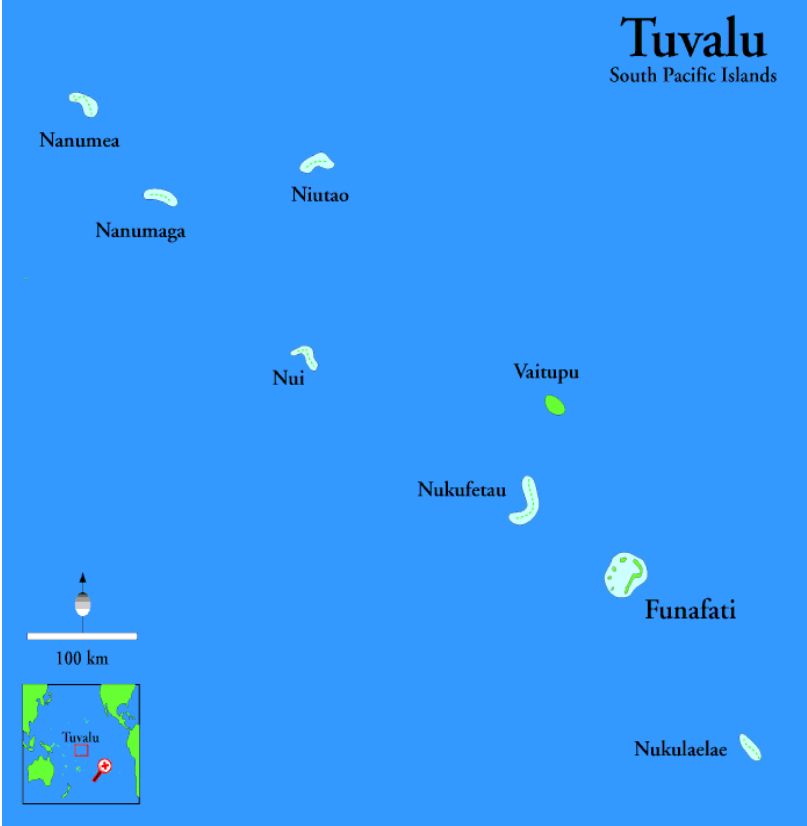


# Action Plan for Implementing the Convention on Biological Diversity's Programme of Work on Protected Areas

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(INSERT PHOTO OF COUNTRY)

# (TUVALU)

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## Protected area information:

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**Multi-stakeholder committee:** Advisory Committee for Tuvalu NBSAP project

## Description of protected area system

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### National Targets and Vision for Protected Areas

**Vission:**

“Keeping in line with the Aichi targets - By the year 2020, Tuvalu would have a clean and healthy environment, full of biological resources where the present and future generations of

Tuvalu will continue to enjoy the equitable sharing benefits of Tuvalu's abundant biological diversity"

**Mission:**

"We shall apply our traditional knowledge, together with innovations and best practices to protect our environment, conserve and sustainably use our biological resources for the sustainable benefit of present and future Tuvaluans"

**Targets:**

Below are the broad targets for Tuvalu as complemented in the Tuvalu National Biodiversity Action Plan and NSSD.

- To prevent air, land , and marine pollution
- To control and minimise invasive species
- To rehabilitate and restore degraded ecosystems
- To promote and strengthen the conservation and sustainable use of Tuvalu's biological diversity
- To recognize, protect and apply traditional knowledge innovations and best practices in relation to the management, protection and utilization of biological resources
- To protect wildlife
- To protect seabed and control overharvesting in high seas and territorial waters

**Coverage**

According to World data base on Protected Areas, as on 2010, 0.4% of Tuvalu's terrestrial surface and 0.2% territorial Waters are protected.

**Description and background**

Tuvalu has established eleven conservation areas on all the nine islands with only one being regulated under a formal legislation while the rest through community based management system. Preparations are underway to expand its protected area networks. Legally, conservation areas have been set up since 1996, started on Funafuti with Outer Islands following after. In 1999, Conservation Act became effective on 1st September enabling

Falekaupule to establish their conservation area. Kaupule (Local Government) are responsible for the management of their conservation areas. Objectives of the Act include:

- I. protecting the environment, including coastal, marine and terrestrial
- II. conserving living and non living natural resources of island communities and in providing for their sustainable utilization by present and future generations;
- III. preserving the biological diversity of conservation areas, especially species which are endemic, threatened, or of special concern and the coastal and marine habitats upon which the survival of these species depend.

The Act indicates that no person shall hunt, kill or capture any turtle, birds, or fish in designated conservation areas.

The following Table indicates the size, designation date and other key information for each island conservation areas. According to the TANGO and other Government Agency, the total known conservation area in 2011 is 75.932 km square with Funafuti being the highest with 35.95 km square. Total conservation area includes both terrestrial and marine protected areas.

## Governance types

Marine Protected Area	Designate_ National_ Local	Institutional Setting	IUCN Category	Designation date	Area of km2
<b>Island/Atoll</b>					
Funafuti	Conservation Area	Kaupule(local government)/Fisheries	VI	1/01/1996	35.95
Vaitupu	Conservation Area	Kaupule(local government)	unset	1/01/2003	1.06
Nukulaelae	Fisheries reserve	Kaupule	VI	2006	1.46
Nanumea		Kaupule	unset	2006	2.52
Nukufetau	Conservation Area	Kaupule	VI	2006	11.75
Nui		Kaupule	unset	1997	6.673

Niutao		Kaupule	unset	NA	0.522
Niulakita		Kaupule	unset	NA	14.73
Nanumaga		Kaupule	unset	NA	0.02
Vaitupu		Kaupule/Ministry of Home Affairs	VI	NA	0.207

(Summary matrix of governance types)

## Key threats

Based on the consultative process carried out under the Tuvalu NBSAP project – these threats were identified and confirmed through nationwide consultation and previous scientific studies confirmed some no of difference to that of 10 years ago. The key risks confronting the environment are:

- sea level rise as a result of climate change (water);
- frequency and intensity of cyclones;
- rising population density in Funafuti (water);
- decline in traditional resource management
- unsustainable use of natural resources; and
- poor waste management and pollution control (Invasive species)

## Barriers for effective implementation

Tuvalu has not engaged in the POWPA – in fact we missed out on the POWPA 1 & 2 allocations. Based on previous experiences gained from related work initiative/project/ program on conservation, hence listed are the anticipated key barriers to the implementation are:

- **Whole island consultative approach too costly (accessibility to outer islands from capital is difficult) / Isolation.**
- **People are not aware of the ability of biodiversity to reverse or minimize the effects of Climate Change. - Lack of awareness on Conservation purposes**
- **Institutional arrangement and capacity / Staff turn over**

- Poor archive system/Statistics
- Lack social capital
- Delay of funds disbursement/Lack of Financial & Human Resources

## Status, priority and timeline for key actions of the Programme of Work on Protected Areas

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### Status of key actions of the Programme of Work on Protected Areas

Status of key actions of the Programme of Work on Protected Areas	Status	Priority	Timeline
• multi-stakeholder advisory committee	0	VH	2012
• trans-boundary protected areas and regional networks	3	VH	
• site-level management plans	2	VH	
• threats assessment and restoration	3	VH	
• capacity needs	3	VH	ongoing
• appropriate technology	2	VH	
• sustainable finance	2	VH	2010-212
• participation	4	VH	ongoing
• public awareness campaigns	3	VH	
• management effectiveness	2	VH	2014
• effective PA monitoring system	0	VH	
• policy environment	2	H	
• values			
• effective PA monitoring system	0	VH	
• gaps in the protected area network	2	H	
• marine protection	2	H	
• climate change	2	H	
• protected area integration	2	H	

Status: 0 = no work, 1 = just started, 2 = partially complete, 3 = nearly complete, 4 = complete

Priority: VH (very high); H (high)

(Insert notes as appropriate)

## **Priority actions for fully implementing the Programme of Work on Protected Areas:**

Priority actions are as follows:

- Assessing gaps in the protected area network.
- Assessing threats and opportunities for restoration.
- Assessing equitable sharing of benefits and protected area governance.
- Assessing policy environment for establishing and managing protected area and the values of protected areas.
- Assessing protected area sustainable needs and appropriate technology needs
- Establishing an effective PA monitoring system.
- Developing a research program for protected areas.
- Develop monitoring indicators for protected areas.

## Timeline for completion of key actions

	Key actions	Timeline
<b>1</b>	Assessing gaps in protected area network	2015
<b>2</b>	Assessing threats and opportunities for restoration	2013
<b>3</b>	Establishing an effective PA monitoring system	2014
<b>4</b>	Developing research program for protected areas	2014 - 2015
<b>5</b>	Assessing protected area sustainable needs and appropriate technology needs	2013- 2017
<b>6</b>	Assessing policy environment for establishing and managing protected areas and the values of protected areas	2014
<b>7</b>	Assessing equitable sharing of benefits and protected area governance	2016- 2017



## Action Plans for completing priority actions of the Programme of Work on Protected Areas

### Action 1: Assessing protected area sustainable needs and technology needs

Key steps	Timeline	Responsible parties	Indicative budget
Develop a regulation under an existing legislation to enable establishment of technology to build resilience of ecosystem and biodiversity in Tuvalu	2014	DOE <sup>1</sup> /Ministry of environment and foreign affairs	\$10,000
Carry out a Technology Needs Assessment and purchase appropriate technologies	2012-2015	Agr DEPT <sup>2</sup> /DOE/Fis Dep <sup>3</sup> /Waste dep <sup>4</sup>	\$22,000
Develop guidelines for applications	2015	Agr DEPT/DOE/Fis Dep/Waste dep	\$7,000
Develop sustainable financing strategy for protected areas	2015	DOE	\$10,000
Establish a website for sharing information from various multi-stake holders	2014-2015	DOE	\$6,000
			<b>\$55,000</b>

<sup>1</sup> Department of Environment

<sup>2</sup> Agricultural Department

<sup>3</sup> Fisheries or Marine Department

<sup>4</sup> Waste Department

## Action 2: Assessing gaps in protected network area

Key steps	Timeline	Responsible parties	Indicative budget
Analyze existing data	2012 - 2013	DOE	\$5,000
Identify priorities	2012-2015	DOE	\$3,000
Analyze top priorities sites first	2015	DOE	\$4,500
Report	2015-2018	DOE	\$8,000
			<b>\$20,500</b>

## Action 3: Assessing policy environment and the values of protected areas

Key steps	Timeline	Responsible parties	Indicative budget
Identify values of ecosystem services	2012-2014	DOE	\$10,000
Identify timeline for various ecosystem services (in relation to species abundance)	2014	DOE/Ministry of Natural Resources	\$5,000
Integration of new regulation to the Environment Protection Act and Te Kaniva (Tuvalu Climate Change Policy)	2014	NBSAP/DOE	\$10,000
			<b>\$25,000</b>

## Action 4: Assessing threats and opportunities for restoration

Key steps	Timeline	Responsible parties	Indicative budget
Assess the various plants and animals that are introduced into Tuvalu and provide a list.	2012-2015	Agriculture Department/DOE	\$8,000
Evaluate the different invasive species	2012-2015	DOE/Agr Dept	\$3,000
Find preventive measure to minimize the invasive species, eg ,planting marigold flowers discourage pests	ongoing	DOE/Agr Dept	\$5,000
			<b>\$16,000</b>

## Action 5: Assessing equitable sharing of benefits and protected area governance.

Key steps	Timeline	Responsible parties	Indicative budget
Review MPA boundary if there is a need to remap (increase or reduce size)	2013-14	Local government/Lands & Survey	\$15,000
Development of Database and trained personnel on Data entry/analysis	2012 - 2013	Fisheries Department	\$8,000
Distribution, collection of fishing diaries (report catch)	2012-14	Fisheries Department	\$5,000
Review and/or update existing management plan	2013-14	DOE(Department of Environment)	\$25,000
Biannual data collection and field monitoring	2013-2016	Fishing Department	\$30,000
			<b>\$83,000</b>

## Key assessment results

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### Ecological gap assessment

The Ecological Gap Assessment undertaken by the NBSAP<sup>5</sup> project reveals that there are terrestrial and marine protected areas within the Tuvalu region.

#### Terrestrial

Tuvalu has established ten conservation areas (CAs) on eight of its nine islands, only one of which has been established under formal legislation; the rest have been established by local communities and managed by traditional systems. The CAs are managed by the Kaupule<sup>6</sup> with the assistance of a local NGO TANGO to produce a management plan.

Some islands have been applying conservation measures for many years to allow for the regeneration and conservation of species for future consumption. These practices range from preservation and protecting of terrestrial flora and fauna, birds in the air, and marine resources. Likewise on some of the islands in Tuvalu, to allow for the sustainable consumption of coconut crabs, certain islets are protected for a period of six months or more, and people are not allowed to harvest coconut crabs in those closed islets. When these islets are opened for harvesting, others are closed and so forth.

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<sup>5</sup> National Biodiversity Strategy of Action Plan, 2011

<sup>6</sup> Kaupule – Local Government which administer island affairs.

## Marine

The marine environment is highlighted as the paramount foundation of livelihood considering the limited terrestrial (land) species (living organisms). However revenue generated from offshore fisheries is very minimal due to undeveloped onshore facilities for further processing and marketing.

The Funafuti Marine Conservation Area (FMCA) was established with the assistance of the SPBCP<sup>7</sup>, AusAID and SPREP<sup>8</sup>. There are also marine protected areas on most of the islands in Tuvalu and they are looked after by Kaupules.

On Nukulaelae Island for instance; spear fishing in certain areas was prohibited over 40 years ago in certain areas. The lagoon surrounding the main settlement of Fagaua was declared “koga tapu”<sup>9</sup> over 20 years ago and as a result the varieties of species of fish increased greatly and have become so tame that when people swim in the nearby lagoons the fish do not get distracted from their normal behavior.

## Management effectiveness assessment

Absence of an established assessment and evaluation framework is a major contributing factor to the failure of projects and more specifically the achievement of set targets.

Tuvalu needs to have a basic database of its biodiversity for effective management and conservation and most important to physically measure the effectiveness of the implementation of the NBSAP. For effective monitoring, biological indicators need to be established. Obviously, implementing the NBSAP will have an effect which can be seen in terms of changes in the biological indicators.

- Identify resources and expertise (local and international) to conduct simple base line surveys bird watching, fish counting, recording of daily catches, socio-economic surveys population status of key species, distribution ranges of key species and so forth.
- Train and empower the grass root people or groups to carry on the baseline surveys annually and to be consistent
- Formulate a database to keep records of the baseline surveys

Establish trends and make recommendations for areas that need further attention

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<sup>7</sup> South Pacific Biodiversity Conservation Program

<sup>8</sup> Secretariat of the Pacific Region Environment Program

<sup>9</sup> Prohibited area

## **Sustainable finance assessment**

In order to mainstream biodiversity it is important to conduct an economic valuation of Tuvalu's Biodiversity. This process requires the establishment of a proper biodiversity baseline database which reflects the dollar value of the products and services that the biodiversity provides for the Government and people of Tuvalu.

The economic value of biodiversity enables leaders and policy makers to incorporate Biodiversity concerns when implementing environmental taxes to establish a proposed Environment Trust Fund. This Trust Fund should be aimed at assisting the Environment Department and associated actors in ensuring continuity and sustainability.

## **Capacity needs assessment**

From the outset, analysis of the existing capacities pertinent for biodiversity both at the national and island levels should be undertaken. Integral components of this study include:

- Identification of capacity and training needs at national and island level together with associated proposed solutions to these needs;
- Identify synergies and links between traditional knowledge and cultural practices with the state of the art practices in biodiversity;
- Formulate training modules as well as relevant curricula streams – the latter for incorporation of teaching of biodiversity at all levels of schooling in the country, while the former is for national and community training workshops; and
- Identify the awareness level of various sectors of society and which audience to target
- Last but not least is the compiling of radio programs and a newsletter to help keep the people abreast of biodiversity issues and programmes.

## **Policy environment assessment**

There is no formal integrated environmental protection and conservation legislation. Environmental protection provisions are found in a raft of different laws:

- Public Health Act, 2008
- Falekaupule Act, 2008
- Foreshore and Land Reclamation Act, 2008
- Wildlife Conservation Act, 2008

- Plants Act, 2008
- Marine Resource Act, 2008
- Pesticides Act, 2008

Current concerns were raised regarding the conflict caused by the various levels of legislations in which by-laws contradict national laws. To keep this issue clear there needs to be a review of national and by- laws concerning biodiversity and overall environment. In terms of regulation, national laws are more superior to by-laws and the public should be informed of its various influence levels<sup>10</sup>.

Satisfactory mainstreaming of biodiversity with established clear goals and objectives will show which areas are lacking the legal support and enforcement that will form the basis for building the necessary legal framework.

## **Climate change resilience and adaptation assessment**

Climate change is rapidly emerging as the greatest long-term threat to biodiversity in Tuvalu.

In 1993, Tuvalu established a tide gauge to monitor sea level rise, sea pressure, sea temperature, and wind speed and wind direction. Between March 1993 and September 2009 the average sea level trend for Tuvalu has been 5.3mm per year.<sup>11</sup> The global average is 1-2 mm per year<sup>12</sup>.

Adaptation strategies to sea level rise can be categorized as planned retreat, accommodation and protection. A two-dimensional approach to the latter, consisting of natural systems and artificial structures are more efficient in protecting the land, than relying on physical measures alone, such as sea walls.<sup>13</sup> Thus, the preservation of natural barriers such as mangroves, coral reefs and sandy beaches is critically important. Native plants that are adapted to drier and saline conditions should be promoted and grown extensively, e.g. *te futu* (*Barringtonia asiatica*) and *fetau* (*Calophyllum inophyllum*).<sup>14</sup> Such actions would be an added bonus to the maintenance and enhancement of biodiversity.

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<sup>10</sup> Tuvalu National Biodiversity Strategy and Action Plan, 2009

<sup>11</sup> Government of Tuvalu, 1999 Australian

<sup>12</sup> Government Bureau of Meteorology 2009

<sup>13</sup> Minura, *ibid.*

<sup>14</sup> Vavae, 2009