

Penama Province is one of the six province of Vanuatu comprising the three islands of Pentecost, Ambae, and Maewo. Penama is located on the northeast of Vanuatu, east of Sanma Province. The name Penama derives from the beginning of each of the three islands, **Pen** from **Pen**tecost, **A** from **A**mbae and **Ma** from **Ma**ewo. The islands of Pentecost and Maewo were formed during the period of Late Eocene until Pliocene (Coleman, 1970) and Ambae was formed later with the Central Chain of islands at the age of Late Miocene.



8.3.1.1 Population & total land area

Penama Province has a population of 31,334 people and land area of 1,198 km^2. Penama is one of the provinces in Vanuatu where their traditions and culture is highly valued, maintained and respected. The people of Penama depend upon their natural resources to sustain their livelihood. The main source of income is the sale of marine fish, garden crops, livestock and their traditional handicrafts of mats and baskets.

8.3.1.2 Penama Provincial Government

Penama Provincial government was established through the Decentralization Act 1994. The main headquarter for Penama Province is in Saratamata, Ambae. Some of the government departments established their extension services under the Penama Provincial government in order to implement the National Policy right down to the community level. The department extension services form a Technical Advisory Group (TAG) that make decisions along with the key personnel of Penama province for the development of the province. Area secretaries are elected to govern their people in remote areas to represent and voice their respective areas' need to the provincial government. All of the area secretaries were present at the NBSAP provincial validation workshop.

8.3.1.3 Vision

A diverse and prosperous Penama founded upon good governance respecting and protecting nature for tomorrow.

8.3.1.4 Mission

A sustainable environment and ecosystem to support social and economic development for the people of Penama by 2050, where culture and nature live in harmony.

8.3.2 Marine

Marine ecosystems in Penama province are restricted, to the layout and geological and topographical form and features of the islands in this province, due to the geological formation and biophysical attributes of two islands of Pentecost and Ambae in particular where most coastline are comprised of volcanic rocks as opposed to the more common limestone substrate, on most islands throughout Vanuatu. Some coral reef areas are found in some parts of the islands, mostly on Pentecost and Maewo, with ambae having the least, due to its volcanic nature. There are areas of pelagc, deep water benthic, offshore species, that are a utilized fishery.. Currently there is no traditional marine tabus or marine conservation areas but some landowners have interests to protect their adjacent marine areas.

8.3.2.1 List of Existing and Proposed Conservation Areas in PENAMA

Existing Marine Areas	Location (Island)	Importance to Community	National Priority
Laone	North Pentecost	Nice beach, good fishing ground	
Baie Omo	South Pentecost	R2R- Forest, watershed, tourist activity and marine resources	GEF 4/ GEF 5 Project site, SUMA Site
Matasavi Navanda	East Ambae		
Black stone- sand mining	Ambae	Mining of sand Tabu system on its marine resource	
Proposed Marine Areas			
1. Devils Rock	Ambae	Fish feeding- upwelling, fishing ground and tourist activity	SUMA Site
2. Lolowai Harbor	Central Ambae	Fishing ground	
3. Losarai Sese Reef	East Ambae	Fishing ground	
4. Red cliff	South Ambae	Fishing ground	
5. Tahimamaui	North Ambae	Fisheries resource	
6. Wansa Conservation	North Pentecost		
7. Lawai Reef Conservation	North Pentecost		
8. Lavatmangemu reef	North Pentecost	Fishing ground	
9. Laone reef conservation	North Pentecost		
10. Warugu reef conservation	North Pentecost		
11. Van Rewerep reef	Central Pentecost		
12. Point Cross	South Pentecost		
13. East Pentecost	Pentecost	Geothermal site and Hot Spring	SUMA Sites
14. Pangi	Pentecost		
15. Ranputur – yellow eel	Pentecost	Yellow eel	
16. Naone Bay	North Maewo	Geothermal site and Hot Spring	SUMA Site
17. Asanvari reef conservation	South Maewo	Protection of marine resources and tourist activity	
18. Kerebei reef conservation	Maewo	Protection of marine resources	
19. Nasoa	Maewo		
20. Naumumu	Maewo	Fishing ground	

8.3.2.2 Marine Species Biodiversity

Like other proviinces, Penama communities also rely on coastal and marine resources for food and they recognise the importance of managing marine ecoystems and protection of marine biodiversity.

8.3.2.3 List of important Marine Species in Penama

Fish	Invertebrates	Birds	Marine Ecosystems
Eel fish Finfish Fish Sharks Turtle	Coconut Crab Crabs Octopus Trochus Sea Cucumber Shellfish	Comorants Petrels Reef Heron Shearwaters Other sea birds	Coral reefs Mangrove site Sea grass beds Upwelling reefs (feeding ground)

8.3.2.4 Threats to the Marine Species

Penama workshop participants indicated in the consultation that the main threat is overfishing. People are continuously harvesting the resources, not knowing or being informed by expertise on technical information on the different marine species, the life cycles of the species, stockand management measures. Such information can help the communities to find ways to sustainably manage their resources. Other threats raised in the workshop are poaching in tabu areas, inland water discharge, runoff, floating debris (waste), and Crown of Thorns.

8.3.2.5 Key Actions to Address Depletion of Marine Resources

It was learnt from the validation workshop that not enough awareness on importance of biodiversity and conservation has been conducted at Penama province. Information and knowledge from awareness could have helped them to focus more efforts on protection and conservation of their natural resources.

Threats	Action Plans to Address Threats	Agency Responsible	Timeframe
Overfishing	• Make awareness about seasons and species life cycles • Include marine environment information in school curriculum. • Introduce aquaculture farming to relieve pressure on natural systems	DEPC VFD Penama Province	2020
Inland water discharges	Reforestation reduce soil erosion up land	VFD Penama Province	2020
Floating debris on coastal areas of east Pentecost	DEPC and Province to implement clean up	DEPC Penama Province	2018-2030
Crown of thorn starfish	Eradication method	VFD Penama Province	2018-2030
Poaching	• Formalise conservation areas • Province to enforce traditional management systems to conserve and manage resources	DEPC VFD Penama Province	2018-2030

8.3.3 Forest and Inland Waters

Penama has reasonably good forest cover overall, amongst the three isands with patches of intact forest on Pentecost Island and dark bush, and primary forest found around Ambae and Maewo Island. These forests protect different water sources, watersheds and catchment areas, springs, streams, creeks, rivers and lakes (notably Lake Manaro and vuigesa on ambae). Ambae Island and Pentecost Island have less surface water of the three islands with most water sources being derived from ground water and rain water stored in cement tanks. Maewo Island has the most surface water in Penama Province, with big rivers, streams waterfalls and cave waterways.to be found littered throughout the island These waters are protected by the vegetaion density of forest areas.

8.3.3.1 List of Existing and Proposed Forest and Inland water Conservation Areas in PENAMA

Existing Forest and Inland Water Areas	Location	Importance to Communities	National Priority
Lini Memorial College (LMC)	North Pentecost	Cultural Site- Father Walter Hadye Lini Grave Site	Cultural Site
Vatumagemu	East Pentecost	Protect forest	
Abutuntora	North Pentecost		
Red cliff	South Ambae		
Nanigama	East Ambae		
Naone	North Maewo	Protection of forest and coconut crab	
Naomumu	North Maewo		
Diamond River & Catchment	South Pentecost	Protection of watershed	Potential mineral resource
Baie Omo	South Pentecost	Protection of marine and forest wildlife	R2R with GEF 4/GEF 5 Project site
Duviara Conservation Area	North Ambae	Protection of forest and water catchment	
Proposed Forest and Inland Water Areas Location			
Talise River & catchment	South Maewo	Potection of water source	Proposed mini Hydro power
Asanvari river & catchment	South Maewo	Protection of watershed, tourism site	
Nasawa river & catchment	South Maewo	Protection of water source and wildlife	
Naviso river & catchment	East Maewo	Protection of watershed, Forest and wildlife	
Narovorovo	South Maewo		
Nasawa to Baetora	South Maewo	Protection of watershed	
Manaro Lake forest	Central Ambae	Sacred lake and volcanoe	National Wetland Site
Waisala, wai lawua, wainasasa – creek & catchments	Ambae	Protection of watershed	
Lolobanga lake & catchment	West Ambae	Protection of watershed	

Existing Forest and Inland Water Areas	Location	Importance to Communities	National Priority
Wai Memea lake & catchment	Ambae	Protection of watershed	
Wai Lebutaga Lake & catchment	Ambae		National Wetland Site
Wai meuri catchment, Lomanga	North Ambae	Protect water source and wildlife	
Matamata mei quro (Ambanga Wai Maeto)	North Ambae	Protect water source	Akihito- Endemic freshwater species
Lolovoli Community Conservation Area (forest)	South Ambae	Protect water source and wildlife	
Matawando catchment	South Ambae	Protect water source and wildlife	
Wai Sine catchment	South Ambae		
Vatinaqili to Lologaro	South to West Ambae		
Wairoro catchment Aute Village	North Pentecost	Protection of watershed	
Banmatmat river catchment	South Pentecost		
Wanur Forest	South Pentecost		
Waet Water catchment, Ranmawot School	South Pentecost	Protection of watershed	
Waterfall catchment	South Pentecost	Protection of watershed & waterfall	
Melsisi river catchment	Central Pentecost	Protection of watershed	
Patnafni river catchment	Central Pentecost		
Metanami forest (near Levaka Village)	Central East Pentecost		
Aliku river & catchment	East Pentecost	Protection of watershed	
Walbongi river& catchment	North East Pentecost	Protect water source and wildlife	
Tuleo forest	North Pentecost	Protect Forest	
Namaram river & catchment, Surukavien area	Central Pentecost	Protection of watershed	
Loltong river & catchment	North Pentecost	Protection of watershed	
Waiboe lake	North East Pentecost	Protection of watershed	

8.3.3.2 Forest and Inland Water Species Biodiversity

Penama forest and freshwater systems contain some endemic species of plants and animals. One such is the freshwater gobby species, *Akihito vanuatu*, which is only found on Ambae and Pentecost. Some Important Plants and Animals Species that are important to the people of Penama are listed below.

8.3.3.3 List of important Forest and Inland Water Species in Penama

Plant	Animals
Black Palm Bush vines (ropes) Cane - Rattan Namele Cycad Palm trees (Niniu) Verns Wild Orchids	Akihito Vanuatu Flying fox Freshwater prawn Green Palm Lorikeet Incubator bird Lolowai fish Other wild life

8.3.3.4 Threats to Forest and Inland Waters

The main threat to forest and inland waters is the pressure on resources due to high population growth in the three islands. Resources are being used faster than they are able to be replenished resulting in their decline. At present Ambae Island is facing natural disaster threats through volcanic ash fall from the eruptions of Lobenben volcano, which also has impacted severly on vegetation, forests and water sources watersheds and systems. Below are some of the the threats that affect these resources and actions to address them.

8.3.3.5 Key actions to address decline of Forest and Inland Water Resources

Threats	Action Plans to Address Threats	Agency Responsible	Timeframe
Population pressure on resources	Educate on natural resource management Educate through schools	DoE DEPC Penama Province	2020
Fire	Reforestation	DoF DEPC Penama Province	2020
Gardening system-clearing and burning	Integrated farming system	DARD Penama Province	2020
Over-harvesting of resources	Formalise conservation areas	DEPC DoF Penama Province	2020
Forest clearing close to water sources for building materials	Set water buffer zones Carry out awarenss on impact of clearing close to water sources	DoF DGMWR DEPC Penama Province	2020
Big Lif impact on forest biodiversity	Eradicate Big Lif	DEPC Penama Province	
Invasive Shrub, *Solanum torvum* (Piko) impact on secondary forests	Eradicate the shrub	DEPC BV Penama Province	2020
Lack of knowledge on objective of conservation	Implementing and promote local or custom governance to help zoning or planning how each activity to take place Strengthening custom Tabu Develop by laws to help or control hunting, fishing or harvesting of some resources. Eg: coconut crab & birds.	Local Chiefs Penama Province DEPC	2020

8.3.4 Penama Provincial Target for 2016 to 2030

During the NBSAP Penama Provincial Validation Workshop, the discussions were directed at focus on protectingof marine and forest areas as target plans for the NBSAP Provincial plan. Penama province decided to put some of its forests and inland waters areas as target sites to contribute to the protection of the natural environment. Some of the sites have been categorised timeframes for legal registration under the EPC Act, while some sites have not been given timeframes for registration.

8.3.4.1 Existing Conservation Areas Target in Terrestrial and Marine

Conservation Area ***Phase 1: 2016 - 2022***	**Conservation Objective**	**Management System**	**Status of Conservation Area**	**Target by 2030**
1. Hot Water (South Pentecost)	• Protect water source, • Potential site for geo-thermal energy, • Proposed PPA	Informal, custom governance, Ulinsalean Council of Chief – AC: Robinson T	Informal	Formal Registration
2. Matamwado Water ways (South Ambae)	• Protect water source, • Protect habitat, • Proposed PPA-Provincial Tourism site	Informal custom governance Vatueulu AC: Annalyn	Informal	Formal Registration
3. Big Wota Qwilorua, Naone-North Maewo	• Protect water source, • Habitat protection, • Hydro power generation, • Proposed PPA (Tourism Site, Fish farming, Fresh water prawn farming	Informal custom governance, Bangun Vanua AC: Nanu Bani	Informal	Formal Registration
4. Manaro Gesa & Manaro Vui (Central Ambae)	• Tourism attraction, • Habitat for Orchid protection & other protection species	In formal Custom governance, AC: Stanley & Morris & Edmond Hoke, Tokotara, Vatuerlu, Lungei Takaro, Vatubuebulei Takaro	Informal	Formal Registration

Conservation Area	Conservation Objective	Management System	Status of Conservation Area	Target by 2030
Phase 2: 2022-2030				
5. Ambanga Water ways (North Ambae)	• Endemic fish protection, • Tourism site, • Cultural village- Lolosori	Vatuboiboleitakaro Informal custom governance	Informal	Formal Registration
6. Vatmangemu (North East Pentecost)	• Protect marine and forest habitat, • Custom Village/ Tourism.	Vatumalanvanua Informal custom governance AC: Marsden Rongo	Informal	Formal Registration
Phase 3: 2016 – 2030				
• Waterfall (S.P) • Waimemea/ Wailembutaka (NE Ambae) • Forestry Area (NE Ambae) • Nanigama (E Ambae) • Qwala Stone (W Ambae) • Vilakalaka (SW Ambae) • Tawate Forest (North Ambae)		Custom Governance		Custom Governance (Informal)
Total: Formal = 6		**Informal =8**		

8.3.4.2 Forest and Inland Waters Area Target

Forest Area / Types Inland Water/ Types Existing	**Conservation Objective**	**Target by 2030**
1. Diamond River (South Pentecost)	• Potential mineral site • Protection of water source and catchment	Informal- custom tabu (Malbangbang AC)
2. Duviara Conservation Area (Forest & water Catchemnt & creek- waimaeto, Ambanga-N.Ambae	• Protect forest water catchment • Protect water and special endemic fish (Akihito)	Formal Registration (Vatuboe bulei Tagaro AC)
3. Waimeuri Water Catchment (Lomalonga, N.Ambae)	• Protect safe drinking water sources • Prepare for population growth • Protect wild life	Formal Registration (Vatubue bulei Tagaro AC
4. Vutinaqili to Lolokaro Conservation Area (S/W Ambae)	• Protect intact forest and water catchment • Protect wildlife (corridors)	Formal Registration (Togatara & Vatueulu AC)
Proposed – Pentecost 5. Wairoro Water Catchment (Aute, N. Pentecost)	• Protect water source for majority of N. Pentecost • Protect water catchment and wild life	Formal Registration (Vatumalanvanua AC)
6. Loltong water source	• Protect water source saving over 2000 people • protect wild life	Formal Registration (Vatumalanvanua AC)
7. Melsisi River and Catchment	• Protect water source • Main water source for health center • Water saving over 2000 people	Formal Registration (Central Pentecost 2, Ulinsalean AC)
Proposed – Maewo 8. Talise River (S. Maewo)	• Protect water source & catchment • Mini hydro power site • Protect wild life	Formal Registration (roronda AC)
9. Naviso river (E. maewo)	• Protect water source & catchment • Protect wild life • Cultural site	Formal Registration (Baganvanua AC)
Total: Formal: 8	Informal: 1	

8.3.4.3 Marine Areas Target

Marine Area	Conservation Objectives	Target by 2030
Loltong Mangrove Conservation (N. Pentecost)	• Rare in Penama • Habitat long marine species mo inland • Hemi wan breeding siteProtectem marine life	Formal Registration (Vatunmalauvanua Area Council)
Devil's Rock Conservation (W. Ambae)	• Natural Habitat blo marine species • Upwelling cause feeding grounds • Protectem existing resources we I stap lo hem	Formal Registration (Tokutara Area Council)
Assanvari Conservation (S. Maewo)	• Unique reef blo protectemHabitat blong marine • Protectem coral reef	Formal Registration (Roronda Area Council)
Ranputor reef (S. Pentecost)	• Yellow eel fish • habitat blong marine life • snorkelling site for tourist	Formal Registration (Malbangbang AC)
Naone Bay (N. Maewo)	• Habitat blong marine mo freshwater species • Passage blo namarae mo naura blo release egg • Bay I aggregate fish mo nara marine species	Formal Registration (Bugauvahua AC)
Lawai (Aligu, E. Pentecost)	Habitat blong difren marine species	Formal Registration (Vatunmalanvanua AC)
Lolowai Harbor (E. Ambae)	• Protect from open sea • frequent by mangru, • spawning area blong fish	Informal (Lungei Tagaro AC)
East Pentecost (Nokat vilij between Metaname to Levetlis vilij)	• Special reef blo ol fresh wota species • Protectem coral reef	Informal (Suru AC and Ulinsalean AC)
Laone (N. Pentecost)	• Protectem Coral reef • Habitat blong marine life	Informal (Vatunmalanvanua AC)
Total : Formal: 6	Informal: 3	

8.3.5 Penama Provincial Target Statement

Penama Provincial Target for 2018 to 2013 is **14 forest and inland water areas and 6 marine areas** for legal registration. Some of the areas are set as targets to be registered as custom tabu areas, **6 marine areas** and **6 forest areas.**

8.2.6 References

Coleman, P. J. 1970: Geology of the Solomon and New Hebrides Islands, as part of the Melanesian Reentrant, Southwest Pacific. *Pacific science 24*: pp 289-314.

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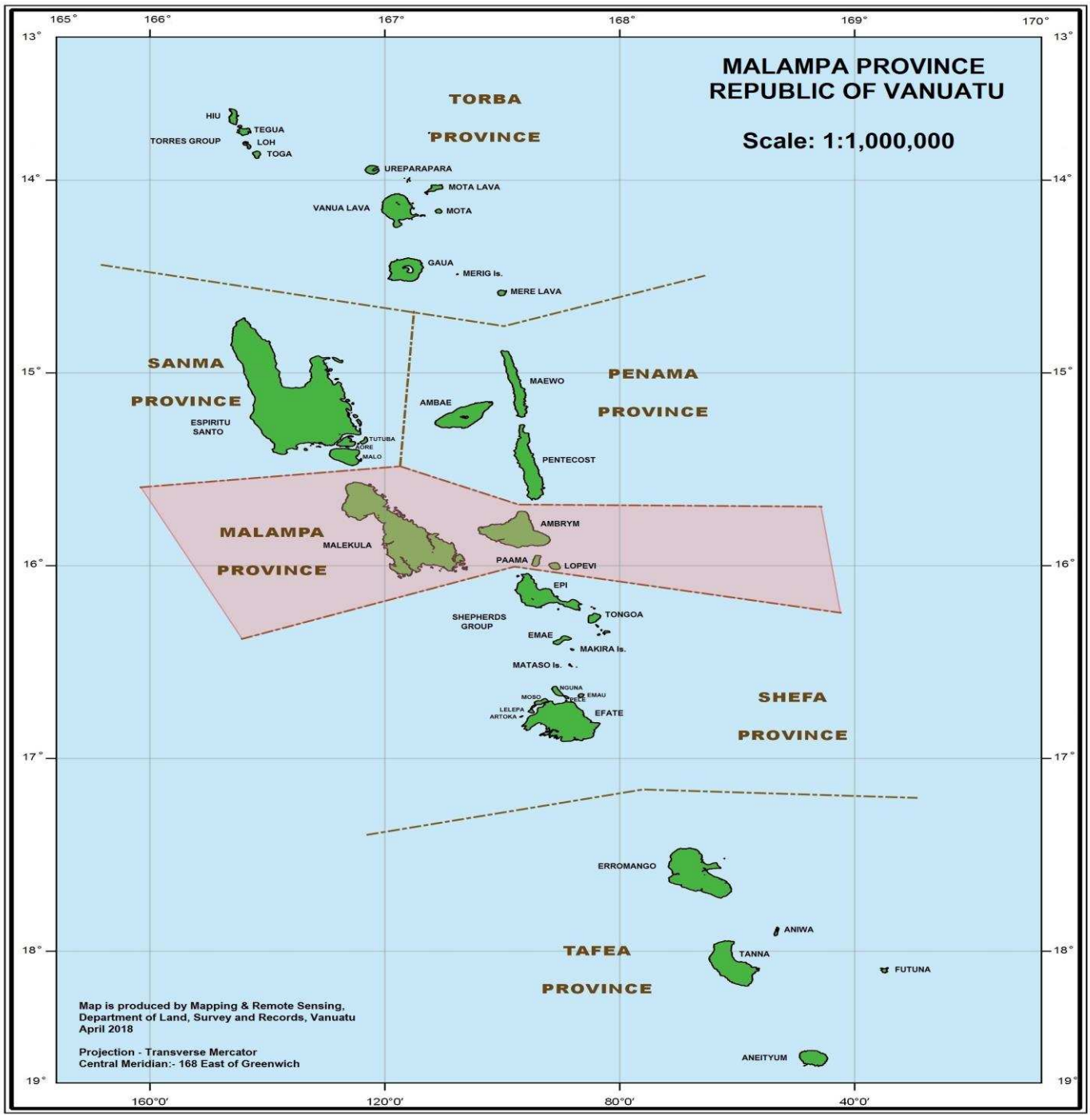
8.4 MALAMPA PROVINCIAL NBSAP IMPLEMENTATION FRAMEWORK

8.4.1 Background

Malampa Province is situated in the central part of Vanuatu and consists of three main islands; Malekula, Ambrym and Paama (lopevi being uninhabited). Malekula itself has other small islands, Uripiv, Norsup, Uri, Atchin, Vao and the Maskelyne islands and four (4) more along the southern part. Malekula is the second largest island in Vanuatu with a land mass of 2,053km2.

The name of Malampa province is derived from the beginning of the three main islands; **MAL**alakula, **AM**brym and **PA**ama. The island of Malekula is geologically grouped with Espiritu Santo and Torres group of islands as the oldest formed islands in the late Eocene until the Middle Miocene (Cole, 1970). Ambrym Island is known for its two volcanic craters, Marum and Benbo volcanoes that attract tourists to this island.



8.4.1.1 Population & total land area

Malampa province has a population of 39,997 people and a land area of 2,779 km2. The main business centre for Malampa is Lakatoro located in the central part of Malekula. The people of Malampa earn their living through the sale of cash crops; copra, cocoa, kava and fish the market at Lakatoro. Tourism has become one of the developing businesses in Malampa with its rich and colorful diversity of strong cultures and traditions still maintained, handicraft being the main product. The people of Ambrym are specialised in carving, using master carvers, they carve with different species of forest trees and common fruit trees like breadfruit tree (renowned for their 'tamtams'; slit gongs'). Carving is a very good income for the people of this island, which has volcanic ash-enriched soils conducive also for gardening of crops.

8.4.1.2 Malampa Provincial Government

Under the Decentralization Act 1994, the country was divided administratively into six provinces and Malampa Province was established. Malampa province has a role play to establish government institutions within its management. All national government extension services have a role to implement the National Plan under provincial governance and they exist under Malampa Provincial umbrella.

Malampa province has a President and a Secretary General to head the administration of this province. Malampa Province has a Corporate Plan that was set to guide this province by the Technical Advisory Group (TAG) with the help of the Area council secretary elected by the people under each districts within the three islands of Malampa.

8.4.1.3 Vision

Manage and preserve our resources for a clean environment for Malampa future generations.

8.4.1.4 Mission

Protect and sustain biological diversity for today and tomorrow and for the enjoyment of natural benefits from our forest, waters and marine resources for Malampa Province.

8.4.2 Marine

Malampa Province has many small sandy islands, islets, sand cays that are uninhabited particularly around malekula. These small islands are rich in marine resources. For example the Maskylenes. The marine ecosystems around the three main islands of Malampa constitute mangroves estuarine swamplands, extensive seagrass beds and meadows (the largest in Vanuatu found in Malekula), lagoons, mud flats and most commonly a multitude array of coral reef ypes and systems (fringing, barrier, and atoll) with stretches of white and black sandy beaches. Offshore having areas of good pelagic and benthic fisheries such as tuna, marlin, poulet, snapper, proximity to trench, canyons, and seamounts.

Crab Bay is on the east coast of Malekula and it is one of the legally registered conservation areas due to its large pristine mangrove sites that connects land and the marine environment. Crab bay and Port Stanley have the largest mangrove sites in Vanuatu with 2100ha (Baereleo et al. 2013). It was protected for its mangrove density and the high population of crabs inhabiting the site.

Some of the small islands to the southern part of Malekula example the maskelynesare home to some of the richest marine life; biota and ecosystems found in Vanuatu and are subsequently also very good fishing grounds generating a large fishery/industry to the locals(with marine produce even being sold to fish markets as far as Port Vila and Luganville) . The islands of Ambrym and Paama have smaller marine resources compare to Malekula Island.

8.4.2.1 List of Existing Conservation Areas in Malampa Province

Existing Conservation Areas	Location (Island)	Importance to Community	National Priority
Vagaus	Northwest Malekula	Protect for food source	
Wiawi	Northwest Malekula	R2R Forest wildlife and marine resources	KBA site/ SUMA Site
Lasanwei	Northwest Malekula	R2R Forest, watershed and fisheries resources	FPAM Proposed site to CCA
Leviamp	Northwest Malekula	Mangrove site, tourism site & historical site	
Radek	Northwest Malekula	Food source/ Economy	
Tanmial	Northwest Malekula	Food source/ Economy	
Rano	Northeast Malekula	Tourism activity- over exploitation	
Pinalum	Northeast Malekula	Over harvest-protect area	
Betel	Northeast Malekula	Food source/ Economy	
Vao	Northeast Malekula	Food Source & cultural sites	
Lehuru bay	Northeast Malekula	Food source/ Economy	
Uri	Central Malekula	Marine breeding site (Mangrove)- MPA	
Amal Crab bay	Central Malekula	Food source and Mangrove protection & Coastal Forest	Registered CCA/ SUMA Site
Litzlitz	Central Malekula	Food source/ Economy	
Aop	Central Malekula	Recreational and food source	
Uripiv	Central Malekula	Food source/ Economy	
Mbankir, Tisman	South East Malekula	Food source/ Economy	
Unua, Michel	South East Malekula	Food source/ Economy	
Benaguai & Ronevie	South East Malekula	Mangrove conservation & tourism activity	
Aulua, Batqierv (Sason)	South East Malekula	Food source/ Economy	
Ringitesu	South Malekula	Food source and giant clam conservation/ Tourism site, Turtles	SUMA Site
Maskelynes	South Malekula	Fisheries resources and Tourism	Pathways Project Site in process for CCA
Avock island	South Malekula	Food source/ Economy	
Hokai	South Malekula	Fisheries resource	
Faru	South Malekula	Food source/ Economy	
Lomanya	South Malekula	Food source/ Economy	
Akhamb	South Malekula	Food source/ Economy	
Lamap Point	South Malekula	Food source, fisheries resources, Dugong site	Proposed for CCA-VESS
Water Catchment- Lamap	South Malekula	Watershed	
Vulai	South Malekula	Food source/ Economy	
Sakau Island	South Malekula	Food source/ Economy	
Arof	South malekula	Food source/ Economy	
Lagoon	South West Malekula	Food source/ Economy	
Bamboo bay	South West Malekula	Bamboo density & marine resources	SUMA Site
Lawa	South West Malekula	Food source/ Economy	
Dixion, Larbang	South West Malekula	Food source, fisheries resources, Economy	SUMA Site

Existing Conservation Areas	Location (Island)	Importance to Community	National Priority
Batpang	South West Malekula	Coconut crab, flying fox and tourism site	
Lanen	Malekula	Food source/ Economy	
Lake lonwolwol	West Ambrym	Forest Protection / Economy	
Deep Point – Namalau	West Ambrym	Protection of Megapod	Proposed for CCA
Volcanoe Site	West Ambrym	Remaining Primary Forest	
Wild yam	Paama	Food Source- Wild yam	
Lopevi	Lopevi	The whole island not being habitated- Volcanoe	

8.4.2.2 List of proposed Marine conservation Areas

Proposed Marine Areas	Location (Island)	Importance to Community	National Priority
Rano Island	North East Malekula	Due to decrease of marine resource	
Pinalum	North East Malekula	Due to decrease of marine resource	
Bethel	North East Malekula	Due to decrease of marine resource	
Vao	North East Malekula	Due to decrease of marine resource	
Maskylines	South Malekula	Marine Protected Area	MPA and Pathway sites/ SUMA Site
Lamap Point	South Malekula	Protect Mangrove & Seagrass	SUMA Site
Hokai	South Malekula	Protect marine resources - MPA	
Akhamb	South Malekula	Protect marine resources - MPA	
Uri	Central Malekula	Mangrove, fisheries site	
Aop	Central Malekula	Recreational and marine resource	
Lebinwen	Southwest Malekula	Protect Lagoon	SUMA Site
Letohkas	Southwest Malekula	Due to decrease of marine resource	
Dixon	Southwest Malekula	Protect marine resources - MPA	
Batbang	Southwest Malekula	Protect Coconut Crab	
Wiawi	Northwest Malekula	Protect Marine Resources- MPA	KBA
Matanvat	Northwest Malekula	Due to decrease of marine resource	
Leviamp	Northwest Malekula	Protect Lagoon and its resources	

Proposed Marine Areas	Location (Island)	Importance to Community	National Priority
Lehuru bay	Northwest Malekula	Protect Marine Resources	
Luemial	Northwest Malekula	Protect due to decrease of marine resource	
Ronevie	Southeast malekula	Protect Mangrove	
Banon Bay	Southeast malekula	Protect due to decrease of marine resource	
Tisman	Southeast malekula	Protect due to decrease of marine resource	
Unua	Southeast malekula	Protect due to decrease of marine resource	
Graig Cove	Ambrym	Protect due to decrease of marine resource	
Ranverevou	Ambrym	Protect due to decrease of marine resource	
Baiap	Ambrym	Protect due to decrease of marine resource	
Liro	Paama	Protect due to decrease of marine resource	
Lopevi	Lopevi	Protect the whole island	

8.4.2.3 Marine Species Biodiversity

Part of Malekula and Western part of Ambrym are categorised as biodiversity hotspot. (Key Biodiversity Areas according to CEPFclassification)Stretches of black sand beaches on Ambrym's coastline being some of the only remaining nesting beaches in Vanuatu for the endangered Leatherback Turtle.(MACBIO VU SUMA report 2018) A survey of Amal-Crab Bay displays a very healthy mangrove environment with 11 mangrove species, confirmed through the MESCAL project (Baereleo et al. 2013). The name 'CRAB Bay' was derived from the area being heavily populated by the land crabs.

In the southern part of Malekula, coral reefs have abundance of marine resources. Fishes caught from Maskelyne Island and Lamap, south Malekua are frequently shipped and sold in Port Vila. Marine conservation areas established by landowners and communities have helped repopulate coral reefs around Malekula. These ecosystems flourish with a vast great diversity of marine species of vertebrates and invertebrates, fish, sea mammals (dugongs), sea reptiles (turtles), seabirds from coastline to the reefs crest and beyond. Offshore having areas of good pelagic and benthic fisheries such as tuna, marlin, poulet, snapper, with the proximity to trench, canyons, and seamounts.

8.4.2.4 List of important Marine species in Malampa

Fish	Invertebrates	Mammals/Birds/ marine plants	Marine Ecosystems
Fish Shark Turtles	Clams Crabs Green Snail Octopus Sea cucumber Trochus	Dugong Mangroves Marine life Sea birds Sea weed	Coral reefs Lagoons Mangrove Mud flats Seagrass beds Swamps

8.4.2.5 Threats to the Marine Species

Human consumption and lack of respect of tabu marine areas are common threats in Malampa Province. There has not been enough law enforcement to limit both sizes of catches and invertebrates being harvested.

Amal Crab bay has been surveyed by Fisheries Department and indicated the invasion of Crown of Thorn starfish (COTs). COTs has had an impact on coral reefs in Malampa. The Department of Fisheries had conducted an assement on its outbreak and also carrid out its clean up. The predation of corals by COTs cause coral mortality that contributed to habitat loss resulting in displacement of marine organisms inhabiting the coral reef ecosystems.

8.4.2.6 Key Actions to Address Depletion of Marine Resources

Human pressure on marine resources is regared as one of the most common threats in Malampa province. Participants at the workshop raised concern that the conservation or tabu areas need to go through legal registration with the Environmental Protection and Conservation Act CAP 283 to address these marine resource depletion issues. Below are some of the threats and action to address them.

Threats	Action Plans to Address Threats	Agency Responsible	Timeframe
Overhavesting of marine resources	Carry out awareness on the impact of overharvest.	DEPC VFD Malampa Province	2020-2030
Night dive to spear fish cause declining of resources.	Work with Fisheries to regulate night diving.	VFD Malampa Province	2020-2030
Population pressure on resources.	• Conduct awareness about the impact of population increase on resource use. • Register marine areas.	DEPC VFD Malampa Province	
Impact of COT on coral reefs	Eradicate COTs in affected areas.	VFD Malampa Province	2020-2030
Use of 'tu finga' mesh fishing net.	Regulate importation of the 'tu finga' mesh fishing net.	VFD Malampa Province	2020-2030
Development activities on coastal areas	Ensure application of EIA on commercial activities.	DEPC Malampa Province	2020-2030
Climate change impact on coastal areas	Replant mangroves and other coastal plants.	DoF VFD Malampa Province	2020-2030

8.4.3 Forest and Inland Waters

Malampa Province has a very good forest cover made up of primary forest that covers a number of large rivers, lakes, swamps, streams and brackish lagoons. With reference to the land mass of the three islands, Malekula has

more forest cover compared to Ambryma and Paama. Primary forest areas are confined to upland and interior of Malekula while most settlements are concentrated along the coastal zones. Malekulas is the second largest island in Vanuatu hosts an abundant diversity of plants and animals. Resources are harvested from food and earning income.

Ambrym's primary forest surrounds the Benbow and Marum volcanoes located in the interior of the island. The volcanic earth of this island creates suitable habitat for a high population of Megapode/Incubator Birds.

Hydro-derived electrical energy that supplying over 2000 plus households on malekula is generated from Brenwei, one of the largest Rivers in Malekula Island.

8.4.3.1 List of Existing and Proposed Forest and Inland water Conservation Areas at Malampa

Forest and Inland Waters Area	Location (Island)	Importance to Community	National Priority
Existing sites			
Deep Point (Namalau)	Ambrym	Megapode Site	Suggested for CCA
Volcanoe Sites	Ambrym	• Last primary forest. • Harbours Tree Ferns, • Trees used for carvings.	Protected through tabu system by local communities
Proposed forest sites			
Sawoh forest	Ambrym	Primary Forest	
Yaleada forest	Ambrym	Primary Forest	
Ghornaviung	Malekula	Primary Forest	
Lasinuei	Northwest Malekula	• Forest & watershed, • tourist hike site • Under tabu system by landowner	Proposed for FPAM project
Grassland	North Malekula		
Wiawi	North Malekula	Forest and Marine Under Tabu system	KBA
Venabuas	Malekula	Forest	
Potwalin, Botko, Lalep	Northeast Malekula	Forest & watershed	
Batnier	Aulua, Southeast Malekula	Forest	
Asen	Southeast Malekula	Forest	
Bangkir	Southeast Malekula	Forest & Watershed	
Lakatoro & Aop Source	Central Malekula	Water source	

Proposed Inwaters Sites			
Forest and Inland Waters Area	**Location (Island)**	**Importance to Community**	**National Priority**
Brenwei River & catchment – Shared with 4 other rivers; Lasinue, Brenwei, Malua Bay and Palanua River	Northwest Malekula	Water source	Process for hydro power
Lonwolwol Lake & Catchment	Ambrym	Forest & Watershed	
Beparlif Swamp	Malekula	Forest & swamp	
Vao Catchment- Viavor, Belker, Hirang	Northeast Malekula	Water source	
Potnanghal catchment- Taubih, Lehuru, Lambetbak, Luemial, Ghambalev, Ghimbu – Lue Top, Randun, Luekol	Malekula	Forest & water source	
Tinsop	Ambrym	Forest & watershed	
Vavua, Hokai, Lamap, Arof, Paroas, Asuk, Levetpao, Aulua, Burbar	South malekula	Water source	
Espigils Bay, Malua Bay, Lekan (Utapep)	Northwest Malekula	Forest & watershed	

8.4.3.2 List of Forest and Inland Water Species Biodiversity

Plants	**Animal and fish**
Black palm Bamboo Namariu Nangai (ngali nut) Orchids	Coconut crab Crab Flying fox Megapode Mudfish

8.4.3.3 Threats to forest and Inland waters

Malampa forest resources are affected by the use of chainsaws brought from New Zealand and Australia by returning workers under the Recognised Seasonal Employer (RSE). These are being used without permits from Department of Forest. . The permit system restricts where in the forest trees may be cut. The current practice is that the chainsaw operators cut wherever they are requested by landowners and so it is affecting the forest and its biodiversity. *Merrema peltata*, the invasive vine is one of the common threats to the gardening areas as well as secondary and primary forests.

The invasive vine, traditional Shifting Agriculture Practices also has impact on primary intact forest and its biodiversity. At present local people tend to clear primary forest for new gardens other than going back to old garden areas that have been in fallow period for some years.

8.4.3.4 Key actions to Address Depletion of Forest and Inland Waters Resources

Below are some of the common threats that affect forest and inland waters in Malampa and the key actions to to address the threats.

8.4.2.5 List of Threats and Actions for Malampa

Threats	Action Plans to Address Threats	Agency responsible	Timeframe
Unlawful chainsaw operators – Unregistered under forestry due to purchase in New Zealand by RSE Workers)	• Work with Forestry • Extension Officer to ensure that illegal use of chainsaws are registered. • Enforce Forestry Act, provision for licensing and use of chainsaw.	DoF Malampa Province	2020-2030
Traditional farming system (bush clearing and burning)	• Make awareness about the impact of shifting agriculture practices on forest biodiversity. • Encourage farmers to use Sustaiable Agriculture Practices and Agroforestry system.	DARD DoF Malampa Province	2020-2030
Invasive species (Big Lif) and fire ants	• Train local communities about existing methods to control or manage *Merrimia peltata*. • Consult DEPC and biosecurity on fire ants & big leaf	DEPC BV Malampa Province	2020-2030
Increased pressure on natural resources due to increased human population.	• Conduct awareness on impact of overharvest of natural resources due to high population. • Register conservation sites • Eco-tourism activities • Cultural arts festival	DoF VFD DEPC Malampa Province	2020-2030

8.4.4 Malampa Provincial Target for 2016 to 2030

During the NBSAP Malampa Provincial Validation Workshop, there was discussion on existing protected sites from marine and terrestrial environment as conservation is not new to Malampa. There has been a good approach to registration of the biggest mangrove conservation areas in Malekula. Malampa Province has decided to put up some of its areas as target sites to contribute to the protection of the natural environment with the timeframe from 2018 until 2030.

8.4.4.1 Existing Conservation Areas Target in Terrestrial and Marine

Conservation Area	Conservation Objectives	Management System	Conservation Status	Target
Wiawi –NW Malekula	Forest/ marine Forest-Dark bush, wildlife, coconut crab Marine-Turtle, fish, shell NB: proposed plan – Tourism	Informal	Process	Formal Registration
Regentesur – South AC (Maskelyn)	Marine – Turtle, fish, shell, tourism, breeding site	Informal	On going	Formal Registration
Deep point lake lowalwal (West Ambrym Council)	Historical site – Tourism site, breeding site for namalao, carving (rich with natora-wood)	Informal	On-going	Formal Registration
Bamboo Bay (south west bay area council)	Marine – marine life such as fish, turtle etc.	Informal	On-going	Formal Registration
Lamap Point (South Area council)	Forest/ marine – historical site, cowfish	Informal	On-going	Formal Registration
Leviamp (N/W malekula area council)	Marine- breeding site, mangroves, tourism, historical site	Informal	On-going	Formal Registration
Proposed sites :	2nd phase			
Lausinwei (N/W Malekula Council)	Marine/ Forest	Informal	On-going	Formal Registration
Uri Island (Central AC)	Marine	Informal	On-going	Formal Registration
Benaghai (S/E Malekula area council	Forest/ River	Informal	On-going	Formal Registration
Lamap, okai, Varum (South Malekula area council)	Water sources	Informal	On-going	Formal Registration
Lebenwen (SWB-South west malekula area council)	Tourism/ forest & marine	Informal	On-going	Formal Registration
Total: 11 formal regitrations				

8.4.4.2 Forest and Inland Waters Area Target

Forest & Inland Water Area	Area of Site	Conservation Objective	Target by 2030
Venambuas	SW Malekula AC- Alester Kensen	Increase of population growth	Formal Registration
Asen	SE Malekula AC: Edwin Manron	Agricultural activities – forestry & forestry Increase of population growth leads to increase of logging (unregistered) and farming	Formal Registration
Ghornaviung	NW Malekula A AC Wesly Lambi	Population growth increasing rapidly and if not careful there will be no more dark bush. It will be the only one in this area. Wild life livestock as pigs & buluks colony	Formal Registration
Lakatoro water source	Central malekula AC: Laurent Malres	Shortage of water and main center of malekula and development is increasing. We need to conserve, no logging activity by the surrounding	Formal Registration
Brenwei	North west B Melekula AC Wesly Lambi	Proposed Hydro power plant and source area need to be protected	Formal Registration
Beterlive Swamp	NE Malekula AC Tasso Kalep	This swamp supplies water to Palamia & Molin river	Formal Registration
Vao	NE Malekula AC: Tasso Kalep	Historical site and now natives use for washing	Formal Registration
Ambrym			
Sawoh	West ambrym AC Bong Massing	Over hunting and hunters dong destroys namalau's eggs	Formal Registration
Volcanoe Surrounding Forest	AC: Jackson Willy & Bong Massing & Kereby Norman	Tourist visitors increase and natives destroy endemic species on plants (flowers) and killing of wildlife (pigs & buluks)	Formal Registration
Yalenda forest	West Ambrym (Bong massing)	Over logging and yalenda has the only vegetation for conservation	Formal Registration
Tinsop water source	WEST Ambrym AC: Bong Massing	No develop for people to use and nee conservation	Formal Registration
Sesivi/ Baiap Hot spring	W Ambrym AC: Bong Massing	Tourism attraction Preserve for water management Botanic garden	Formal Registration
Target : 13 in- land waters & forests areas			

8.4.4.3 Marine Areas Target

Marine area	Conservation Objectives	Area council	Management system	Target by 2030
1. East Rano island	Tourism activity Fish over exploit	NE Malekula AC: Tasso Kalep	Informal	Formal Registration
2. Banon Bay (Remef)	Breeding nursery for marine lives Marine is disappearing Tourism advantage	South east Malekula Area council	Informal	Formal Registration
3. Batbang	Protect marine life Tourism, protect coconut crab and fly fox	South west Malekula	Informal	Formal Registration
4. Wiawi	Marine & tourism activity	NW Malekula	Informal	Formal Registration
5. Vao, Pinalum	High population growth so protect marine life	NE Malekula	Informal	Informal
6. Aop, PRV	Mangrove conservation	Central Malekula	Informal	Formal Registration
7. Lamap, Okai	High population growth, marine conservation, protect marine life	S malekula	Informal	Formal Registration
8. Tisman, Rowevie	Marine protection, mangrove conservation, tourism activity	SE Malekula	Informal	Formal Registration
9. Dixon, Lebinwen	High population growth, marine conservation, protect marine life	SW Malekula	Informal	Formal Registration
Marine Target: Formal – 8, Informal - 1				

8.4.5 Malampa Provincial Target Statement

By 2030, Malamp province will legally protect 32 areas of marine, forest and inland waters under the Environmental Protection and Conservation Act CAP 283, and one marine area under the tabu management system.

8.4.6 Reference

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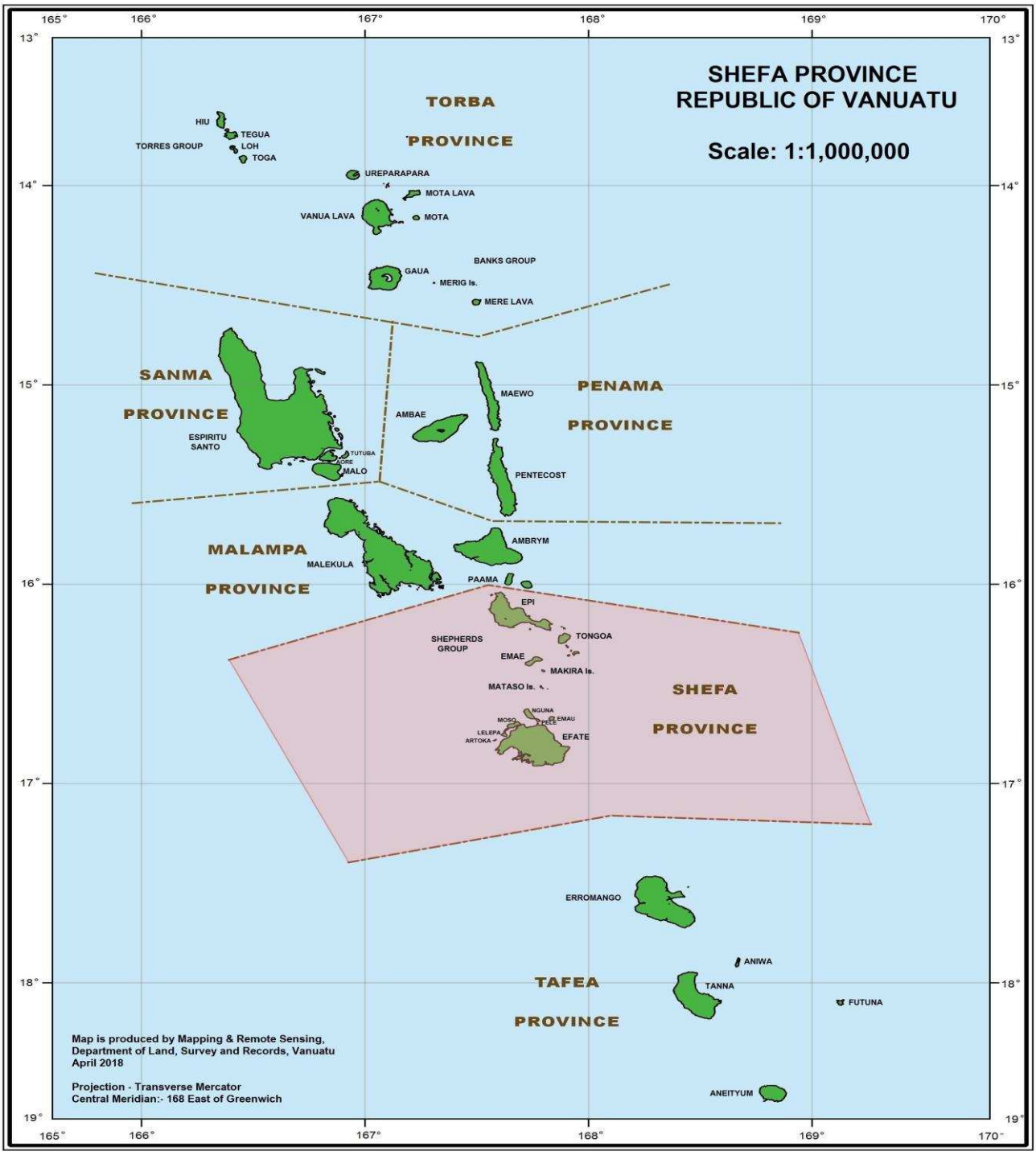
8.5 SHEFA PROVINCIAL NBSAP IMPLEMENTATION FRAMEWORK

8.5.1 Background

Shefa Province is one of the six provinces located on the central part of Vanuatu. It consists of the Shepherd group which has many small islands grouped together and the two bigger islands, Epi and Efate. The name Shefa is derived from the initials of Shepherd and Efate. **SH** from **Sh**epherds and **EFA** from **Efa**te. The Shepherd groups consist of these small islands; Buninga, Emae, Epi, Makira, Mataso, Tongoa and Tongariki which are formed by volcanic activity. Shefa Islands were formed as Central Chain during the Late Miocene to Early Pliocene to Holocene (V. Hanus & J. Vanek 1983). Due to the young geological age of Efate, its biodiversity is not as diverse as the older islands of the Western Belt and the Eastern Ridge, though a significant number of endemic and



restricted range species do exist. The Island contains a number of marine conservation areas which ranges from the northern part of the island starting from Takara hot springs with mangrove ecosystems right through to Lelepa Island on the northwest. (*Kalfatak D., 2014. Unpublished*).

8.5.1.1 Population & total land area

The total population of Shefa Province is 96,405 people which includes Epi and the Shepherd group and Efate and the offshore islands. The total land area of all the Shefa province islands is 1,455 km^2. The headquarters for Shefa Province is in Port Vila, on Efate. Port Vila is the captal city of Vanuatu. Efate has an area of 899.5km^2 and a population in 2009 of 68,829, of which 44,040 lived in the national capital Port Vila.

8.5.1.2 Shefa Provincial Government

Shefa Provincial Government was set up through the Decentralization Act 1994 that allows the national government to establish its extension services down to the Provincial level so to implement the National policies and plans at the community level. . The Government of Vanuatu is centred on this island and it is the gate way to the regional and international connections.

The Shefa Provincial Government is set up on Efate has extension services within the provincial centre to safeguard the communities of Shefa Province. The Shefa President and Secretary General are the key people that head the Shefa Provincial Administration. It has its council and Area Secretaries (Administrators).

The main discussion group for the Shefa Validation Workshop was made up of the Area Secretaries that came from the Villages and nearby islands. The target areas in this provincial NBSAP implementation plan were generated by this group.

8.5.1.3 Vision

Living in a green and sustainable environment for the survival of our unique environment and our future generations.

8.5.1.4 Mission

To uphold the integrity of harmony and to respect our environment in sustaining, managing, owning and preparing all for the benefit of Shefa Provincial Government Council and its good citizens.

8.5.2 Marine

Marine protected area are not a new approach for the Shefa Province, though there are no conservation areas that are currently registered under the Environment act, some are soon to be, and many of them mostly have been initiated from the community level.well known marine reserves like Hideaway island marine sanctuary With Efate having the Capital city of Port Vila, Efate and to a lesser extent somewhat , other islands have had the added benefit of being exposed directly by government services, NGO and foreign aid influence. Thus Efate specifically has the longest history of marine conservation efforts and initiatives, (one such being the Nguna Pele marine protected area Network,the oldest in Vanuatu) in collaboration between communities, government and non-government stakeholders,wih some critics arguing that too much effort has been focused on Efate and shefa at the expense of other provinces, In any case Shefa province hosts a great number of marine ecosystems consisting of mangroves estuarine swamplands, extensive seagrass beds and meadows , lagoons, mud flats and most commonly a multitude array of coral reef ypes and systems (fringing, barrier, and atoll) with stretches of white and black sandy beaches. Offshore having areas of good pelagic and benthic fisheries such as tuna, marlin, poulet, snapper, proximity to trench, canyons, and seamounts.

8.5.2.1 List of Existing and Proposed Conservation Areas at Shefa Province

Existing Marine Areas	Location (Island)	Importance to Community	National Priority
Marae	Emae	Protection on fishing grounds	MPA/ SUMA Site
Makatea	Emae	Protection on fishing grounds	SUMA Site
Tongomea	Emae	Protection on fishing grounds	
Vaitini	Emae	Protection on fishing grounds	SUMA Site
Epau	Efate	Protection on fishing grounds	SUMA Site
Takara	Efate	Protection on fishing grounds	
Siviri	Efate	Protection on fishing grounds	SUMA Site
Emau	Efate	Protection on fishing grounds	SUMA Site
Nguna/Pele	Efate	Protection on fishing grounds	MPA Network/ SUMA Site
Moso	Efate	Protection on fishing grounds	SUMA Site
Lelepa	Efate	Protection on fishing grounds	
Emau - Marou	Efate	Protection on fishing grounds	SUMA Site
Pangnangisu	Efate	Protection on fishing grounds	
Ngala	East Epi	Protection of beaches for turtles nesting	
Nuvi	East Epi	Protection on marines resources and long sandy beach	SUMA Site
Nigaura	East Epi	Protection on marines resources	
Moriu	East Epi	Protection on marines resources and long beach	SUMA Site
Paya	East Epi	Protection on marines resources	
Laman Bay	West Epi	Protection on dugon and turtles, good fishing ground	SUMA Site
Laman Island	West Epi	Protection on marines resources	
Yopuna	West Epi	Protection on marines resources	
Ruo	West Epi	Protection on marines resources	
Mavelau	North Epi	Protection on marines resources long sandy beach	SUMA Site
Votlo	North Epi	Protection on marines resources and good anchorage	SUMA Site
Red Stone	South Epi	Protection on marines resources	
Proposed Marine areas			
Cooks Reef	Emae	Protection to control fishing activities	MPA/ SUMA Site
Mataso Monument rock	Mataso	Protection to prevent illegal fishing and preserve historical site	

Existing Marine Areas	Location (Island)	Importance to Community	National Priority
Tongoa/ Shepherds	Tongoa	To sustain marine resource for future use	
Tongoa Wall	Tongoa	Protection on its marine resources and tourist site	
Mere sauwia	Efate	To protect seamounts	Marine Mammal Sanctuary
Eratap & Erakor Mangrove Conservation	Efate	Mangrove protection	SUMA Site
Mele, Ifira, Pango	Efate	Protect marine resources	LELEMA MPA
Eton	Efate	Protect marine resources, Tourist sites, recreational site	SUMA Site
Pangpang	Efate	Protect marine resources	
Epule	Efate	Protect marine resources	
Mangaliliu	Efate	Protect marine resources	
Tanoliu	Efate	Protect marine resources	
Siviri	Efate	Protect marine resources	SUMA Site
Ngala, Nuvi, Nikaura, Paia, Lemaru, Laman Island, Ruwo, Wampi	Epi	Protection of turtle nestling beaches, leatherback turtle	

8.5.2.2 Marine Species Biodiversity

Like all the other islands of Vanuatu, Shefa Province has similar marine biodiversity and marine ecosystems with plentiful marine resources and some good fishing grounds, including Cook Reef on Emae Island.Shefa marine environment comprising coastal lagoons (mangroves) and estuaries with seagrass, hosting shellfish, crab, fishes and grazers, marine mammals/reptiles and seabirds, beaches identified as nesting ground for turtles.(Epi being one of only few nesting beaches for endangered Leatherback turtles). Particular lagoons and mangrove areas identified on Efate were; Eratap mangroves and lagoons, Erakor 1st and 2nd Lagoon, Undine Bay, Moso, Paunganisu and areas of North Efate that have mangroves. Also mangrove stands found on Epi and Emae, Massive corals on the seaward side, good coral reefs, parrotfishes, unicornfishes, “strong skin fish” (sand paper fish), squid, green snail, *Trochus*, natural barrier to fishing activities on exposed (windward) side. Shepherd Islands: Strong tides from southeast trade winds, tuna and poulet fishing around the area (eg. Monument rock mataso). Seaward/ windward differs from the leeward side; this applies to all islands in this central group. On Efate on the leeward side (from the south to the west), the majority of lagoons, bays, inslets and islands can be found, with barrier and fringing reefs. These physical feature attributes extend to some extent to the other islands located in the central region. Similar biophysical characteristics apply to Epi (MACBIO VU Bioreions report 2018). One of the biggest marine conservation area in Shefa is the Nguna-Pele MPA. It was set up by the two islands and helped in reducing pressure of overharvesting. It is currently managed through traditional resource management system.

Listed below are some of the marine species and ecosystems that were listed as being important to the people of Shefa Province.

8.5.2.3 List of important Marine Species in Shefa

Fish	Invertebrates	Mammals/ Birds	Marine Ecosytems
Colourful reef fish Fishes Snapper Turtle	Giant Squid Green snail Giant clam shell Nautilus Sea Cucumber Shellfish Trochus	Dugong Sea birds	Coral Reefs Mangrove Mud flats Swamps Sea grass bed

8.5.2.4 Threats to the Marine Species

Shefa Validation workshop participants stated that the most common threat to marine species is human pressure due to increase of population as a result of influx of islanders seeking to earn a living in Port Vila. Surrounding villages on Efate also regularly fished and sell their catch at the Port Vila green market outlets and restaurants. Fish catch on Cook's Reef on Emae Island and some Shepherd Islands are also sold in Port Vila.

Crown of Thorns (COT) is a threat to coral on Efate. An outbreak in 2015 on Efate's offshore island of Emau was cleaned up the Department of Fisheries using its new invented lime juice injection method. An awareness activity also took place to help the local communities to understand the biology, impact of the COTs on coral reefs and right method to use to eradicate the COTs.

8.5.2.3 Key Actions to Address Decrease of Marine Resources

Threats	Actions Plans to Address Therats	Agency Responsible	Timeframe
Population rapid growth cause harvest pressure on resources- Over harvest/ overfishing	Council of chiefs to produce management plan according to custom/ traditional ways Awareness	DEPC Village or Community Chiefs Shefa Province	2020
Undersize harvest	Fisheries to regulate and make awareness	VFD Shefa Province	2020
Crown of thorns	Eradication and management plan	VFD Shefa Province	2020
Coastal erosion	Replanting of mangrove	VFD DoF Shefa Province	2020
Sand mining & coral mining	Stop sand extraction	DEPC VFD Shefa Province	2020
Urban Drift, Luck of Respect	Put up management plan to apply to everybody even the man-come Cooperation with SPGC, environment department to make management plans, Informal management is highly encouraged.	Chiefs Shefa Province	2020

Threats	Actions Plans to Address Therats	Agency Responsible	Timeframe
• No Proper Monitoring • Luck of Funds	Register sites to allow proper monitoring	DEPC Shefa Province	2020
• Pouching • Man Come	Proper agreement between chiefs to make management plans	Chiefs Shefa Province	2020
Mangrove clearing	Eratap, Erakor to work together with SPGC Environment for a Mangrove management plan	Chiefs VFD Shefa Province	2020

8.5.3 Forest and Inland Waters

The main forest cover for Shefa Province exist in the bigger islands, Efate and Epi. The main primary forest on Efate is the Efate Land Management Area (ELMA). It is in the centre of Efate and is in the process of being legally registered as a CCA. The forests on Efate and Epi and some of the small islands cover critical water sources/watersheds/water catchment areas. The Water source for Port Vila town comes from the Tagabe River Catchment area. International Waters (IW) Ridge to Reef (R2R) project is working with relevant government, private and communities surrounding the Tagabe Catchment to protect this water source.
Some of the Forest and Inland waters areas are listed below for protection.

8.5.3.1 List of Existing and proposed Forest and Inland Water Conservation Areas for Shefa Province

Forest & inland Water Existing Areas	Location (Island)	Importance to Community	National Priority
Lokorui	East Epi	Protect Forest and water source	
Wampi	North Epi	Protection of Megapod	
Vilakara	South Epi	Protect forest & water source	
Proposed forest and inland waters			
ELMA	Central Efate	Protection of remaining dark forest for Efate Island	GEF 5 Project Site
Mangaliliu	Northwest Efate	Protect forest	
Meten Hill	Northwest Efate	Protect Forest and water source	
Epau & Pangpang	East Efate	Protect Forest and water source	
Epule	North Efate	Protect Forest and water source	
Siviri	North Efate	Protect Forest and water source	
Takara	North Efate	Protect Forest and water source	
Paunangisu	North Efate	Protect Forest and water source	
Mele	Efate	Protect Forest and water source	
Melemat	Efate	Protect Forest and water source	
Erakor	Efate	Protect water source and marine	
Eton	Efate	Protect Forest and water source	
Marou – Emau	Efate	Protection of forest	
Mapua – Emau	Efate	Protection of Forest	
Ngurua	Efate	Protection of Forest	
Ifira Island	Efate	Forest & Bird Protection	
Tasariki, Moso	Efate	Protection of Forest	
Sunai, Moso	Efate	Protection of Forest	
Natapau, Lelepa	Efate	Protection of Forest	
Nikaura	East Epi	Protect Forest and water source	
Ngala	East Epi	Protect Forest and water source	
Nuvi	East Epi	Protect Forest and water source	
Lokopui	East Epi	Protect Forest and water source	

Forest & inland Water Existing Areas	Location (Island)	Importance to Community	National Priority
Paia	East Epi	Protect Forest and water source	
Alak	West Epi	Protect Forest and water source	
Wenia	West Epi	Protect Forest and water source	
Mafilao	West Epi	Protect Forest and water source	
Sara	North Epi	Protect Forest and water source	
Votlo	North Epi	Protect Forest and water source	
Nul	South Epi	Protect Forest and water source	
Vilakara	South Epi	Protect Forest and water source	
Roimata Domain- Cultural site	Efate	Protect Cultural site	World Heritage Site
Lubukuti	South Tongoa	Protect Forest	
Tongalapa	South Tongoa	Protect Forest	
Simat	South Tongoa	Protect Forest & watershed	
Tavalapa	Central Tongoa	Protect Forest	
Lupalea	Central Tongoa	Protect Forest & watershed	
Kurumambe	North Tongoa	Protect Forest & watershed	
Purao	North Tongoa	Protect Forest	
Itakuma	North Tongoa	Protect forest	
Merhi/ Bonsabong	Tongoa	Protect Forest & watershed	
Makatau	Emae	Protect Forest & watershed	
Reisu	Emae	Protect Forest & watershed	

8.5.3.2 Forest and Inland Water Species Biodiversity

Shefa forest and inland waters are home to some of Vanuatu's listed endemic species. Birds, reptiles, freshwater fish, palms and many more are listed as special species.A number of KBA's have been identified throughout shefa province, the majority being found on Efate and a priority KBA being Tongoa island for its large number of Megapode congregation around geothermal sites on the island, Diamond birds, and large prescence of Shearwaters on adjacent Laika Island Some of the important species are listed due to their use by the people of Shefa.

8.5.3.3 List of important Forest and Inland Water Species in Shefa

Plants	Animals
Bamboo	Birds
Banyan tree	Coconut Crab
Canoe trees	Crabs
Custom Medicine	Eels
Ferns	Flying Fox
Nuts (Wild	Fresh Water Fish
Ork trees	Fresh Water Prawns
Orchid	Megapode (incubator bird)
Pam trees	Mud Crab Taputa (Royal Parrot Finch)
Timber trees	Wild Pigs
Wild yam	
Vines	

8.5.3.4 Threats to Forest and Inland Waters

Efate is experiencing some concentrated and exacerbated threats being host to the main urban centre in Vanuatu it faces the greatest challenges associated with having this 'price tag' of being most developed . Some common threats are increasing subdivisions of land and other developments, including purchase of lands and clearing of primary and secondary forest on it. This is taking place annually at an expansive rate with population increases, many outer island immigrants migrate to Efate and many also illegally squatter on urban and rural land, seeking to find a place to stay, to earn a living and find job in Port Vila associated with urban drift.

8.5.3.4 Key Actions to Address Decrease of Forest and Inland Water Resources

Key actions below are suggested as to move forward to address the threats and what has been done to manage threat so far within the threat impact areas.

Threats	Actions Plans to Address Therats	Agency Responsible	Timeframe
• Urban Drift (Illegal settlement) • Luck of Respect • Over harvest	• Legally register protected sites • Create Area Committees to oversee resources	DEPC Chiefs Shefa Province	2020
No Proper Monitoring	Enforce government department laws	DEPC VFD Dof Shefa Province	2020
Gardening- Slushing and burning	Integrated farming, Agro-forestry	DARD DoF Shefa Province	2020
Logging	Regulate/ manage logging Stop logging	DoF Shefa Province	2020
Land Dispute	Settle land boundaries	DoL Shefa Province	2020
Sub division Development	EIA	DEPC Shefa Province	2020
Population growth pressure on resource	Register site with EPC	DEPC Shefa Province	2020
Invasive species	Management plan	DEPC BV Shefa Province	2020
Climate Change	Reforestation	DoF Shefa Province	2020

8.5.4 Shefa Provincial Target for 2018 to 2030

During the NBSAP Shefa Provincial Validation Workshop, there was discussions on existing protected sites marine and terrestrial environment as conservation is not new to Shefa Province. There has been a good approach to Community conservation areas in in Efate and Epi. Shefa Province decided to put up some of its areas as target sites to contribute to the protection of the natural environment with the timeframe from 2018 until 2030.

8.5.4.1 Forest and Inland Waters Targets

Forest Area/ Types	Conservation Objectives	Area Council	Exact Area	Target by 2030
Efate: ELMA	Conservation of water catchment and forest biodiversity	All area councils of Efate	Center of Efate	Formal Registration
Meten Hill Magalili Hat Island	To protect water source& forest biodiversity	Havannah Area Council	North West Efate	Formal Registration
Emua	Ridge to reef & water	North efate AC	North efate	Formal Registration
Paungnangisu	Ridge to reef & water	North Efate AC	North Efate	Formal Registration
Epule & Takara	Ridge to reef	North Efate AC	North Efate	Formal Registration
Emau – Marou	Ridge to reef	Emau AC	North Efate	Formal Registration
Emau - Ngurua	Protect forest and biodiversity	Emau AC	North Efate	Informal
8. Nguna/Pele *Tapiata (Pele)	Protect water source	Nguna/ Pele Area council	Pele Island	Formal Registration
9.Tapu Toara (Nguna)	Protect water source	Nguna/ Pele Area council	Farealapa, Utanlangi	Formal Registration
10. Tongoa	-protect water source & forest biodiversity -reforestation	Tongoa AC	Kurumambe, Burao	Informal
11. Epi	R2R	Varsu	Ngala (Lopevi)	Formal Registration
12. Epi	Protect forest biodiversity & water source	Varsu	Nuvi, Ngevin	Formal Registration
13. Epi	Forest biodiversity and water source	Vermali	Wenia	Informal
Epi	Protect lake & its biodiversity	Varsu	Nul, Nalema	Informal
Epi	Forest biodiversity	Vermaul	Vermaul wampai	Formal Registration
Epi	Forest biodiversity & water catchment	Vermaul	Mafilau	Informal
Ifira	Bird sanctuary	Ifira AC	Ifira island	Formal Registration
Mele	Forest & water source	Mle/ melemaat	Mele	Informal
Emae	R2R	Emae	Makatea & Rasu	Informal
Eton	R2R & water source	East Efate	Eton Village	Formal Registration
Epau	R2R & water source	East Efate	Epau community	Formal Registration
Lelepa	Forest	Havannah	Lelepa island	Formal Registration

Forest Area/ Types	Conservation Objectives	Area Council	Exact Area	Target by 2030
Moso	Forest	Havannah	Moso Island	Formal Registration
Makira	Protect wild goat and forest	Mataso/ makira	Makira	Informal
Mataso	Marine	Same as above	Mataso	Informal
Erakor	R2R	Erakor	Erakor	Informal
Eratap	R2R	Eratap AC	Eratap	Informal
Pango	R2R	Pango AC	Pango Village	Informal

Total: Formal – 16 and Informal - 12

8.5.4.2 Marine Area Target

Conservation Area	Conservation Objective	Area Council	Target by 2030
1. Epi (Votlo) 2. Wampi 3. Laman Island	• Protect leatherback turtle • Protect scrab duck • Protect marine species	Vermali Area Council	Formal Registration
Tongoa: 4. Laika, 5. Tevala	Protect koroliko & marine species	Tongoa area council	Formal Registration
Emae Island: 6. Marae 7. Makatea 8. Tongameu 9. Vaitini	Protect marine species (green snail, sea cucumber, turtles, trochus)	Emae area council	Formal Registration
Efate: 10. Epau	Protect marine species	East efate area council	Formal Registration
11. Emau	Protect marine species	Emau Area Council	Formal Registration
12.Siviri	Protect marine species	North Efate AC	Formal Registration
13.Lelepa/ Moso	Protect marine species	NW Efate	Formal Registration
14.Nguna (Mere Sauwia marine & forest)	Protect marine species	North Efate	Formal Registration
15. Cook Reef	Control Fishing Activities for future use	Emae	Formal Registration

16. Mataso Monument Rock	Prevent illegal fishing and preserve historical site	Mataso	Formal Registration
17. Tongoa/Shepherds Group	To Sustain Marine Resources for future use	Tongoa, Emae, Buninga, Tongoariki, Makira/Mataso	Formal Registration
18. Tongoa Wall Reef	Make it a Conservation Area and a tourist attraction site	Tongoa	Formal Registration
19. Mere Sauwia (Deep Sea)	To protect Sea Mount and make it a Marine/Mamal sanctuary	Nguna/Pele	Formal Registration
20. Eratap & Erakor, Ifira , Mele Mangrove Conservation	Protect Mangrove on these sites	Eratap, Erakor, Ifira, Mele	Formal Registration
21. Mele, Ifira, Pango	Control fishing activities to sustain marine resources for future use	Mele, Ifira, Pangoormal	Formal Registration
22. Moso & Lelepa (Giant Squid)	Protect area to become a tourist attraction	West Efate	Informal
23. Efate (General)	To protect Marine resources and conserve Mangrove species	Efate Area Council	Informal
24. Epi (General)	To protect Marine resources and conserve Mangrove species	Epi Area Council	Informal
25. Emae	Protect Mangrove species	Emae	Informal
Total: Formal – 21 & Informal - 4			

8.5.5 SHEFA Provincial Target Statement

By 2030, Shefa Province will register 21 marine conservation areas and 16 forest and inland waters. Four marine and 15 forest and inland waters' areas will be established under customary tabu.

8.5.6 Reference

Hanuš, V.,& Vaněk, J., (1983) Deep structure of the Vanuatu (New Hebrides) island arc: Intermediate depth collision of subducted lithospheric plates, New Zealand Journal of Geology and Geophysics, 26:2, 133-154, DOI: 10.1080/00288306.1983.10422513

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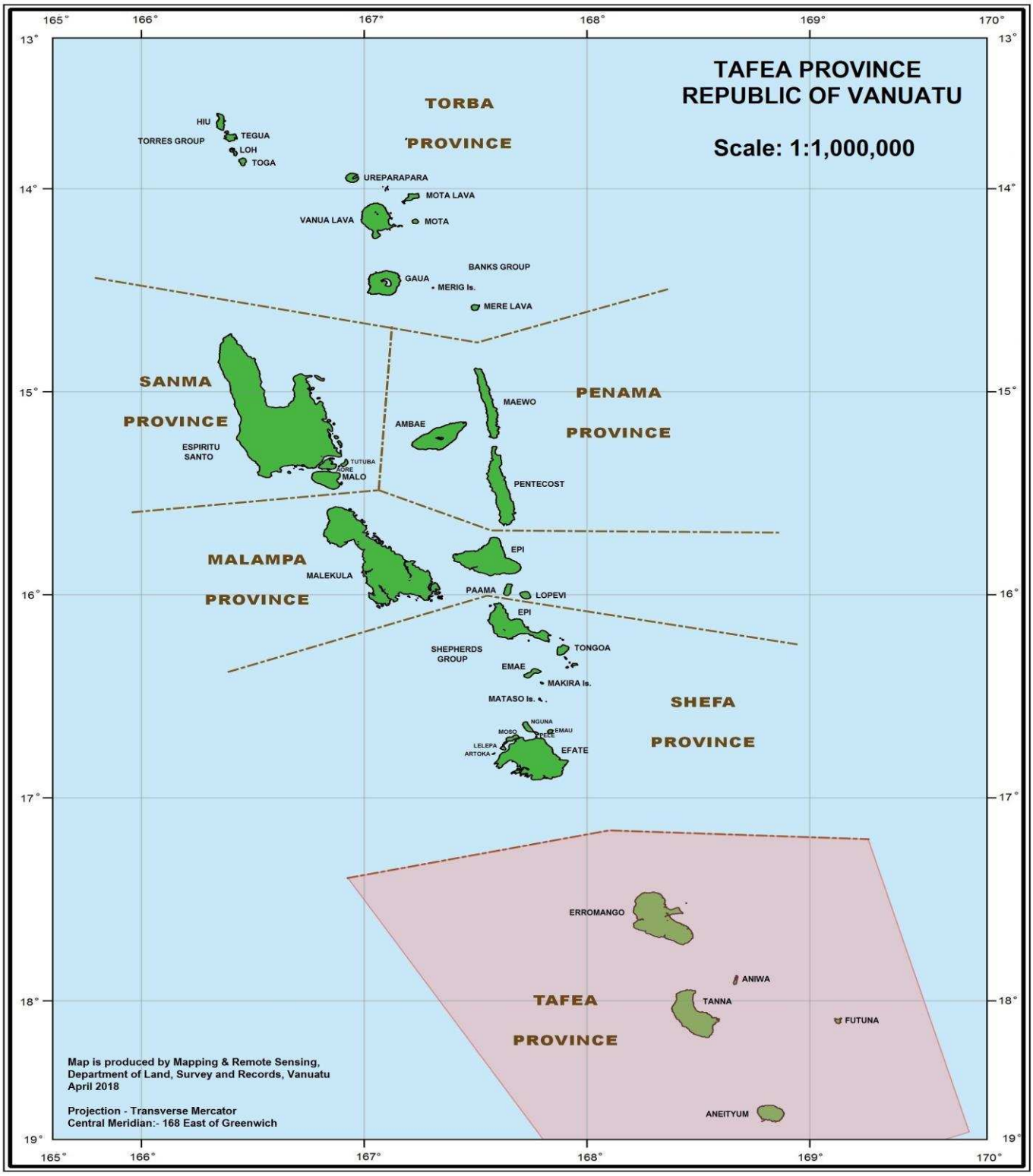
8.6 TAFEA PROVINCIAL NBSAP IMPLEMENTATION FRAMEWORK

8.6.1 Background

Tafea Province is the last province in the southern part of Vanuatu. Tafea is made up of the five islands, Tanna, Aneityum, Futuna, Erromango and Aniwa. The name Tafea derives from the initial letter of all of these islands in



Tafea. The islands of Tafea were geologically formed during the formation of the Central Chain during the Late Miocene to Early Pliocene to Holocene (V. Hanus & J. Vanek 1983).

8.6.1.1 Population & total land area

The total population of Tafea Province is 36,799 people. The province has a total land area of 1,627 km_2. Tanna Island has a mini township of Lenakel infamously known throughout Vanuatu as "Black Man town" where the headquarters of the province is situated. The island of Tanna is one of the most fertile islands in Vanuatu and produces kava, coffee, coconut, copra, and other fruits and vegetables from the rich volcanic soils. Recently, tourism has become the main important economic industry on tanna, as tourists flock to visit one of the world's most accessible active volcano; Mt Yasur Volvano on Tanna and also the rich tannese traditional culture. Aneityum is the southernmost inhabited island of Vanuatu in this province. The island is roughly circular, with an area of 159.2 km_2; its highest point is Mount Inrerow Atamein, with a height of 852m. The larger of its two villages is Anelghowhat, on the south side. The adjacent offshore island to Anelghowhat village is Mystery Island, surrounded by its crystal clear waters and healthy coral reefs. The stretch of coral reefs from southeast to west and northwest is designated as a Marine Protected Area managed through traditional resource management system. Cruise ships routinely visit Mystery Island every year, by which Aneityum people earn income through eco-tours, the sale of artifacts and display of cultural activities. Erromango is the most sparsely populated island in Vanuatu. It is famous for its tracts of huge and toweringKauri trees, *Agathis macrophylla.* The island environment is still intact with abundant resources from both marine and terrestrial ecosystems. Futuna is a raised rock island, land size is smaller to the aforementioned three islands. It is famous for its traditional fishing practice of night fishig for the species of large pelagic ocean going flying fish. Aniwa Island is smaller than all the other four islands of Tafea province. It has a very healthy mangrove lagoon and it is famous of its very sweet native oranges.

8.6.1.2 Tafea Provincial Government

Tafea Province was set up as a Province under the Decentralization Act 1994 and like all the other provinces, Tafea has a President and a Secretary General that heads the institution. Councillors and Area Secretaries are also elected by the Provincial Government. A TAG team is represented by extension services from the National Government present in the province. The TAG team and the Area Secretaries fromed the discussion group during the Tafea Provincial Validation Workshop.

8.6.1.3 Vision

Terrestrial and Marine resources of Tafea is sustainably managed for healthy environment and for the socioeconomic benefits for the current and future generations

8.6.1.4 Mission

By 2050 Tafea will:

- Formalise every proposed forest and marine conservation areas
- Grow with friendly people with healthy natural environment
- Grow in tourism with beautification of marine and forest conservation
- Become more unique with protection of its endemic species and become resilient to sustain cultural activities in relation to forest and marine areas.

8.6.2 Marine

Marine conservation areas in Tafea are administered under custom land tenureship and community tabu area management. Mystery Island in Aneityum is not a legally registered conservation site but is a tourism site which

receives 5,000 tourists on a cruise ship day. The marine resources from Mystery Island are the main attraction for the tourists and generates a substantial income for aneityum natives.
Mystery Island is a classic example of the benefits of conservation of marine areas. The marine species in the protected site become abundant under the locally respected and upheld management regime .Also endowed with picturesque white sandy beaches and vividly clear crystal waters with its healthy coral reefs. The Fisheries Department is using the Mystery Island Conservation area to collect green snails and restock poor resource depleted reefs on Epi Island.

8.6.2.1 List of Existing Marine Conservation Areas for Tafea Province

Existing Marine Areas	Location	Importance to Community	National Priority
Enafa to Launapaiu	North Tanna	Protect marine resource, tourism activity	
Imaelone	West Tanna	Protect marine resource, tourism activity	
Kamti	East Tanna	Protect marine resource, marine park	
Waisisi	East tanna	Protect marine resources for tourism activity	
Cook Bay	Erromango	Protect Marine resources for tourism activity	
Ipota	Erromango		
Iuo	Erromango		
Sipyompwi	Erromango		
Itjabo	North Aniwa		
Ikaukau	South Aniwa		
Watatua	Aniwa		
Umei Marine Conservation	Aneityum	Protect marine resources	
Mystery Island Conservation	Aneityum	Generate income through tourism	Tourism Site
Three mile reef conservation	Aneityum	Protect Marine Resources	
Announse Marine Conservation	Aneityum	Protect Marine Resources	
Isia Marine Conservation	Aneityum	Protect Marine Resources	
Intau anivat conservation	Aneityum		
Port Patrick	Aneityum	Protect Marine Resources	Fisheries Marine Reserve
Watatua – VCAP project	Aniwa	VCAP Project for protection on marine resources	
Proposed Marine areas			
Taimarino – VCAP Project	Aniwa	Protect Marine resource with VCAP Project	
Lagoon	Aniwa	Protect Lagoon biodiversity	
South Aniwa – VCAP Project	Aniwa	Protect Marine resource with VCAP Project	
Suvu	Erromango	Protect Marine Resources	
Ifo	Erromango	Protect Marine Resources	
Isvi	Erromango	Protect Marine Resources	
Pota sipsip	Erromango	Protect Marine Resources	
Tipnaku	South Tanna	Protect Marine Resources	
Nuianatum	South Tanna	Protect Marine Resources	
Kumera	South Tanna	Protect Marine Resources	
Ienpervar	South Tanna	Protect Marine Resources	

Existing Marine Areas	Location	Importance to Community	National Priority
Shark Bay	Southeast Tanna	Protect Marine Resources	
Segau – Coconut crab	Futuna	Protect Marine Resources-Coconut Crab	
Tafea Coop – White grass – Grace of the sea	West Tanna	Protect Marine resource with Grace of the Sea Project	
Kipilpilu	Northeast Tanna	Protect Marine Resources	
Kanimasaga Point	Southwest Tanna	Protect Marine Resources	
Lainiel Lanamtain	Central Tanna	Protect Marine Resources	
Imaelonet	West Tanna	Protect Marine Resources	
Laniakpam	West Tanna	Protect Marine Resources	
Lawakus	West Tanna	Protect Marine Resources	
Ipak	West Tanna	Protect Marine Resources	
Anahoya – ridge to reef	Aneityum	Protect Marine Resources	
Louanpakel	North Tanna	Protect Marine Resources	

8.6.2.2 Marine Species Biodiversity

Like most of the islands of Vanuatu, Tafea islands have similar Marine Ecosystems and marine species. Anelgowhat villagers on Aneityum have dedicated the whole of Mystery Island and its surrounding coral reefs to be under protection or conservation. The initiative by local communities was co-jointly supported by the Coral Garden Project of Foundations of the Peoples of the South Pacific Vanuatu (FSPV) and the Department of Fisheries in mid 1990s. The initiative allows maintenance and increase of marine resources. Port Patrick in the north of Aneityum is also a protected marine reserve under the Fisheries Act, due to restocking of trochus on its reefs. It is protected under Fisheries Regulation. Apart from protection of marine resources, people also depend on them for their daily subsistence and to earn income. Aneityum in particular has abundant pelagic fishes (e.g. tuna) and deep bottom fish. Reef fishes include parrotfishes, surgeonfishes, mullet, *mangru* (scat fish), giant trevally and rabbitfishes. This bioregion includes the Mystery Island Marine Protected Area, and the southwestern coast of Aneityum, where most of Anetyum's prominent bays and barrier reefs are found. The upper ocean depth is 500m and the lower depth is 3,000m. This area is rich in pelagic (tuna) and deep-water species, particularly near and around Aneityum due to a "warm pool" of water associated with underwater volcanoes.(MACBIO VU BIOREGIONSReport 2018)

Below are the list of species that are useful to the local communities as well as the species and ecosytems that attention should be given to their protection.

8.6.2.3 List of important Marine Species in Tafea

Fish	Invertebrates	Sea Mammals/ Sea Birds	Marine Ecosystems
All reef fish	Clamshell Crab Lobster Shellfish Sea cucumber	Dugong Turtle	Coral reef Mangrove Mud flats Sea grass beds

8.6.2.4 Threats to the Marine Species

Common threat for Tafea Marine species is high human consumption due to high population (this is highly evident on Tanna, being the most densely populated island in Vanuatu). The population is increasing every year which causes a lot of pressure on its Marine Resources. Mystery Island itself indicated that Tourism is a threat to the marine environment. Too many tourist on a cruise ship day enjoys the white sandy beaches, sunbathing and watching cultural performances as well as snorkelling. Local people realised that snorkelling also has impact on coral reefs. Other threats to the marine environment are Crown of Thorns (COTs) infestation, not adherering to Fisheries regulation on size limits and lack of respect on 'no take' rules on species under protected or conservation areas. The Workshop also identified that high number of tourists visiting Mystery Island every year has caused impacts on the coral reefs during snorkelling and also depletion of resources. For example pandanus being used for weaving baskets for sale to tourists is now taken from other neighbouring islands.

8.6.2.5 Key Actions to Address decrease of Marine Resources

Some of the key actions are blended according to threats below;

Threats	Actions Plans to address threats	Agency Responsible	Timeframe
Rapid population increase– overfishing, under size harvest, disrespect	• Information & awareness • Develop laws to address • Register areas under Environment laws	DEPC VFD Tafea Province	2020-2030
COTs Investation on Coral Reefs	Proper assessment/ stock taking on problems	VFD Tafea Province	2020-2030
Usage (money, food, breeding fish sites)	• Chiefs must organise better and control their people – educate people on how policies/ laws give power to chiefs) • Develop sustainable marine and freshwater farming (aquaculture) • Install FADs	DEPC VFD Tafea Province	2020-2030
Poaching in tabu areas due to no respect on tabu system place on resources	Chiefs must organise better and control their people – educate people on how policies/ laws give power to chiefs)	Chiefs DEPC Tafea Province	2020-2030
High number of toursts visiting Mystery Island on Cruise ship days	• Work with Dept of Tourism to find ways to manage 5,000 tourists on cruise ship days. • Review tourism management plan for Mystery Island	DoT VFD DEPC Tafea Province	2020-2030

8.6.3 Forest and Inland Waters

Forest cover in Tafea Province varies from island to island. , Erromango has larger areas of forest that are still intact. It has prominent Kauri stands within primary forests that are going through the process of legal registration by local communities soon. Tanna is the most heavily populated island in Vanuatu where people live right into the interiors of the island. It has some patches of remnant forest left with the larger tracts being limited to high mountain areas (Mt Tokusmera). Due to the fertile soil of this island, agriculture activities happen

extensively in most areas of the islands, unknowingly without realising the impact on its forest, inland waters and their associated biodiversity. Tanna has a designated priority Key Biodiversity Area (KBA) in nusumetu due to the wild stands of the critically endangered palm, Carpoxylon macrospermum found there (according to the CEPF Ecosystem Profile). It is a rare and endemic palm and its natural habiat is within theNusumetu Conservation Area on north Tanna. Tanna also has a number of other Key Biodiversity areas with regards to significant endemic plant and animal species. On Aneityum, most of its intact forest is upland. The drier or western side of the island dominated by *Acacia spirorbis* and *Leucaena leucophala* and is prone to bushfire and soil erosion. Iniatives have taken place with restoring the vegetation of the degraded and eroded forest areas through establishment of vetiver grass.

Aneityum seems rich in its terrestrial biota for its size. Exhibiting endemic flora and Fauna.This Island is interesting because of the compression in altitudinal range of species compared with islands further north. In particular a number of endemic palms on Aneityum. A lot of endemism and restricted range species also exist on this island. With the island being designated as a priority CEPF KBA.

8.6.3.1 List of Existing Forest and Inland Water Conservation Areas for Tafea Province

Existing Forest and Inland Water areas	Location (Island)	Importance to the Community	National Priority
Green Hill (Nusiematu)	North Tanna	Protect Forest	
Launa Milo	Central Tanna	Protect forest and biodiversity	
Botanical Garden (GH)	North Tanna	Protect Forest and endemic plants	
Keasi Reserve	Southeast Tanna	Reserve remaining forest	
Imaus	Central Tanna	Protect forest and biodiversity	
Laupukas	Central Tanna	Protect forest and biodiversity	
Blue Zone Lanarei	Central Tanna	Protect forest	
Lamkail Kil Forest	West Tanna	Protect forest	
Lamnatu Forest	Central Tanna	Protect forest	
Mt Tukusmera, Mt Melen	Tanna	Protect remaining dark forest and water source	
Kauri Reserve	South Erromango	Reserve primary kauri forest	Process to CCA
Urantop forest	North Tanna	Protect forest and wild life	
Rapunmoungo forest	South Erromango	Protect forest and wild life	
Nwalcon	North Erromango	Protect forest and wild life	
Anijem hag Forest	Aneityum	Protect forest and wild life	
Anahoya forest	Aneityum	Protect forest and wild life	
Anumej forest	Aneityum	Protect forest and wild life	
Proposed Forest and inland water areas			
Vekal river	Southeast Tanna	Protect forest & water source	
Kasrasir river	Southeast Tanna	Protect forest & water source	
Tekiskis	Isangel area	Protect forest & water source	

Existing Forest and Inland Water areas	Location (Island)	Importance to the Community	National Priority
Black beach river & water catchment & waterfall	Southwest Tanna	Protect forest, water catchment and waterfall	
Laulri river & catchment	Lamnatum, Central Tanna	Protect forest and water source	
Lausialus river & catchment	Lamlu Catholic Mission	Protect forest and water source	
Niaulul river & catchment	Lounatum, Central Tanna	Protect forest and water source	
Keasi forest, Emaio	Southeast Tanna	Protect forest and water source	
Forest close to Yasur Volcano	Takoarao, Southeast Tanna	Protect forest	
Latanu river & catchment (Busaini forest)	Central Tanna	Protect forest and water source	
Iatapu Forest	Southeast Tanna	Protect forest	
Kakuasei forest to Isaka	Southeast Tanna	Protect forest	
Louwawila river & catchment	Central Tanna	Protect forest and water source	
Lamalipen river & catchment	Central Tanna	Protect forest and water source	
Kawiakme forest	Central Tanna	Protect forest	
Ipinien forest & water catchment	Northeast Tanna	Protect forest and water source	
Iatukei forest and water catchment	Southeast Tanna	Protect forest and water source	
Iatepin forest & water catchement	Southeast Tanna	Protect forest and water source	
Imarap Cloud forest	Tanna	Protect primary forest	
Launipina forest	North Tanna	Protect forest	
Lounuou (Nasapil)	Southwest Tanna	Protect forest	
Mt Tatafu forest &Water catchment	Futuna	Protect forest and water source	
Tafigi Forest	Aniwa	Protect forest	
Mt Santop	Erromango	Protect forest	
Mt Simrap, Mt Naparo, Mt Melon, Mt Kuarua, Mt Lenmarei REDD + proposed sites	South Tanna	Protect forest and water source	
Komera water source	South Tanna	Protect forest and water source	
Nuwip water source	South Tanna	Protect forest and water source	
Kwakian water source	South Tanna	Protect forest and water source	
Mt Lamanikiapen	Central Tanna	Protect forest	
Mt inrerou	Aneityum	Protect forest	
Mt Tahegjei	Aneityum	Protect forest	
Anelwuhat river	Aneityum	Protect forest and water source	
Mt Nakapuearip	North Tanna	Protect forest	

8.6.3.2 List of important Forest and Inland Water Species

Plants	Animals
Black Palm	Birds (Tikirkar)
Pudding leaves	Flying fox
Wild cane	Wild chicken
Bamboo	Freshwater eel fish
Bush ropes	Prawns
Snake Palm	Freshwater fish
Carpoxylon macrospermum	Snake
Agathis macrophylla (Logging resource)	

8.6.3.3 Threats to Forest and Inland Waters

The threats to forest and inland waters identified during the provincial validation workshop are population pressure on resources, no respect for tabus set on resources for maintenance and protection, deforestation due to logging, agricultural practices and bush fires, infrastructure such as road development, traditional gardening practices, impact of invasive species such as guinea grass, Merremia peltata and Mynah Bird. Other threats are natural.

8.6.3.3 Key Actions to Address Decrease of Forest and Inland Water Resources

Addressing forest and inland water resource management can be supported through:

- By-laws, Sectoral analysis/ scoping, Strategic action plan, Tribe council – by-laws, Land management forces

Threats	Actions to address threats	Agency responsible	Time frame
Populations growth/ pressure on resources	Awareness (educational dissemination) Aquaculture	DEPC DoF VFD	2020-2030
No respect on tabu/ stealing	Enforce heavy penalties Enforcement officer-DEPC	DEPC DoF VFD	2020-2030
Big leaf, minah bird	Management of invasive species - Eradication	DEPC DoF BV	2020-2030
Wild bamboo (siwi area, SE Tanna, near volcano)	Create alternative resource from wild bamboo	DEPC DoF DoT	2020-2030
Kini grass – grows fast/ wild	Management	DEPC	2020-2030
Deforestation – logging	Reforestation Develop management plans (ridge 2 reef)	DoF	2020-2030
Traditional gardening system	Integrated farming Agro forestry	DoF DARD	2020-2030
Infrastructure	EIA	DEPC PWD	2020-2030

8.6.4 Tafea Provincial Target for 2018 to 2030

The workshop participants discussed on existing protected sites for the marine and terrestrial environment. Conservation is not new to Tafea province as protected sites are alreay happening on Tafea through traditional resource management system. There has been a good approach to setting up community conservation areas. For example Mystery Island at Aneityum, and Kauri Resere on Erromango. Tafea Province has a plan to work with local communities to set up some areas as target sites to protect them starting from 2018 until 2030.

8.6.4.1 Forest and Inland Water Target

Conservation Area Forest & Inland Water types	**Conservation Objectives**	**Area Council**	**Target by 2030**
1. Nusienmatu conservation area	• Water catchment area • Existing endemic species • Forest	NTAC (North tanna area council)	Formal
2. Keisi – Karpesu-Ieniang conservation	• Water catchment area • Wildlife habitat area • Existing endemic species (Nalulu)	SE AC	Formal
3. Loupakas Conservation Area	• Endemic Species (Nip) • Water catchment • Wildlife habitat	CAC	Formal
4. Blue Zone	Water Catchment	CAC	Formal
5. Imarap Cloud forest	• Water catchment • Endemic species	NEAC	Formal
6. Mt Melon, Tokosmera, Kuarua	• Water catchment • Endemic species • Wild life sanctuary	SEAC, STAC, WTAC	Formal
7. Lanamir Conservation Area	• Preserve last forest area in west tanna • Wildlife revival • Protection of cultural site	WTAC	Formal
8. Kauri reserve	• Endemic species • Gene pool conservation • Water catchment area • Wild life habitat • Forest resource conservation	SEAC	Formal
9. Urantop forest	• Water catchment • Wildlife habitat	NEAC	Formal
10. Anahoya (idee isia)	• Ridge to reef • Water catchment • Endemic species • Ecosystem • Reserve area	Aneityum	Informal

Conservation Area Forest & Inland Water types	Conservation Objectives	Area Council	Target by 2030
11. Mt Tatafu forest and water catchment (futuna)	• Main water catchment area • Main water source • Protect wildlife • Protect forest	Futuna area council	Formal
12. Tafigi forest (aniwa)	• Protect coconut crab & habitat • Habitat for wild life	Aniwa area council	Informal
13. Aneityum (Anumeij forest, Mt Inrerou, Mt Tahegjei, Anelcouhat river) – Ridge to reef GEF 5 FAO project	• Protect mountain forest • Protect catchment • Protect water source • Protect wild life • Protect rare species	Aneityum area council	Informal
14. Rampuntom forest	• Protect mountain forest • Protect catchment • Protect water source • Protect wild life • Protect rare species	South Erromango AC	Informal- formal
15. Mt Lamanikiapen	• Protect forest • Protect wild life • Endemic species • Eco-tourism • Protect cultural belief	West Tanna Area council	Formal
16. Iipinian Hill & catchment	• Protect forest • Main water source • Protect wild life • Endemic species	NE Tanna	Formal
17. Lavri Forest	• Protect forest • Main water catchment • Protect birds • Endemic freshwater species	Central Tanna	Formal
18. Mt Nasienmatu & water catchment	• Protect forest • Main water catchment • Protect birds • Endemic freshwater species • Eco-tourism	North Tanna	Formal
Total Formal: 14 & Informal: 4			

8.6.4.2 Marine Areas Target

Conservation Area	Conservation Objective	Area Council	Target by 2023
1. Enafa – Launapaiu	• Tourism Attraction • Presevem coral reef • Protect • Marine resource	N Tanna AC	Formal
2. Imaelone	• Tourism attraction • Preserve coral reef • Protect marine and increase marine resource • Ecosystem	W Tanna AC	Formal
3. Kamti	• Protect coral reef • Ecosystem • Marine park	NE Tanna AC	Formal
4. Shark Bay	• Protect marine resource • Eco-tourism	SE Tanna AC	Formal
5. Mystery island	• Pilot project site (fisheries dept) • Marine cultural governance system	Aneityum AC	Formal
6. Suvu	• Eco-tourism • Marine resource protection	S Erromango AC	informal
7. Cook bay	• Eco tourism • Marine protected area	N/ Erromango	formal
8. Aniwa	• Eco tourism • Marine protected area	Aniwa	Formal
9. Futuna (Isino)	Marine protected area	Futuna	Formal
10. Tafea Coop – Whitegrass (West Tanna)	• Overharvesting of marine resource • For future tourist attraction • Stock increase	West Tanna	Formal
11. Waisis (NE Tanna)	Tourism activity	NE Tanna	Formal
12. Aniwa-VCAP site and lagoon	• Increase marine product • Tourism attraction	Aniwa	Informal
13. Cook Bay (N Erromango)	• Increase marine product • Tourism attraction	North Erromango	Formal
14. Seagau (Futuna)	Increase and protect coconut crab	Futuna AC	Formal
15. Kanmasanga (Tanna)	Increase and protect marine resources	SE Tanna	Formal
16. Sipiopu (Erromango)	Protect marine resources Eco-tourism	North Erromango	Formal
Total Formal – 14 & Informal - 2			

8.6.5 TAFEA Provincial Target statement

By 2030, Tafea Province would like to formally register 14 forest and inland water areas, 14 marine areas under the environmental act. Of the proposed sites, 4 of the forest and inland waters and 2 marine areas will be established as community tabu areas.

8.6.6 Reference

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9.0 NBSAP REPORTING

The NBSAP progress update will be done bi-annually but reporting will be done annually where a summary of outcomes on NBSAP will be produced to monitor progress and achievements. This will also include production of communication materials. This information should also be disseminated to other sectors and national strategies to ensure NBSAP achievements are reflected under the NSDP and other national reporting mechanisms.

Table 3: NBSAP 2018 Report Template

Strategic Area:	Objective	Actions	2018 Key actions	2018 UPDATE
Focus Area CA1: Expanded national representative network of conservation areas in marine, terrestrial and inland waters.	To carry out marine, terrestrial and inland waters biodiversity rapid assessment, inventories and threat identification, gap analyses and prioritisation to guide the development of a national representative network of CAs			

9.1 NBSAP MONITORING AND INDICATORS GUIDELINE

Monitoring of the NBSAP will be based on measuring impacts using the indicator guide in Table x. Baselines will be needed in order to assess change. The impact and monitoring results will provide the information for the State of Environment Reports and at least every 5 years to produce a NBSAP Impact Report.

Table 4: Indicator Guide

NBSAP STRATEGIC AREAS	NBSAP INDICATORS
CONSERVATION AREA MANAGEMENT	• Total area of representative coverage of legally recognised, other effective conserved areas and locally managed areas in terrestrial and marine areas including sites of particular importance for biodiversity • Percentage of terrestrial and marine protected areas that are effectively managed based on agreed national and international protected area conditions and management effectiveness • Measure of ecosystem service values and equity of benefits from CAs • Level of connectivity of CAs and other area based approaches with broader landscapes and seascapes
FOREST AND INLAND WATERS ECOSYSTEMS CONSERVATION AND MANAGEMENT	• Trends in forest and inland waters species diversity including traded ones • Trend to which biodiversity and ecosystem service values are incorporated into government accounting reporting • Percentage of forest and inland waters conservation areas to meet national and global targets • Impact of threats to forest and inland waters such as invasive species, deforestation, logging and other threats
COASTAL AND MARINE ECOSYSTEMS CONSERVATION AND MANAGEMENT (CME)	• Total area of representative coverage of legally recognised, other conserved areas and locally managed areas in marine areas including sites of particular importance for biodiversity • Total area number of marine protected areas that effectively managed based on agreed national protected area conditions and management effectiveness • Measurement of ecosystem services and equitable benefits from CAs • Account for Payment of ecosystem service and other sustainable financing strategies • Measure if trends in connectivity of CAs and other area based approaches integrated into landscapes and seascapes • Assessments on coastal development impact and EIAs enforcements and compliance
SPECIES MANAGEMENT(SM)	• Reduced trend in extinction risks of Vanuatu's 5 priority species • Increased trend in population of the 5 priority threatened species for Vanuatu • Increased trends in distribution of the 5 selected species
MANAGEMENT OF INVASIVE SPECIES (MIS)	• Assessment and measure of impact of invasive alien species on biodiversity and food security • Impact of policy responses, legislation and management plans to control and prevent spread of invasive and alien species • Required information and data on invasive species are available

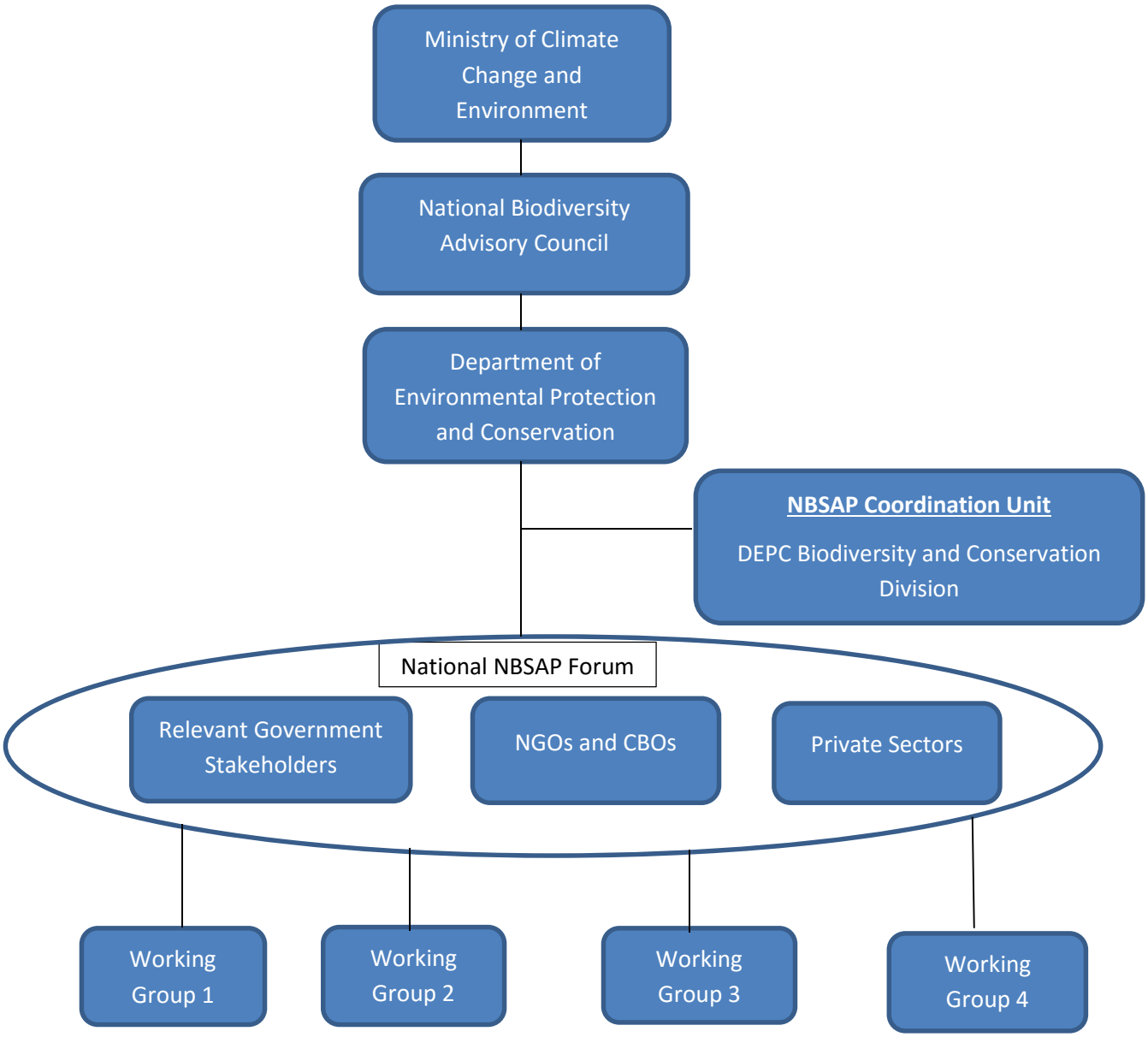
	• National government commitment through financing of management of AIS. • Level of invasive species understanding increased. • More improve legal frameworks and policies are available • International border control system improved and internal quarantine system established. • Invasive species population density are reduced. • The population density of invasive species in Conservation Areas are reduced
MAINSTREAMING BIODIVERSITY ACROSS SECTORS AND SOCIETY (MB)	• Increased cross-sector engagements with biodiversity • Increased political awareness and support for biodiversity policies • Increased biodiversity communication programmes in actions promoting social corporate responsibility with private sector • Increased engagement and partnerships to raise awareness, evoke active responses, information sharing and cross-sector coordination and communication

Women Custom Dancing- Point-Cross, South Pentecost

9.2 IMPLEMENTATION STRUCTURE AND COORDINATION

Working groups are assigned to different strategic areas of the NBSAP. Regional partners will be included in these working groups.

Figure 1: NBSAP Coordination Structure



9.3 AMENDING THE NBSAP

The NBSAP will be reviewed and revised after five years (2022) to produce the impact report and the review process will be initiated following this.

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ANNEXES

ANNEX 1: DEFINITIONS AND TERMS

Definitions

Bioregions are; areas of relative similarity- Habitats, communities, and physical features within a bioregion (e.g. Fish, invertebrates, seamounts, coral reefs, water column) are more similar to each other than those same features in a different bioregion; away to represent the full range of biodiversity; a classification of habitat and environmental types.

Community Conservation Area (CCA) means an area of land and or sea especially dedicated to the protection, maintenance and sustainable use of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.

Invasive Alien Species (IAS) means an invasive alien species (IAS) is a species that is established outside of its natural past or present distribution, whose introduction and/or spread threaten biological diversity" Convention on Biological Diversity.

Marine Spatial Planning (MSP) is a practical way to create and establish a more rational organization of the use of marine space and the interactions between its uses, to balance demands for development with the need to protect marine ecosystems, and to achieve social and economic objectives in an open and planned way. Such spatial planning complements and supports sectoral management and development plans.

Mutually Agreed Terms (MAT): Is a term used in Article 15 CBD and establishes that specific benefit-sharing conditions must be "mutually agreed" between providers and users of genetic resources. The term is also used in the Nagoya Protocol.

Payments *for* Ecosystem Services (PES) occur when a beneficiary or user of an *ecosystem service* makes a direct or indirect *payment* to the provider of that *service*. The idea is that whoever preserves or maintains an *ecosystem service* should be paid for doing so.

Prior Informed Consent (PIC) - The intention of the *CBD* is to create regimes in which indigenous and local communities must give *prior informed consent* or their *prior informed* approval for the use of such (their) knowledge, and have the right to deny such *consent* or approval.

Protected Area is synonymous with conservation area.

Resource Mobilisation means the process of getting resources from resource provider, using different mechanisms, to implement an organization's pre-determined goals.

Special Unique Marine Areas (SUMA) are geographically defined areas that may have; threatened, rare, vulnerable habitats or species; important life stages of key species (feeding, breading, nesting, migration); biologically outstanding attributes, eg: high species diversity, endemism; habitats of high complexity or size; other marine areas might be physically unique (geomorphology) e.g. Tongoa Wall.

Wetlands - Ramsar Convention on Wetlands define wetlands as: "areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres".

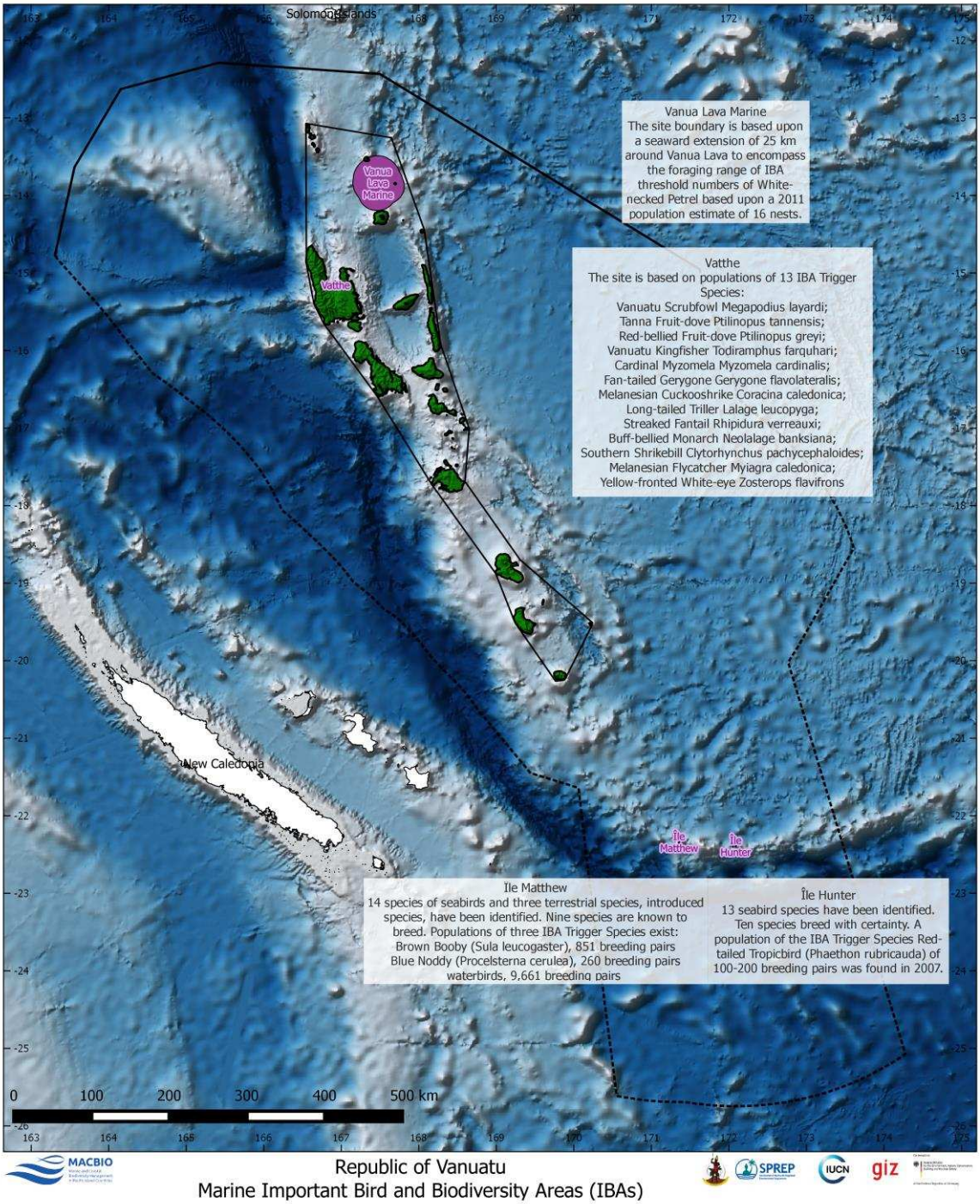
ANNEX 2: LIST OF PROTECTED AREAS

Area #	Name	Location	Island	Province
1	Lake Letas Conservation Area	Foot of Mt Garet	Gaua	Torba
2	Mondoro Marine Conservation Area	Mondoro Village	SE Gaua	Torba
3	Butmas Conservation Area	South	Santo	Sanma
4	Edenhope Conservaion Area	West	Santo	Sanma
5	Guyon Reef Marine Conservation Area	Melcofee,Luganville	Santo	Sanma
6	Hog Harbour Marine Conservation Area	East	Santo	Sanma
7	Lolath Marine Conservation Area	Northeast	Santo	Sanma
8	Loru Protected Area	Khole Vilage	East Santo	Sanma
9	Million Dollar Point	South	Santo	Sanma
8	Nabauk Conservation Area	South	Santo	Sanma
9	Penoru Conservation Area	Penoru Village	NW Santo	Sanma
10	Port Olry MPA	Northeast	Santo	Sanma
11	President Coolidge	South	Santo	Sanma
12	Vatthe Conservation Area	Matantas Village	NE Santo	Sanma
13	Wairua Conservation Area	South	Santo	Sanma
14	Amal-Krab Bei Tabu Eria (AKTE)	Northeast	Malekula	Malampa
15	Avok II Island Conservation Area	South Malekula	Avok Island	Malampa
16	Narong-Uri Marine Conservation Area	Northeast Malekula	Uri Island	Malampa
17	Ringi Te Suh Marine Conservation Area	South Malekula	Pelong,Maskelynes	Malampa
18	Wiawi Conservation Area	Northwest	Malekula	Malampa
19	Duviara Conservation Area	North	Ambae	Penama
20	Homo Bay Conservation Area	South	Pentecost	Penama
21	Manaro Tourism Conservation Area	West	Ambae	Penama
22	Moon Cave Conservation Area	South	Maewo	Penama
23	Homo Bay Conservation Area	South	Pentecost	Penama
24	Ranputor Community Conservation Area			
25	Nguna-Pele Marine Protected Area	North Efate	Nguna and Pele	Shefa
26	Ngurua Marine Conservation Area	Southeast	Emau	Shefa
27	Efate Land Management Area (ELMA)	Central	Efate	Shefa
28	Epau Conservation Area	East	Efate	Shefa
29	Erwati Marine Protected Area	South Efate	Erwati	Shefa
30	Ifira Marine Managed Area	South Efate	Efate (Irriki and Ifira Islands)	Shefa
31	Lelepa Island Tours MPA	NW Efate	Lelepa	Shefa
32	Lelepa Island Tours MPA	NW Efate	Lelepa	Shefa
33	Marou Conservation Area	NE Efate	Emau	Shefa
34	Mere-Sauwia Conservation Area	Northeast	Nguna	Shefa
35	Unakap MPA	South	Nguna	Shefa
36	Aniwa Marine Tabu Area	North	Aniwa	Tafea
37	Kauri Forest Reserve	South	Erromango	Tafea
38	Keasi Forest Reserve	East	Tanna	Tafea

39	Loanamilo Conservation Area	West	Tanna	Tafea
40	Mystery Island	South	Anietyum	Tafea
41	Port Patrick Marine Protected Area	North	Anietyum	Tafea
42	Tipinime Conservation Area	North	Tanna	Tafea

ANNEX 3: IMPORTANT BIRD AREAS

Important Bird Areas



ANNEX 4: IMPORTANT FOREST AREAS

Important Forest Areas

Forest Area	Location	Importance of Site
Kauri Reserve	Erromango Island	Unique population of native species Kauri, *Agathis macrophylla*
South to West Coast Santo	Santo Island	Habitat of endemic kauri species, *Agathis silbae*
Central, extend to South Pentecost	Pentecost Island	Habitat and threatened status of *Veitchiae brunnae,* black palm on Pentecost
Loru Connservation	Santo	Assessment of Carbon stock
Matantas	Santo	Primary forest
Millinium Cave	Santo	Primary Forest
Bodmas	Santo	Primary forest
Nabauk	Santo	Primary forest
Lake Letas	Gaua Island	Primary Forest and Lake
Amal Crab Bay	Malekula Island	Mangrove forest
ELMA- Midst of Efate	Efate Island	Last remaining forest of Efate
Vatnebwaratu	Maewo Island	Primary forest
Tukusmera	Tanna Island	Last primary forest of Tanna with some endemic plants and animal.

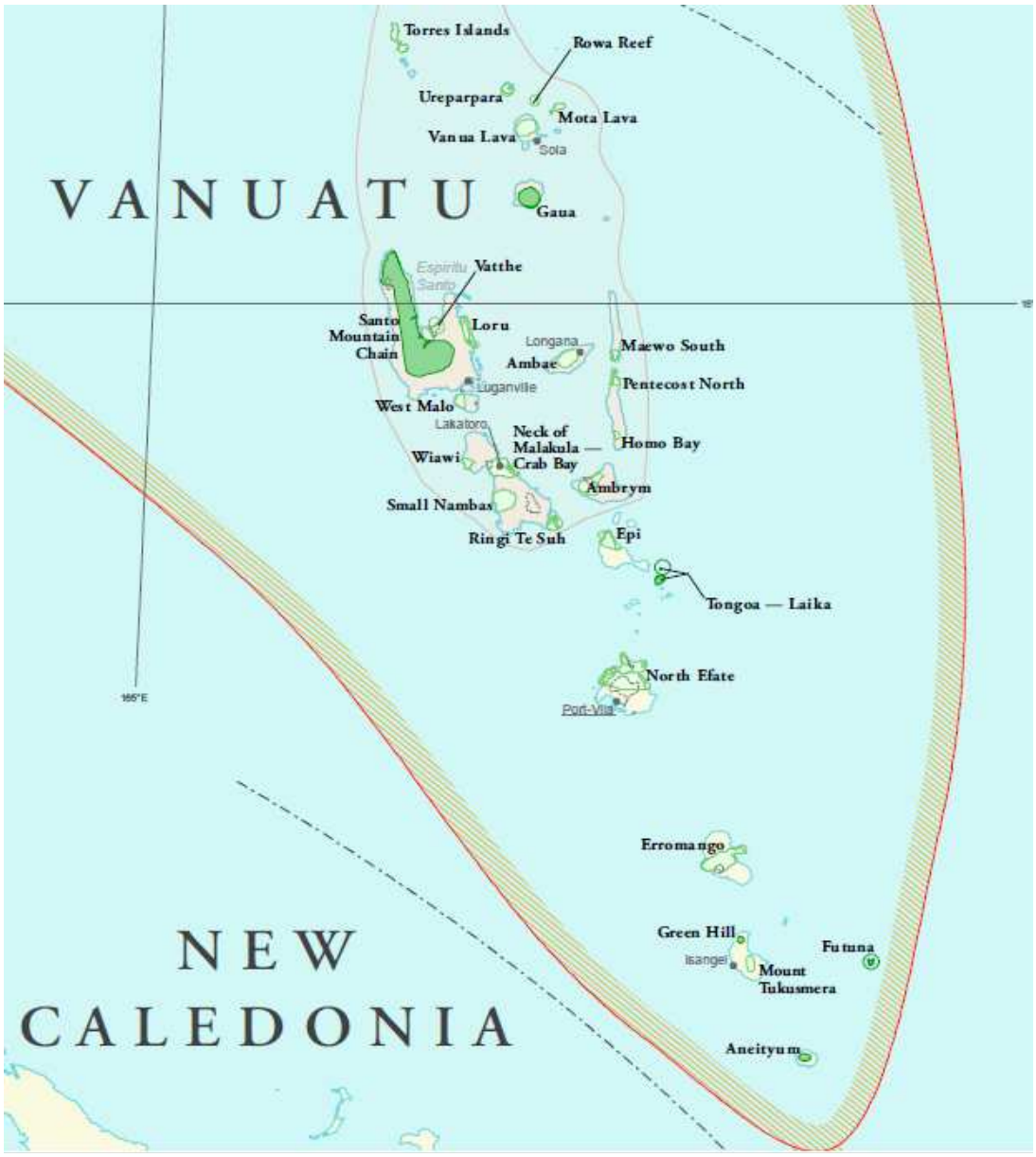
ANNEX 5: CURRENT IMPORTANT WETLAND AREAS

List from Updated Vanuatu National Wetland Inventory

Name	size (ha)	Location	island	province
Alligator river	30	East coast	V. Lava	Torba
Nagpen river	36.5	Central east coast	V. Lava	Torba
Lake Letas	1971	Centre	Gaua	Torba
Jordan River Flood Plain	3335	North central	Santo	Sanma
Santo Blue Holes	??	East	Santo	Sanma
Lake Waimemea	19.5	Northeast	Ambae	Penama
Lake Wai Lembutaga	69.5	Northeast	Ambae	Penama
Ambae Caldera Lakes	1026	Centre	Ambae	Penama
(Lake Manaro Ngoru)	15	Centre	Ambae	Penama
(Lake Vui)	150	Centre	Ambae	Penama
(Lake Manaro Lakua)	170	Centre	Ambae	Penama
Port Stanley, Bushman's Bay & Crab Bay	4132	Northeast Coast	Malekula	Malampa
Southwest Bay Lagoons	194	Southwest coast	Malekula	Malampa
Port Sandwich, Cooks Bay & Maskelyne Islands	7004	Southeastern tip	Malekula	Malampa
Creek Ai	50	Northwest	Efate	Shefa
Duck Lake	76.3	East-north-east	Efate	Shefa
Emaotfer Swamp	192	Southeast	Efate	Shefa

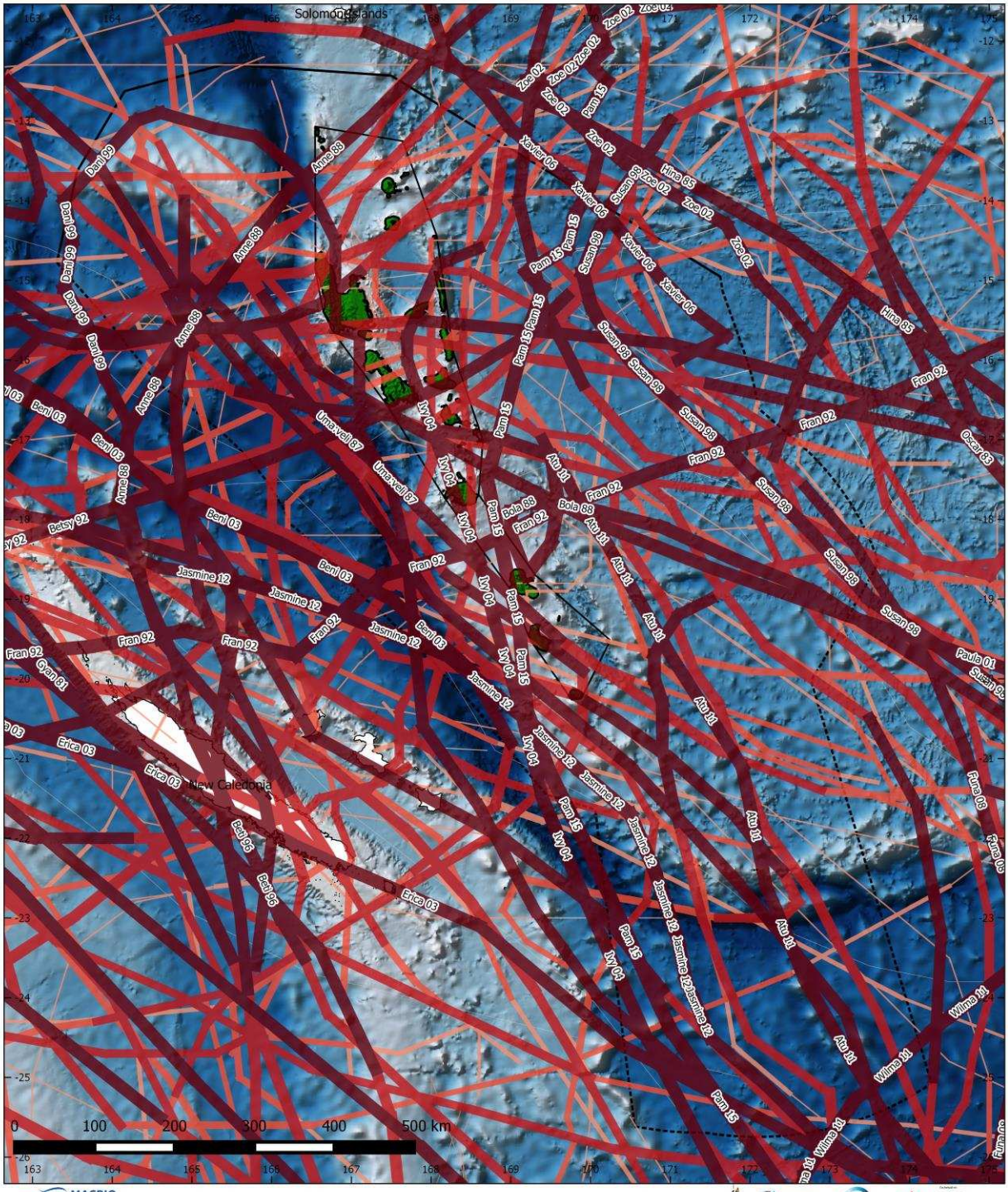
ANNEX 6: SIGNIFICANT BIODIVERSITY SITES WITHIN VULNERABLE DISASTER AREAS

Key Biodiversity Areas



*Reference to the KBA Map is the threat of different natural disasters below that have crucial effect on the KBAs.

Vanuatu Cyclones



Republic of Vanuatu Named Cyclones [1980-2015]

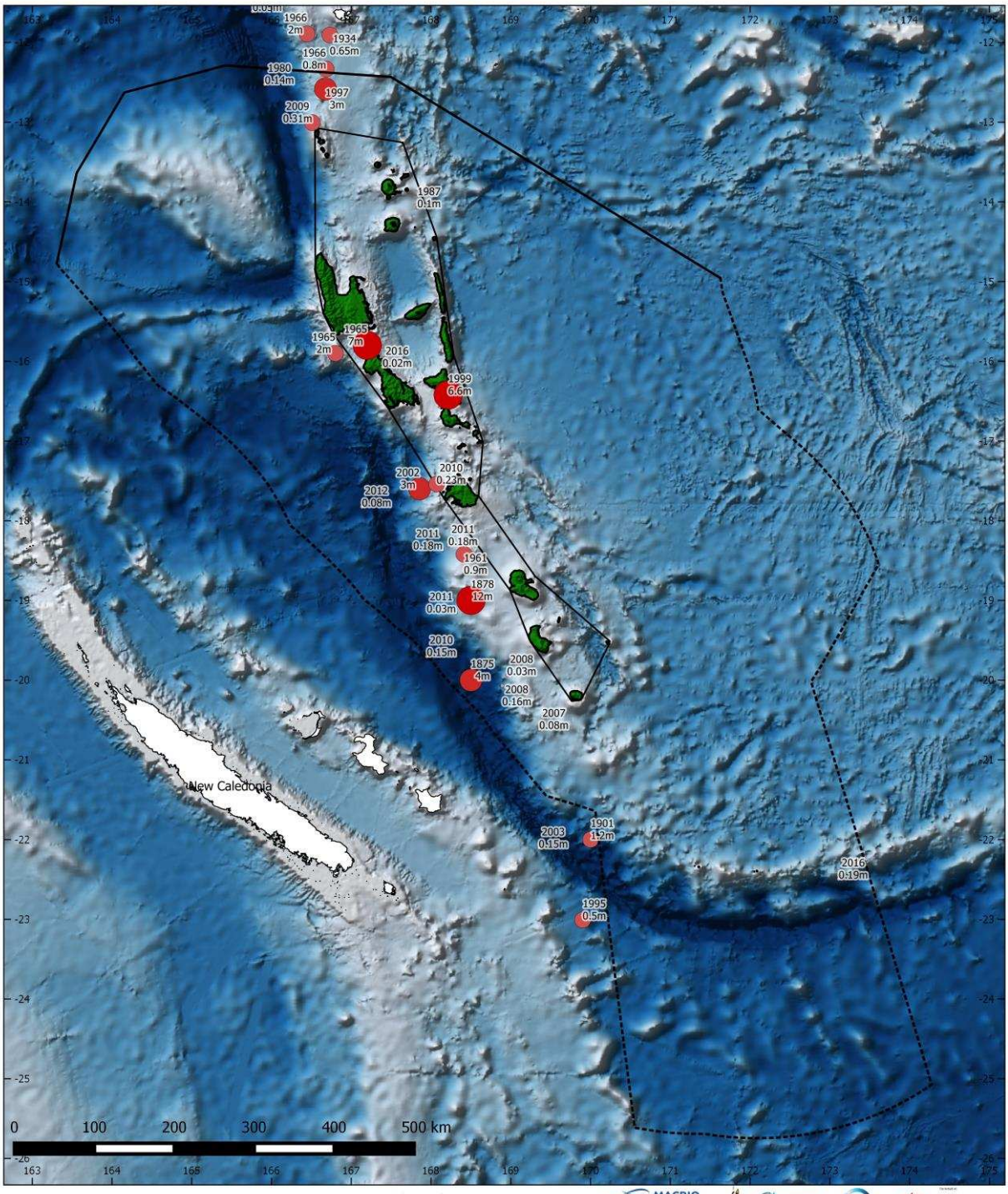
Notional Exclusive Economic Zone
- Treaty
- Unresolved
- Archipelagic Baseline
- Coastline

Wind Speed (knots)
- 0 - 20
- 20 - 35
- 35 - 45
- 45 - 65
- 65 - 150

IBTrACS (International Best Track Archive for Climate Stewardship) provides global tropical cyclone best track data in a centralized location to aid our understanding of the distribution, frequency, and intensity of tropical cyclones worldwide.

Data Sources:
Vanuatu Coastline: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, http://www.gebco.net
Notional Exclusive Economic Zone (EEZ): The Pacific Community Geoscience Division, SPC-GSD
Archipelagic Baseline: Republic of Vanuatu Maritime Zones Act 2009 [CAP 138]
Cyclone Tracks: International Best Track Archive for Climate Stewardship (IBTrACS v03r09), NOAA https://www.ncdc.noaa.gov/ibtracs/

Vanuatu Tsunami occurance



Notional Exclusive Economic Zone
Treaty
Unresolved
Coastline

Tsunami Maximum Wave Height (m)
0.0 - 0.2
0.2 - 0.1
0.1 - 2.0
2.0 - 5.0
5.0 - 524.6

Republic of Vanuatu Historic Tsunamis

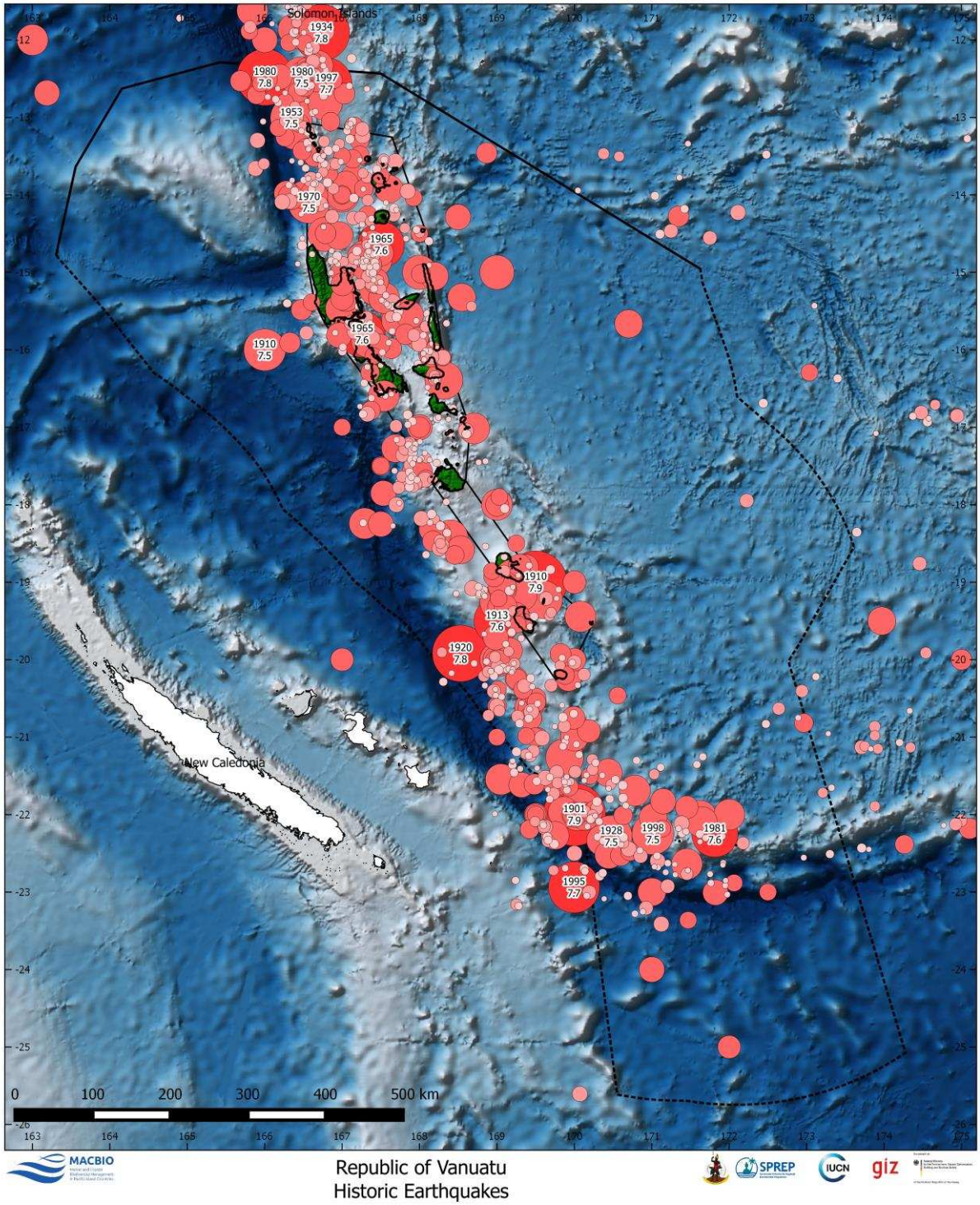
The NOAA/WDS tsunami database is a listing of historical tsunami source events and runup locations throughout the world that range in date from 2000 B.C. to the present. The events were gathered from scientific and scholarly sources, regional and worldwide catalogs, tide gauge data, deep ocean sensor data, individual event reports, and unpublished works. There are over 13,000 runup locations where tsunami effects were observed. The global distribution of these locations is 82% Pacific Ocean, 9% Indian Ocean, 4% Mediterranean, 3% Atlantic Ocean, and 2% Caribbean Sea.

Tsunamis, commonly called seismic sea waves--or incorrectly, tidal waves--have been responsible for over 500,000 fatalities throughout the world (227,898 were from the 2004 Indian Ocean earthquake and tsunami). Major tsunamis occur in the Pacific Ocean region only about once per decade. Therefore, it is important to learn as much as possible from the relatively short history available.

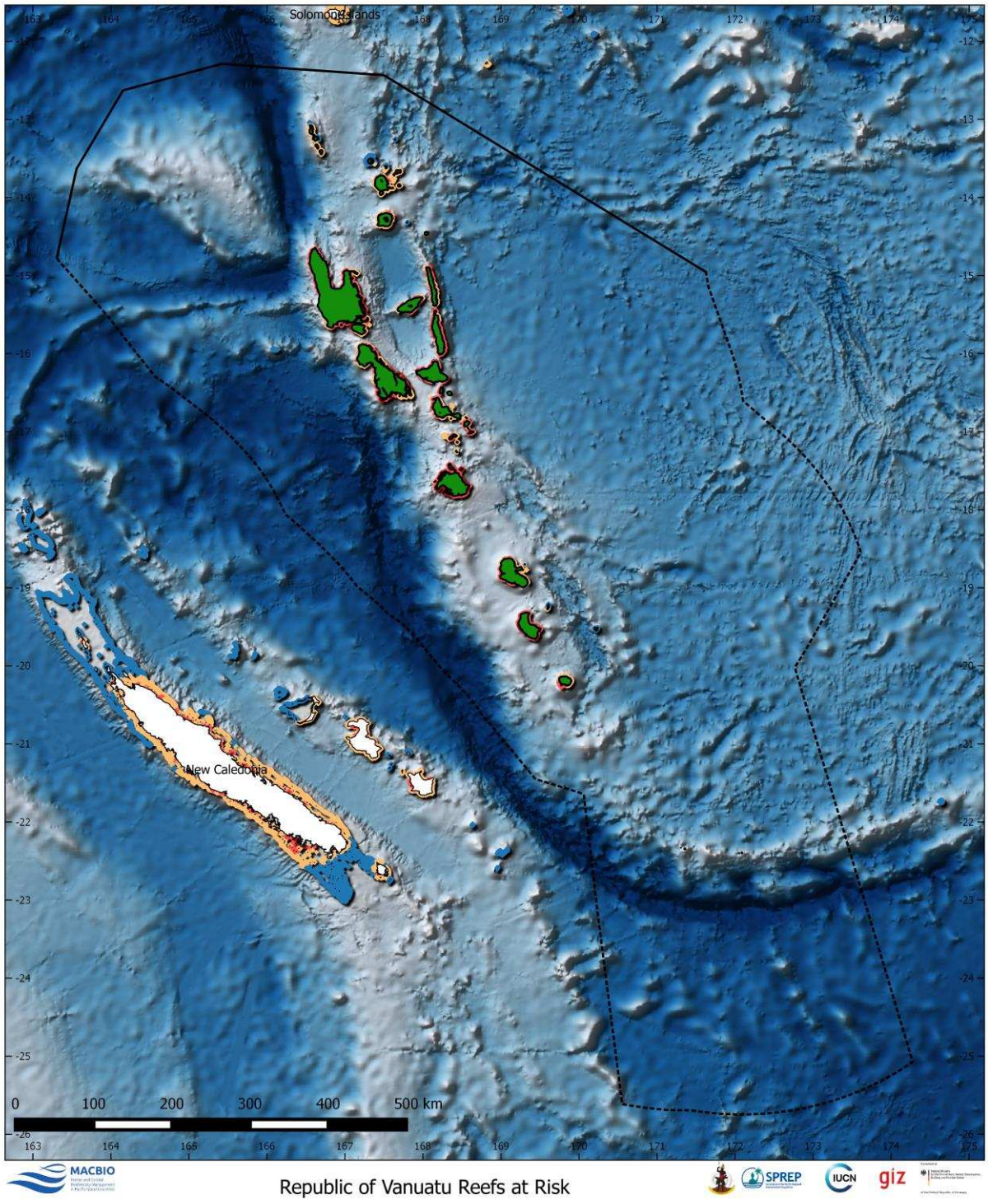
"Tsunami" is a Japanese word meaning "harbor wave." It is a water wave or a series of waves generated by an impulsive vertical displacement of the surface of the ocean or other body of water.

Data Sources:
Vanuatu Coastline: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Tsunamis: National Geophysical Data Center / World Data Service (NGDC/WDS): Global Historical Tsunami Database. National Geophysical Data Center, NOAA. doi:10.7289/V5PN93H7 [2017]

Earthquake Occurance



Reefs at Risk



Republic of Vanuatu Reefs at Risk

Notional Exclusive Economic Zone
- Treaty
- Unresolved
- Coastline

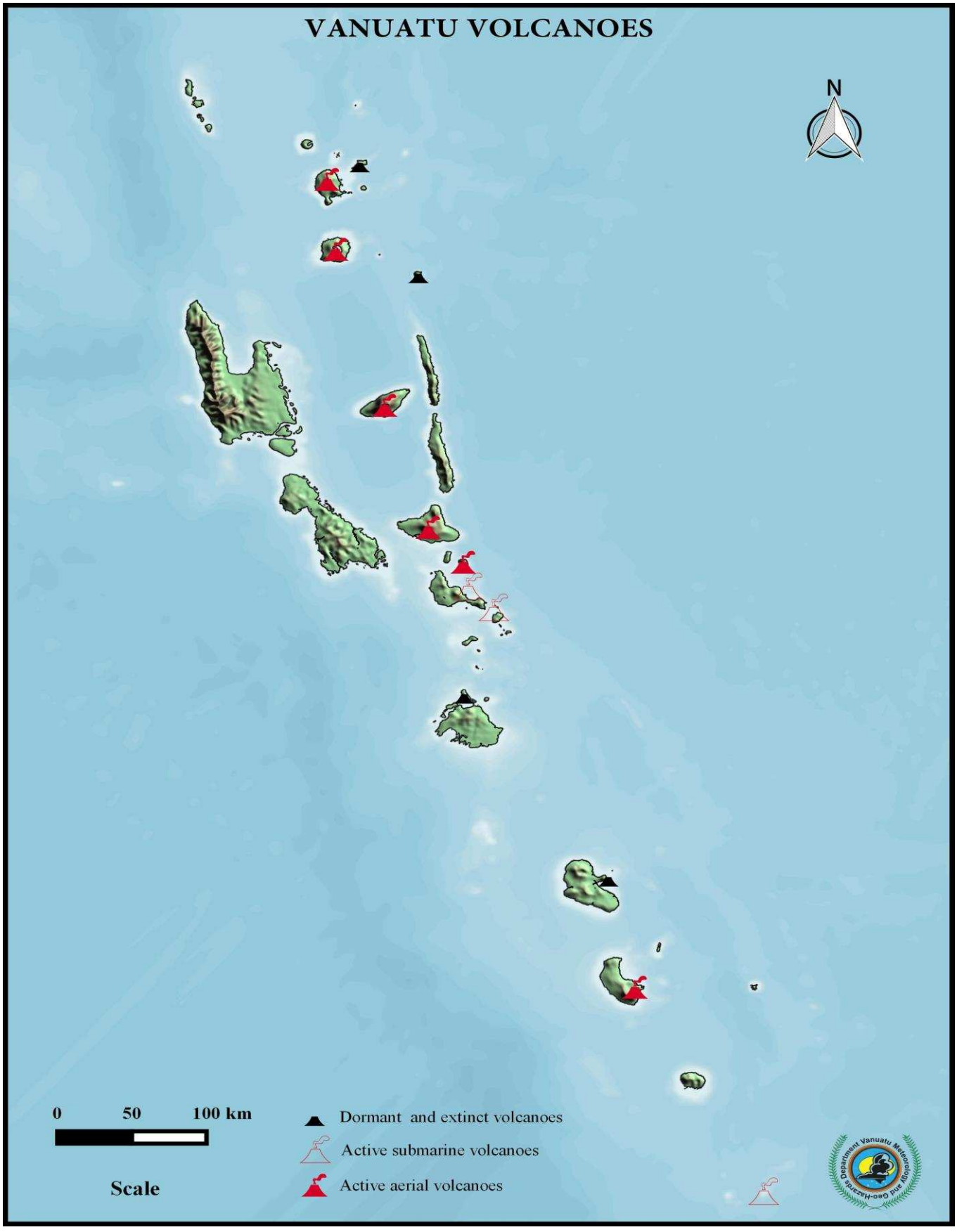
Reef Risk Level
- Low
- Medium
- High
- Very High

The Reefs at Risk project assesses the status of and threats to the world's coral reefs from a wide range of human activities including coastal development, overfishing, and pollution.

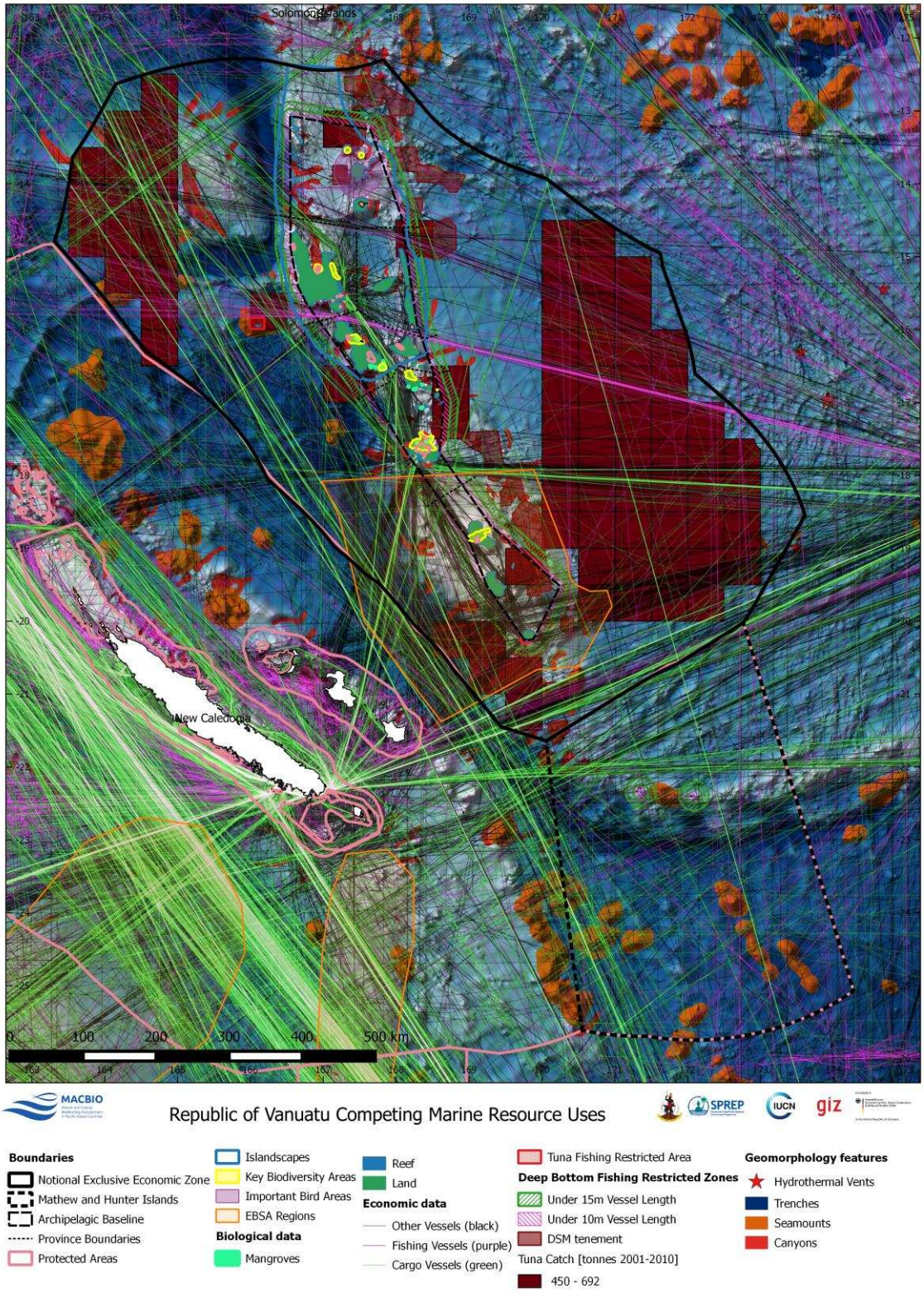
Threats addressed in this analysis:
• Coastal development, including coastal engineering, land filling, runoff from coastal construction, sewage discharge, and impacts from unsustainable tourism. • Watershed-based pollution, focusing on erosion and nutrient fertilizer runoff from agriculture delivered by rivers to coastal waters. • Marine-based pollution and damage, including solid waste, nutrients, toxins from oil and gas installations and shipping, and physical damage from anchors and ship groundings. • Overfishing and destructive fishing, including unsustainable harvesting of fish or invertebrates, and damaging fishing practices such as the use of explosives or poisons.

Data Sources:
Vanuatu Coastline: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, http://www.gebco.net
Notional Exclusive Economic Zone (EEZ): The Pacific Community Geoscience Division, SPC-GSD
Reef Risk Level: Reefs at Risk Revisited [2011], World Resources Institute, http://www.wri.org/our-work/project/reefs-risk

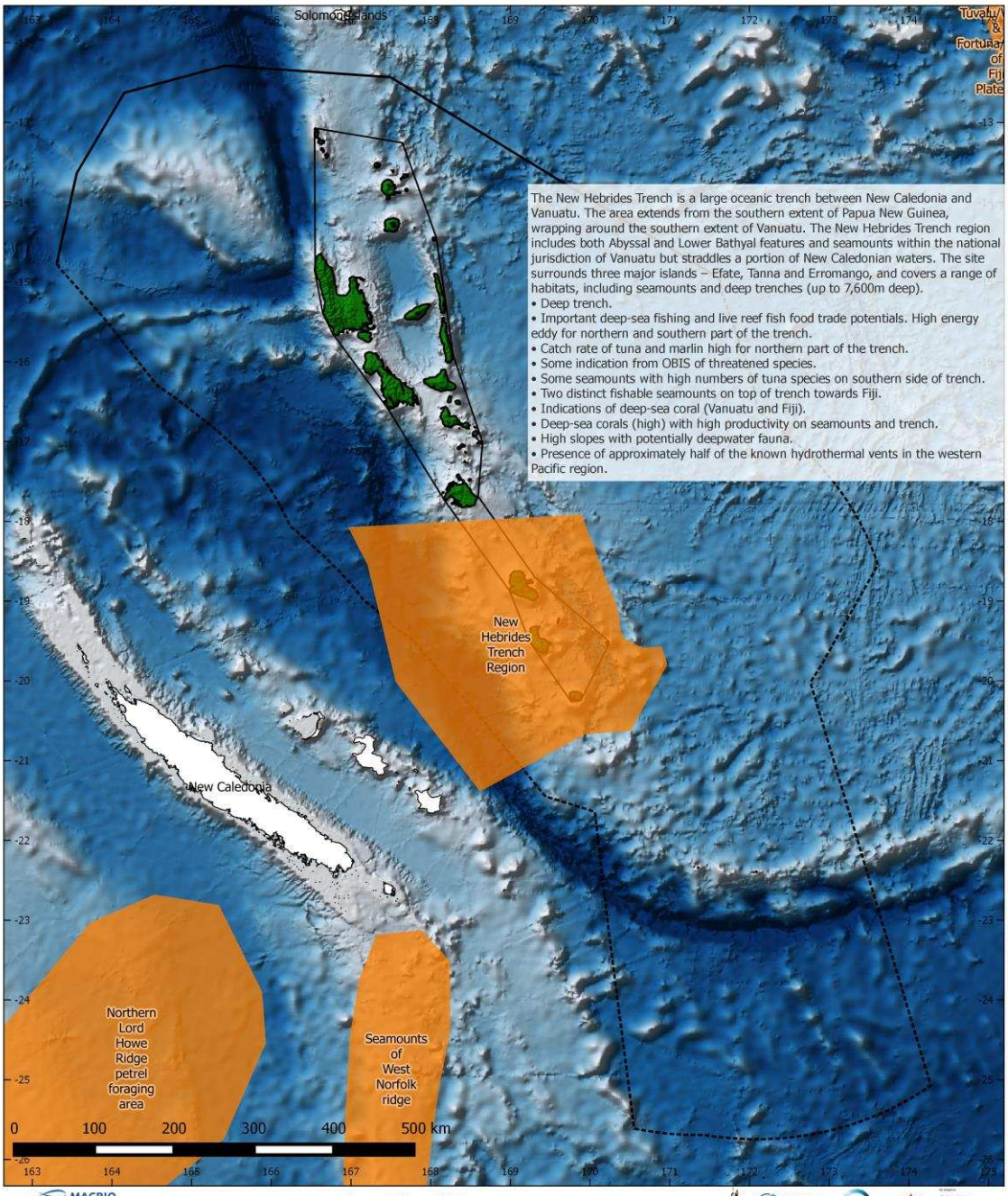
Volcanoe Occurrance



Competing Marine Resource Uses



ANNEX 7: List of important marine areas – Ecologically and Biologically Significant Areas (EBSAs)



ANNEX 8 – Vanuatu Endemic & Threatened species List

Terrestrial Fauna

Scientific Name	Common Name	Bislama Name	IUCN Red List Category	Endemic (√)
Bird				
Aplonis santovestris	Santo Mountain Starling	Mataweli	Vulnerable	√
Ardenna carneipe	Flesh-footed Shearwater		Near Threatened	
Gallicolomba sanctaecrucis	Santa Cruz Ground Dove		Endangered	√
Calidris ruficollis	Red-necked Stint (Wader)		Near Threatened	
Charmosyna palmarum	Green Palm Lorikeet	Grin Nasiviru	Vulnerable	√
Ducula bakeri	Vanuatu Mountain Pigeon	Nawimba blo Hil	Vulnerable	√
Erythrura regia	Royal Parrotfinch		Near Threatened	
Esacus magnirostris	Beach thick-knee		Near Threatened	
Halycon farquhari	Vanuatu Kingfisher	Red Nasiko	Near Threatened	√
Limosa lapponica	Bar-tailed Godwit		Neart Threatened	
Limosa limosa	Black-tailed Godwit		Near Threatened	
Megapodius layardi	Vanuatu Megapode	Namalau	Vulnerable	√
Neolalage banksiana	Vanuatu Flycatcher		Least Concern	√
Nesofregetta fuliginosa	Polynesian Storm-petrel		Endangered	
Phylidonyris notabilis	Vanuatu Mountain Honeyeater	Nalaklak blo Hil	Least Concern	√
Pterodroma acculta	Vanuatu Petrel			√
Pterodroma cervicalis	White-necked Petrel		Vulnerable	
Ptilinopus tannensis	Vanuatu Fruit Dove	Bigfala Grin Pijin	Least Concern	√
Tringa brevipes	Grey-tailed Tattler		Near Threatened	√
Zosterops flavifrons	Vanuatu White-eye	Yelo Nalaklak	Least Concern	√
Mammal				
Chaerephon bregullae	Fijian Mastiff Bat		Endangered	
Dugong dugon	Dugong	Kaofis	Vulnerable	
Emballonura semicaudata	Pacific Sheath-taield Bat		Endangered	
Notopteris macdonaldi	Fijian Blossom Bat	Flaen Foks	Vulnerable	
Pteropus anetianus	Vanuatu Flying Fox	Flaen Foks	Vulnerable	√
Pteropus fundatus	Baniks Flying Fox	Flaen Foks	Endangered	√

Reptile				
Brachylophus bulabula	Fijian Banded Iguana		Endangered	
Caretta caretta	Loggerheard Turtle	Totel	Vulnerable	
Chelona mydas	Green Turtle	Grin Totel	Endangered	
Crytobhepharus novohebridicus	Snake-eyed Skink	Liset		√
Dermochelys coriacea	Leatherback Turtle	Letabak Totel	Vulnerable	
Emoia aneityumensis	Aneityum Skink	Liset	Endangered	√
Emoia erronan	Futuna Skink	Liset	Vulnerable	√
Emoia nigromarginata	Vanuatu Skink	Liset	Least Concern	√
Emoia sanfordi	Vanuatu Green Tree Skink	Grin Liset	Least Concern	√
Eretmochelys imbricata	Hawksbill Turtle	Hoksbil Totel	Critically Endangered	
Lepidochelys olivacea	Olive Ridley	Totel	Vulnerable	
Perochirus guentheri	Saw-tailed Gecko	Liset		√
Mollusc				
Ouagapia perryi	Ground-dwelling Carnivorous Land Snail	Snel	Endangered	
Partula auraniana	Aore Tree Snail	Snel	Endangered	√
Partula milleri	Land Snail	Snel	Critically Endangered	√
Tridacna derasa	Southern Giant Clam	Natalae	Vulnerable	
Tridacna gigas	Giant Clam	Natalae	Vulnerable	
Insect				
Deudorix matthewi	Vanuatu Cornelian	Vanuatu Faea		√
Polyura sacco	Sacco's Emperor	Jif blo Sacco		√
Vanuatubasis santoensis	Damselfly	Wota Insek		√
Freshwater Fish				
Akihito vanuatu	Vanuatu's Emperor	Fis	Least Concern	√
Lentipes Kaaea	Red-nose Goby	Fis	Least Concern	√
Schismatogobius vanuatuensis	Vanuatu Goby	Fis		√
Sicyopterus aiensis	Greek Ais Goby	Fis		√
Sicyopus chloe	Chloe's Sicyopus	Fis	Least Concern	√
Sicyopus pentecost	Pentecost Goby	Fis		√
Stenogobius yateiensis	Yate's Goby	Fis	Least Concern	√

Stiphodon astilbos		Fis		√
Stiphodon kalfatak	Kalfatak's Stiphodon	Fis		√
Stiphodon mele	Mele's Stiphodon	Fis		√
Stiphoson sapphirinus	Sapphire Stiphodon	Fis	Least Concern	√
Rhacichthys guilberti	Noreil	Rasa Fis		√

Terrestrial Flora

Scientific Name	Common Name	Bislama Name	IUCN Red List Category	Endemic (√)
Plant				
Adiantum aneityensis	Maidenhair Fern	Blak Pam O Fern		√
Agathis silbae	Santo Kauri	Kauri	Near Threatened	√
Alpinia nidus-vespae	Shrub		NA	√
Alyxia efatensis	Shrub		NA	√
Amyema artense	Amyema artensis	Epiphyte	NA	√
Amylotheca bansksiana	Epiphyte		NA	√
Astronidium aneityensis		Tree	NA	√
Bleasdalea lutea		Tree	NA	√
Caryota ophiophelis	Palm	Pam Tri	NA	√
Chisocheton rex		Tree	NA	√
Citrus hebridensis		Tree	NA	√
Claoxylon falcata	Euphorbias	Tree	NA	√
Claoxylon gillisonii	Euphorbias	Tree	NA	√
Claoxylon neo ebudicum	Euphorbias	Tree	NA	√
Clinostigma harlandi	Palm	Pam Tri	NA	√
Coelogyne macdonaldii	Macdonald's Coelogyne	Okid	NA	√
Corynocarpus similis	Karaka	Tree	NA	√
Crossosstylis cominsii	Bush Mangrove	Natongtong blo bus	NA	√
Cryptocaria honei	Lauraceae	Tree	NA	√
Cryptocaria turpinata	Lauraceae	Tree	NA	√
Cyrtandra efatensis	Gesneriaceae	Shrub	NA	√
Cyrtandra eneityensis	Gesneriaceae	Shrub	NA	√
Cyrtandra obovata	Gesneriaceae	Shrub	NA	√
Cyrtandra obovata	Gesneriaceae	Shrub	NA	√
Dendrobium calcaratum	Orchid	Okid	NA	√

Dendrobium greenianum	Orchid	Okid	NA	√
Dendrobium mooreanum	Moore's Dendrobium	Okid	NA	√
Dendrobium morrisonii	Morrison's Dendrobium	Okid	NA	√
Dendrobium rarum	The Rare Dendrobium	Okid	NA	√
Dendrobium sp	Orchid	Okid	NA	√
Donax canniformis	Marantaceae	Shrub	NA	√
Dysoxylum aneityensis	Meliaceae	Tree	NA	√
Earina santoensis	Orchid	Okid	NA	√
Earina sigmoidea	Orchid	Okid	NA	√
Freycinetia tannaensis	Pandanaceae	Parasite	NA	√
Gacinia sessilis	Guttiferae	Tree	NA	√
Gardenia tannaensis	Coffee	Shrub	NA	√
Geissois denhamii	Cunoniaceae	Tree	NA	√
Glochidion ramifolium	Euphorbias	Tree	NA	√
Glochidion stepulare	Euphorbias	Tree	NA	√
Glossorhyncha macdonadii	Orchid	Okid	NA	√
Gouania efatensis	Buckthorn	Liane/ Tree	NA	√
Heterosphate uniformis	Arecaceae	Pam tree	NA	√
Hoya aneityensis	Milkweed	Liane	NA	√
Ixora asme	Coffee	Shrub	NA	√
Kothalsella platycaula	Mistletoes	Epiphyte	NA	√
Licuala cabalioni	Arecaceae	Shrub	NA	√
Liparis santoensis	Orchid	Epipyhte	NA	√
Macaranga megacarpa	Euphorbias	Tree	NA	√
Maesa ambrymensis	Myrcinaceae	Shrub	NA	√
Maesa eraginnensis	Myrcinaceae	Shrub	NA	√
Maesa repandus	Myrcinaceae	Shrub	NA	√
Malaxis iwasinae	Orchidaceae	Epiphyte	NA	√
Meryta neo ebudicum	Araliaceae	Tree	NA	√
Neoveitchia brunnea	Palm	Pam Tri	NA	√
Oxera vanuatuensis	Verbena	Tree	NA	√
Pandanus halleorum	Screw palm	Pam Tree	Vulnerable	√

Pandanus onesuaensis	Screw palm	Pam Tree	NA	√
Phaleria pentecostalis	Thymelaeaceae	Shrub	NA	√
Pittosporum aneityensis	Australian laurel	Tree	NA	√
Pittosporum campelli	Australian laurel	Tree	NA	√
Pittosporum rhytidocarpum	Australian laurel	Shrub	Least Concern	√
Podocarpus affinis	Yellowwood	Tree	Near Threatened	√
Polysias cissodendron	Island Pine	Nalalas	NA	√
Polysias guilfoylei	Island Pine	Nalalas	NA	√
Pseuderanthemum aurbertii	Acanthaceae	Shrub	NA	√
Psychotria aneityensis	Coffee	Shrub	NA	√
Psychotria fosteriana	Coffee	Shrub	NA	√
Psychotria milnei	Coffee	Shrub	NA	√
Psychotria necdado	Coffee	Shrub	NA	√
Psychotria trichostoma	Coffee	Shrub	NA	√
Scaevola neo ebudicum	Goodeniaceae	Shrub	NA	√
Schefflera neo ebudicum	Island Pine	Nalalas	NA	√
Schefflera neo tannae	Island Pine	Nalalas	NA	√
Semecarpus tannaensis	Anarcadiaceae	Tree	NA	√
Serianthes aneityensis√	Fabaceae	Tree	NA	√
Spartholoides pacifica	Orchidaceae	Herb	NA	√
Sterculia banksiana	Sterculiaceae	Tree	NA	√
Sterculia tannaensis	Sterculiaceae	Tree	NA	√
Syzygium gracilipes	Myrtaceae	Shrub	NA	√
Syzygium kajweskii	Myrtaceae	Tree	NA	√
Syzygium nomoa	Myrtaceae	Tree	NA	√
Tapernospermum kajewskii	Myrsinaceae	Shrub	NA	√
Tapernospermum scrobiculatum	Myrsinaceae	Shrub	NA	√
Tarrena efatensis	Coffee	Shrub	NA	√
Tmesipteris vanuatuensis	Tmesipteridaceae	Pteridophyte	NA	√
Veitchia macdanielsis	Palm	Pam Tri	NA	√
Veitchia metiti	Palm	Pam Tri	Least Concern	√

Veitchia winin	Palm	Pam Tri	NA	√
Weinmania Kajewskii	Cunoniaceae	Tree	NA	√
Weinmania macgillivrayi	Cunoniaceae	Tree	NA	√

NA-Not Assessed

Marine Fauna

Scientific Name	Common Name	Bislama Name	IUCN Red List Category
Sea Cucumber			
Actinopyga echinites	Deepwater redfish	Si-kukamba	Vulnerable
Actinopyga miliaris	Hairy blackfish	Si-kukamba	Vulnerable
Actinopyga mauritiana	Surf redfish	Si-kukamba	Vulnerable
Holothuria fuscogilva	White teatfish	Si-kukamba	Vulnerable
Holothuria lessoni	Golden sandfish	Si-kukamba	Endangered
Holothuria nobilis	Black Teatfish	Si-kukamba	Endangered
Holothuria scabra	Golden sandfish	Si-kukamba	Endangered
Holothuria whitmaei	Black teatfish	Si-kukamba	Endangered
Stichopus herrmanni	Curryfish	Si-kukamba	Vulnerable
Thelenota ananas	Prickly redfish	Si-kukamba	Endangered
Coral			
Acanthastrea bowerbanki	Mussid coral	Korel	Vulnerable
Acanthastrea ishigakiensis	Mussid coral	Korel	Vulnerable
Acropora aculeus	Acropora coral	Korel	Vulnerable
Acropora anthocercis	Acropora coral	Korel	Vulnerable
Acropora aspera	Acropora coral	Korel	Vulnerable
Acropora caroliniana	Acropora coral	Korel	Vulnerable
Acropora dendrum	Acropora coral	Korel	Vulnerable
Acropora donei	Acropora coral	Korel	Vulnerable
Acropora echinata	Acropora coral	Korel	Vulnerable
Acropora globiceps	Acropora coral	Korel	Vulnerable
Acropora horrida	Acropora coral	Korel	Vulnerable
Acropora kirstyae	Acropora coral	Korel	Vulnerable
Acropora listeri	Acropora coral	Korel	Vulnerable
Acropora lovelli	Acropora coral	Korel	Vulnerable
Acropora microclados	Acropora coral	Korel	Vulnerable
Acropora palmerae	Acropora coral	Korel	Vulnerable

Acropora paniculata	Acropora coral	Korel	Vulnerable
Acropora polystoma	Acropora coral	Korel	Vulnerable
Acropora palmerae	Acropora coral	Korel	Vulnerable
Acropora paniculata	Acropora coral	Korel	Vulnerable
Acropora polystoma	Acropora coral	Korel	Vulnerable
Acropora solitaryensis	Acropora coral	Korel	Vulnerable
Acropora speciosa	Acropora coral	Korel	Vulnerable
Acropora spicifera	Acropora coral	Korel	Vulnerable
Acropora vaughani	Acropora coral	Korel	Vulnerable
Acropora verweyi	Acropora coral	Korel	Vulnerable
Acropora multiacuta	Acropora coral	Korel	Vulnerable
Acropora tenella	Acropora coral	Korel	Vulnerable
Alveopora allingi	Poritid coral	Korel	Vulnerable
Alveopora fenestrata	Poritid coral	Korel	Vulnerable
Alveopora verrilliana	Poritid coral	Korel	Vulnerable
Anacropora puertogalerae	Acroporid coral	Korel	Vulnerable
Anacropora reticulata	Acroporid coral	Korel	Vulnerable
Astreopora cucullata	Acroporid coral	Korel	Vulnerable
Barabattoia laddi	Favid coral	Korel	Vulnerable
Caulastrea curvata	Favid coral	Korel	Vulnerable
Cyphastrea ocellina	Favid coral	Korel	Vulnerable
Euphyllia cristata	Caryophyllid coral	Korel	Vulnerable
Euphyllia paraancora	Mussid coral	Korel	Vulnerable
Favia rosaria	Favid coral	Korel	Vulnerable
Galaxea acrhelia	Oculinid coral	Korel	Vulnerable
Galaxea astreata	Oculinid coral	Korel	Vulnerable
Leptoseris incrustans	Agaricid coral	Korel	Vulnerable
Leptoseris yabei	Agaricid coral	Korel	Vulnerable
Montastrea multipunctata	Favid coral	Korel	Vulnerable
Montastrea salebrosa	Favid coral	Korel	Vulnerable
Montipora australiensis	Acroporid coral	Korel	Vulnerable
Montipora caliculata	Acroporid coral	Korel	Vulnerable
Montipora capricornis	Acroporid coral	Korel	Vulnerable
Montipora cebuensis	Acroporid coral	Korel	Vulnerable
Montipora corbettensis	Acroporid coral	Korel	Vulnerable

Montipora crassituberculata	Acroporid coral	Korel	Vulnerable
Montipora samarensis	Acroporid coral	Korel	Vulnerable
Montipora turtlensis	Acroporid coral	Korel	Vulnerable
Pachyseris rugosa	Agaricid coral	Korel	Vulnerable
Pavona bipartita	Agaricid coral	Korel	Vulnerable
Pavona cactus	Agaricid coral	Korel	Vulnerable
Pavona decussata	Cuctus coral	Korel	Vulnerable
Pavona venosa	Agaricid coral	Korel	Vulnerable
Pectinia alcicornis	Pectinid coral	Korel	Vulnerable
Pectinia lactuca	Pectinid coral	Korel	Vulnerable
Physogyra lichtensteini	Caryophyllid coral	Korel	Vulnerable
Porites horizontalata	Poritid coral	Korel	Vulnerable
Porites nigrescens	Poritid coral	Korel	Vulnerable
Seriatopora aculeata	Pocilloporid coral	Korel	Vulnerable
Turbinaria mesenterina	Dendrophyllid coral	Korel	Vulnerable
Turbinaria patula	Dendrophyllid coral	Korel	Vulnerable
Turbinaria peltata	Dendrophyllid coral	Korel	Vulnerable
Turbinaria stellulata	Dendrophyllid coral	Korel	Vulnerable
Fish			
Amblyglyphidodon ternatensis	Ternate damsel	Damselfis	Vulnerable
Bolbometopon muricatum	Bumphead parrotfish	Bigfala Blufis	Vulnerable
Cheilinus undulatus	Humphead wrasse	Napoleon	Endangered
Cromileptes altivelis	Humpback grouper	Los	Vulnerable
Epinephelus lanceolatus	Queensland grouper	Los	Vulnerable
Hippocampus histrix	Spiny seahorse	Si Hos	Vulnerable
Hippocampus kuda	Spotted seahorse	Si Hos	Vulnerable
Makaira nigricans	Blue Marlin	Sofis	Vulnerable
Mola mola	Ocean sunfish		Vulnerable
Oxymonacanthus longirostris	Harlequin filefish		Vulnerable
Plectropomus areolatus	Squaretail coral trout		Vulnerable
Plectropomus laevis	Blacksaddled coral trout		Vulnerable
Stichopus herrmanni	Curryfish		Vulnerable
Thunnus obesus	Bigeye tuna	Tuna	Vulnerable

Sharks and Rays

Alopias vulpinus	Common Thresher Shark	Sak	Vulnerable
Carcharhinus longimanus	Oceanic whitetip shark	Sak	Vulnerable
Isurus oxyrinchus	Shortfin mako	Sak	Vulnerable
Negaprion acutidens	Sharptooth lemon shark	Sak	Vulnerable
Rhincodon typus	Whale shark	Sak	Vulnerable
Sphyrna lewini	Scalloped hammerhead	Sak	Endangered
Manta alfredi	Reef mata ray	Stingrei	Vulnerable
Urogymnus asperrimus	Porcupine ray	Stingrei	Vulnerable
Taeniurops meyeni	Blotched fantail ray	Stingrei	Vulnerable

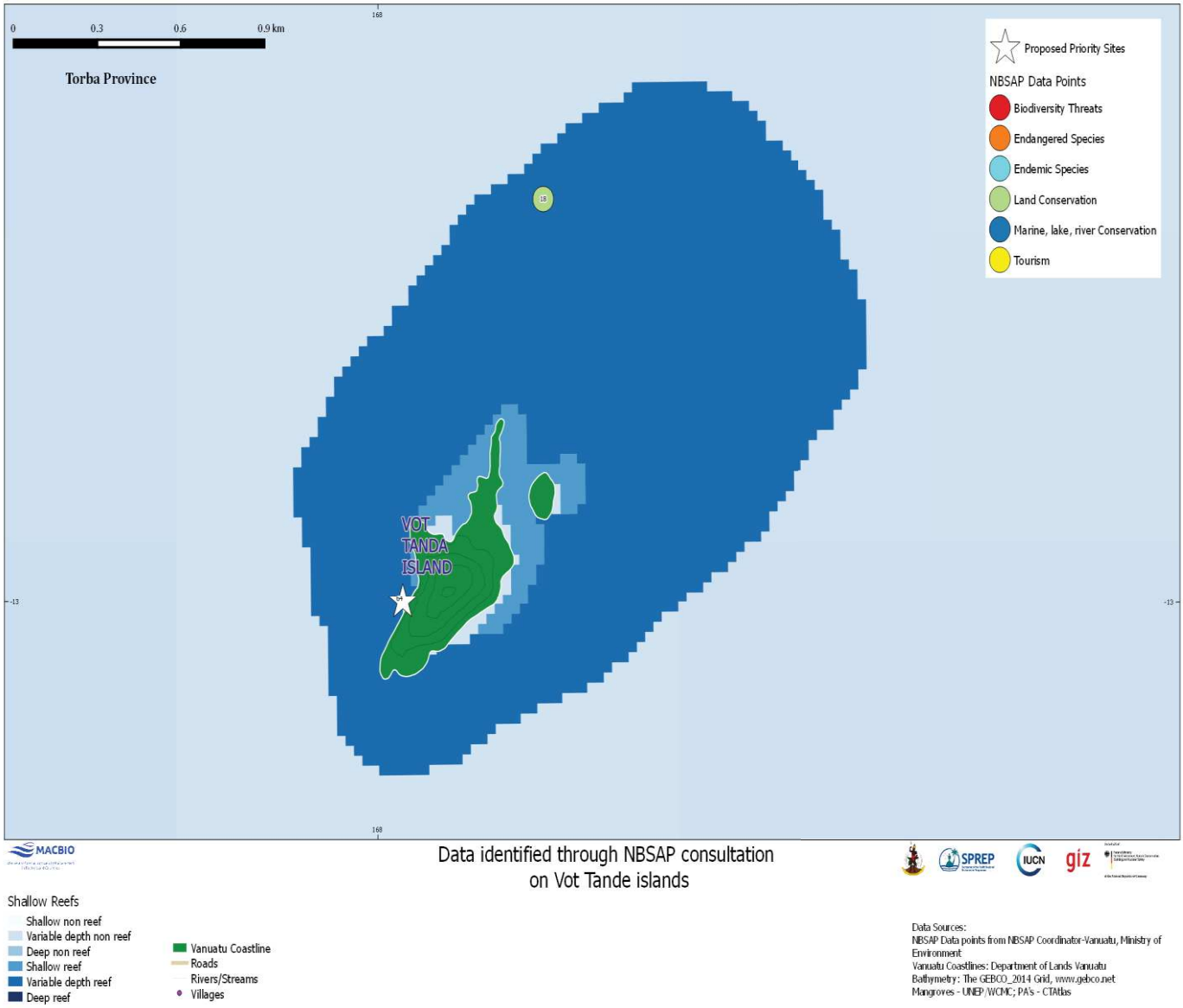
Annex 9 – Important Economic and Cultural Species

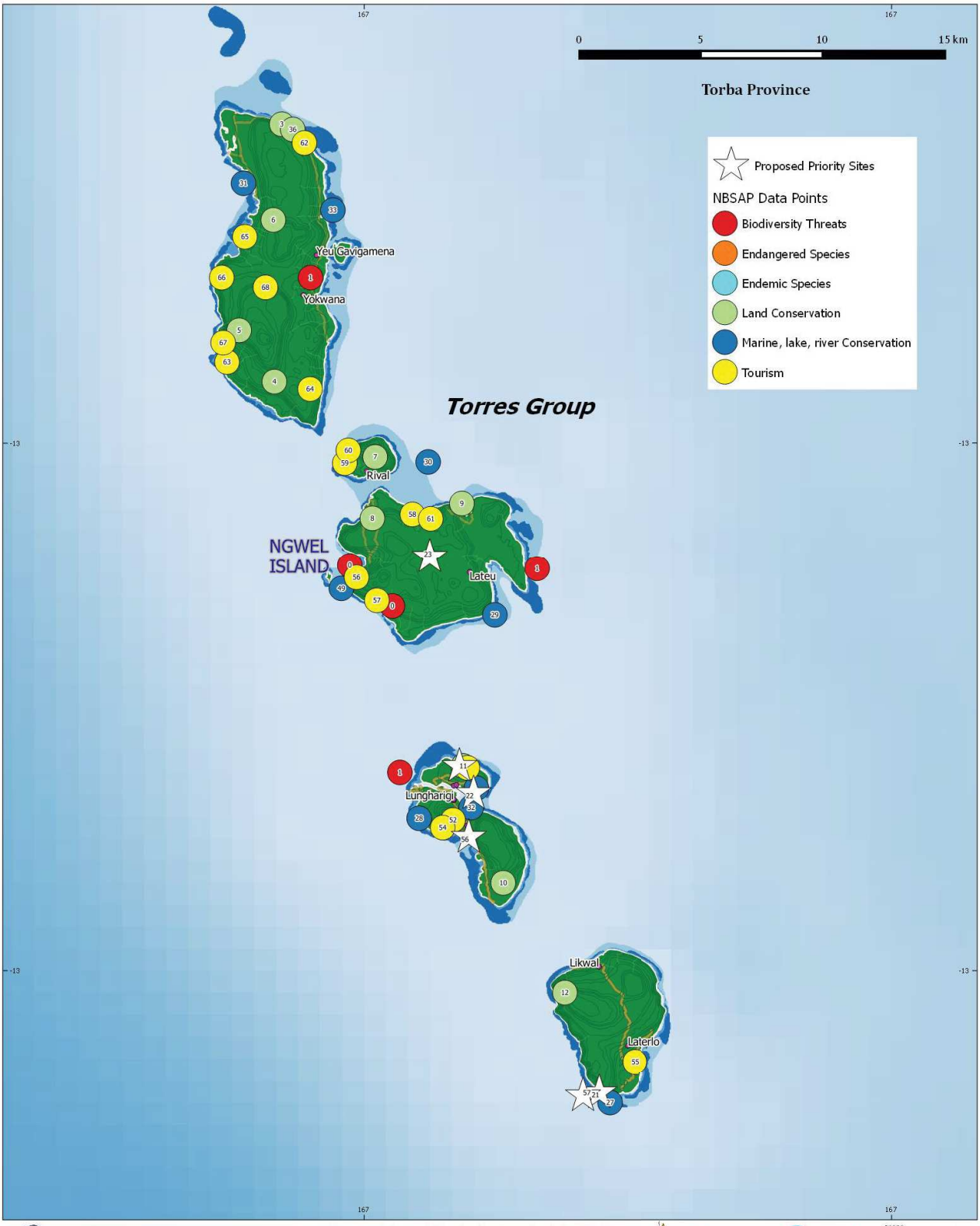
Plant	Animal
Acasia simplex (Namariu blo solwota)	All shellfish species
Acasia spiribis (Namariu blo bus)	All fish species
Agathis macrophylla (Pacific Kauri)	*Anguillidae spp*. (Eel fishes)
Agathis silbae (Santo Kauri)	*Birgus latro* (Coconut Crab)
Bambusa spp. (Bamboo)	*Cardisoma spp.* (All Land Crabs)
Calamus vanuatuensis (Rattan)	*Charonia tritonis* (Trumpet Shell)
Callphylum neo ebudicum (Tamanu)	*Chelonidae spp*. (All turtle species)
Canarium indicum (Nangae o Ngali nut)	*Colombus vitiensis* (White-throated Pigeon)
Carpoxylon macrospermum	*Dugon dugon* (Dugong)
Cordyline fruticosa (Nangaria)	*Ducula bakeri* (Vanuatu Mountain Pigeon)
Cyatheaceae spp. (Tree Ferns)	*Ducula pacifica* (Pacific Imperial Pigeon)
Cycas spp. (Namele)	*Falco peregrinus* (Peregine Falcon)
Endospermum medolusum (Whitewood)	*Gallirallus philippensis* (Buff-banded Rail)
Entada phaciloides (Snek rop o Nagol vine)	*Halycon chloris*
Figus granatum (Nabanga)	*Hippopus hippopus* (Strawberry Clam)
Fruits (Breadfruit, Naos, Nantao, etc) and their genetic variants	*Macrobrachium spp*. (Freshwater Prawns)
Hibiscus tiliaceus (Coast Hibiscus/Burao)	*Megapodius freycinet* (Incubator Bird)
Intsia bijuga (Moluccan Ironwood)	Narave Pig
Island cabbage and its genetic variants	*Panulirus spp. (*Rock Lobster)
Luecaena leucocephala (Kasis)	*Paribacus caledonicus* (Slipper Lobster)
Licuala caballoni (Palm)	*Ptilinopus greyi* (Red-bellied Kingfisher)

Metroxylon Warbugii (Natangura)	*Ptilinopus tannensis* (Vanuatu Fruit Dove)
	Pteropus aneitianus (Vanuatu Flying Fox)
Neoveitchia brunea (Palm)	*Pteropus tonganus* (Pacific Flying Fox)
Orchidaceae spp.	*Puffinus lherminieri gunax* (Audubon Shearwater)
Pandanaceae spp. (Pandanus)	*Puffinus pacificus* (Wedge-tailed Shearwater)
Piper methysticum (Kava)	*Scylla spp.* (Mud Crab)
Pterocarpus indicus (Blu wota)	*Tridacna spp.* (Giant Clams)
Root Crops (Yam, wild yam, taro,water taro, kumala) and their genetic variants	*Trochus niloticus* (Trochus)
Saccharum maximum (Wild cane)	*Turbo marmoratus* (Green Snail)
Santalum astrocaledonicum (Sandalwood)	*Tyto alba* (Barn Owl)
Swietenia macrophyllum (Mahagony)	
Terminalia cattapa (Natavoa)	
Veitchia spp. (Palm)	
Wild 'cabbages'	

Annex 10 – Important cultural sites, Ecotourism sites and Provincial Target Sites

*Refer to Annex 11 for Map Keys and numbers according to sites



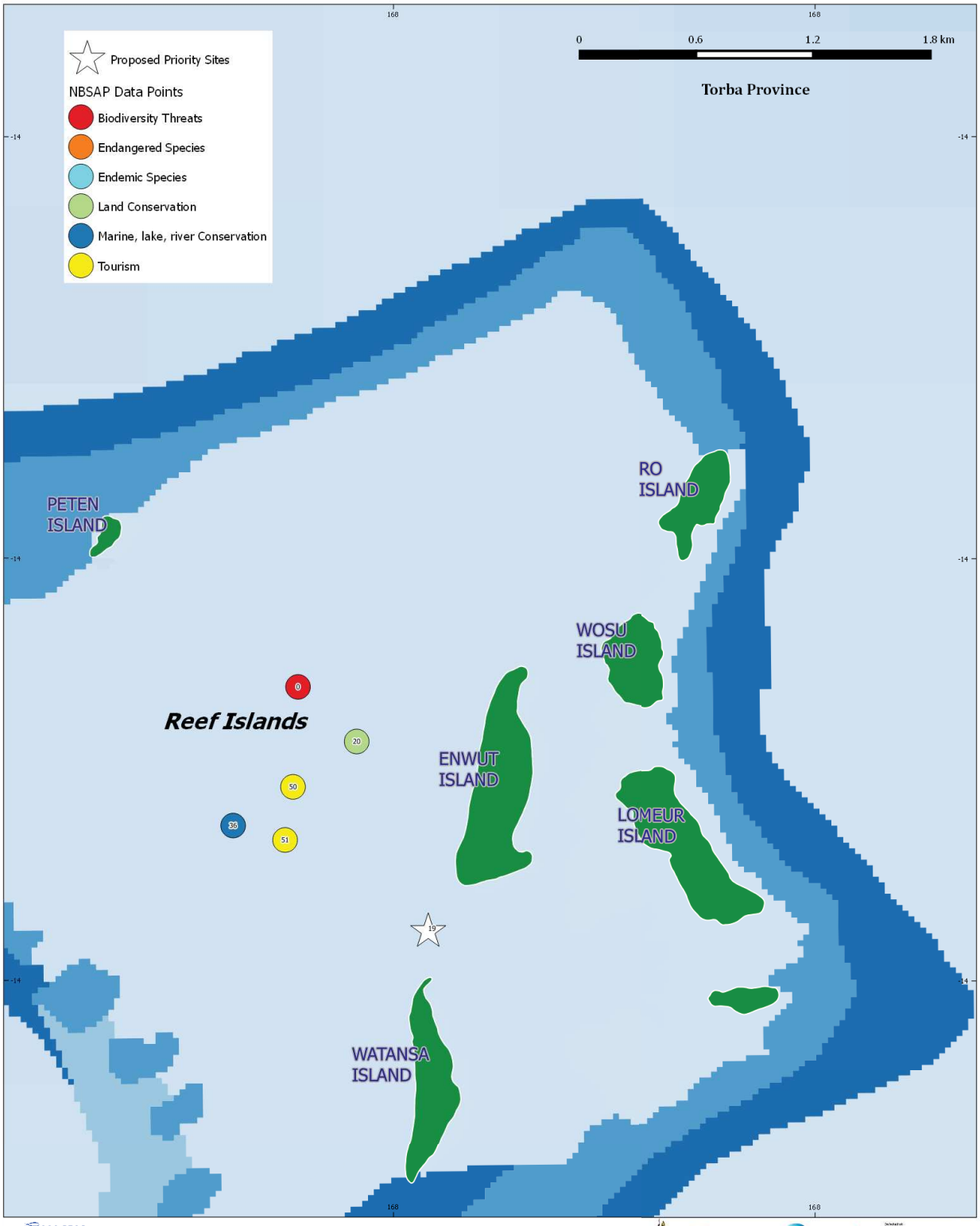


Data identified through NBSAP consultation on Hui, Metoma, Tegua, Linua, Loh and Toga chain of islands

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas

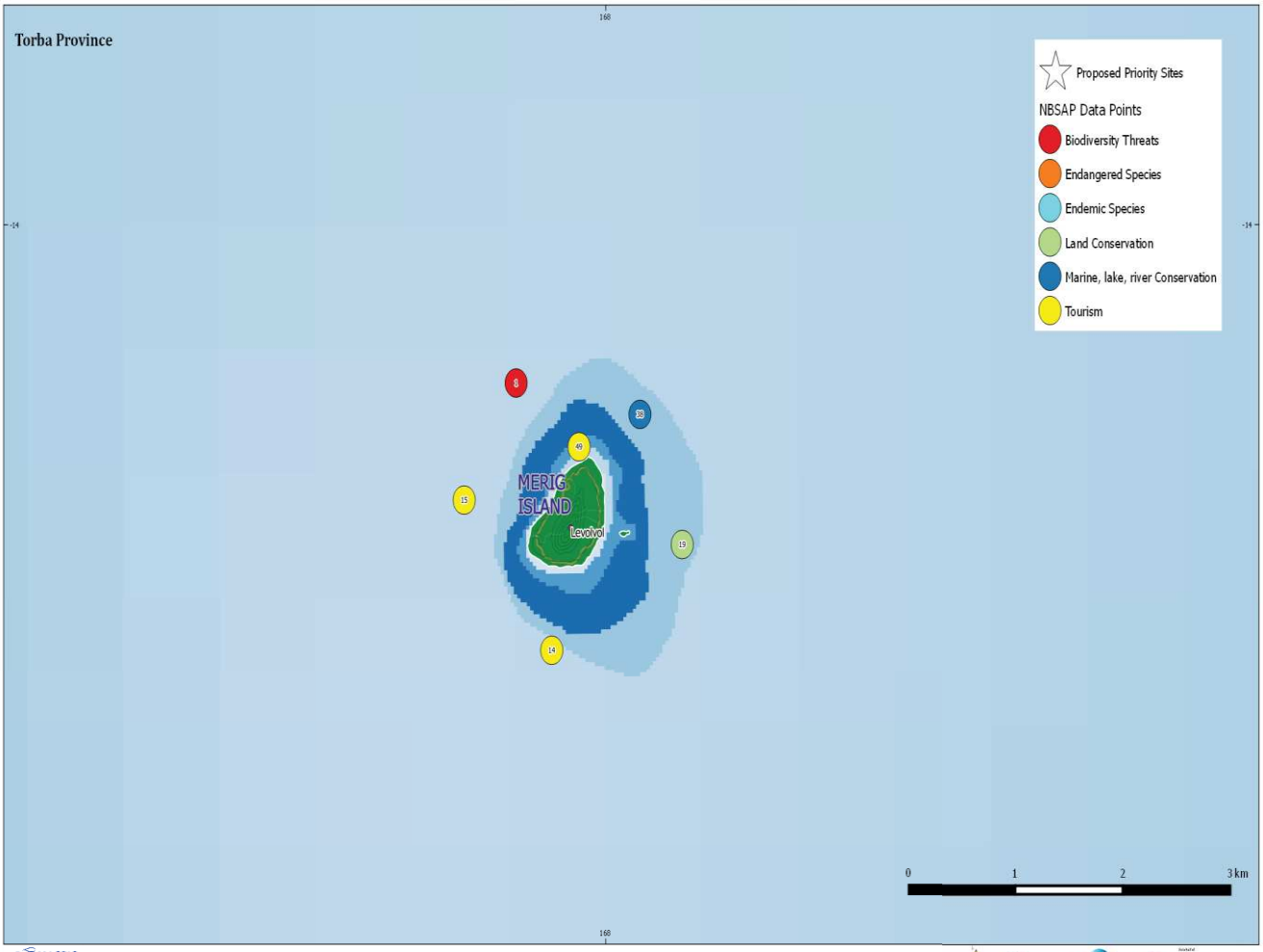


Data identified through NBSAP consultation on Peten, Ro, Wosu, Enwut, Lomeur and Watansa islands

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas



MACBIO

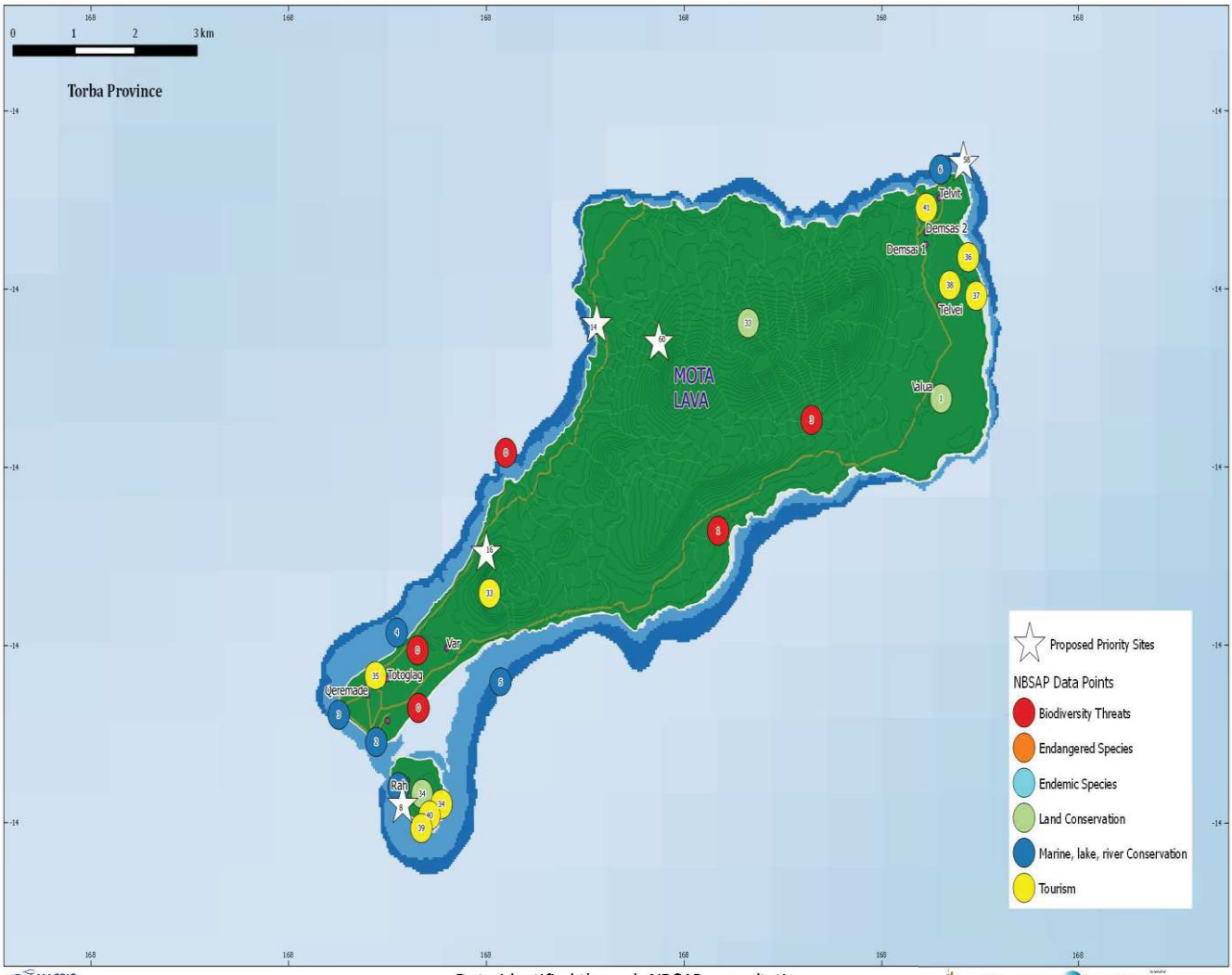
Data identified through NBSAP consultation on Merig island

SPREP IUCN giz

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas

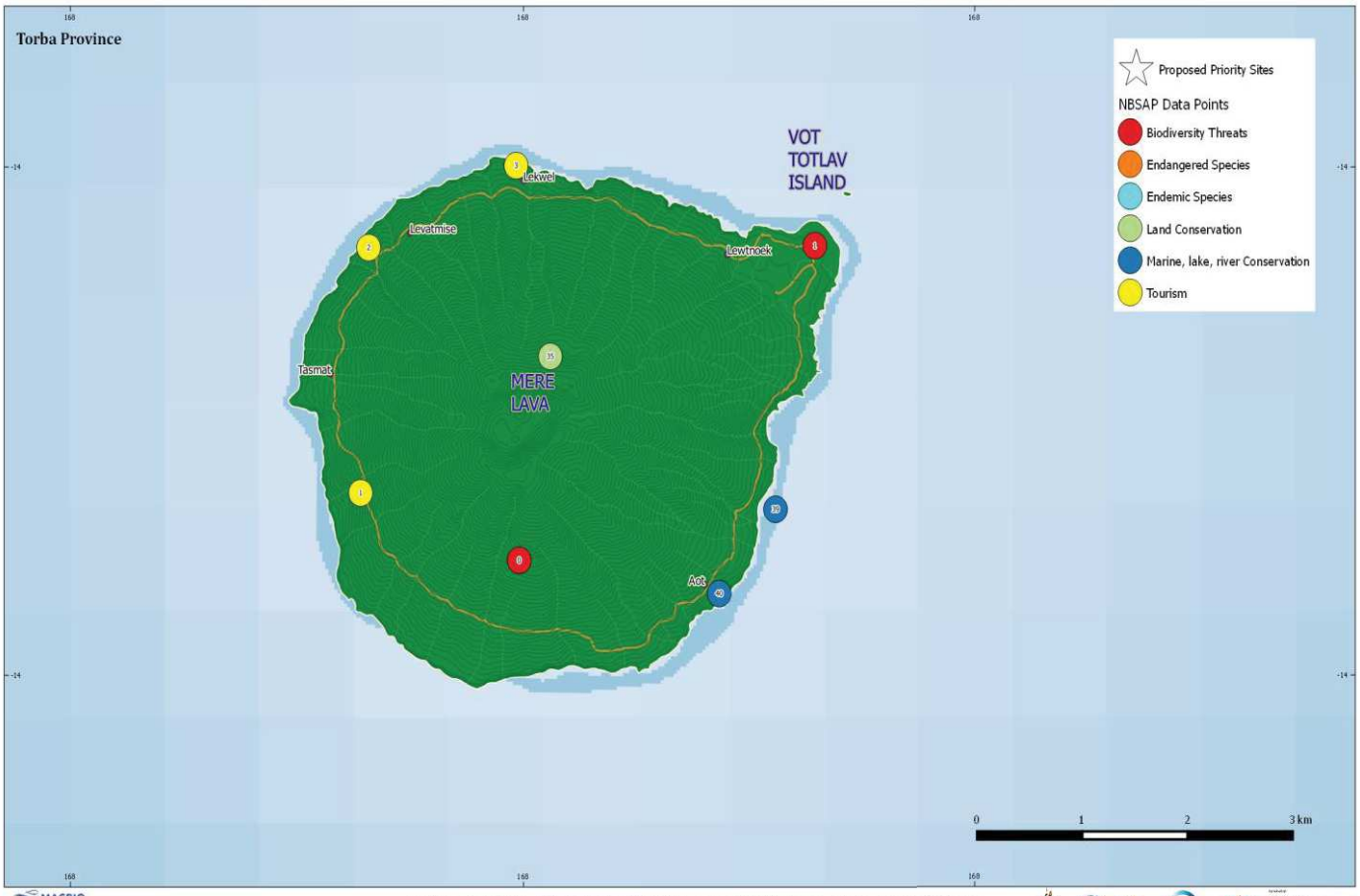


Data identified through NBSAP consultation on Mota Lava and Rah islands

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas



MACBIO

Data identified through NBSAP consultation on Mere Lava Island

SPREP IUCN giz

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas

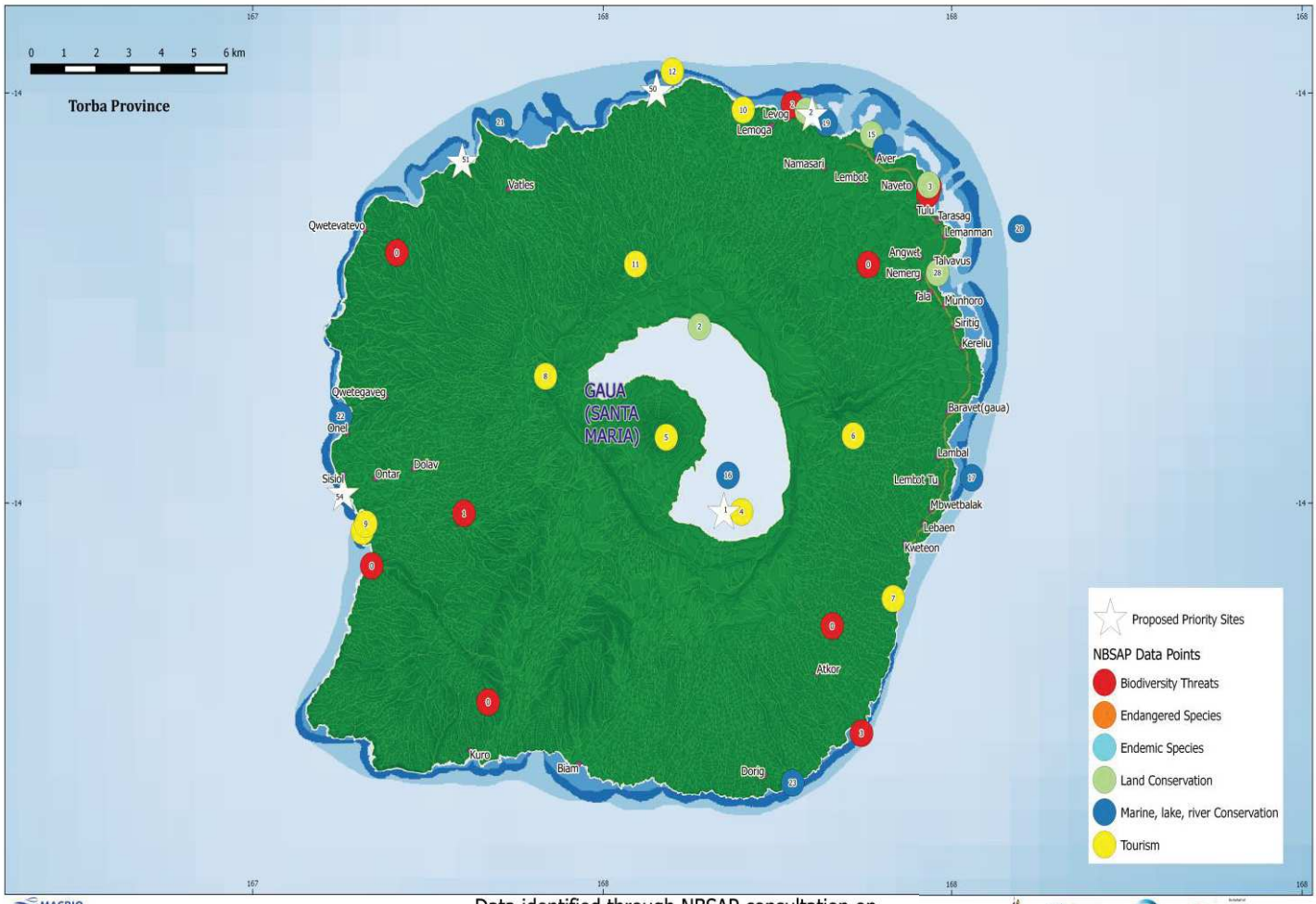
MACBIO SPREP IUCN giz

Data identified through NBSAP consultation on Vanua Lava and nearby islands

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Mangroves - UNEP/WCMC; PA's - CTAtlas
Bathymetry: The GEBCO_2014 Grid, www.gebco.net



MACBIO

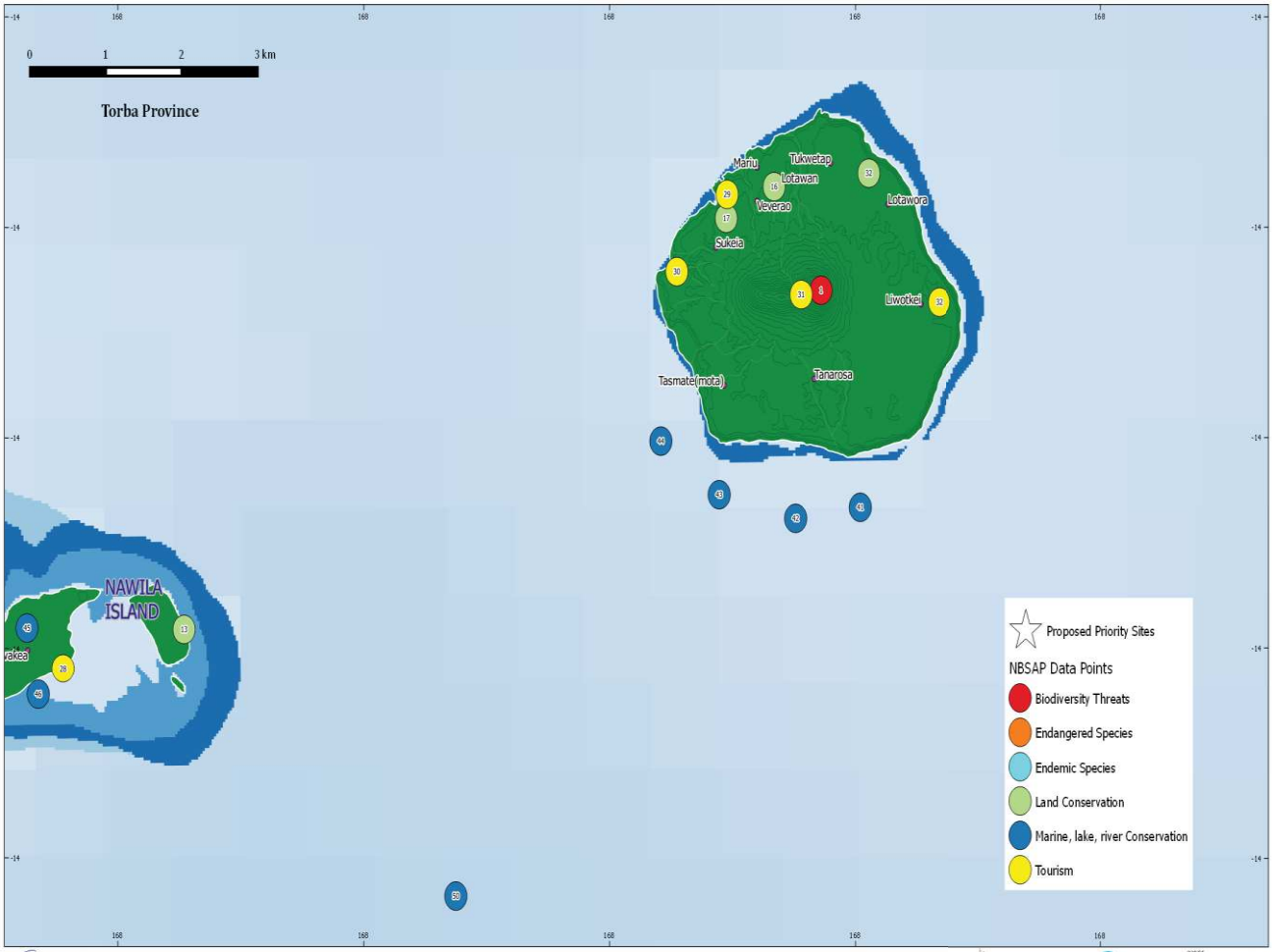
Data identified through NBSAP consultation on Gaua (Santa Maria) island

SPREP IUCN giz

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas



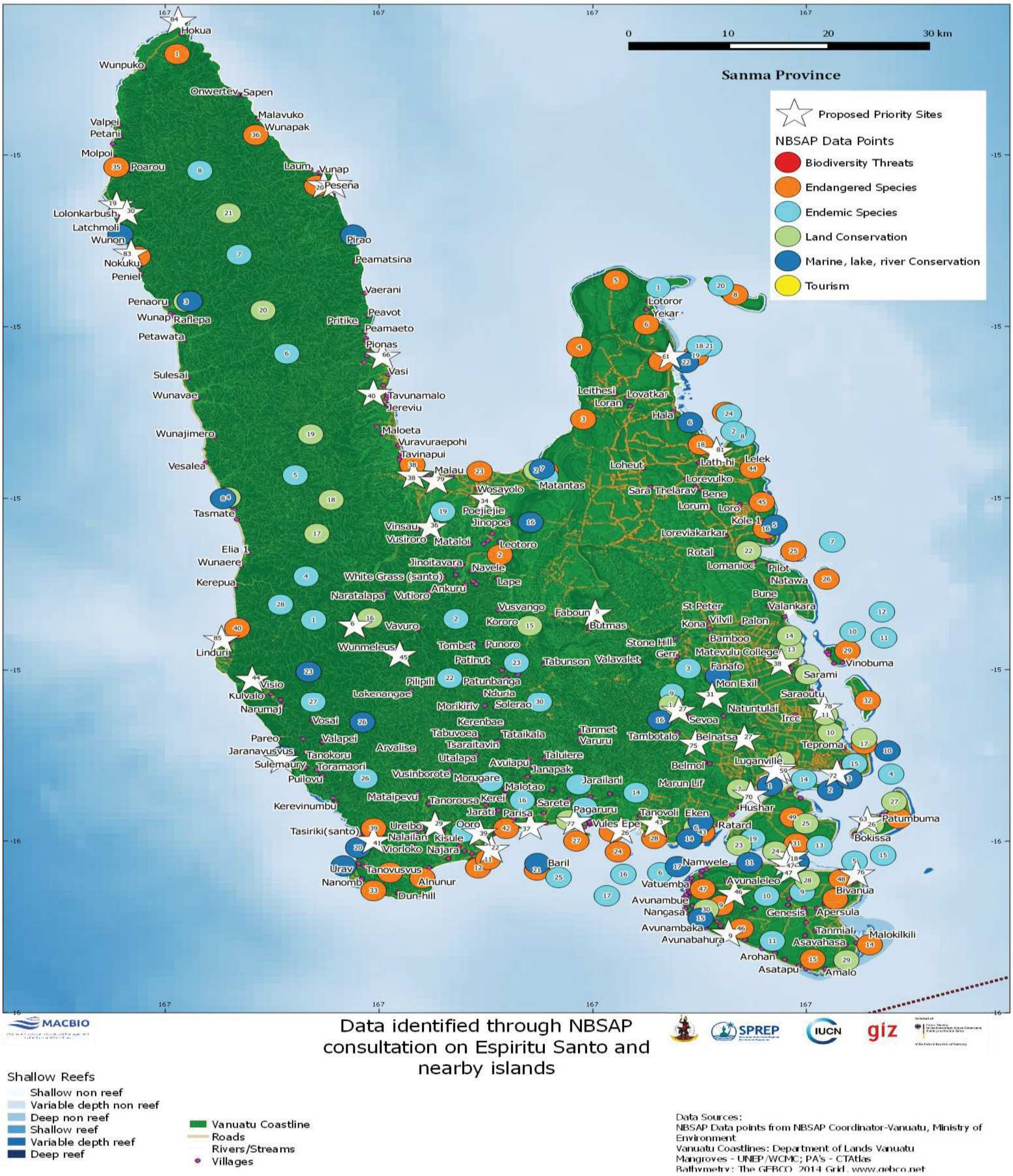
MACBIO

Data identified through NBSAP consultation on Mota island

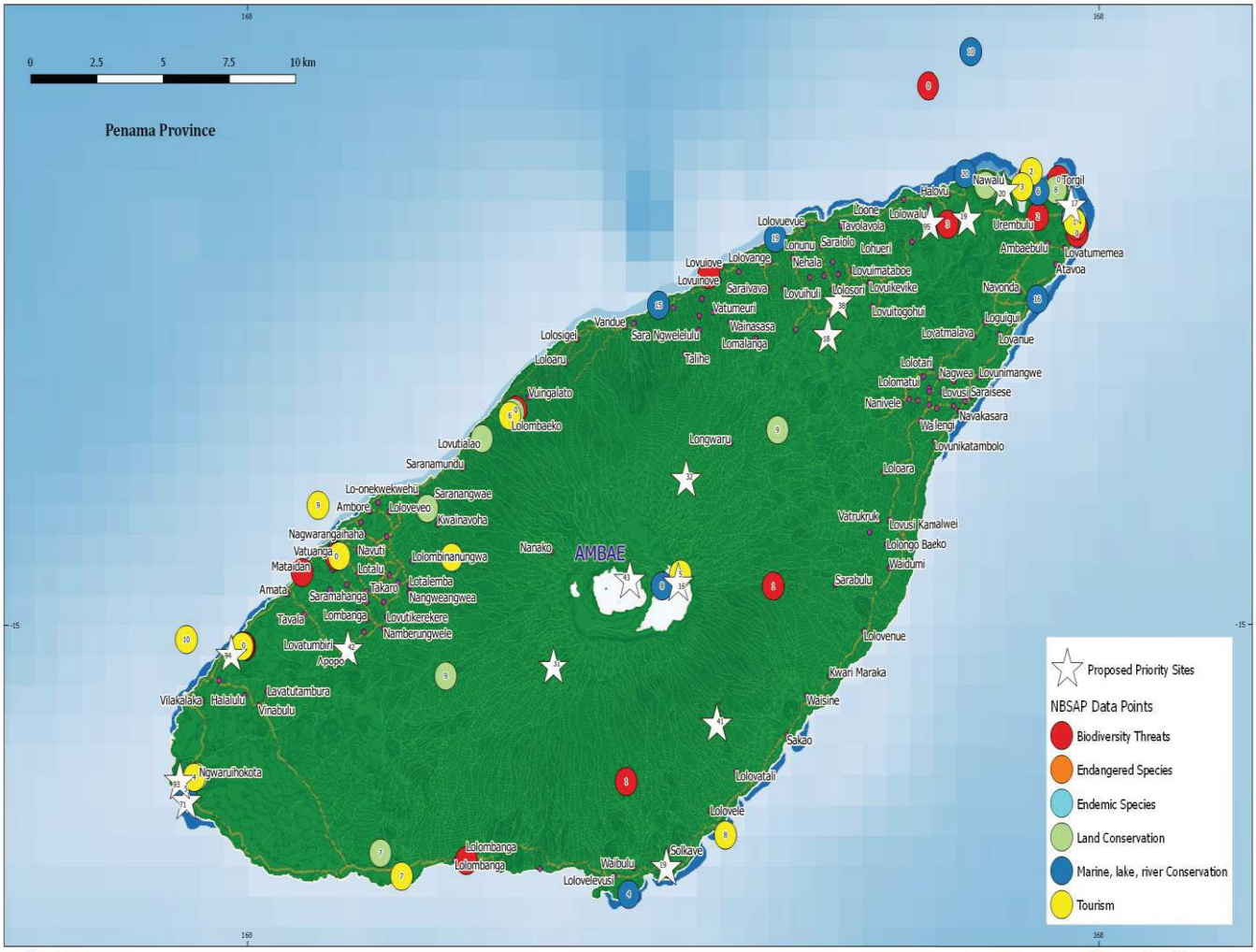
SPREP IUCN giz

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef
- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas



0
10
20
30 km
Sanma Province
Proposed Priority Sites
NBSAP Data Points
Biodiversity Threats
Endangered Species
Endemic Species
Land Conservation
Marine, lake, river Conservation
Tourism
Hokua
Wunpuko
Onwertev
Sapen
Malavuko
Wunapak
Valpei
Petani
Molpoi
Poarou
Laum
Vunap
Pesena
Lolonkarbush
Latchmoli
Wunon
Nokuku
Peniel
Pirao
Peamatsina
Vaerani
Peavot
Pritike
Peamaeto
Penaoru
Wunap
Raflepa
Petawata
Pionas
Vasi
Sulesai
Wunavae
Tavunamalo
Jereviu
Maloeta
Vuravuraepohi
Tavinapui
Wunajimero
Vesalea
Malau
Wosayolo
Matantas
Tasmate
Poejiejie
Jinopoe
Vinsau
Vusiroro
Mataloi
Leotoro
Elia 1
Wunaere
Jinoitavara
Navele
White Grass (santo)
Ankuru
Lape
Kerepua
Naratalapa
Vutioro
Vusvango
Faboun
Kororo
Butmas
Vavuro
Linduri
Wunmeleus
Tombet
Punoro
Patinut
Tabunson
Valavalet
Visio
Kulvalo
Narumaj
Pilipili
Patunbanga
Lakenangae
Nduria
Morikiriv
Solerao
Vosai
Kerenbae
Pareo
Valapei
Tabuvoea
Tsaraitavin
Tataikala
Tanmet
Varuru
Jaranavusvus
Arvalise
Tanokoru
Utalapa
Taluiere
Sulemaury
Toramaori
Avulapu
Janapak
Puilovu
Vusinborote
Morugare
Jarailani
Malotao
Kerevinumbu
Mataipevu
Tanorousa
Kerei
Sarete
Jarati
Parisa
Pagaruru
Tanovoli
Eken
Tasiriki(santo)
Ureibo
Nalailan
Ooro
Kisule
Vules Epe
Viorloko
Najara
Urav
Nanomb
Tanovusvus
Alnunur
Dun-hill
Baril
Lotoror
Yekar
Leithesi
Loran
Lovatkar
Hala
Loheut
Lath-hi
Lelek
Lorevulko
Sara Thelarav
Bene
Lorum
Loro
Kole 1
Loreviakarkar
Rotal
Lomanioc
Pilot
Natawa
Bune
Valankara
St Peter
Kona
Vilvil
Palon
Bamboo
Stone Hill
Gerr
Matevulu College
Fanafo
Vinobuma
Sarami
Mon Exil
Saraoutu
Natuntulai
Ircc
Sevoa
Tambotalo
Belnatsa
Tepromа
Belmol
Luganville
Marun Lif
Hushar
Ratard
Patumbuma
Bokissa
Namwele
Vatuemba
Avunaleleo
Bivanua
Avunambue
Nangasa
Genesis
Apersula
Avunambaka
Avunabahura
Tanmial
Malokilkili
Asavahasa
Arohan
Asatapu
Amalo
MACBIO
Data identified through NBSAP consultation on Espiritu Santo and nearby islands
SPREP
IUCN
giz
Shallow Reefs
Shallow non reef
Variable depth non reef
Deep non reef
Shallow reef
Variable depth reef
Deep reef
Vanuatu Coastline
Roads
Rivers/Streams
Villages
Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Mangroves - UNEP/WCMC; PA's - CTAtlas
Bathymetry: The GEBCO_2014 Grid, www.gebco.net



MACBIO

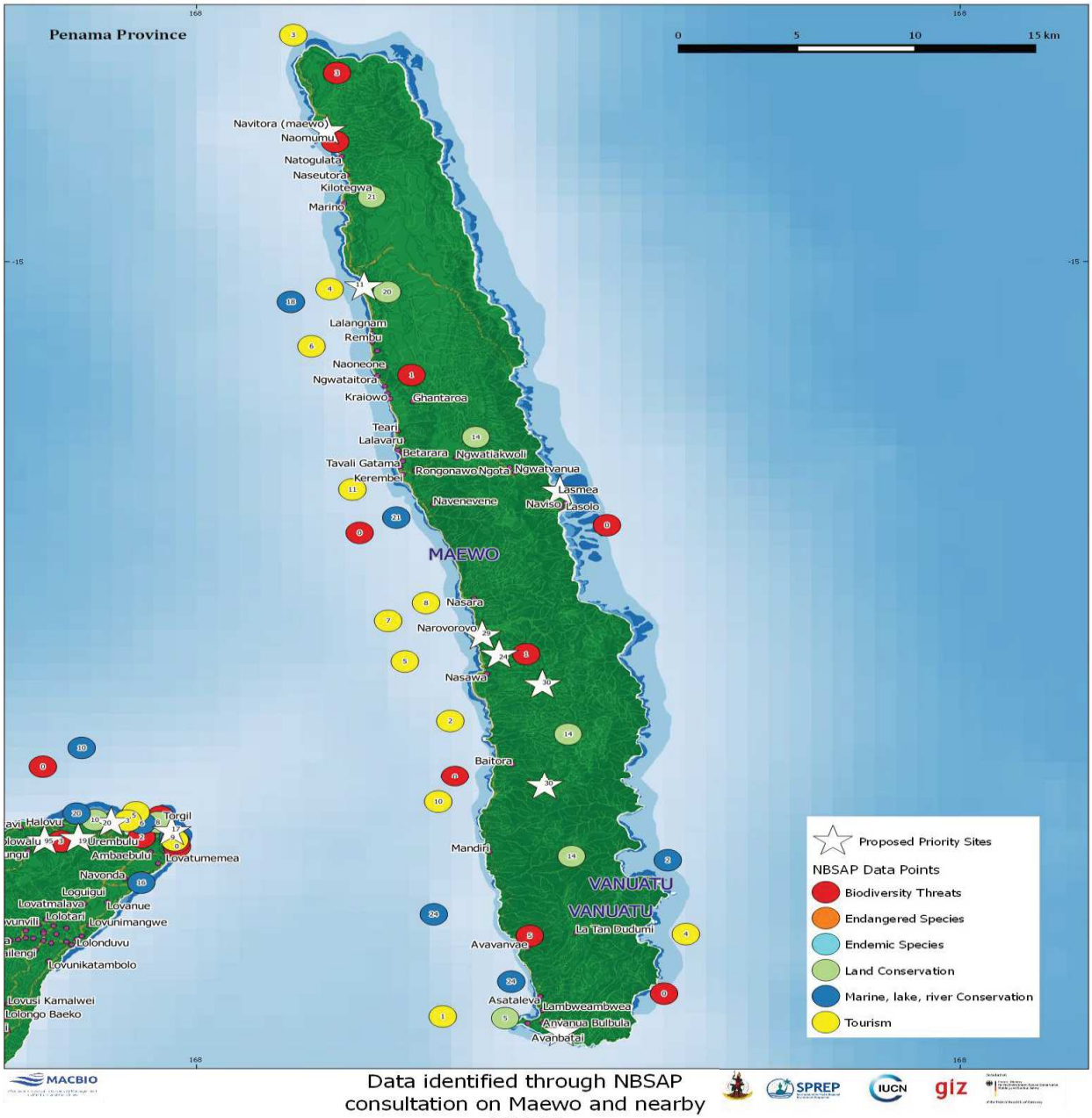
Data identified through NBSAP consultation on Ambae island

SPREP IUCN giz

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC: PA's - CTAtlas

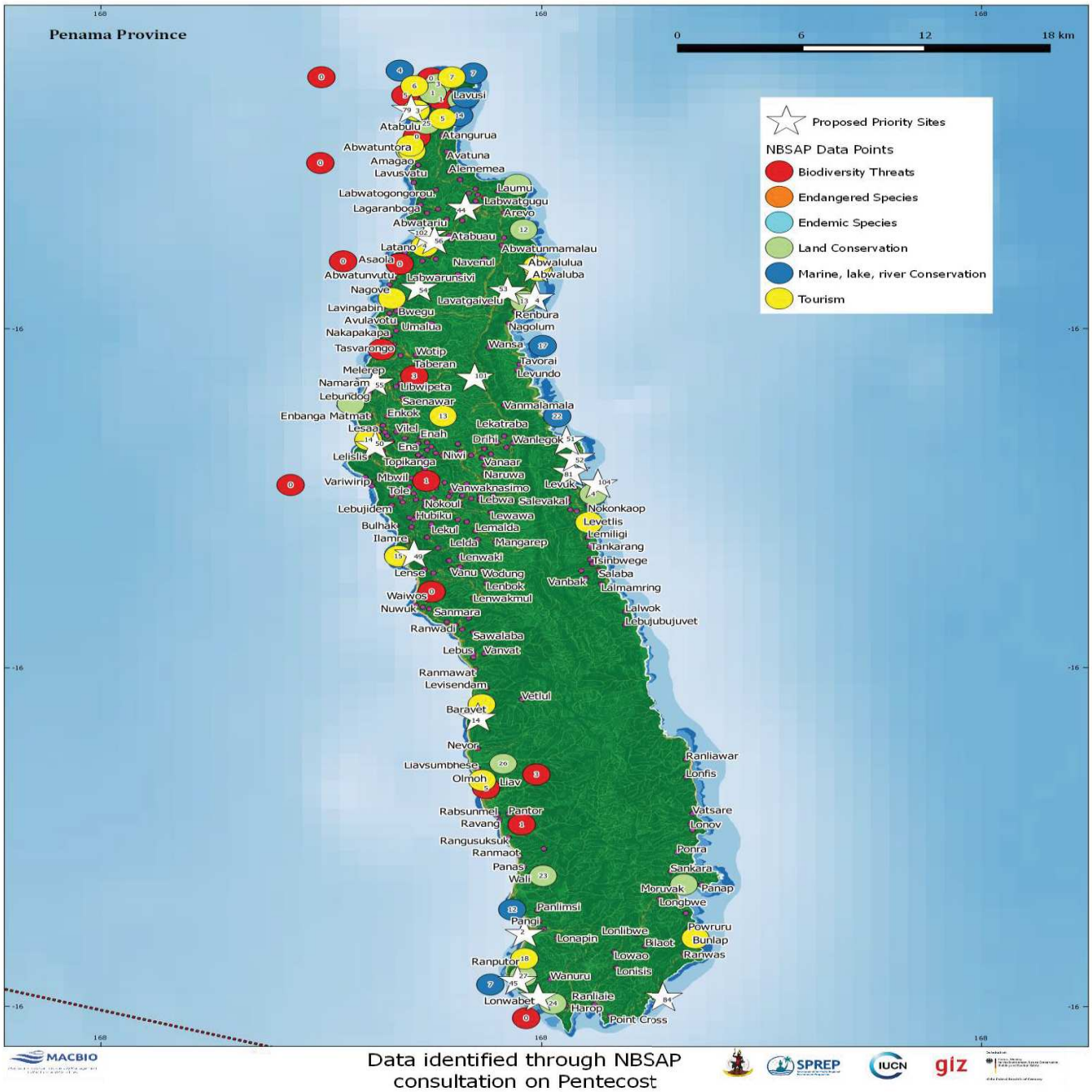


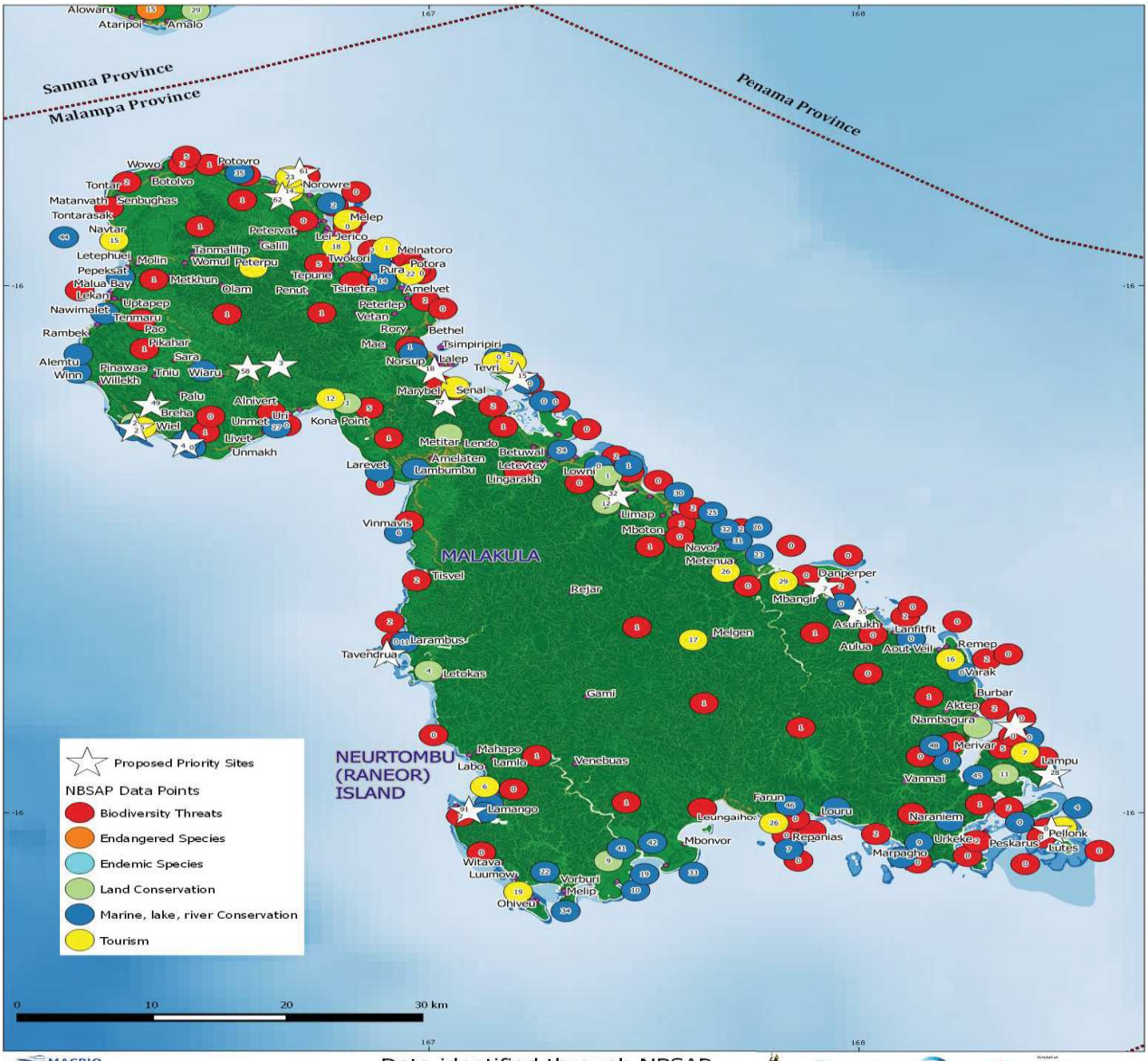
Data identified through NBSAP consultation on Maewo and nearby islands

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas


Penama Province
0 6 12 18 km
Proposed Priority Sites
NBSAP Data Points
Biodiversity Threats
Endangered Species
Endemic Species
Land Conservation
Marine, lake, river Conservation
Tourism
Lavusi
Atabulu
Atangurua
Abwatuntora
Avatuna
Amagao
Alèmemea
Lavusvatu
Laumu
Labwatogongorou
Labwatgugu
Lagaranboga
Arevo
Abwatarlu
Atabuau
Latano
Abwatunmamalau
Asaola
Navenul
Abwalulua
Abwatunvutu
Labwarunsivi
Abwaluba
Nagove
Lavatgaivelu
Lavingabin
Bwegu
Renbura
Avulavotu
Umalua
Nagolum
Nakapakapa
Wansa
Tasvarongo
Wotip
Tavorai
Taberan
Levundo
Melerep
Namarām
Libwipeta
Lebundog
Saenawar
Vanmalamala
Enbanga Matmat
Enkok
Lekatraba
Lesaa
Vilel
Enah
Drihi
Warlegok
Ena
Lelisils
Niwi
Topikanga
Vanaar
Naruwa
Variwirip
Mbwil
Levuk
Tole
Vanwaknasimo
Lebwa
Salevakal
Nokoul
Nokonkaop
Lebujidem
Hubiku
Lewawa
Levetlis
Bulhak
Lekul
Lemalda
Lemiligi
Ilamre
Lelda
Mangarep
Tankarang
Lenwaki
Tsinbwege
Lense
Vanu Wodung
Salaba
Lenbok
Vanbak
Lalmamring
Waiwos
Lenwakmul
Nuwuk
Sanmara
Lalwok
Lebujubujuvet
Ranwadi
Sawalaba
Lebus
Vanvat
Ranmawat
Levisendam
Vetlul
Baravet
Nevor
Ranliawar
Liavsumbhese
Lonfis
Olmoh
Liav
Rabsunmel
Pantor
Vatsare
Ravang
Lonov
Rangusuksuk
Ranmaot
Ponra
Panas
Sankara
Wali
Moruvak
Panap
Longbwe
Panlimsi
Pangi
Powruru
Lonlibwe
Lonapin
Bunlap
Elaot
Ranwas
Lowao
Ranputor
Lonisis
Wanuru
Lonwabet
Ranliale
Harop
Point Cross
Data identified through NBSAP consultation on Pentecost
Shallow Reefs
Shallow non reef
Variable depth non reef
Deep non reef
Shallow reef
Variable depth reef
Deep reef
Vanuatu Coastline
Roads
Rivers/Streams
Villages
Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas

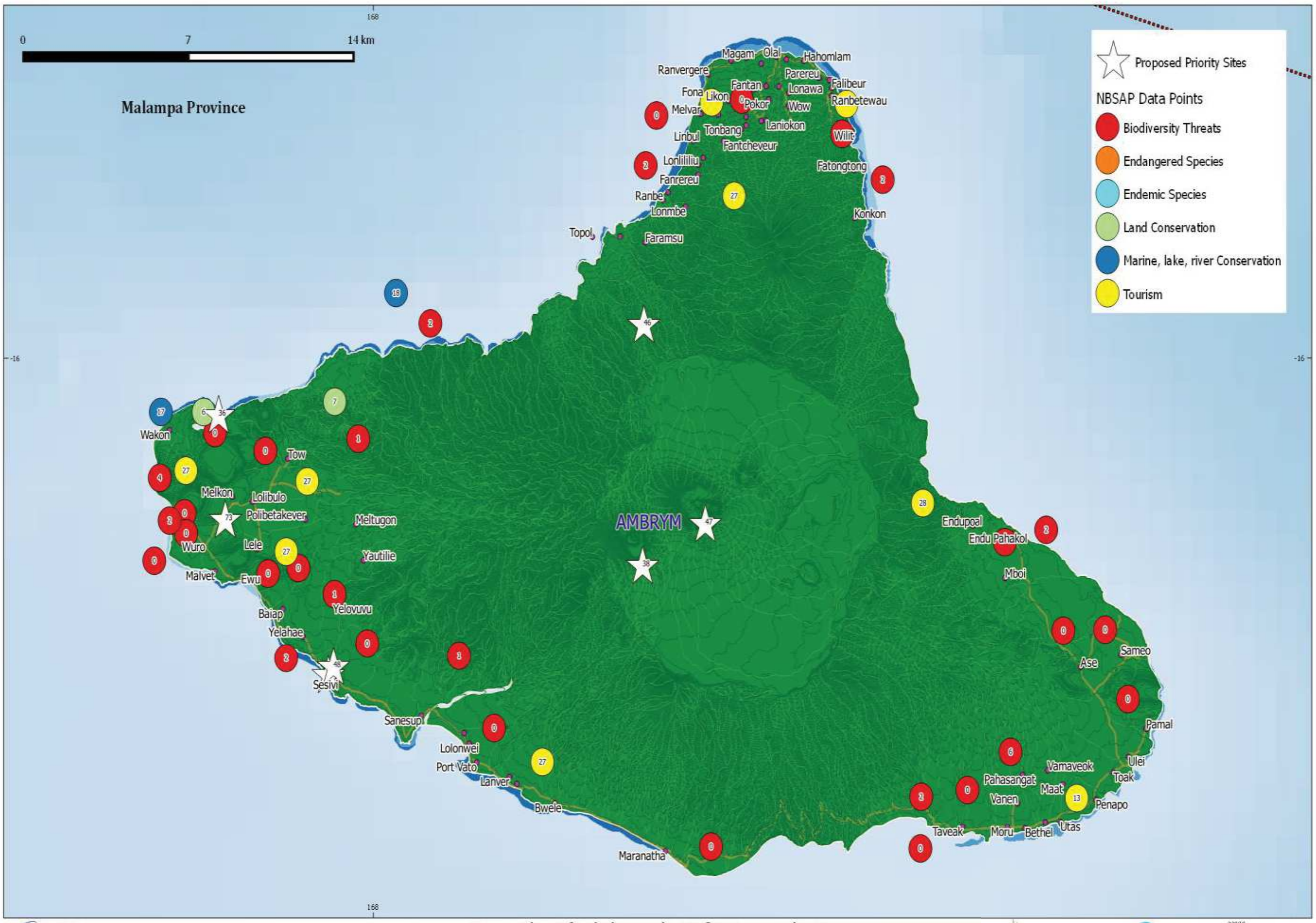


Data identified through NBSAP consultation on Malekula and nearby islands

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas

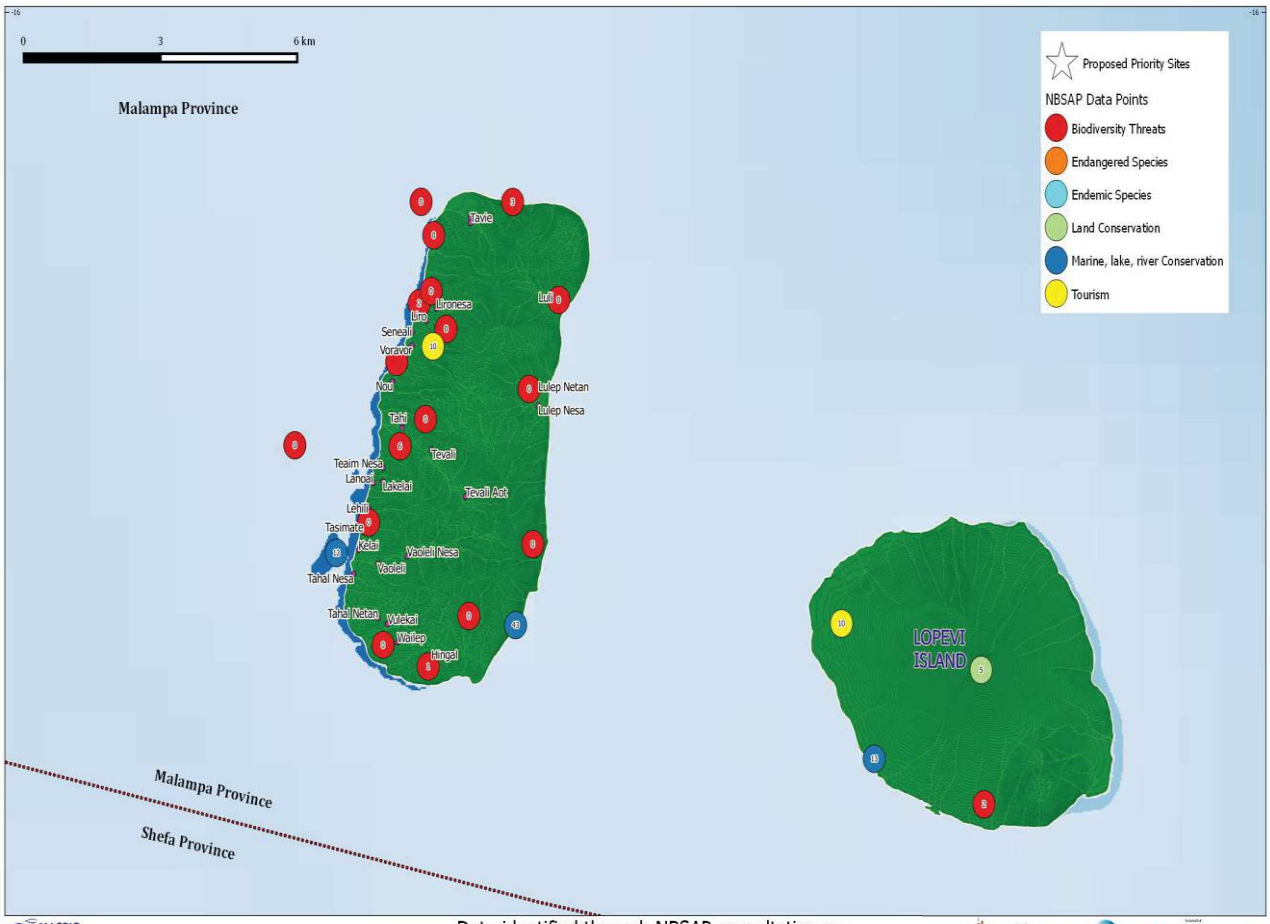


Data identified through NBSAP consultation on Ambrym Island

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas



MACBIO

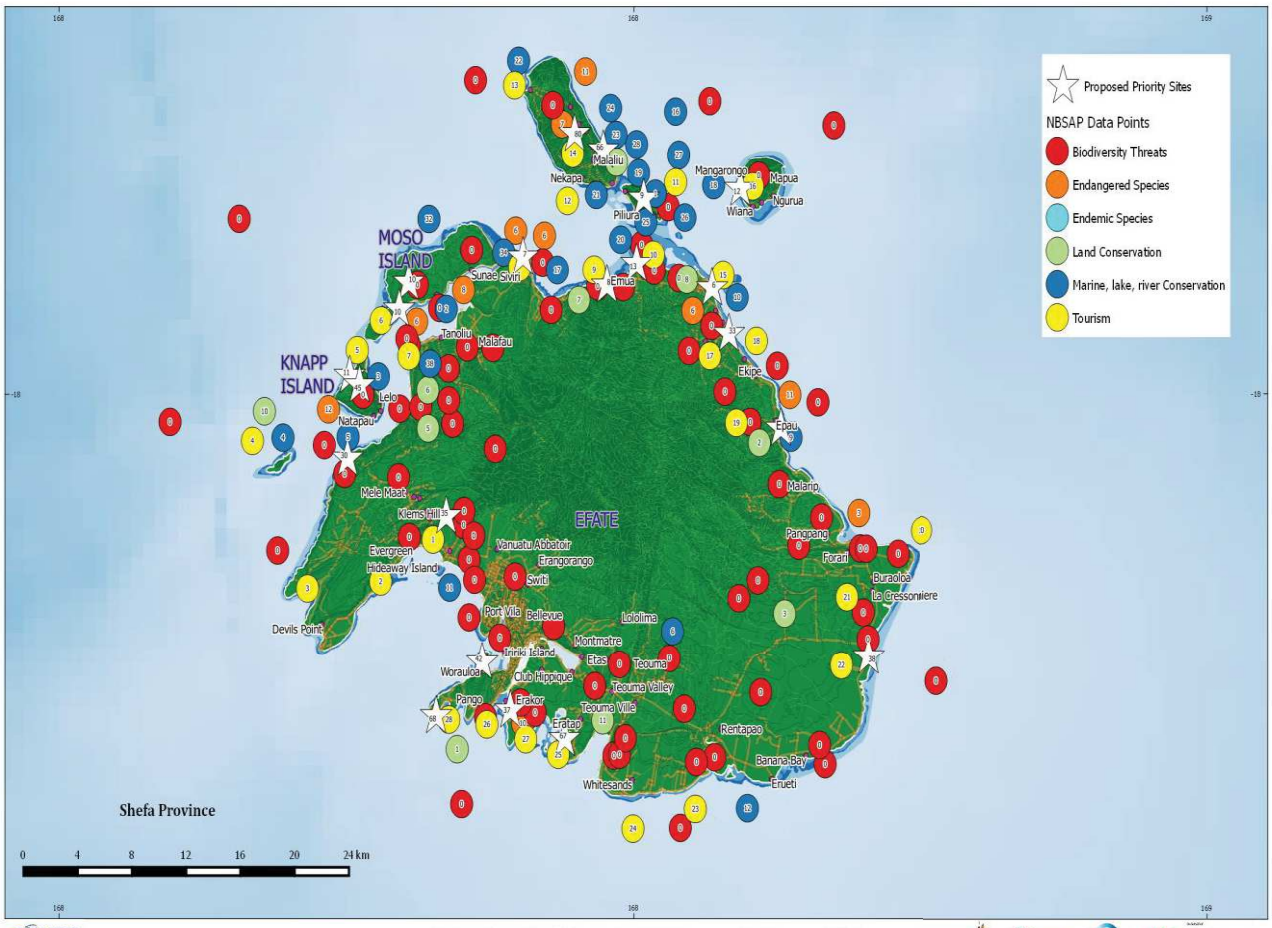
Data identified through NBSAP consultation on Paama and Lopevi Islands

SPREP IUCN giz

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas

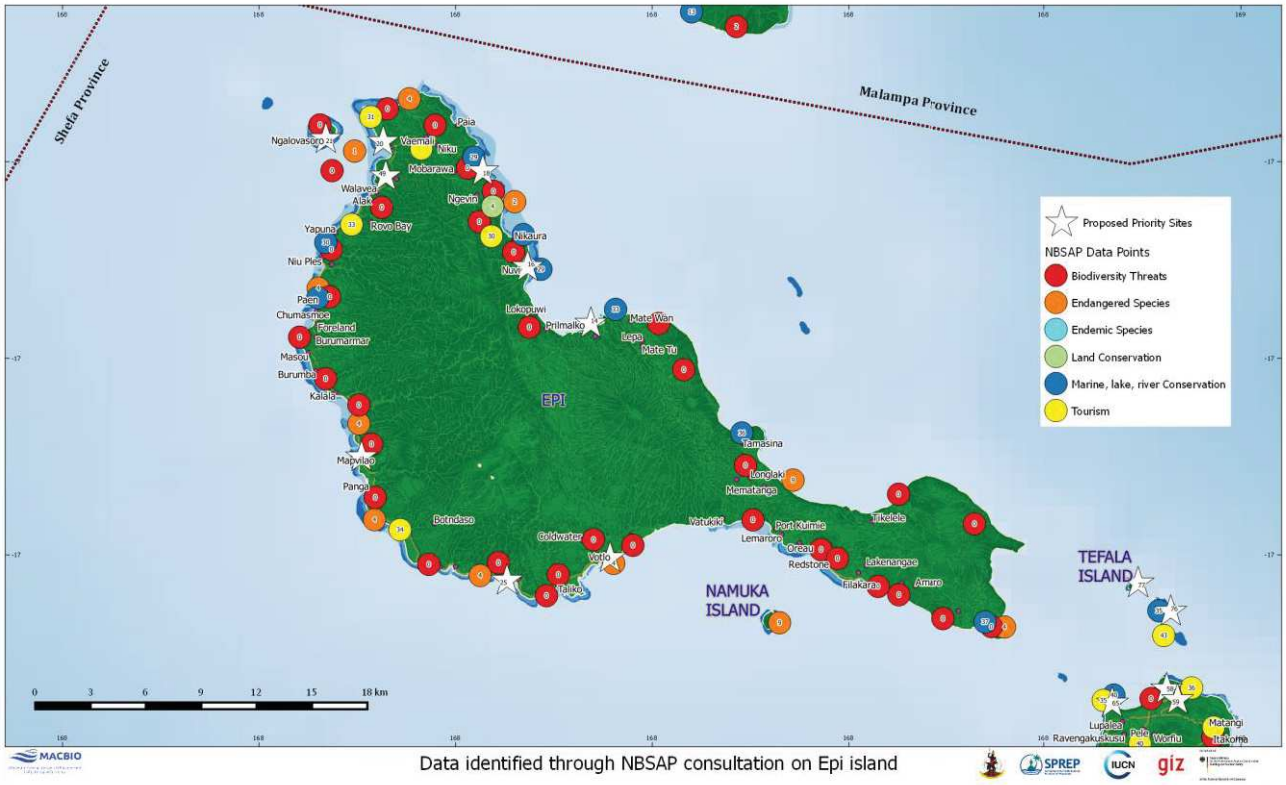


Data identified through NBSAP consultation on Efate

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

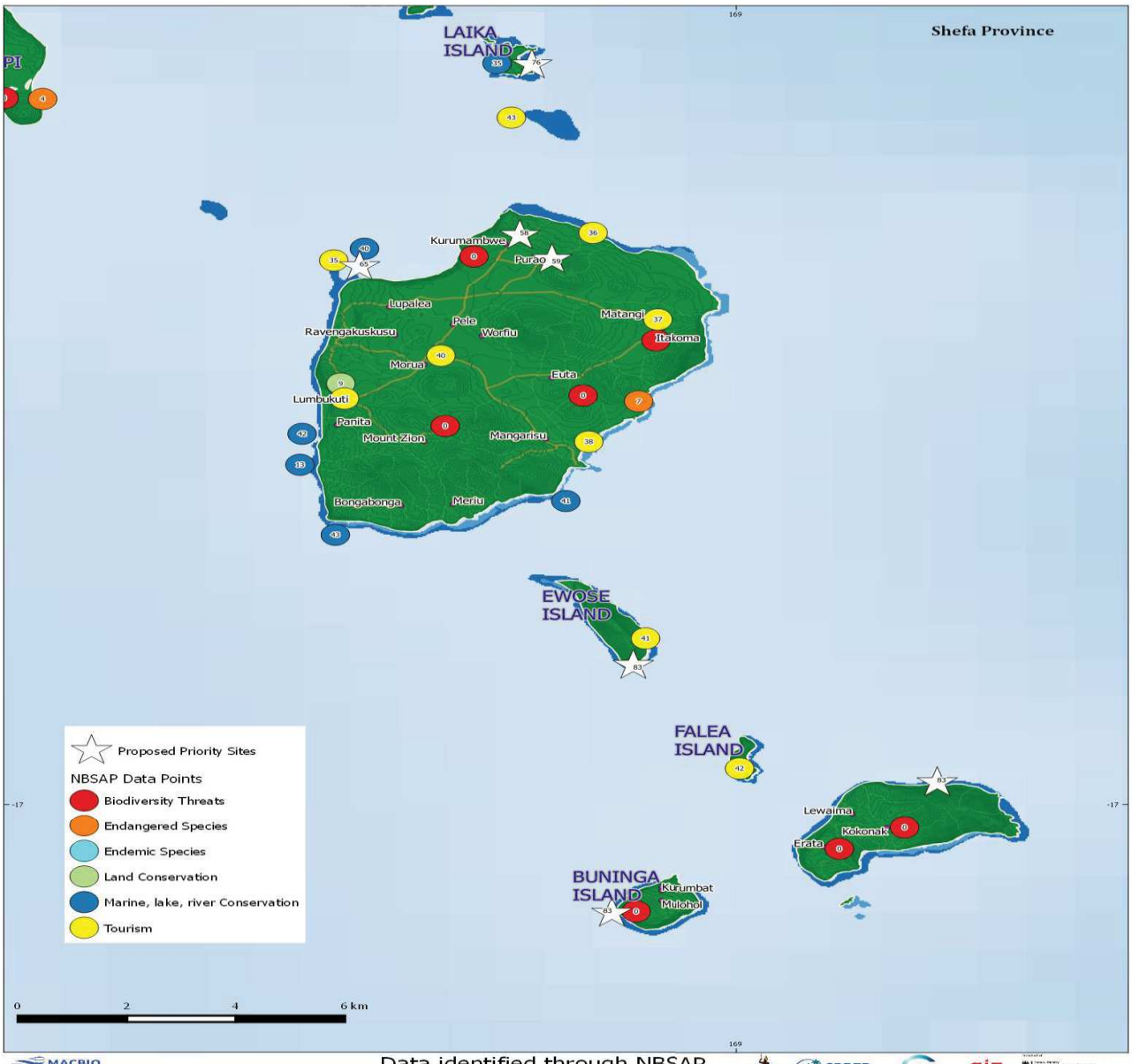
Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas



Data identified through NBSAP consultation on Epi island

Shallow Reefs
Shallow non reef
Variable depth non reef
Deep non reef
Shallow reef
Variable depth reef
Deep reef
Vanuatu Coastline
Roads
Rivers/Streams
Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas

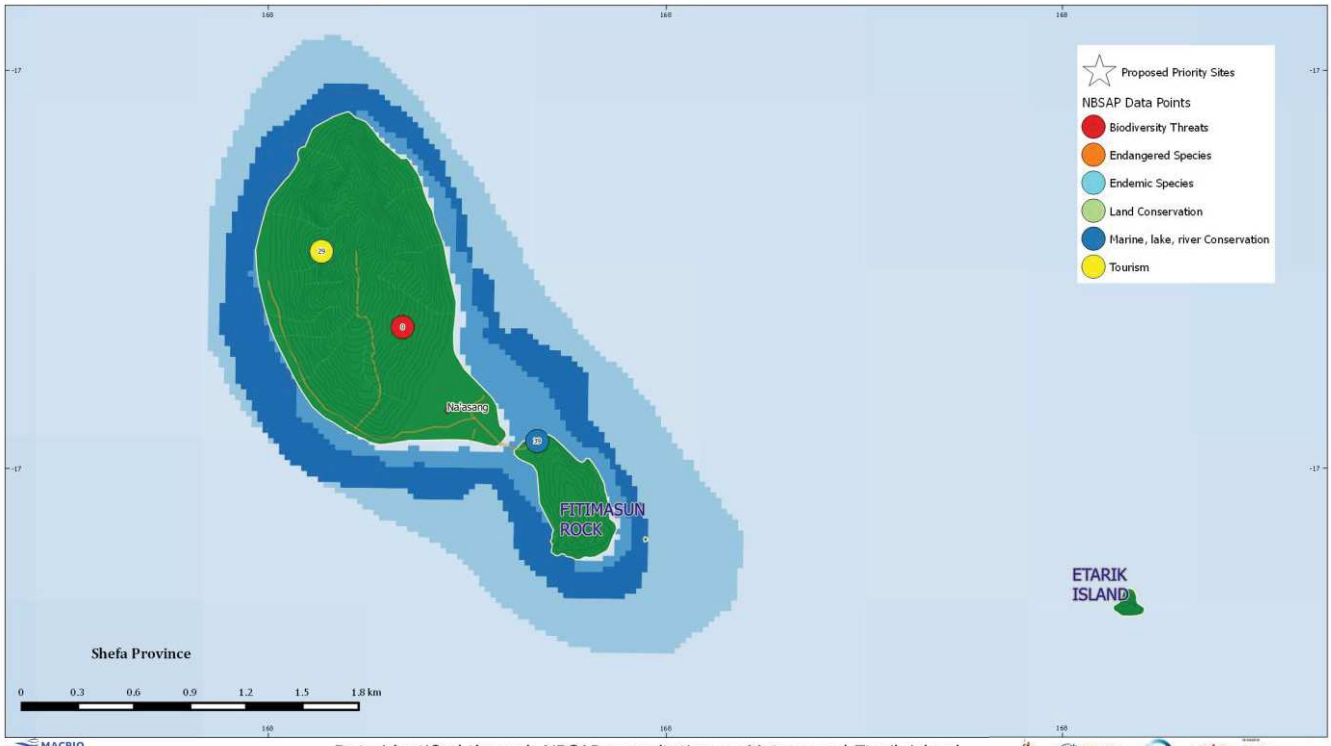


Data identified through NBSAP consultation on Tongoa and nearby islands

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas



Data identified through NBSAP consultation on Mataso and Etarik island

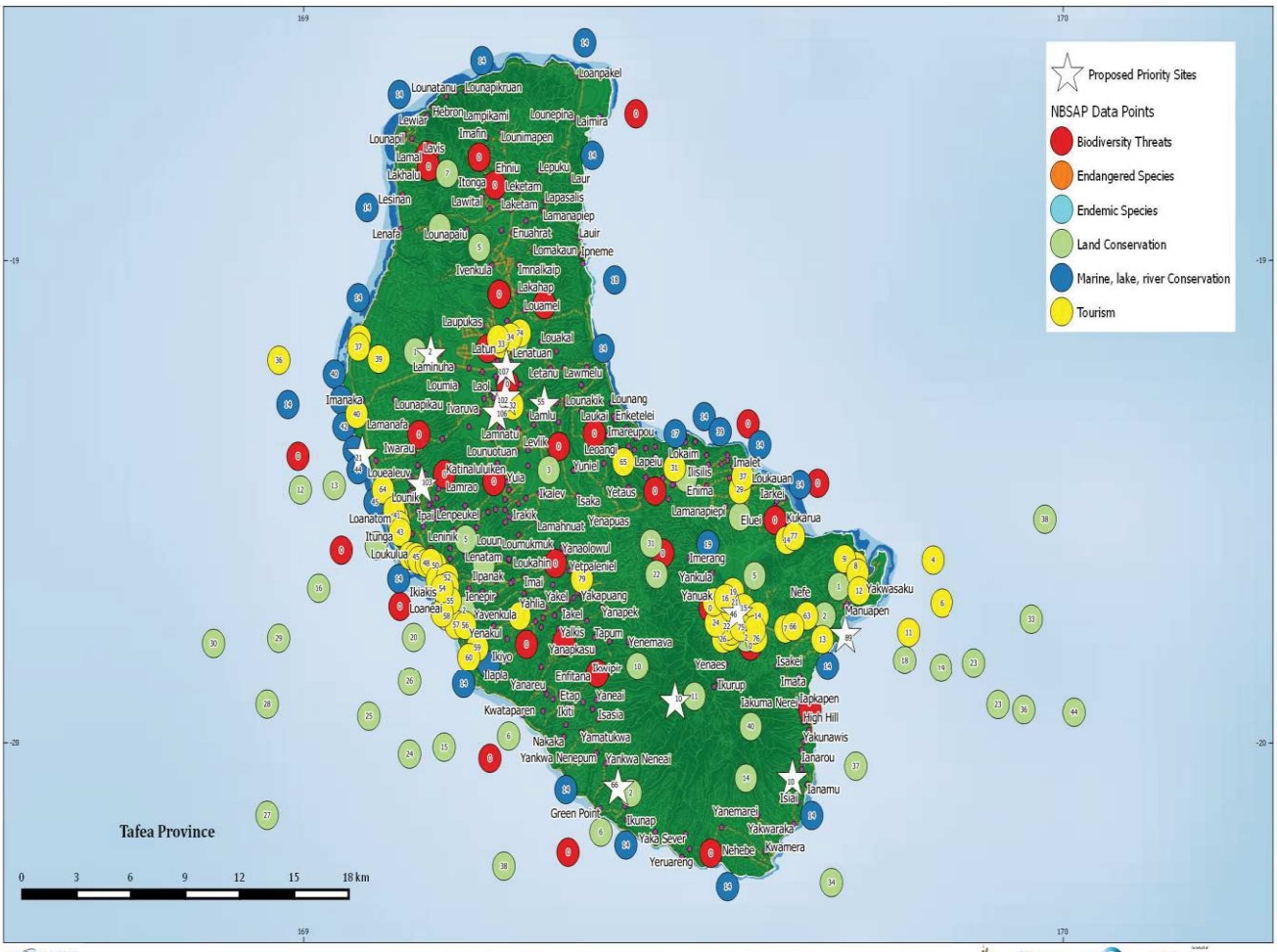
Shallow Reefs
Shallow non reef
Variable depth non reef
Deep non reef
Shallow reef
Variable depth reef
Deep reef
Vanuatu Coastline
Roads
Rivers/Streams
Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas

Data identified through NBSAP consultation on Emae and Makira islands

Shallow Reefs
Shallow non reef
Variable depth non reef
Deep non reef
Shallow reef
Variable depth reef
Deep reef
Vanuatu Coastline
Roads
Rivers/Streams
Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas



MACBIO

Data identified through NBSAP consultation on Tanna Island

SPREP IUCN giz

Shallow Reefs
- Shallow non reef
- Variable depth non reef
- Deep non reef
- Shallow reef
- Variable depth reef
- Deep reef

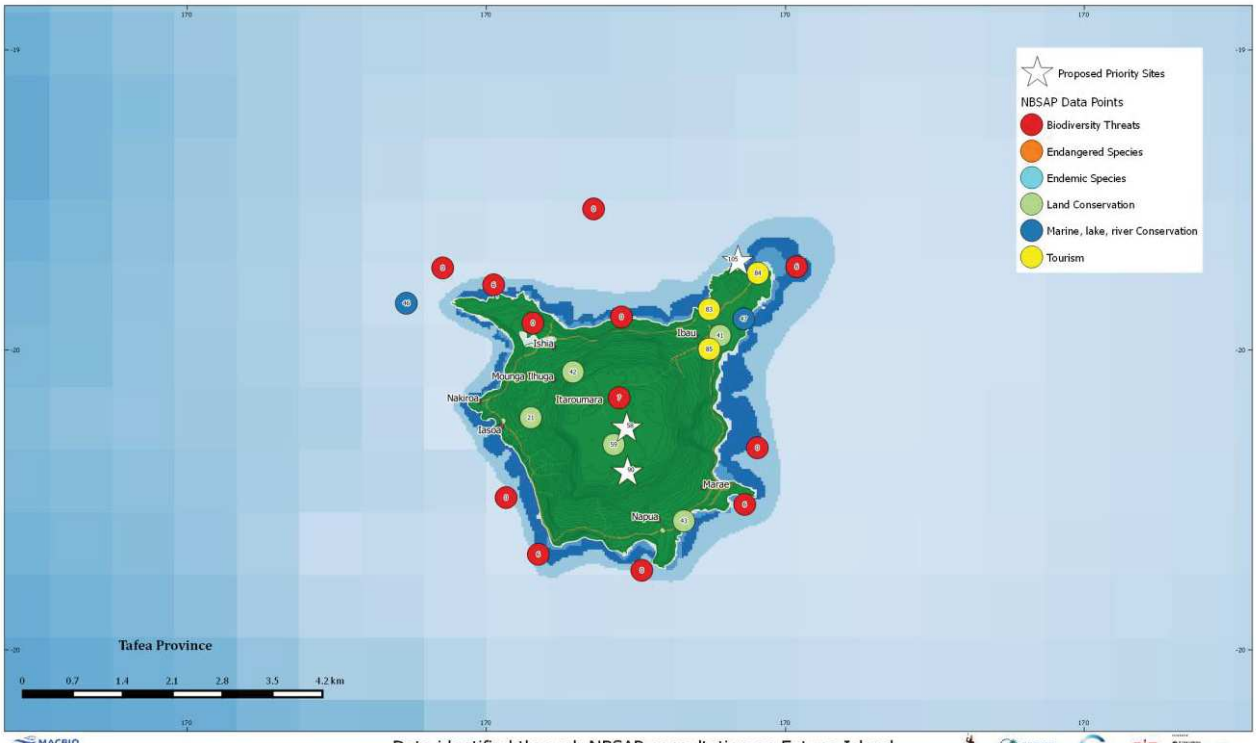
- Vanuatu Coastline
- Roads
- Rivers/Streams
- Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas

Data identified through NBSAP consultation on Erromango Island

Shallow Reefs
Shallow non reef
Variable depth non reef
Deep non reef
Shallow reef
Variable depth reef
Deep reef
Vanuatu Coastline
Roads
Rivers/Streams
Villages

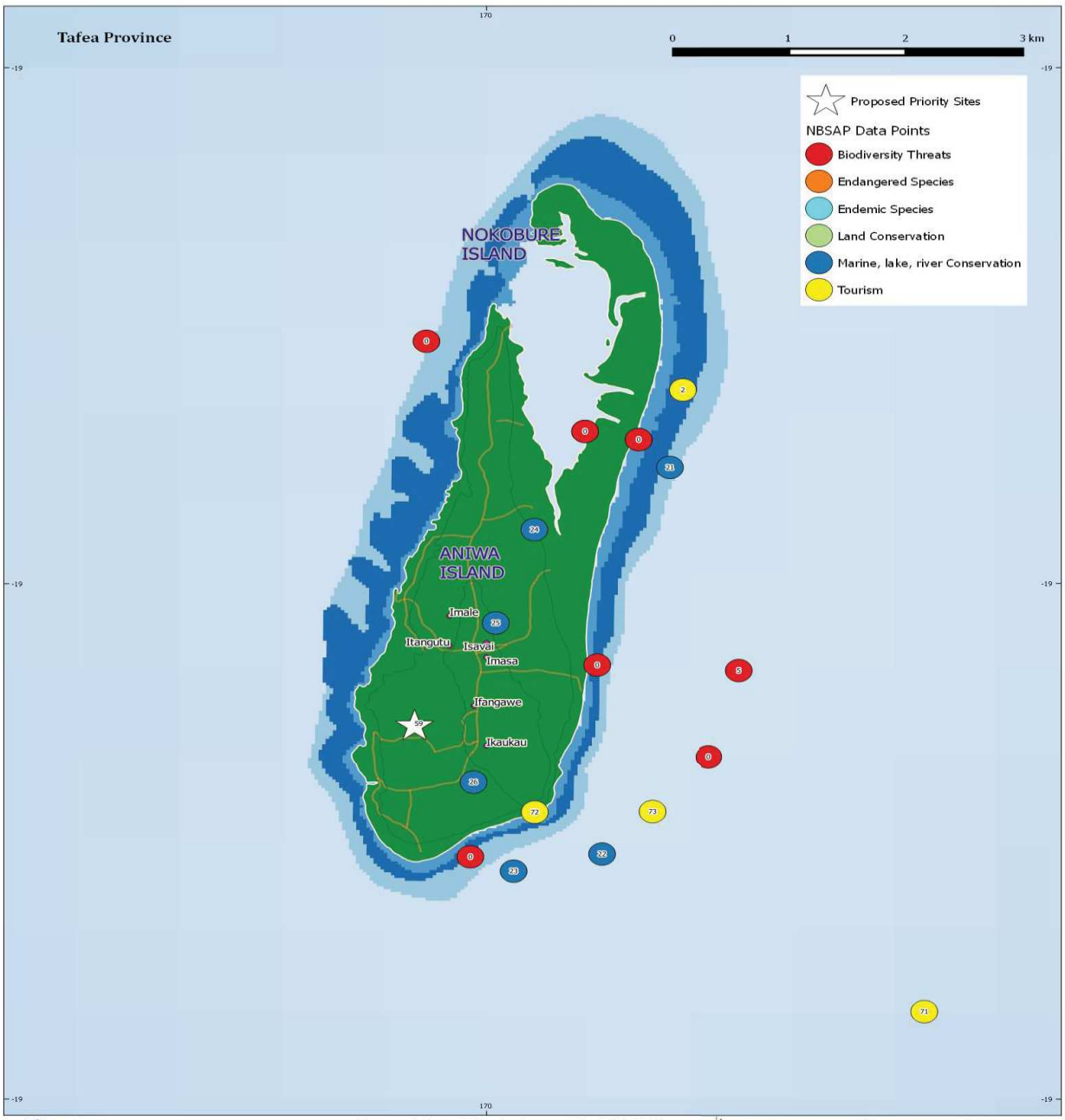
Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas

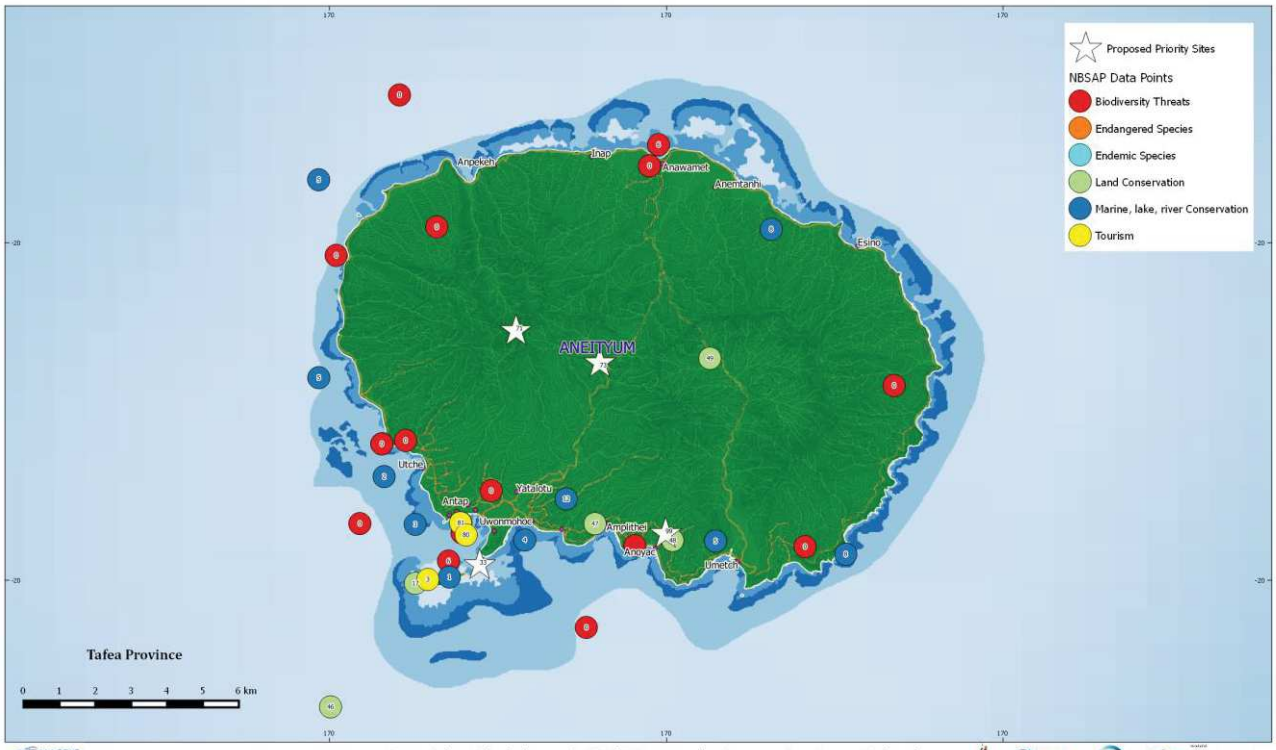


Data identified through NBSAP consultation on Futuna Island

Shallow Reefs
Shallow non reef
Variable depth non reef
Deep non reef
Shallow reef
Variable depth reef
Deep reef
Vanuatu Coastline
Roads
Rivers/Streams
Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas


Tafea Province
0 1 2 3 km
Proposed Priority Sites
NBSAP Data Points
Biodiversity Threats
Endangered Species
Endemic Species
Land Conservation
Marine, lake, river Conservation
Tourism
NOKOBURE ISLAND
ANIWA ISLAND
Imale
Itangutu
Isaval
Imasa
Ifangawe
Ikaukau
Data identified through NBSAP consultation on Aniwa Island
Shallow Reefs
Shallow non reef
Variable depth non reef
Deep non reef
Shallow reef
Variable depth reef
Deep reef
Vanuatu Coastline
Roads
Rivers/Streams
Villages
Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP/WCMC; PA's - CTAtlas



Data identified through NBSAP consultation on Aneityum Island

Shallow Reefs
Shallow non reef
Variable depth non reef
Deep non reef
Shallow reef
Variable depth reef
Deep reef

Vanuatu Coastline
Roads
Rivers/Streams
Villages

Data Sources:
NBSAP Data points from NBSAP Coordinator-Vanuatu, Ministry of Environment
Vanuatu Coastlines: Department of Lands Vanuatu
Bathymetry: The GEBCO_2014 Grid, www.gebco.net
Mangroves - UNEP /WCMC; PA's - CTAtlas

Annex 11 – Map Keys

TORBA MAPPING

Green- Land & Forest Conservation Areas

#	Name	Location	Important Resource	Status
1	Valua	Motalava	Forest/Water catchment	
2	Lake Letes	Gaua	Water Catchment	
3	Flat Stone	Hiu	Coconut Crabs Site	
4	Yau Wotut	Hiu	Coconut Crabs Site	
5	Yaw Wa	Hiu	Coconut Crabs Site	
6	Ye Me Ten We	Hiu	Coconut Crabs Site	
7	Metoma	Metoma Island	Coconut Crabs Site	
8	Aitape	Tegua	Coconut Crabs Site	
9	Tek We Mete	Tegua	Coconut Crabs Site	
10	Rinua	Loh	Coconut Crabs Site	
11	Honeymoon Site	Linua		
12	Lekal	Tegua	Coconut Crabs Site	
13	Nawila	Nanila		
14	Sasar	Vanua Lava		
15	Mangrove	Lemet, Gaua		
16	Lotawan	Mota		
17	Veverau	Mota		
18	Vetande	Vetande Island		P
19	Merig	Merig Island		P
20	Reef Island	Reef Island		P
21	Ravenga	Ravenga Island		P
22	Kwetenwel	Vanua Lava		P
23	Alligator River	Vanua Lava	Mangrove, fish, crabs ,crocodile	P
24	Silver River	Vanua Lava	Fish, crocodile	P
25	Hot water/Ambeg Leisa	Vanua Lava		P
26	Narue	Vanua Lava	Mangrove	P
27	Aver	Gaua	Mangrove	P
28	Kaska	Gaua	Mangroves	P
29	Namasari	Gaua	Mangroves	P
30	Mosina	Vanua Lava	Mangroves	P
31	Wetland	Vanua lava		P
32	Mota	Mota Island		P
33	Mota Lava Mountains	Mota Lava	Water Catchment/ Steep Lands	P
34	Rah	Rah Island	Coconut Crab Sites	P
35	Mere Lava Mountains	Mere Lava	Water Catchment/ Steep Lands	P
36	Torres	Torres Islands	Coconut Crabs Site	P
37	Ureparapara- White Grasslands	Ureparapara		P
38	Dives Bay	Ureparapara	Mangroves	P

Blue- Marine Conservation Area, Lakes, Lagoons, Rivers, Swamps

#	Name	Location	Important Resource	Status
1	Rah MPA	MotaLava		
2	Nerenigman MPA	MotaLava		
3	Qeremande MPA	MotaLava		
4	Totonglang MPA	MotaLava		
5	Avar MPA	MotaLava		
6	Telvet MPA	MotaLava		
7	Kerebeta	Vanua Lava	Coconut Crab	
8	Vatrata	Vanua Lava	Coconjut Crab	P
9	Port Patterson	Vanua Lava	Coconut Crab	P
10	Sola	Vanua Lava	Coconut Crab	P
11	Sisoil	Vanua Lava	Mangrove	

12	Mosina	Vanua Lava	Mangrove	
13	Leon Bay, Mosina, Nerekon, Narue, Qeso, Alligator River	Vanua Lava	Mangrove	P
14	Vetimboso	Vanua Lava	Fresh Water	P
15	Laks	Vanua Lava		P
16	Lake Letes	Gaua	Volcanic Lake	
17	Mundoro	East Gaua	Eels	P
18	Lebot	NE Gaua	Mangroves	P
19	Namasaric MPA	NE Gaua		
20	Lemanman MPA	NE Gaua		
21	Vatles	North Gaua	Coconut Crabs Site	P
22	Qetegaveg MPA	West Gaua	Trochus	P
23	Dorig MPA	South Gaua		
24	Divers bay MPA	Ureparapara		
25	Divers Bay	Ureparapara	Crab	P
26	Lehannai	Ureparapara	Fish, Crab, Mangroves	P
27	Toga MPA	Torres Islands	Coconut Crab	
28	Loh MPA	Torres Islands	Coconut Crab	
29	Tegua MPA	Torres Islands	Coconut Crab	
30	Metoma MPA	Torres Islands	Coconut Crab	
31	Hiu MPA	Torres Islands	Coconut Crab	
32	Loh MPA	Torres Islands	Mangroves	P
33	Hiu MPA	Torres Islands	Mangroves	
34	Loh MPA	Torres Islands	Mangroves	
35	Whole Island	Vetagde Island	New Island	P
36	Whole Island	Reef Island	Reef, Marine Resources	P
37	Whole Island	Revenga Island	Marine Resources	P
38	Conservation Area	Mere Lava	Marine	P
39	Conservation Area	Mere Lava	Coconut Crab	
40	Beirth Conservation Area	Nemerir, Mere Lava		P
41	Conservation Area	Mota		P
42	Conservation Area	Mota	Coconut Crab	P
43	Conservation Area	Mota	Crab	P
44	Conservation Area	Mota	Flying Fox	
45	Conservation Area	Pakea	Fish	P
46	Conservation Area	Pakea	Crab Nawila	P
47	Conservation Area	Qetunwer		P
48	Conservation Area	Linua	Coconut Crab, crab, Fish	P
49	Whole Island	Ngwel Island	Marne	P
50	Whole Island	Nerenow	Marine	P

Yellow**- Tourism Sites**

#	Name	Location	Important Resource	Status
1	Mere lava	Mere Lava Island	Handicraft	P
2	Mere Lava	Mere Lava Island	Historical Site	P
3	Mere Lava	Mere Lava Island	Shear Water Bird	P
4	Lake Letes	Gaua		
5	Garet Volcano			
6	Siri Waterfalls			
7	Qetion Cave			P
8	Monolite Stone			P
9	Original Water Music	Dolap, Gaua		P
10	Marine Conservation Area	Navar, Gaua		P
11	Forest Conservation	Gaua		P
12	Handicraft	Bengaren, Gaua		
13	Custom Play	Dolap		P

14	Game Fishing	Merig		P
15	Relics	Merig		P
16	Crocodile	Vanua Lava		P
17	Volcano	Vorawaw		
18	Silver River	Vanua Lava		
19	Twin Waterfall	Sasar, Vanua Lava		
20	Le Kaltel Cave	NE Vanua Lava		P
21	Cultural Site	Sasar, Vanua Lava		P
22	Historical Site	Qat, Vanua Lava		P
23	Lake	Tinsiom, Vanau Lava		P
24	Laka Sereama	Vanua Lava		P
25	Blue Water	Seremba, Vanua Lava		P
26	AtesWaterfall	Vanua Lava		P
27	Waga weaving	Vetimboso, Vanua Lava		P
28	Snorkeling	Quakea		
29	First Christian Village	Veverau, Mota		P
30	Cultural Site	Mission Bay, Mota		P
31	Vatcalecale (Calling Wind)	Top Hill, Mota		P
32	Mud Fishing	Lowotgeg, Mota		P
33	Sleeping Mountain	Top Hill, Mota Lava		P
34	Rock Rah	Mota Lava		
35	Shell Money Making	Qeremgas, Mota Lava		
36	Traditional Fishing	Mota Lava		
37	Mud Fishing	Telvet, Mota Lava		
38	Marine Conservation Area	Telvet, Mota Lava		
39	Cultural Village	Rah, Mota Lava		
40	Traditional Bank (Shell Money)	Rah, Mota Lava		
41	Cultural, Historical Site	Telvet Mota Lava		
42	World Heritage Island	Ureparapara		
43	Local Post Office	Lemap, Ureparapara		P
44	Lemdai Cave	Ureparapara		P
45	Snorkelling	Ureparapara		
46	Dancing Stone	Dives Bay, Ureparapara		P
47	Shell Money Making	Dives Bay, Ureparapara		P
48	Traditional Sandal Weaving	Ureparapara		P
49	Dancing Stone	Merig		P
50	Snorkelling	Reef Island		P
51	Game Fishing	Reef Island		P
52	Leilei nowo Cave	Loh		
53	Honeymoon Beach	Loh		
54	Snorkelling	Rinuha, Loh		
55	Cultural Site	Letau, Toga		P
56	Snorkelling	Tegua		P
57	Traditional Drawing Cave	Tegua		P
58	Marine Conservation Area	Tegua		
59	Coconut Crab Conservation	Metoma		P
60	Marine Conservation Area	Metoma		P
61	Turtle Breeding Site	Tokometa, Metoma		P

62	Yenugu Cave (Drawings)	Hiu		P
63	Calling Waterfall	Bewarwar Hiu		P
64	Yemianugu Cave Custom Designs	Hiu		P
65	Snorkelling	Hiu		P
66	Marine Conservation Area	Yewa, Hiu		P
67	Coconut Crab Conservation Area	Yawtuk, Hiu		P
68	Forest Conservation Area	Yautuk, Hiu		P

RED- Invasive Species

#	Name
1	Fire ants /little fire ants
2	Crown of thorns
3	Merremia peltata

Arrow Stickers

Colour	Name
Blue	Over fishing
Orange	Land degraded areas
Green	Over Gardening

SANMA MAPPING

Green- Land & Forest Conservation Areas

#	Name	Location	Important Resource	Status
1	Nambahuk Conservation	Canal /Fanafo Area	Forest, Water Catchment	
2	Butmas Conservation	Canal Fanafo Area	Forest, water Catchment, Endemic & Endangered Spp	
3	Penaouru	North West Santo	Agathis & Sandalwood Forest, Water Catchment, Endemic & Endangerd Spp	Registerd CCA with DEPC
4	Tasmate (Eden Hope)	West Coast Santo		
5	Hasevaia	South Santo Area 2	Palm Trees/ Flying Foxes,	
6	Naone ban	Malo Landing, Sout Santo	Mangroves, River	
7	Usher	South Santo	Mangroves, River	
8	Sarakata River	Luganville	Mangrove	
9	Palekula	South East Santo	Mangrove, Land Crabs	
10	Suranda	South East Santo	Mangroves, Land craba	
11	Lopelope	South East Santo	Mangroves, River	
12	Natanara	South East Santo	Mangroves	
13	Matevulu	South East Santo	Mangroves, River	
14	Valankara Bay	South East Santo	Mangroves	
15	Sararua	West Santo	Palm Trees	
16	Vatradin	West Santo	Palm Trees	
17	Tasmate 1	West Santo	Palms	
18	Tasmate 2	West Santo	Palms	
19	Vunajimaro	North West Santo	Palms	
20	Raflepa	North West Santo	Palms	
21	Lolokar Bush	North West Santo	Palms	
22	Velit Bay	East Santo	Mangroves, Water catchment, River	
23	Turtle Island	Near Aore Island	Mangroves	
24	Ratua	Near Aore Island	Mangroves	
25	Banban	South East Santo	Mangroves	
26	Rangar	Tutuba Island, South East Santo	Mangroves	
27	Nabubu	South East Santo	Mangroves	

28	Malo Pass	East Malo Island	Mangroves	
29	Amalo	East Malo Island	Natongtong	
30	Nanoku	Malo Island	Conservation Area	

Blue- Marine Conservation Area, Lakes, Lagoons, Rivers, Swamps

#	Name	Location	Important Resource	Status
1	Port Olry MPA	Port Olry	Marine, Reef	
2	Aore Light House	Aore	Swamp	
3	Million Dollar Point	South East Santo	Reef, Tourist Dive Site	
4	Millennium Cave	Nambahuk	Cave, River, Tourist Attraction	
5	Loru Conservaytion Area	Khole, East Santo	Forest, Birds, Coconut Crabs	
6	N'ttan Cnservation Atrea	Cape Queros	Forest, Coconut Crabs, Marine	
7	Vatthe Conservation Area	Matantas, Bigbay	Forest, Birds, Jordan River, Marine	
8	Tasmate Conservation Area	Tasmate	Marine	
9	Penaouru Conservation Area	West Santo	River, Marine	
10	Palekula	South East Santo	Mangroves, Crabs, Fish	
11	Pakle		Marine	
12	Para Conservation Area	Araki Island	Marine	
13	Malo Pass	Malo Island	Marine, Taboo Area	
14	Naone Ban	Naoneban Landing	River, Marine	
15	Nanuku	Malo Island	Marine, Reef	
16	Tokar Hill			
17	Nanavuso	Kevin Anderson	Reef, coconut crab farming	
18	Perao		Marine, Reef	
19	Olpoi	West Santo	Marine	
20	Tassiriki	South West Santo	Marine	
21	Belmoli	South West Santo	Marine	
22	Thion Island	Port Olry	Forest, Coconut Crabs, Lake, Swamp	
23	Palisololo		Lake	
24	Naoneban Lake	Naoneban	Lake	
25	Sarakata River	Fanafo	River	
26	Papai sula		Lake	
27	NopuWest		Lake	

Yellow- ENDEMIC Species Locations

#	Name	Location	Status
1	Santo Mountain Starling- Mataweli	Tabwemasana/Santo Peak	
2	Kingfisher/Manutu	Mt Tombet	
3	Green Pigin/Manutu	Mt Puama	
4	Manutu	Mt Teteramaja	
5	Manutu	Mt Tsuemaja	
6	Manutu	Mt Vuti mele	
7	Manutu	Mt Pao	
8	Santo Starling	Mt Metantan	
9	King Fisher ,/ Green Pigin	Mt Avuna Leleo	
10	Fruit Dove ,Nasiko	Mt Avunabulu	
11	Green Pigin	Asavahas Area	

12	Manutu, Santo Starling	Moragai	
13	Santo Starling	Mt Tumebu	
14	Green Pijin	Fanafo Area	
15	Scrub Duck	Matantas	
16	Manuatu	Vologigia	
17	Green Pigin	Jarailan	
18	King Fisher	Million Dollar Point	
19	Scrub Duck	Raovi	
20	King Fisher, Green Pigin	Lathi	
21	Green Pigin	Malvoro	
22	Manutu	Lavuslapa	
23	Manutu, King Fisher	Morkiriv	
24	Manutu	Lalaholo	
25	Santo Starling	Malala	
26	Santo Starling	Nokuvula	
27	Manutu, King Fisher	Fortsenal	

RED- Endangered Species Locations

#	Area Name
1	Hokua
2	Valui
3	Tayon
4	Luiako
5	Cape Queros
6	Yekar
7	Port Olry
8	Lathi-Sakao Island
9	Avunarani
10	Tanovusvus
11	Laororo Island
12	Viuru
13	Naviova
14	Apaone
15	Aviapoe
16	Khole Village
17	Birian
18	Hg Harbour
19	Thion Island
20	Lathu Island
21	Araki Island
22	Navota Farm
23	Vorowoke
24	Urelapa Island
25	Le Tharo Island
26	Le Tharo Island
27	Elia Island & Tangoa Island
28	Neavu
29	Mavea Island
30	Tutuba Island
31	Aore Island
32	Aese Island
33	Kerenavura Island
34	Penaouru & Nokuku
35	Molboe
36	Wunapak

37	Vunap
38	Tolo mako
39	Vunareveu
40	Wusi
41	Belmoli
42	Orori
43	Naonevuso
44	Lelek
45	Reger Point
46	Tambun
47	Naru
48	Navava
49	Banban
50	Matantas
51	Tassiriki

Degraded Areas

#	Area Name	Activities
1	**West Santo**	Fire, Flood, Gardening, Land Slides
2	**South West Santo**	Coastal Erosion, Fire
3	**Ipayato**	Land Slide, River Bank Erosin
4	**South Santo- Hasevaia, Sarete, Narango**	Land Slide, River Bank Erosin, Heavy Gardening
5	Avunavai	**Seal Level Rise, Coastal Erision (Sand Extraction)**
6	**Wai Sale**	Heavy Gardening/ Clearing
7	**Interior South, SEast Santo**	Heavy Gardening, Farming
8	**Fanafo Canal**	Heavy Gardening/Farming
9	**East Santo**	Logging, Cattle Crazing, Farming
10	**Matantas, Bigbay**	Logging, Cattle, Heavy Gardening
11	**South, SEast, East NEast Santo, Fanafo Canal, Butmas, Bigbay**	Merremia Peltata

PENAMA MAPPING

Green- Land & Forest Conservation Areas

#	Name	Location	Important Resource	Status
1	Lingi Botanical	Angoro	Walter Hadye Lini Grave Site	
2	Anvisilingi Lagatava (North Pentecost)	North Pentecost	Historical Site/Taboo Site	
3	Avatumbwe	Lambaru	Traditional Site/Forest	
4	Onlaba			
5	Hingon Vui	South Maewo	Traditional/Taboo Site	
6	Devils Rock	West Ambae	Forest	
7	Redcliff	SW Ambae	Forest	
8	Vuinago	East Ambae	Forest, Taboo Site	P
9	Manaro Bush	Central Ambae	Forest,	
10	Ambore	Ambae	Forest	
11	Vuikalato	Noth Ambae	Forest/ Steep Lands	
12	Ambugarigi	Ambae		
13	Lawaiboe			
14	Maewo Range	Maewo	Forest/Water Catchments	P
15	Hingon Bwagi	North Pentecost		
16	Lone Bush	Ambae		
17	Nango bulu			
18	Lovus Tovu			P

19	Bwariri			P
20	Naone	Maewo		
21	Marino			
22	Bebarie			
23	Wali	South Pentecost		
24	Wanur	South Pentecost		
25	Aviriana	North Pentecost		P
26	Hot wota			P
27	Banmatmat			P
28	Langatava	North Pentecost		P

Blue- Marine Conservation Area, Lakes, Lagoons, Rivers, Swamps

#	Name	Location	Important Resource	Status
1	Banmatmat			
2	South East Maewo	Maewo		
3	Laone	North Pentecost		
4	Red Cliff Area	West Ambae		
5	Devils Rock	West Ambae		
6	Lolowai	East Ambae		
7	Vatavaga			
8	Manaro Lake	Central Ambae	Volcanic Lake	
9	Waimemea	Saratamata, Esat Ambae	Lake	
10	Wai Lebutaga	East Ambae	Lake	
11	Anagoi			
12	Pangi			
13	Antani			
14	Anhomba			
15	Waluriki			
16	Alau			
17	Wansa (Waiboe)			
18	Naone			
19	Lombaha	North Ambae		
20	Lolovenue	East Ambae		
21	Navenevene			
22	Lian Bay			
23	Asanvari			
24	Matamata			

Yellow- Tourism Sites

#	Name	Location	Important Resource	Status
AMBAE				
1	Aka Beach	Ambae		P
2	Vuinako	East Ambae		
3	Wialebutaga	East Ambae	Lake	P
4	Devils Rock	West Ambae	Black Beach	
5	Manaro	Central Ambae	Volcanic Lake	
6	Vuigalato	North Ambae		
7	Lolobanga	NE Ambae		P
8	Lolovoli	SE Ambae	Forest/Culture	

9	Nduindui	West Ambae	Culture	
10	Walaha	West Ambae	Culture	
11	Nambagahake	West Ambae	Culture	P
MAEWO				
1	Asanvari waterfall			
2	Hole blong Moon			
3	Wongoina Point			P
4	Naone			P
5	Marino			
6	Narovorovo			
7				
8	Talise			
9	Analasi			P
10	Boetora			
11	Kerebei			
PENTECOST				
1	Laone			
2	Anagoi			
3	Labwariri			
4	Loltong			
5	Sara			
6	Lavatu Guest House			
7	Loli Guest House			
8	Abwatuntora Guest House			
9	Varvatubae			
10	Vatmangemu			
11	Aligu			
12	Nabaragiut			
13	Enar Guest House			
14	Bwatnapni			
15	Melsisi			
16	Lonorore			
17	Bunlap			
18	Land Diving	Ranputor		
19	Waet wota			
20	Lovetlis			

RED- Invasive Species

#	Name
1	Big Leaf Rope- Merremia peltata
2	Giant Mimosa/Grass Nil
3	Cordia
4	African Snail
5	Crown of Thorns

Arrow Stickers

Colour	Name
Blue	Over Fishing
Orange	Coastal/ Soil Erosion/Landslides
Green	Heavy Gardening

MALAMPA MAPPING

Green- Land & Forest Conservation Areas

#	Name	Location	Important Resource	Status

1	Amal Crab Bay	Malekula	Mangrove/ Coastal Forest	
2	Wiawi	NW Malekula	Forest & Marine	
3	Lousinwe	Malekula	Forest, River	
4	Bamboo Bay		Forest	P
5	Lopevi		Whole Island	P
6	Deep Point	West Ambrym	Namalao	P
7	Lonwolwol	West Ambrym	Forest	
8	Metitar	Lambunbu	Forest	
9	Batbank		Coconut Crab	
10	Ronivie	South East Malekula	Mangrove	
11	Lamap Point		Mangrove	
12	Limap		Wild Buluk	

Blue- Marine Conservation Area, Lakes, Lagoons, Rivers, Swamps

#	Name	Location	Important Resource	Status
1	Crab Bay		Marine Protected Area MPA	
2	Uri		MPA	
3	Uripiv		MPA	
4	Maskelyn	Pelong	MPA	
5	Wiawi	Big Nambas	MPA	
6	Vinmavis		MPA	
7	Akhamb		MPA	
8	Lamap		MPA	
9	Okai		MPA	
10	Umas	Batbang/S Malekula	MPA	
11	Black sand	Dixon Bay	MPA	
12	Malau	Vauleli, Paama	MPA	
13	Lopevi Island		MPA	
14	Penalum		Lake	P
15	Wala		Lake	P
16	Laravat		Lake	P
17	Dip Point	Ambrym	Lake	P
18	Ranvetokon	West Ambrym	Lake	P
19	Umas	Batbang/S Malekula	Lake	P
20	Lenpenwen	SWB	Lagoon	P
21	Leviamp		Lagoon	P
22	Toman	Toman Main Land	Lagoon	P
23	Pankumo		River	P
24	Bushman		River	P
25	Marit River		River	P
26	Unua River		River	P
27	Brenwei		River	P
28	Malua Bay		River	P
29	Atchin		River	P
30	Mapat River		River	P
31	Unua 4 River		River	P
32	Unua 2 River		River	P
33	Malvakal River		River	P
34	Melip River		River	P
35	Leru River	Vao	River	P
36	Leviamp		River	P

37	Wiaru River		River	P
38	Tanmaru River		River	P
39	Winet River		River	P
40	Laley River		River	P
41	Mat lelam River		River	P
42	Matlevis		River	P
43	Hingal	South Paama	River	P
44	Espigales Bay		River	P
45	Lamap		Swamp	P
46	Akhamb		Swamp	P
47	Okai		Swamp	P
48	Avok Mainland		Swamp	P

Yellow**- Tourism Sites**

#	Name	Location	Important Resource	Status
1	Wala			
2	Uripiv			
3	Crab Bay			
4	Maskeylines Islands			
5	Wiawi	NW Malekula		
6	South West Bay			
7	Lamap			
8	West Ambrym	Lonwolwol		
9	North Ambrym			
10	Lopevi			
11	Peterbu	Atchin Mainland		
12	Lousinwe	NW Malekula		
13	South East Ambrym			
14	Tamtam Bangalow	Vao		
15	Namanki Custom	NW Malekula		
16	Banan Bay			
17	Melken			
18	Melken – SWB Hiking Trail		Hiking Trail	
19	Atchin			
20	Toman Island			
21	Lakatoro			
22	Rano			P
23	Vao Island		Marine/Culture	P
24	Atchin Island			P
25	Pitin Village			P
26	Akhamb Island			P
27	West Ambrym	Potvato, Lele, Lolibulo, Meltungon, Vanla, Nofea		P
28	Endu	SE Ambrym		P
29	Pankumo	Tisman		P
30	Nanude	Uripive		P

SHEFA MAPPING

Green- Land & Forest Conservation Areas

#	Name	Location	Important Resource	Status
1	Mere sawia	Nguna	Forest- Marine	
2	Epau Conservation Area	Epau, Efate	Forest, Water Catchment	
3	Efate Land Management Area (ELMA)	Central Efate	Forest, Water Catchment	
4	Nivenue	Epi	Forest, Water Catchment	
5	Greek Ai	Lelepa Landing Efate	Water Catchment, Endemic freshwater Fish	P
6	Havannah Mangrove	Havannah, Efate	Mamgrove	P
7	Undine Bay	Undine Bay	Mangrove	P
8	Paunangisu	North Efate	Coastal Forest/ Mangrove	P
9	Lumbukuti Conservation Area	Lumbukuti, Tongoa	Spring Water, Cultural Site	P
10	Roimata Domain	Hat Island	Cultural Site	
11	Eratap Mangrove	Eratap, Efate	Mangrove	
12				

Blue- Marine Conservation Area, Lakes, Lagoons, Rivers, Swamps

#	Name	Location	Important Resource	Status
1	Nguna Pele	Nguna and Pele Is	Marine	MPA-Unregistered
2	Tanoliu	North Efate	Marine	
3	Lelema	Lelepa/Mangalilu	Marine	MPA-Unregistered
4	Hat Island	Hat Island	Marinr	P
5	Tuktuk	Mangaliliu	Marinr	P
6	Duck Lake	Teouma, Efate	Lake	P
7	Nikaura	Epi	Marine	MPA-Unregistered
8	Meresawia	Nguna	Marine	MPA-Unregistered
9	Epau	Efate	Marine, Mangrove	
10	Unakap	Nguna	Marine	
11	Hide Away	Mele Bay, Efate	Marine	
12	Eruity	Efate	Marine	
13	Panita	Tongoa	Marine	
14	Tongamea	Emae	Marine	
15	Sangava	Emae	Marine	
16	Meresawia	Nguna	Deep Sea	P
17	Undine Bay	North Efate	Mangrove	P
18	Marou	Emau	Lagoon	
19	Tagara	Nth Efate	Marinr	
20	Emua	Nth Efate	Mangrove, Marine	
21	Woralapa	Nguna	Marine	
22	Utanlangi	Nguna	Marine	
23	Rewoka	Nguna	Marine	
24	Farealapa	Nguna	Marine	
25	Piliura	Pele	Marine	
26	Worasiviu	Pele	Marine	
27	Laonamoa	Pele	Marine	
28	Nuvi	Epi	Marine	
29	Mapuna	Epi	Marine	
30	Yapuna	Epi	Marine	

31	Bokovio	Epi	Marine	
32	Turtle Nestin SDites	Moso	Marine, Turtle Site	
33	Big Bay	Epi	Marine	
34	Sunae	Moso	Marine	
35	Laika Island	Tongoa	Koroliko	
36	Tamesina	Epi	Lake	P
37	Nalema	South Epi	Lake	P
38	Napiko	Lelepa, Efate	Marine	P
39	Mataso	Mataso Island	Marine	P
40	Naririvavanga	Lupalea,Tongoa	Spring Water	P
41	Alolo	Lumbukuti, Tongoa	Spring Water, Royal Parrot Finch Site	P
42	Mangarisu,	Tongoa	Spring Water	P
43	Bongabonga	Tongoa	Spring Water	P
44	Cooks Reef	Emae	Marine	P

Yellow- **Tourism Sites**

#	Name	Location	Important Resource	Status
1	Hide Away, Beach Bar, Evegreen	Mele Bay, Efate	Marine , Water fall, Beach	
2	Ocean Shore, Benjor Resort, Tara Beach	Devils Point Road, Efate		
3	Nauramatua	Tukutuku, Devils Point		
4	Roimata Domain, Pauls Rock, Snorkelling, Feles Cave Mangassi	Mangaliliu, Efate		
5	Lelepa Island Tours	Lelepa, Efate		
6	Congoola Cruises, Tranguility	Moso		
7	Wahoo Bar, Sandy Havannah, Eco Lodge, Havannah Resort	Tanoliu, Afate		
8	Whispering Resort, Valefa Cave	Undine Bay		
9	Pool Rock, (Sama), Vatpua (Emua), Sky Deck (Emua), Wharf (Emua)	Sama, Emua, Efate		
10	Nagar Resort, Kakula, World War II Museum	Paonangisu, Efate		
11	Piliura Guest House, Worasiviu Guest House, Laonamoa Guest House	Pele Island		
12	Unakap Bangalow, Tikilasoa Bangalow, Meresawia Conservation Camp Site, Nekapa Bangalow,	Nguna		
13	Utanlangi Bangalow	Nguna		
14	Rewoka Extinct Volcano	Nguna		
15	Hot Spring, Beach comber, Bamboo Resort, Sara Beach Resort	Tagara, Sara, Efate		
16	Marou, Wiana Guest House	Emau		
17	Ebule Jungle River Trek, Taka Cultural Tour	Ebule, Efate		
18	Bethel Resort	Ekipe, Efate		
19	Sunset Rest Top			P
20	Manuro, Karngo Tours	Forari, Efate		
21	El Gress Tours x 2	Efate		
22	Dry Greek to Eton Beaches	Eton		
23	Crystal Blue	Rentabao, Efate		
24	Tamanu Beach	Teouma Bay, Efate		
25	Eratap Beach Resort, Aguana Resort	Eratap, Efate		
26	Erakor Island Resort	Erakor		

27	Ematpei Limited Resort			
28	Breakers Resort, Paradise Cove	Pango, Efate		
29	Mataso	Mataso Island		P
30	Nikaura Sunrise Bangalow	Nikaura, Epi		
31	Lamen Bay Sunset Bangalow	Lamen Bay, Epi		
32	Allack Guest House			
33	Rovo Bay Waterfall	Rovo Bay, Epi		
34	Epi Guest House	Valesdir, Epi		
35	Tongoa Wall	Lupalea, Tongoa		
36	Natorotoro, Kuwae Volcano	Kurumambe, Tongoa		
37	Mailakom Hill/WWII Site	Selembanga, Tongoa		
38	Lekiki Paradise, Traditional House			
39	Taputi, Royal Parrot Finch Site	Lumbukutiu, Tongoa		
40	Kamy Guest House	Pele, Tongoa		
41	Ewose	Ewose Island		
42	Valea	Valea Island		
43	Laika	Laika Island		

SHEFA- Endangered Species Location

#	Species	Location
1	Dugong	Epi
2	Green Snail	Epi
3	Coconut Crab	Efate
4	Trochus	Epi, Efate
5	Namariu	Siviri, Efate
6	Kasis	Siviri, Tanoliu, Tagara
7	Wild Cane	Pele, Nguma, Emae, Tongoa
8	Bubu Shell	SHEFA
9	Turtle	Epi, Efate
10	Mangrove	Efate, Emae, Epi
11	Whitewood	Efate
12	Sea Cucumber	Efate, Epi, Emae

Biodiversity Threats Mapping (Arrow Sticker)

Blue Arrow- Over Fishing		
#	**Sites**	**Location**
1	Red Stone	Epi
2	No. 1 & No. 2 Lagoon, E	Erakor
3	Etmat Bay	
4	Tukutuku, Havannah, Lelepa, Mosso	NW Efate
5	Rentabao	Efate
6	Eruity	Efate
7	Devils Point- Deep Sea	Efate
8	Nguna Pele	Nth Efate
9	Epau, Eton, Pangpang	East Efate
10	FAD- 6 Miles, Mosso, Hat Island, Lelepa Island	NW Efate

11	Etan Manu	Mataso
12	Undine Bay, Paonangisu	Nth Efate
13	Emau	Emau Island
14	Lamen Bay	Epi
15	Napko, Creek Ai	Lelepa Landing
16	Rentabao	Efate
17	La Crissenaire	El Gress, Efate
Green Arrow- Gardening, Agriculture , Cattle		
1	Cattle (Abbatoir)	Prima, Efate
2	Cattle	Devils Point, Efate
3	Forestry, Gardening, Agriculture	Snake Hill
4	Gardening	Mele
5	Gardening, Cattle, Agriculture	Vila Airport
6	Agriculture	Mele Plain
7	Mele Cattle Project	Mele, Efate
8	Monvoisin Cattle	Tanoliu
9	Gardening	Port Havannah
10	Cattle	Undine Bay
Yellow/Orange Arrow- Logging , Mining , Quarry		
1	Logging (Efate)	Teouma
		Eton
		Pangpang
		Paonangisu
		Emua
		Malafau
2	Quarry (Efate)	Teouma
		ERratap
		Erakor
		Snake Hill
		Kakola
		Samoa Point
		Meten Hill
		Emua
		Ebule
		Eton
3	Mining (Efate)	Forari
4	Quarry (Epi)	Nivenue
		Yapuna
		Pokovio
5	Quarry (Tongoa)	Ere School
		Lumbukuti
		Euta
Pink Arrow- Uncontrolled Settlement		
1	Votlo	Epi
2	Sara	Epi
3	Wampi	Epi
4	Nul	Epi
5	Lopalis	Epi
6	Etas	Efate
7	Snake Hill	Efate
8	Teouma	Efate
9	Black Sands	Efate
10	Manura	Efate

11	Forari	Efate
12	Port Havannah	Efate
13	Paonangisu	Efate
14	New Govenant	Tongoa

TAFEA MAPPING

Green- Land & Forest Conservation Areas

#	Name	Location	Important Resource	Status
1	Lounamilo	Middle Bush, Tanna	Forest Conservation Area	
2	Kaiasi Forest	Immaiou	Forest Conservation Area	
3	Iata Fiji	Aniwa		
4	Kauri Reserve	Happy Land, Erromango	Last Kauri Reserve	
5	Cooks Bay	Erromango	Forest, River and Sea	
6	Uviu Point	Erromango	Forest , sandalwood	
7	Green Hill	Tanna	Forest, Sandalwood, Birds	
8	Loupekas	Tanna	Forest	P
9	Naulamene	Tanna	Forest	P
10	Mount Tukusmera	South Tanna	Forest, water catchment	P
11	Mount Melen	Tanna	Forest, water catchment	P
12	Lamiawe	Lounapektuan, Tanna	Forest	P
13	Lamkahil	Tanna	Forest	P
14	Yanemarei	Tanna	Forest	P
15	Neqwenenepem 1	South West Tanna	Forest	P
16	Small Island			P
17	Mystery Island	Bush, Marine	Important Tourism Site, Marine Sanctuary	P
18	Neqwenenepem 2	South West Tanna	Forest	P
19	Kwenuaineri	Tanna	Forest	P
20	Ikunava	Tanna	Forest	P
21	Ishiai	Tanna	Forest	P
22	Kakwasai Forest	Isaka, Tanna	Forest	P
23A	Imayo	Tanna	Forest	P
23B	Iatapu	Tanna	Forest	P
24	Imurai	Tanna	Water Catchment/Source	P
25	Numla	Tanna	Water Catchment/Source	P
26	Tikiskis	Tanna	Water Catchment/Source	P
27	Ming A	Tanna	Water Catchment/Source	P
28	Ming B	Tanna	Water Catchment/Source	P
29	Louwiniou	Tanna	Water Catchment/Source	P
30	Iarou	Tanna	Water Catchment/Source	P
31	Louwanualu	Tanna	Water Catchment/Source	P
32	Isaka	Tanna	Water Catchment/Source	P
33	Ianmilin	Tanna	Water Catchment/Source	P
34	Imayo	Tanna	Water Catchment/Source	P
35	Ikurup	Tanna	Water Catchment/Source	P
36	Isarkei	Tanna	Water Catchment/Source	P
37	Itukei	Tanna	Water Catchment/Source	P
38	Itukuri	Tanna	Water Catchment/Source	P
39	Kwamera	Tanna	Water Catchment/Source	P
40	Imaki	South Tanna	Water Catchment/Source	P
41	Mission Bay	Futuna	Water Catchment/Source	P
42	Harold Bay	Futuna	Water Catchment/Source	P

43	Matangi	Futuna	Water Catchment/Source	P
44	Samaria	Tanna	Water Catchment/Source	P
45	Necemtan	Aneityum	Water Catchment/Source	P
46	Ujei	Aneityum	Water Catchment/Source	P
47	Irerora	Aneityum	Water Catchment/Source	P
48	Ihili	Aneityum	Water Catchment/Source	P
49	Anawamet	Aneityum	Water Catchment/Source	P
50	Dillons Bay	Erromango	Water Catchment/Source	P
51	Bonkiri	Erromango	Water Catchment/Source	P
52	South River	Erromango	Water Catchment/Source	P
53	Antioch	Erromango	Water Catchment/Source	P
54	Ipota	Erromango	Water Catchment/Source	P
55	Cooks Bay	Erromango	Water Catchment/Source	P
56	Tuwith	Erromango	Water Catchment/Source	P
57	Port Narvin	Erromango	Water Catchment/Source	P
58	Nepangoria	Erromango	Water Catchment/Source	P
59	Katafu	Futuna	Water Catchment/Source	P

Blue- Marine Conservation Area, Lakes, Lagoons, Rivers, Swamps

#	Name	Location	Important Resource	Status
1	Mystery Island	Aneityum	Marine	
2	Uje	Aneityum	Marine	Traditional
3	Anadawei	Aneityum	Marine	Traditional
4	Anadawei	Aneityum	Mangrove -MPA	
5	Umkalao	Aneityum	Marine	Traditional
6	Anwanhaw	Aneityum	Mangrove-MPA	
7	Anivat	Aneityum	Marine	Traditional
8	Ihilcow	Aneityum	Mangrove- MPA	
9	Aname	Aneityum	Marine	Traditional
10	Inap	Aneityum	Marine	Traditional
11	Anpeke	Aneityum	Marine	Traditional
12	Anawose	Aneityum	Mangrove- MPA	
13	Anawamet	Aneityum		
14	Whole Tanna	Tanna	Yam Season conservation	Traditional
15	Imaraieu	SE Tanna- Sameria (Iakunava	MPA	
16	Port Resolution	Tanna	Lake, Mangrove , Fishing area	P
17	Weisisi	Tanna	MPA	
18	Loupukas River	Tanna	Water, Fish, Prawns	P
19	Ikurup	Tanna	Lake, Fish	P
20	Iouhanan	Tanna	Fish Pond	
21	Aniwa Lagoon	Aniwa	Mangrove- MPA	
22	Samautu	Aniwa	Marine	P
23	Napora	Aniwa	Marine	P
24	Samnaganie	Aniwa	Marine	P
25	Namsafura	Aniwa	Marine	P
26	Iatoto	Aniwa	Marine	P
27	Cooks Bay	Erromango	Marine, Mangrove- MPA	P
28	South River	Erromango	River, Fish Mangrove	P
29	Ipota	Erromango	Mangrove-MPA	
30	Bongk hill	Erromango	MPA	
31	Sufvu	Erromango	MPA	
32	Upongkor	Erromango	Mangroves	P
33	Rampunalvat	Erromango	Mangroves	P
34	Pontasipsip	Erromango	Magroves	P

35	Simbiombu	Erromango	Mangroves	P
36	Port Numa	Erromango	Mangroves	P
37	Imponkor	Erromango	Mangroves	P
38	Ivu	Erromango	Mangroves	P
39	Loanumun	Tanna	Marine	P
40	Iawoka	Tanna	MPA	
41	Tawarmul	Tanna	MPA	
42	Noram	Tanna	MPA	
43	Natwel	Tanna	MPA	
44	Tangalua	Tanna	MPA	
45	Lounalam	Tanna	MPA	
46	Herold Bay	Futuna	MPA	
47	Mission Bay	Futuna	MPA	

Yellow**- Tourism Sites**

#	Name	Location	Main Attraction	Status
1	Dillons Bay	Erromango	Forest, History	
2	Ijapo	Aniwa	Lagoon, Culture	P
3	Mystery Island	Aneityum	History, Marine	
4	Port Resolution	Tanna	History, Hot springs, Beaches, Culture, Volcano, Bangalow	
5	Yasur Volcano and Surrounding	Tanna	Active Volcano, Ash Plain, Culture, John Frum Cult	
6	Emmilen Waterfall	Tanna	Waterfall	
7	Enpinan Yacht Club	Port Resolution, Tanna	Safe Harbor, White and black beaches, Hot Springs, Culture	
8	Enpinan Guest House	Port Resolution, Tanna	White and black beaches, Hot Springs, Culture, Volcano	
9	Rocky Island Guest House	Port Resolution, Tanna	White and black beaches, Hot Springs, Culture, Volcano	
10	White Beach Restaurant	Port Resolution, Tanna	White Beach	
11	Nesam Bangalows- Island Dream	Port Resolution, Tanna	White and black beaches, Hot Springs, Culture, Volcano	
12	Hot Springs	Port Resolution, Tanna	Hot Springs	
13	Shark Bay	Port Resolution, Tanna	White and black beaches, Hot Springs, Culture, Volcano	
14	Etapu Custom Village	Tanna	Culture, Forest	
15	Jostein Breeze	Tanna		
16	Robert Guest House	Tanna	Forest, Volcano, Port Resolution	
17	Jungle Oasis	Tanna	Active Volcano, Ash Plain, Culture, John Frum Cult, Port Resolution	
18	Tree Top Lodge	Tanna	Tree Top Bangalows, Active Volcano, Ash Plain, Culture, John Frum Cult, Port Resolution	
19	Philip Guest House	Tanna	Active Volcano, Ash Plain, Culture, John Frum Cult, Port Resolution	
20	Georges Numake Guest House			
21	Poeda Guest House			
22	Migiel Guest House			
23	Richard Guest House			
24	Imayo Custom Village		Culture, Gardens, Forest	

25	Imayo Eco-Venture		Active Volcano, Ash Plain, Culture, John Frum Cult, Port Resolution	
26	John Daiels Guest House	Galilee, Tanna	Active Volcano, Ash Plain, Culture, John Frum Cult	
27	Lava View Guest House	Isaka	Active Volcano, Ash Plain, Culture, John Frum Cult	
28	Napawi Guest House		Active Volcano, Ash Plain, Culture, John Frum Cult	
29	Friendly Bangalows	Whire Sands, Tanna	Active Volcano, Ash Plain, Culture, John Frum Cult	
30	John Frum	Sulphur Bay, Tanna	Cargo Cult	
31	Waissi Bay			
32	Children Chior	Middle Bush	Local Kids Choir	
33	Magic Tour	Tanna	Custom Magic	
34	Kapums Bangalows	Tanna	Waterfalls	
35	Waterfalls	Tanna	Waterfalls	
36	White Grass Ocean Resort	White grass Tanna	Marine, Volcano, culture tour	
37	Evergreen	White grass Tanna	Marine, Volcano, culture tour	
38	Rocky Ridge	White grass Tanna	Marine, Volcano, culture tour	
39	White Grass Plain	Tanna	Wild Horses	
40	Imanaka Bangalows			
41	Naunian Guest House	Loukas, Tanna		
42	Nakon White Beach Bangalows	Loukatai, Tanna	Forest, Flying foxes, white beach	
43	Hidden Treasure			
44	Sunset Bangalows	Lenakel Tanna	Access to black man town	
45	Tafea Guest House	Lenakel Tanna	In Blackman Town, Access to services	
46	Talapoa GH	Lenakel Tanna	In Blackman Town, Access to services	
47	Issau GH	Lenakel Tanna	In Blackman Town	
48	Lenakel Lodge	Lenakel Tanna	In Blackman Town	
49	Lenakel Cove	Lenakel Tanna	In Blackman Town	
50	Uma GH	Lenakel Tanna	In Blackman Town	
51	Tafutuna Tour	Lenakel Tanna	Futuna Cultural Tour	
52	Roger GH	Lenakel Tanna	In Blackman Town	
53	Joe Narua GH	Lenakel Tanna	In Blackman Town	
54	Apera GH	Lenakel Tanna	In Blackman Town	
55	David GH	Lenakel Tanna	In Blackman Town	
56	Ikamer GH	Lenakel Tanna	In Blackman Town	
57	Tanna Lodge	Lenakel Tanna	In Blackman Town	
58	Tanna Echo	Bethel, Tanna		
59	Black Beach	Imlau, Tanna	Black Beach	
60	Rain forest Tour	Enata, Tanna	Forest, Birds	
61	Waterfall	Yapilmai, Tanna	Waterfall	
62	Giant Banyan Tree	Napiktan	Giant Fig Tree	
63	Stirenskahu GH	Manuapen		
64	Flying Foxes Tour	Lamkael	Flying Foxes	
65	Locarfi			
66	Etapu			
67	Port Narvin	Erromango	Forest, Rivers, Culture, Beach	P
68	Cooks Bay	Erromango	Forest, Rivers, Culture, Beach	P
69	Ipota	Erromango	Forest, Rivers, waterfall	P
70	Kauri Reserve	Happy Land, Erromango	Kauri Forest	P

71	Aniwa			
72	Aniwa Ocean View Bangalow			
73	Aniwa Vaturere			P
74	Black sand	Louniel	Nice Beach	P
75	Nambanga	Ikunpu	Giant Fig trees	P
76	Nambanga	Yukumayepse	Giant Fig trees	P
77	Enkahi Jetty	Enkahi		P
78	Etapu Custom Village	Etapu, Tanna	Culture, Forest	P
79	Ekel Custom Village	Ekel	Culture, Forest	P
80	Kenneth GH	Aneityum		
81	Nejom GH	Aneityum		
82	Louise GH	Aneityum		
83	Mission Bay	Futuna		P
84	Mission Bay	Futuna		P
85	Mission Bay	Futuna		P
86	Peterson Dan	Tanna		

Red Stickers

R1- Merremia Infested Areas

R2- Myna Bird Invaded Areas

R3- African Snail Invaded Areas

R4- Cordia Invaded Areas

R5- Giant Nil Grass/ Giant Mimosa

R6- Crown of Thorns (COT)

R7- Taro Beetle

Annex 12 – Names OF PARTICIPANTS IN ALL CONSULTATION MEETINGS & WORKSHOPS

Torba Province

1. Judah Silas (Torba Police Officer)
2. Amos Tali (Torba PWD Officer)
3. Michael Silona (Torba Planner)
4. Daniel Nenet (Torba Agriculture Officer)
5. Antas John (DARD)
6. Fr. Benjamin Gisapwos (Anglican Priest)
7. Dudley Woksen (Torba Livestock Officer)
8. Frezer Job (Torba)
9. Taylor Stephen (Torba Province)
10. Lendy Joel (Torba Province)
11. Christopher Mackenzie (Torba Province)
12. Arthur Kete (Torba Province)
13. Tommie Bollen (Torba Youth Rep)
14. Salatiel Nava (Torba Water Supply)
15. Tensley Atkin (Torba Youth Rep)
16. Alain Kutos (Torba Livestock Officer)
17. Simon Ambi (Arep J.S.S)
18. Fred Abraham Palas (SDA Church)
19. George. A. Bet (Torba Chief Rep)
20. Shedrack Obed (Arep J.S.S)
22. Stephen Bet (Torba AC)
23. Olivet Dorony (Torba AC)
24. Paul Fidal (Torba Chief Rep)
25. Thomas Simon (Torba AC)
26. Peter Maho (Torba Agriuculture Officer)
27. Joyline Gete (Torba Finance Dept Officer)
28. Aris Apo (Torba AC)
29. Barry Webur (Torba AC)
30. Grace Ralph (Torba Women Rep)
31. Ricky Simeon (Secretary, Lake Letas)
32. Richie Tamata (Torba Customs Officer)
33. Kasen Alick (Torba Forest Officer)
34. Stanly Womack (Torba Church Rep)
35. Kalep Wilkins (Torba Correctional Officer)
36. Henry Wetul (Torba Health Officer)
37. Kipu Loius (Torba Education Officer)
38. Albert Toa (Torba Livestock Officer)
39. Eddie Woksen (Torba Cooperative Officer)
40. Jimmy Willie (Torba Fishery Officer)
41. Albert Rudley (Torba TVET Officer)
42. David Keith (VRSC)

Sanma Province

43. Alsen Obed (Sanma Fishery Officer)
44. Sompert Gereva (Vanuatu Fisheries Department)
45. Rosette Kalmet (IWRM- Water Dept)
46. Bill Tavue (Vathe CCA)
47. Riman Ser (Loru CCA)
48. Keith Antfalo (Sanma Industry Officer)
49. Michel Tomker (Sanma Province)
50. Sandy H Moel (Sanma Live & Learn)
51. Prosper Buletare (Sanma Province)
52. Marie Avock (Sanma Province)
53. Leon Magareth (Sanma Province)
54. Pakoro Remy (Sanma AC)
55. Solomon Tavue (Matantas, Big Bay)
56. Paul Mark (Big Bay)
57. Jean Pierre (Sanma AC)
58. Vuti Takasi (Sanma AC)
59. James Surai (Sanma AC)
60. Newman Tangis (Sanma Youth Rep)
61. Roselyn Garae (Sanma Women Rep)
62. John Martin (Sanma Fisheries Officer)
63. Ps. Edmo Hasutsele (Sanma Church Rep)
64. Votangi Aru (Sanma Women Rep)
65. Juliet Sumbe (Sanma Officer)
66. Malon Rasu (Sanma Officer)
67. Andre Vaturi (Sanma AC)
68. Vuti Muele (Sanma AC)
69. Bani Landohi (Sanma AC)
70. Kalfao Lum (Sanma AC)
71. Paul Jamaran (Sanma AC)
72. Edmond Ron (Sanma AC)
73. Sammy Kaka (Sanma Forest Officer)
74. Johnny Varangele (Sanma Youth Rep)
75. Shirley Johnson (Sanma Red Cross officer)
76. Johnson Vuti (Sanma Officer)
77. Anaclet Philip (Sanma Environment Officer)
78. Pala Blessing (Sanma AC)
79. Remo Wine (Sanma AC)

Penama Province

80. Georgina Faerua (Penama Planner)
81. Gorgewin Garae (Penama Province SG)
82. Marsden Rongo (Penama AC)
83. Jean Paul Toure (Penama Police Officer)
84. Sarah Ahlin (Penama Tourism Volunteer)
85. Dee Dendian (Penama Waste Volunteer)
86. Reginald Tarilaka (Penama Officer)
87. Lesly Mera (Penama Tourism Officer)
88. Benson Tari (Penama FSB)
89. Malcom Tambe (Penama Fisheries Officer)
90. Steward Natu (Penama PWD Officer)
91. Hendry Georges (Penama)
92. Nailyn Abel (Penama Island Court Officer)
93. Kahom James (Penama Save the Children Officer
94. Ralph Lolo (Penama Red Cross Officer)
95. Heguy Tabi (Penama Asst. Planner)
96. Stanley Ngwele (Penama AC)
97. Moris Tari (Penama Officer)
98. Manson Tari (Penama NDMO Officer)
99. Annaline Tari (Penama AC)
100. Godfrey Daruhi (Penama Officer)
101. Melisa Hinge (Ambulu J.S.S)
102. Tari Lini (Ambulu J.S.S)
103. Tari Sulu (Ambulu J.S.S)
104. Zimaco (Student- Tagaga)
105. Tari Bulu (LMC)
106. Rosan Aru (Vureas High)
107. Lolo (Vureas High)
108. Jim (Ambae Bulu)
109. Roy (Student)
110. Manuel Ure (Penama Officer)
111. Georgina Dimas (Penama SPC Officer)
112. Elvina Henry (Penama SPC Officer)
113. Carolyn Joe (Ambulu J.S.S)
114. Bruce John (Penama Polic Officer)

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Malamp Province

115. Roger Veremaito (Uri/ Uripiv)
116. Beeman Saite (Malapa Police Officer)
117. Maureen Gordon (Malampa NDMO
118. Naomi Malau (Malampa Women Council)
119. Gloria Jeremiah (M.I.C)
120. George Lingtamat (Malampa Agriculture Officer)
121. Grenly Kavodar (Malampa Police Officer)
122. Charles Tari (Malampa Livestock Officer)
123. Cyrus Willie (Malampa AC)
124. Spethy Jonas (Amal Crab Bay Rep)
125. Kalfau Malisa (Uripiv)
126. Kalen Abbie (Amal Crab Bay Rep)
127. Ron Netvurak (Uri Island)
128. Jackson Saimon (Uri Island)
129. Robert Abel (Malampa)
130. Wesley Lamby (Malampa Officer)
131. Tasso Caleb (Malampa AC)
132. Alester Kensen (Malampa AC)
133. Massing Bong (Malampa AC)
134. Lapi Kalmet (Malampa Officer)
135. Ben Nebemiah (Malampa Officer)
136. Jackie Willie (Malamp Police)
137. Edwin Manrou (Malampa AC)
138. Akain Atpatun (Malamp Youth Rep)
139. Mothy Viranmal (Malampa Women Rep)
140. Lulu Leymag (Malampa AC)
141. David Sailas (Malampa Forest Officer)
142. Kalite Tamau (Malampa Youth Council)
143. Daniel Layang (Malampa Forestry Officer

Shefa Province

144. Vatu Molisa (Environment Dep.)
145. Alan Sope (Shefa AC)
146. William Billy (Mangaliliu)
147. Charley Kalnasei (Tongoa)
148. Ian Kalsuak (Shefa)
149. Leisara Kalotiti (Mangaliliu)
150. Christine Kapalu (Shefa Industry)
151. Berthy Vireial (Infrstructure)
152. Erick Massing (MIPU)
153. Jack Kallon (Shefa Chief Rep)
154. Ishmael Thomas (Shefa)
155. John Ronneth (NGO)
156. John Firiam (Shefa)
157. Sylverio Bule (Biosecurity)
158. Leonard Kaltonga (Shefa)
159. Anna Bule (DEPC)
160. Chris Bulerop (DEPC)
161. Taman Onesmas (Shefa Officer)
162. Christopher Daniel (Shefa AC)
163. Jeffry Daniel (Shefa AC)
164. Janet Orah (Shefa AC)
165. Kalmaire Kalman (Shefa AC)
166. Philip Dick (Shefa AC)
167. Morrison Dick Makau (Shefa AC)
168. Balu Wabayat (Shefa AC)
169. John Tapang (Shefa AC)
170. Anne Marie Sarisets (DoF)
171. Roger Kalpukai (Shefa AC)
172. Edwin Tapasei (Shefa AC)
173. Edson Willie (VKS)
174. Malian Andrew (Shefa AC)
175. Johnny Kaltapiri (Shefa AC)
176. Joseph Kalfau (Shefa AC)
177. Kalpeau Vatoko (Shefa AC)

Tafea Province

178. Albu Dan (Tafea SPREP Officer)
179. Tom Kiri (Tafea Fishery Officer)
180. Henry Joe Johnson (Police Patrol)
181. Tony Keith (Aneityum)
182. Wendy Tamasi (Tafea Province)
183. Dorothy Pel (Tafea Women Rep)
184. Tom Kawia (Tafea)
185. Sawaram Freeman (Tafea Chief Rep)
186. Nakampta Matua (Tafea Province)
187. Manu Marie (Tafea Education)
188. Dores Oken (Tafea Education)
189. Mayaru (Tafea Education)
190. Andrew Seielce (Tafea PWD)
191. Samuel Lolwe (Tafea Forest Officer)
192. Lislie Rossie (Tafea Live & Learn)
193. Tokal Iatipu (Tafea AC)
194. Reuben Neriam (Tafea AC)
195. Noel Yalu (AC)
196. Remi Yalu (AC)
197. Henry Saute (AC)
198. Lui Alick (AC)
199. Thomas Simpet (Tafea AC)
200. John Nocklam (Tafea AC)
201. Lenon Luken (Tafea AC)
202. Luke David (Tafea AC)
203. Rassai Jeffet (Tafea AC)
204. Noel Noar (Tafea AC)
205. Stephen Kaveng (Tafea AC)
206. Simon Naupa (Tafea Forest Officer)

National Stakeholder

207. Glarinda Andre (Live & Learn)
208. Kate Mcpherson (DEPC)
209. Wycliff Bakeo (DESPAC)
210. Sylverio Bulero (BV)
211. Amy Yang (DEPC)
212. Donna Kalfatak (DEPC)
213. Trinison Tari (DEPC)
214. Chris Bulerop (DEPC)
215. Kency Bulu (Forestry)
216. Alick Berry (Trade)
217. Jayven Ham (VFD)
218. Urafo Nafuki (PWD)
219. Jerry Spooner (Tourism Department)
220. Christine Kapalu (Shefa Tourism)
221. Vivian Obed
222. Solstice Middleby
223. Presly Dovo (Forestry Department)
224. Jessie Kampai (Live & Learn)
225. Touasi Tiwok (DEPC)
226. Lai Sakita (VEAN)
227. Kehana Andrews (Ecotourism Officer)
228. Kaltuk Kalomor (Livestock Department)
229. Lucas Sarvanu (VKS)
230. Godfrey Bome (Forestry Department)
231. Gordon Willie (Lands Department)
232. Roger Smithy (DEPC)
233. Mark Kalotap (Shefa Tourism)
234. Frances Hicky (VKS)
235. Helen Pipette (CEPF)
236. Wensie Naki (Trade Department)
237. Mark Kalotap (NBSAP Coordinator- 2013-2016)
238. Sombert Gereva (VFD)
239. Reedley Tari (DEPC Director)
240. Jill Horry (Forestry)
241. Ioan Viji (Forestry)
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