

# ECOSYSTEM-BASED MANAGEMENT PLAN

Wailevu District, Cakaudrove Province, Fiji

February 2013

Wildlife Conservation Society



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# ENDORSEMENT

On this day, 22<sup>nd</sup> March 2013, at Wailevu Village in the District of Wailevu, Cakaudrove Province, Vanua Levu, in the Republic of Fiji, we, the traditional leaders of Wailevu, endorse this management plan, and urge the people of Wailevu to make every effort to ensure its effective implementation.

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Tui Wailevu  
Ratu Kinijoji Rarokoqica Maivalili

---

Tui Natovatu  
Apolosi Tusoqo

---

Masi Tubulevu  
Ratu Epeli Ganilau

---

Chairman WWRMC  
Eroni Vunisa

---

Tui Yanawai  
Jone Vuwai

---

Chairman WERMC  
Timoci Rokosuli

---

Roko Tui Cakaudrove  
Bulutani Mataitawakilai

# ACKNOWLEDGMENTS

The Resource Management Committees of Wailevu wish to recognise the vision and leadership of the chiefs and people of Wailevu District and the partners who have contributed to the development of this management plan. We celebrate their commitment to sustainable management of precious local ecosystems for the benefit of present and future generations.

The people of Wailevu have given freely of their time and expertise to support the conservation and sustainable use of the district's natural resources. They continue to ensure that management decisions are informed by the best available knowledge and their ongoing support is gratefully acknowledged.

The adoption of this plan is a significant milestone for ecosystem-based management at a local, national and regional level. It represents a coordinated response to the increasing challenges that rural Fijian communities face and has been made possible by the contributions of a diverse range of stakeholders, including:

- Wildlife Conservation Society
- Kubulau Resource Management Committee
- Fiji Locally Managed Marine Area Network
- Cakaudrove Provincial Office
- Department of Environment
- Department of Fisheries
- Department of Forestry
- Ministry of Agriculture (Land Use Department)
- Ministry of Health
- Environmental Law Association
- iTaukei Land Trust Board
- iTaukei Lands and Fisheries Commission
- Peace Corps
- Fiji Bureau of Statistics
- David and Lucile Packard Foundation

The continuation and further expansion of partnerships is essential to achieving our aims. The Wailevu Resource Management Committees are committed to leading this process and would like to thank local leaders, communities and wider partners for their efforts towards shared goals.



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# 1 INTRODUCTION

This management plan seeks to enhance the ecological value and resilience of terrestrial, freshwater, estuarine, coastal and marine ecosystems in Wailevu District and adjacent coastal waters. Local communities are central to the sustainable management of these ecosystems and the plan aims to help them address forthcoming challenges, including those related to climate change impacts. The planning process has been informed by extensive scientific assessments, as well as incorporation of local and traditional ecological knowledge. It is anticipated that the plan will be reviewed and amended periodically to reflect monitoring results and evolving management priorities (**Figure 1.1**).



**Figure 1.1** The cycle of adaptive management.

The management plan has been prepared on behalf of the two Wailevu Resource Management Committees (one in Wailevu West and another for Wailevu East), based on community and stakeholder consultations undertaken between November 2010 and September 2012. In particular, the management plan reflects the outcomes of the *Wailevu Ecosystem-Based Management Planning Workshop* (in Nabalebale Village, 31 January to 2 February 2012) which identified conservation targets, management approaches and priority areas.



Above: Participants at the Wailevu EBM Planning Workshop in Nabalebale, 2 February 2012.

The key components of this management plan are:

- a **description of the management area**, including district and qoliqoli boundaries, demographics, habitat descriptions, resource tenure, resource use and protected area boundaries;
- discussion of **habitat management issues** for terrestrial, freshwater, estuarine, coastal and marine ecosystems, including habitat descriptions covering flora and fauna, endemic and endangered species and species of cultural and economic significance;
- a management **implementation plan**, including:
  - discussion of **key threats** and **underlying causes** of those threats for each habitat;
  - **management rules** for each habitat, including national laws and community rules;
  - proposed **management activities** for each habitat; and
  - **best practice** management recommendations for each habitat.
- a description of key **management institutions** and **external stakeholders**;
- an explanation of **management roles and processes**, including preparation, implementation, amendment and review of the management plan; and
- an overview of **compliance and enforcement issues**.



Above: Workshop participants identify priority issues and areas for conservation, 1 February 2012



# 2 ECOSYSTEM-BASED MANAGEMENT

## 2.1 ECOSYSTEM-BASED MANAGEMENT PRINCIPLES

This management plan seeks to promote an integrated approach to management of terrestrial, freshwater, estuarine, coastal and marine ecosystems. In particular, the plan reflects a community-driven, ecosystem-based management approach.

Ecosystem-based management (EBM) is 'an integrated approach to management that considers the entire ecosystem, including humans'<sup>1</sup>. This aims to maintain ecosystems in a healthy, productive and resilient condition so that they can meet human needs into the future. For island communities, ecosystem resilience is particularly important for recovery from strong impacts related to climate change.

In particular, ecosystem-based management:

- emphasises connectivity within and between habitats, such as between land and sea (**Figure 2.1**);
- emphasises the protection and restoration of ecosystem structure, function and key processes;
- focuses on the entire range of activities affecting specific ecosystems within the managed area; and
- integrates ecological, social, economic, and institutional perspectives.

Use of land and resources by humans may result in significant alteration of ecosystem structure, function and processes, including connectivity within and between ecosystems (**Figure 2.2**). Modification of ecosystems may reduce their health, productivity and resilience, and must be managed to ensure ongoing availability of ecosystem services. Ecosystem-based management has objectives and targets that:

- focus on maintaining the natural structure of ecosystems and their productivity;
- incorporate human use and values of ecosystems in management of resources;
- recognise that ecosystems are dynamic and constantly changing;
- are based on a shared vision of stakeholders; and
- are based on scientific and local knowledge, adapted by continual learning and monitoring.

### What is an ecosystem?

An ecosystem includes all of the plants, animals, microbes, soil, air and water within a physical space and the interactions between them. Humans are a central part of both marine and terrestrial ecosystems. The linkages within and between ecosystems arise from biological interactions (for example, seabirds hunting for marine fish to feed their offspring) and physical processes (for example, sediments transported downstream by river networks).

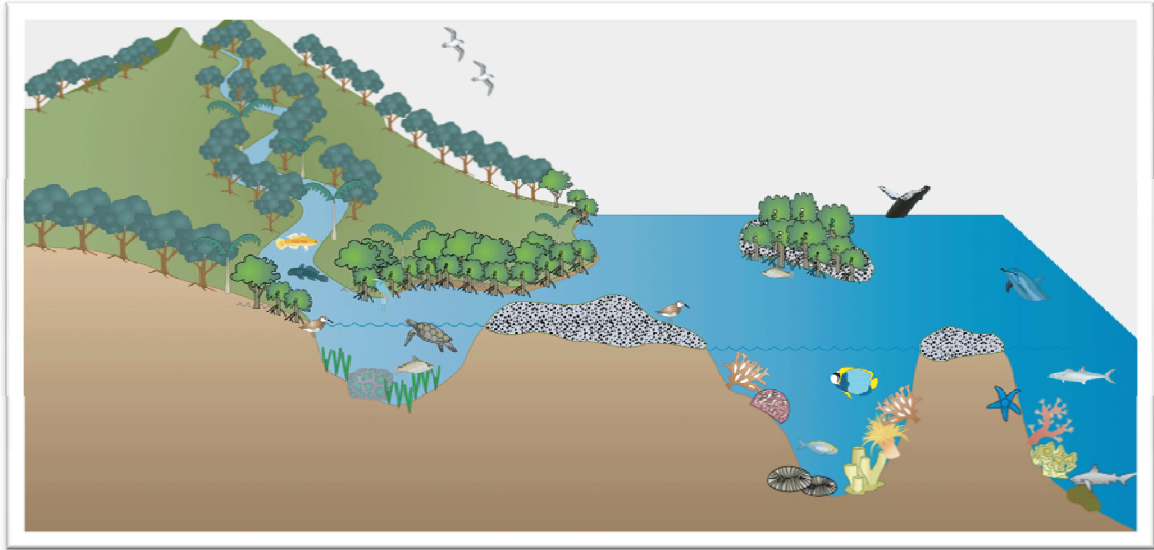
### What is ecosystem resilience?

Ecosystem 'resilience' refers to the capacity of an ecosystem to absorb impact from disturbance (for example, destruction from a tropical cyclone) and reorganize while undergoing change so as to maintain essentially the same function, structure, and key processes.

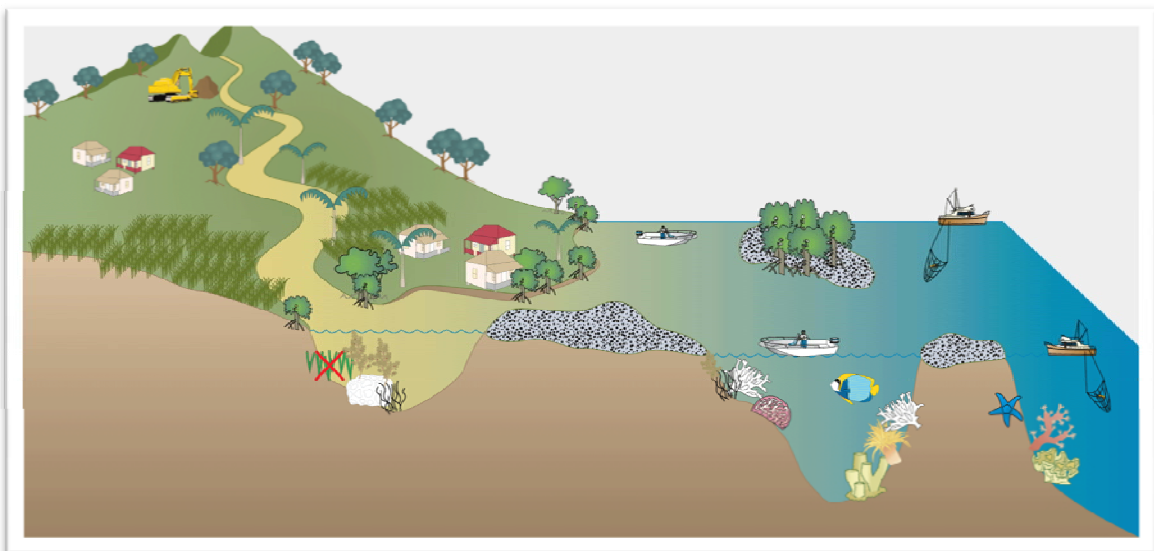
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<sup>1</sup> *Scientific Consensus Statement on Marine Ecosystem-Based Management*

Ecosystem-Based Management emphasises connectivity within and between systems, such as between land and sea, with humans as a key component.



**Figure 2.1.** Schematic diagram of healthy connectivity between adjacent terrestrial, freshwater, coastal and marine ecosystems<sup>2</sup>



**Figure 2.2.** Schematic diagram depicting interruption to ecosystem connectivity due to human activity

<sup>2</sup> Symbols courtesy of the Integration and Application Network (<http://ian.umces.edu/symbols>).

## 2.2 ECOSYSTEM-BASED MANAGEMENT IN WAILEVU

Ecosystem-based management in Wailevu is community-driven and centres around a shared vision of **'healthy people, processes and systems'**. The overarching goal of ecosystem-based management in Wailevu is 'preservation of the functional integrity of Wailevu's ecosystems, from ridge to the reef, through community-based management'.

The process of developing this plan has involved representatives from across the district. Participants have outlined their shared aspirations for the ecosystem-based management process to ensure:

*'Native forest and fertile land for future generations'; and  
'Healthy rivers, estuaries and reefs with an abundance of fish and invertebrates'.*

The following key messages have been identified for ecosystem-based management in Wailevu:

- ***Inland and coastal communities need to manage their actions and resources together.***  
Connectivity between ecosystems makes each habitat susceptible to degradation from factors arising in adjacent areas. For example, the health and resilience of coral reef ecosystems may be affected by clearing and burning in coastal catchments. Cooperation between inland and coastal communities is a central feature of ecosystem-based management in Wailevu.
- ***Ridge to reef management protects habitats for all stages of life.***  
Many organisms move between habitats during phases of their lives. For example, key food fish species in Wailevu move between marine, estuarine and freshwater ecosystems throughout their life cycle. Preserving ecosystem connectivity and the integrity of adjacent ecosystems has been identified as a priority for ecosystem-based management in Wailevu.
- ***Public health and livelihoods depend on environmental health.***  
Ecosystem-based management enhances the long-term productivity of local ecosystems, providing a strong foundation for local livelihoods, food security and nutrition. Managing environmental threats (such as contamination of fresh water) promotes positive public health outcomes, including prevention of communicable disease.





- ***Successful ridge-to-reef management depends on broad stakeholder input.***

Ecosystem-based management seeks to integrate management activities across sectoral boundaries and promote synergies between agencies, partner organisations, communities and individuals. This ensures that the concerns and priorities of a broad range of stakeholders are taken into account in management decisions, at the same time improving the quality of decision-making.

- ***Healthy ecosystems are the best defense against climate change impacts to livelihoods.***

Only intact, healthy ecosystems can provide the full range of benefits that humans want and need over long periods of time. By maintaining and restoring 'natural infrastructure' such as mangroves, coral reefs and watershed vegetation, communities in Wailevu may reduce their vulnerability to the predicted effects of climate change such as extreme weather events, storm surges, rising sea levels and changing precipitation patterns.



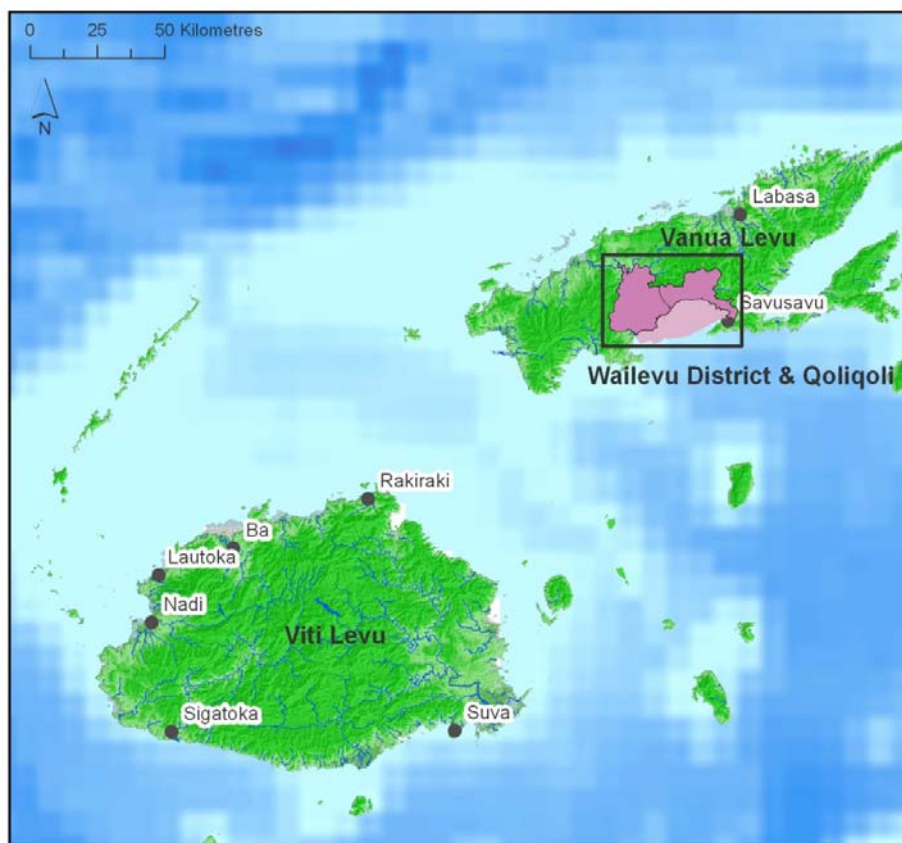
# 3 SITE DESCRIPTION

## 3.1 MANAGEMENT AREA BOUNDARIES

This management plan covers Wailevu District lands and the adjacent customary fishing ground (*qoliqoli*), as well as an adjoining area of the upper Nasekawa River catchment that falls in the neighbouring Koroalau district.

Wailevu District (*tikina*) is an administrative unit of Cakaudrove Province, in southwest Vanua Levu. Vanua Levu is the second largest island in the Republic of Fiji (see **Figure 3.1** below). The seaward boundary of the *tikina* is the high water mark. The landward boundaries of the *tikina* are contiguous with the traditional boundaries of indigenous land-owning clans (*mataqali*), as recorded by the iTaukei Lands and Fisheries Commission. The total area of *tikina* land is 575 km<sup>2</sup>.

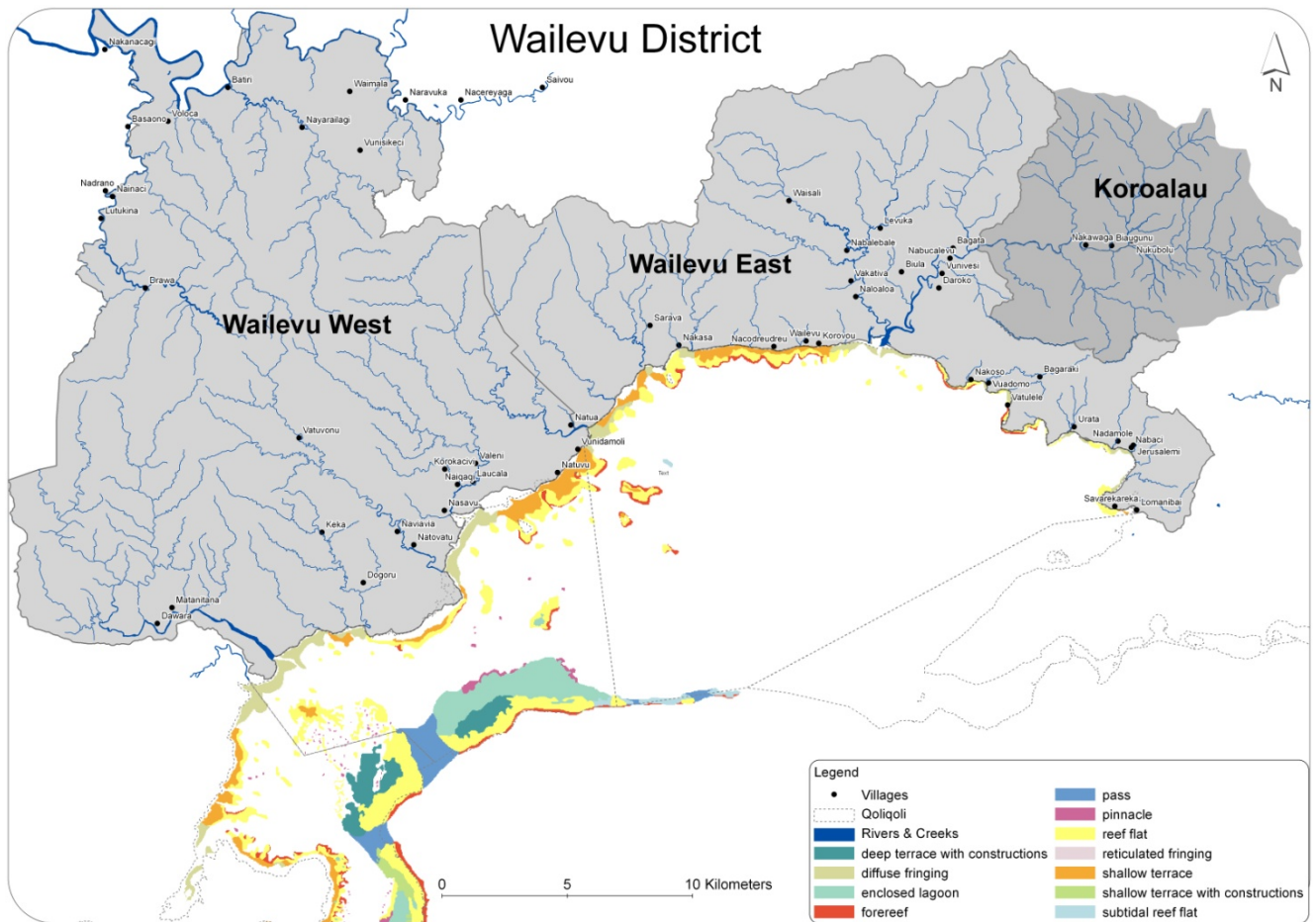
The boundaries of the Wailevu *qoliqoli*, as recorded by the iTaukei Lands and Fisheries Commission, extend from the high water mark to the outer edge of the barrier reef adjacent to the boundaries from the adjacent Kubulau (west) and Nasavusavu (east) *qoliqoli* (see **Figure 3.2** over page). The total area of the *qoliqoli* is 279 km<sup>2</sup>.



**Figure 3. 1.** Wailevu District, Cakaudrove Province, Vanua Levu

Wailevu is geographically the largest district in Fiji, consisting of 27 villages and 19 settlements. It therefore requires considerable coordination effort to ensure effective management implementation across its large terrestrial and marine areas. It is divided into the two sub-districts of Wailevu West and Wailevu East for administrative purposes (see **Figure 3.2** below).

Also included in this plan is the heavily forested upper valley of the Nasekawa River (in neighbouring Koroalau district), which flows through Wailevu and is joined by several tributaries including the Drakaniwai river before discharging into Savusavu Bay through the district’s largest estuary. Recognising their ecological and hydrological connectivity with downstream ecosystems, representatives from Nakawaga and Nukubolu expressed interest in collaborating on management implementation to ensure that the actions of communities do not detrimentally impact the natural resources in the neighbouring district.



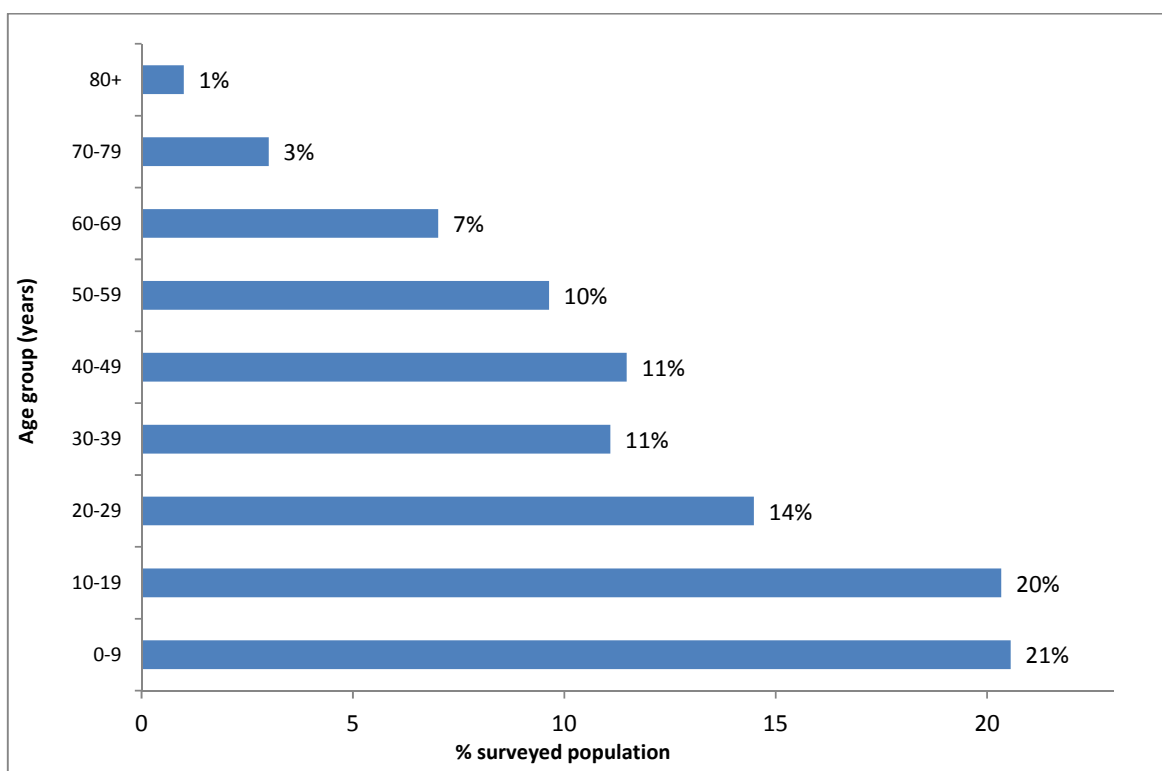
**Figure 3. 2.** Wailevu East and Wailevu West with their customary fishing grounds (*qoliqoli*) and adjoining catchment of the Upper Nakasawa River in neighbouring Koroalau district.

## 3.2 PEOPLE AND RESOURCES

The total population of the 27 villages and 19 settlements in Wailevu district is approximately 6,316 people,<sup>3</sup> almost all of whom are indigenous Fijian. Based on a sample of 1,795 people living in 354 households across the district (38% of all households), the average household in Wailevu consists of 5.1 people.<sup>4</sup>

### 3.2.1 Demographics

Children and young adults make up a large proportion of the population, with household survey data collected by the Wildlife Conservation Society indicating that 41% of people are below the age of 20.<sup>5</sup> This is consistent with data from the 2007 census,<sup>6</sup> which showed 44% of Wailevu's population below the age of 21. The percentage of the population in each age range is illustrated in **Figure 3.3** below.<sup>7</sup> The pressure on Wailevu's natural resources will increase significantly over the next generation to meet the needs of its growing population.



**Figure 3. 3.** Wailevu population (%) by age group.

<sup>3</sup> Fiji National Census 2007 data, provided by Fiji Bureau of Statistics

<sup>4</sup> WCS (2011) *Socioeconomic Survey: Wailevu district*, February–March 2011

<sup>5</sup> WCS (2011) *Socioeconomic Survey: Wailevu district*, February–March 2011

<sup>6</sup> Fiji National Census 2007 data, provided by Fiji Bureau of Statistics

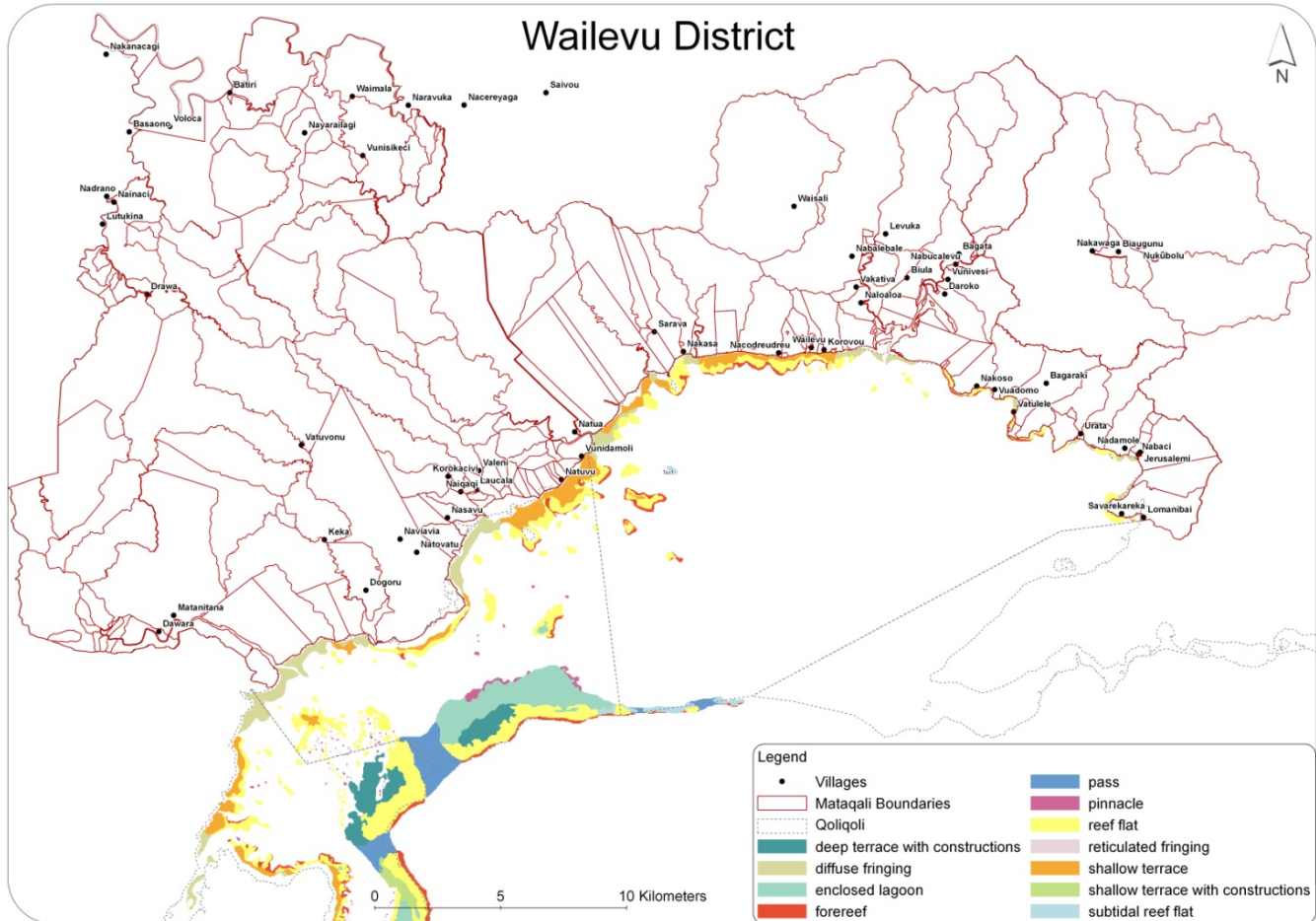
<sup>7</sup> WCS (2011) *Socioeconomic Survey: Wailevu district*, February–March 2011



### 3.2.2 Resource tenure

#### A) TERRESTRIAL RESOURCES

Wailevu district has a total land area of 575 km<sup>2</sup>, of which 77% (442 km<sup>2</sup>) is native (*iTaukei*) land owned mostly by Wailevu's 126 landowning clans (*mataqali*). Land ownership boundaries for each *mataqali*, mapped by the iTaukei Lands and Fisheries Commission, are marked on **Figure 3.4**. Of the remaining land area, 16% (93 km<sup>2</sup>) is freehold and 6% (34 km<sup>2</sup>) is crown land.<sup>8</sup>



**Figure 3. 4.** Mataqali land ownership boundaries in Wailevu District

The *iTaukei Lands Act* recognises and maintains customary ownership of *iTaukei* lands, and provides a legal basis for traditional communal decision-making about land use and management of terrestrial resources.<sup>9</sup> Decisions about occupation, use and management of land are made primarily at the *mataqali* level, within traditional decision-making structures and processes.

The *iTaukei Lands Trust Act* establishes the iTaukei Lands Trust Board (TLTB) and allows the TLTB to enter into leases and licences on behalf of *iTaukei* landowners. Leases and licences must only be granted with the consent of the majority of landowners.

The use and management of *iTaukei*, freehold and crown land is subject to the national laws of Fiji, including legislation such as the *Forest Decree 1992* and the *Environment Management Act 2005*.

<sup>8</sup> Percentages rounded to the nearest whole number.

<sup>9</sup> *iTaukei Lands Act* [Cap 133], s.3.

## B) FRESHWATER RESOURCES

Under Fijian law, rivers and streams, and the land underneath them, belong to the government.<sup>10</sup> Extraction of streambed resources, such as gravel, requires approval from the Department of Lands.<sup>11</sup>

The *Fisheries Act* recognises subsistence fishing rights for traditional resource owners within their customary freshwater fishing grounds (*qoliqoli*).<sup>12</sup> The Minister for Fisheries may declare restricted fishing areas within freshwater *qoliqoli* by publishing a notice in the government gazette.<sup>13</sup> There are currently no gazetted freshwater restricted areas in Wailevu district.

## C) COASTAL, ESTUARINE AND MARINE RESOURCES

Coastal land above the high tide mark may be *iTaukei* land, freehold land or crown land. Estuaries and coastal waters, and land below the high tide mark, belong to the government.<sup>14</sup> Extraction of resources from land below the high tide mark requires approval from the Department of Lands.<sup>15</sup> The *iTaukei Lands Act* recognises communities' rights of traditional access to resources, which includes their right to use mangroves for subsistence purposes.

The *Fisheries Act* recognises subsistence fishing rights for traditional resource owners within their customary estuarine and coastal fishing grounds (*qoliqoli*), including mangrove areas.<sup>16</sup> The boundaries of the Wailevu *qoliqoli*, as mapped by the *iTaukei Lands and Fisheries Commission*, are marked on **Figure 3.4** above. The *Fisheries Act*, as currently administered, does not recognise the traditional right of resource owners to control access to their *qoliqoli* and to establish and enforce strictly no-take fishing areas (*tabu*). The Minister for Fisheries may declare a restricted fishing area ('marine reserve') by making or amending regulations and publishing them in the Government Gazette.<sup>17</sup> There are currently no gazetted restricted marine areas in Wailevu District.

Any person wishing to fish for 'trade or business' must obtain a fishing licence from the Department of Fisheries. Licences are only granted with the written permission of the relevant chief, and may be granted subject to conditions, including conditions prohibiting fishing for trade or business in *tabu* areas.

Resource owners in Wailevu recognise the customary authority of the Wailevu Resource Management Committees to make decisions, which must be approved by the district Hierarchy Council (*Bose Vanua*), about use and management of marine resources at the *qoliqoli* level, including the establishment of district Marine Protected Areas (MPAs). Decisions about additional management measures for village fishing grounds (*i kanakana*) can be made at the village level, including the establishment of a village *tabu* or MPA.

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<sup>10</sup> *Deed of Cession 1874, Rivers and Streams Act* [Cap 136], s.2.

<sup>11</sup> *Crown Lands Act* [Cap 132], s.10.

<sup>12</sup> *Fisheries Act* [Cap 158], s.13.

<sup>13</sup> *Fisheries Act* [Cap 158], s.9.

<sup>14</sup> *Deed of Cession 1874*.

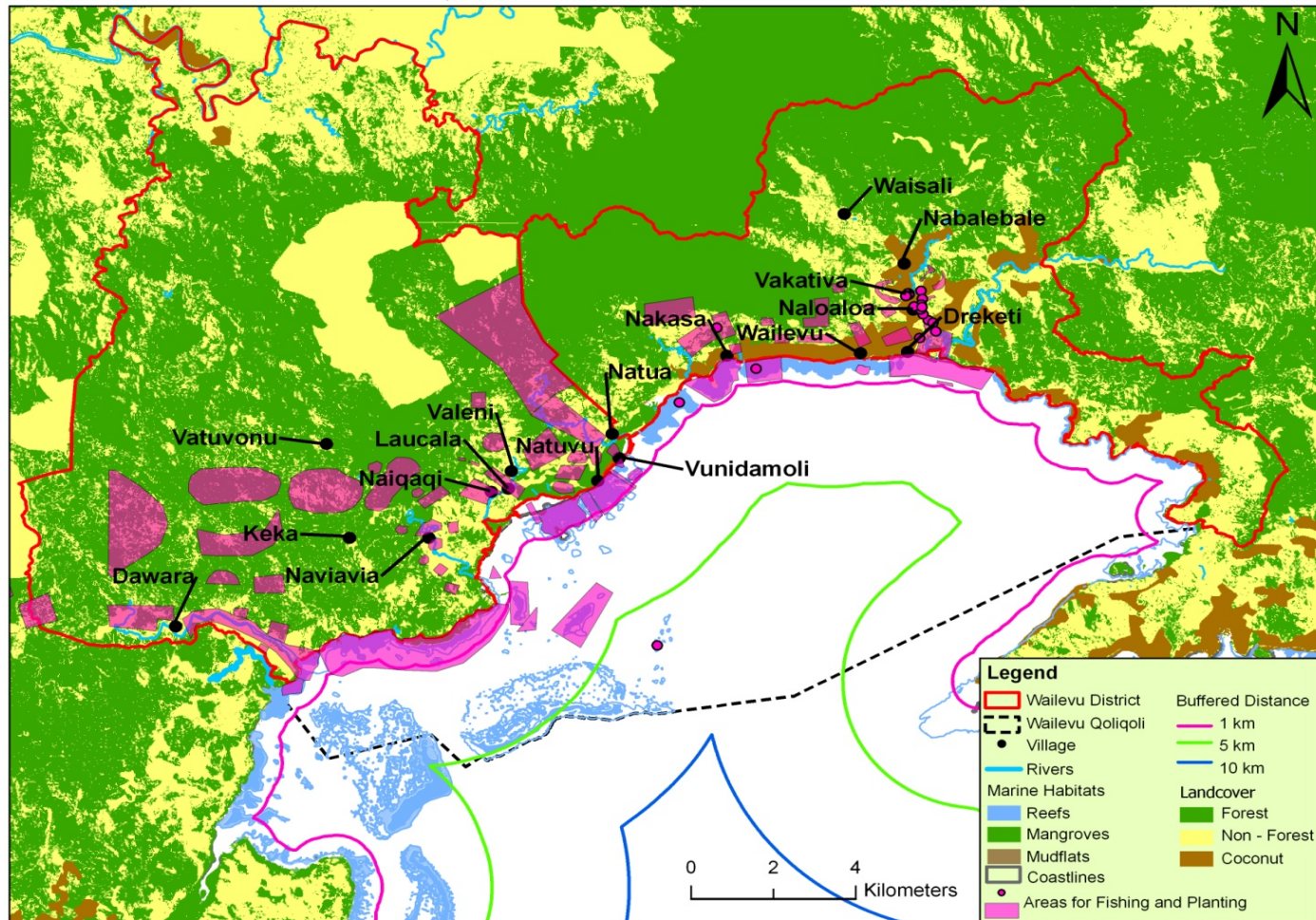
<sup>15</sup> *Crown Lands Act* [Cap 132], s.10.

<sup>16</sup> *Fisheries Act* [Cap 158], s.13.

<sup>17</sup> *Fisheries Act* [Cap 158], s.9.

### 3.2.3 Resource use

Resource use mapping has been undertaken (see **Figure 3.5** below) as a means of identifying patterns and threats to enable effective management planning.<sup>18</sup>



**Figure 3. 5.** Resource use map produced at community awareness raising workshop, Nabalebale Village, November 2010

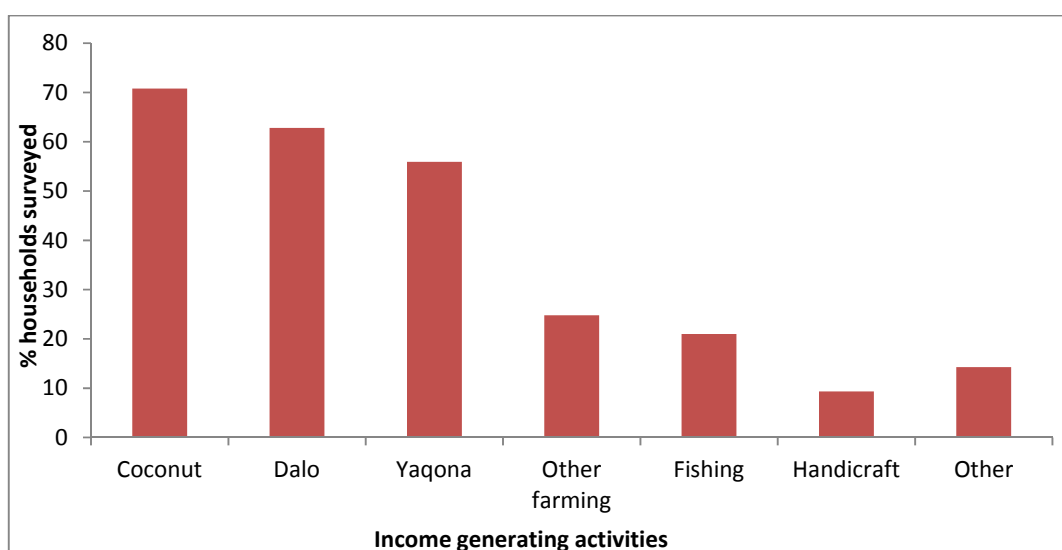
<sup>18</sup> Mapping exercises at workshops was supplemented and informed by data from the WCS (2011) *Socioeconomic Survey: Wailevu district*

## A) INCOME GENERATING ACTIVITIES

Coconuts and coconut products provide a major source of income for 71% of households in Wailevu. The relatively high percentage of households generating income from coconut products reflects the local abundance of coconut palms. These predominantly occur naturally, although there are several plantations.

Farming provides a source of some income for most households, with taro (*dalo*) and kava (*yaqona*) being sold by 63% and 56% of households respectively (see **Figure 3.6** below).

Only 8% of households surveyed reported generating income from sale of fruit or vegetables, although these are considered important subsistence crops. Bananas (*jaina*), plantain (*vudi*), cassava (*tavioka*) and taro leaves (*rourou*) in particular are commonly grown for subsistence rather than sale. The dependency on natural resources is highlighted by only 6% of households deriving any income from wages.



**Figure 3. 6.** Percent of households listing income obtained from various resources: Wailevu District, 2011

Around 1 in 5 households (21%) recorded that ‘fishing’ or the sale of invertebrates provided them with a source of income. This relates primarily to the sale of nearshore marine resources, including a high proportion of sea cucumbers, which are sold by 16% of households. These include a wide range of holothurian species and account for 57% of the nearshore marine resources harvested for sale. Sea cucumbers were reported to sell for \$10-\$70 per kilogram, comparing favourably with the fish prices (\$2-\$5 per kilogram) and representing a significantly high percentage of the total income generated.<sup>19</sup>

Very few households appear to derive any income from freshwater or coastal/estuarine resources, although these appear important at the subsistence level, providing a significant source of protein in the local diet. Freshwater prawns are eaten in 51% of households, whilst freshwater eels (*duna*) and mangrove mud crabs (*kuka*) are consumed by more households (35% and 36%, respectively) than any other food sources except taro (*dalo*), cassava (*tavioka*) and plantain (*vudi*). The 354 households surveyed provided no evidence of livestock being raised for sale, although pigs are commonly kept for local consumption.<sup>20</sup> Kava (*yaqona*) is the only crop that is more commonly sold to generate income than it is consumed for subsistence by households in Wailevu.

<sup>19</sup> WCS (2011) *Socioeconomic Survey: Wailevu district*, February–March 2011

<sup>20</sup> WCS (2011) *Socioeconomic Survey: Wailevu district*, February–March 2011



## B) Fishing Methods

The most common types of fishing gear employed are nets, fishing lines, spear and snorkel. Targeted fishing areas include river tributaries, estuaries, intertidal zones (at low tide) and reefs (high tide and at night). Tilapia (*maleya*) are bred in ponds by some villages and have been introduced into local rivers where they have become established and have potential to impact aquatic plants and other fish species.

## C) Farming Methods

The most commonly farmed crops are cassava (*tavioka*), taro (*dalo*) and kava (*yaqona*). Common farming implements are hand tools such as shovels, forks and cane knives. Slash and burn shifting agriculture is regularly practiced.

## D) Copra Production

Copra production involves establishment and maintenance of coconut plantations, harvesting of mature coconuts and drying of coconut flesh (using the sun and/or wood fired dryers). Firewood for copra dryers is harvested locally. Because the drying of copra is a commercial activity, the use of mangroves for this purpose requires approval from the Department of Lands.<sup>21</sup>

With significant planted as well as naturally occurring coconut palm stands, sustainable management of coconut palms (*vuni niu*) is particularly important in Wailevu, where a relatively high proportion of households generate income from copra and coconut products (see Figure 3.5). Production of virgin coconut oil (VCO) is increasingly popular and offers an alternative income source, attracting a higher return per coconut through a relatively simple production process (see section 7.13).

## E) Other Resource Uses

Local households did not declare any income from lease payments for commercial land use activities and do not appear to derive any income from (or related to) native forest logging or plantation forestry.<sup>22</sup> There are logging concessions however (see **Figure 4.1**), as well as additional pine and hardwood plantations on private land, with Fiji Forest Industries, Fiji Pine Limited, Fiji Hardwood, Valebasoga Tropikboards and Waiqele Sawmill are all active in Wailevu.

The Yanawai goldfield underlies the west of Wailevu District. Exploitation of this resource began in 1932 at Fiji's first gold mine at Mount Kasi near Dawara village. Production totalled 265,000 tons of ore before the mine was closed in 1946. Mining resumed briefly, producing 287,300 tons of ore between 1996 and 1998. This second period of mining coincided with anecdotal reports of fish and coral die offs in downstream marine habitats in 1998, and elevated levels of barium (a proxy for suspended sediment) have been measured in coral skeletons extracted from within 5 km of the Yanawai River mouth.<sup>23</sup> Several exploration licenses have since been granted and the possible resumption of mining at Mount Kasi has been discussed publically.<sup>24</sup> This will be determined by the price of gold, additional valuable compounds (e.g. bauxite), and the subsequent economic benefits in relation to cost of extraction.

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<sup>21</sup> *Crown Lands Act* [Cap 132], s.10.

<sup>22</sup> WCS (2011) *Socioeconomic Survey: Wailevu District*

<sup>23</sup> Jupiter SD, Tui T, Shah S, Cakacaka A, Moy W, Naisilisili W, Dulunaqio S, Patrick A, Qauqau I, Yakub N, Caginitoba A (2010) Integrating EBM science to assess marine protected area effectiveness: clues from coral proxies of land disturbance, ecological assessments and socioeconomic surveys. Technical report no. 02/10. Wildlife Conservation Society-Fiji, Suva, Fiji, 24 pp

<sup>24</sup> <http://www.fijitimes.com/story.aspx?id=170216>

**F) Resource vulnerability**

The impacts of climate change, a growing population and increasing demand for goods and services underlie the threats and vulnerabilities identified by communities (see sections 4.2.2, 4.3.2 and 4.4.2).

Resource use patterns are generally linked to natural cycles (outlined in the more generalized resource use calendar in Figure 3.6 below and the more specific calendar by village in Appendix 9). During nearly all months of the wet season, communities are reliant on multiple sources of terrestrial and marine resources for food, giving them more flexibility to adapt should a disturbance impact one of their preferred resources. However, they may be more vulnerable during dry season months when they depend on fewer species. Communities have a significant preference for harvesting animals during spawning periods, which is likely to require additional management and regulation measures.

Resource	Warmer, Wetter						Cooler, Drier					
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Land crab	■											
Rabbitfish		■										
Mud crab			■									
Mud lobster				■								
Root crop					■							
Mullet/mackerel					■							
Grouper										■		
Balolo (seaworms)												■

Figure 3. 7. Seasonal calendar indicating community perceptions of breeding seasons for key edible resources.<sup>25</sup>

<sup>25</sup> WCS (2011) Socioeconomic Surveys: Wailevu and Wailevu districts

### 3.3 HABITATS

#### 3.3.1 Terrestrial habitat description

The terrestrial habitats of Wailevu include a mix of natural vegetation types – rain forest, mesic forest, wetlands and coastal vegetation, and human-modified vegetation types including – gardens and plantations, pasture (grasslands maintained by grazing), talasiga (grasslands maintained by burning) and secondary forest (at various stages of recovery following logging, clearing or burning).

Overall, the district is heavily forested, with around 80% forested. The unforested areas are closer to the coast, to Savusavu, or to the northern part of Wailevu West district which is accessed from the northern side of Vanua Levu.

Wailevu is home to two areas of forest management. The Drawa Block occupies 6,345 ha of primary and largely restored secondary forest stands, in Wailevu West, and was delineated as an area for a community-based sustainable forest management project in 1999 by the Secretariat of the Pacific Community – German Technical Cooperation (SPC-GTZ, now SPC-GIZ). In Wailevu East is the Waisali Nature Reserve, a 300 ha forest reserve which was legally established in 1991 with assistance from NZAID and is currently managed by the National Trust of Fiji.

#### A) Terrestrial flora

The Drawa Block area and Waisali Nature Reserve have been subject to relatively extensive terrestrial surveys compared with other areas of Wailevu. It is likely that the unsurveyed areas of Wailevu have similar species composition to these areas. Waisali Nature Reserve is the natural habitat of native hardwoods such as various species called *dakua* (*Podocarpus vitiensis*, *Agathis macrophylla*, *Decussocarpus vitiensis*) and softwoods such as *yaka* (*Dacrydium nidulum*) and *yasi*. Several other large timber trees are also common in the area including *Calophyllum* spp. (*damanu*), *Myristica* spp. (*kaudamu*, *male*) and *Fagraea berteriana* (*bua ni viti*).<sup>26</sup>

In addition to *C. vitiense* (*damanu*) and *Myristica* spp. (*kaudamu*, *male*), the most frequent species inventoried in the Drawa Block area were *Syzygium* spp. (*yasiyasi*), *Cleistocalyx* spp. (*yasiyasi*), *Parinari insularum* (*sa*), *Dysoxylum richii* (*sasawira*) and *Sterculia vitiensis* (*waciwaci*).<sup>27</sup>

#### B) Threatened and endemic species<sup>28</sup>

Botanical surveys in the Drawa catchment of Wailevu revealed four threatened endemic plants: *Atuna elliptica* (*makita leka*), *Malaxis platychila*, *Freycinetia vitiensis* (*lolo*), and *Squamellaria imberbis*.<sup>29</sup> In addition, these surveys recorded five indigenous rare or threatened species, with an overall endemism rate of 47.3%. Of these, *Cycas seemannii* is listed as Vulnerable on the IUCN Red List of Threatened Species.

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<sup>26</sup> J. Rasalato, pers. comm.

<sup>27</sup> De Vletter J & Mussong M (2001) Evaluation of inventory data collected in the Drawa model area, Fiji: Final report. Suva: Pacific German Regional Forestry Project report:PHI.02.01.

<sup>28</sup> See Appendix 1 for a full list of protected species in Fiji.

<sup>29</sup> Tuiwawa M (2000) Botanical Study Report, Drawa Block, Vanua Levu

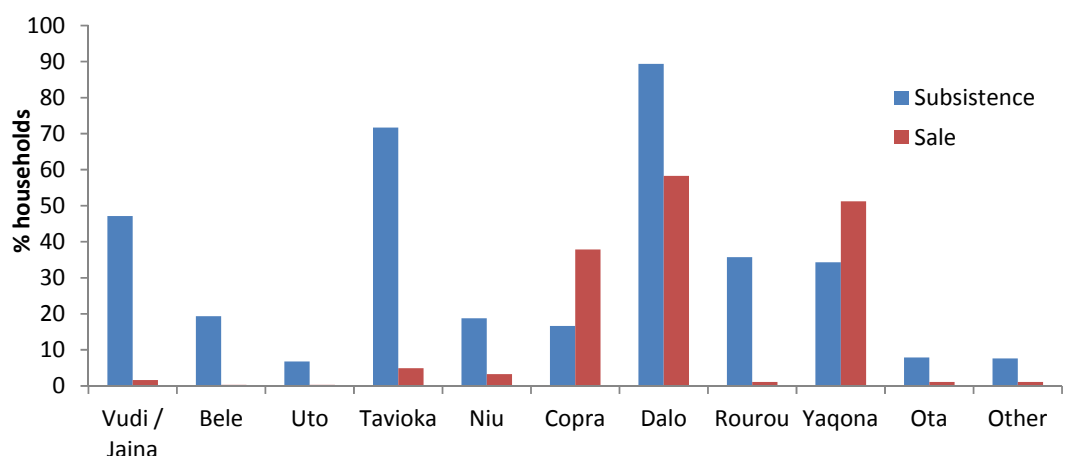
South of the Drawa area, rare endemic plants have been recorded around Mount Kasi, for example *Astronidium kasiensis* (*rusila*) which is listed on Schedule 1 of Fiji's Endangered and Protected Species Act, as well as *Cleistocalyx kasiensis*, *Elaeocarpus kasiensis*, *Alyxia bracteolosa* var. *retusa* (*vono*) and *Phreatia flavovirens*. At the northern-most border of Wailevu East, *Melochia parhamii* and *Cayclophyllum rectinervium* have been recorded at altitudes above 600 m. A stand of the threatened endemic sago palm *Metroxylon vitiense* (*soga*) has been recorded near Savusavu in Wailevu East.<sup>30</sup>

### C) Economically and culturally important resources

Ethnobotanical surveys conducted by the University of the South Pacific Herbarium recorded the wide range of non-timber uses of trees in Wailevu district, specifically by the *mataqali* in the Drawa model area.<sup>31</sup> These common uses include:

- Medicine
- Crafts
- Building materials
- Ceremonial vessels and paraphernalia
- Food – spices, condiments, accompaniments
- Oils and lotions
- Tools – farming, fishing, construction
- House furniture and fixtures – mats, mattresses and pillow stuffing

Local households surveyed in 2011 identified the following as key subsistence resources harvested from the land: cassava (*tavioka*), taro (*dalo*), taro leaves (*rourou*), bananas (*jaina*), plantains (*vudi*), kava (*yaqona*), *Xanthosoma sagittifolium* (*dalo ni tana*), yams (*uvi*), edible hibiscus (*bele*), coconuts (*niu*), breadfruit (*uto*), pumpkin (*papukeni*), eggplant (*baigan*), chillies (*rokete*), sweet potato (*kumala*), pineapple (*painapiu*) and bean (*bin*). These resources are largely cultivated in village gardens and plantations. Wailevu East is particularly well placed to supply the market in Savusavu town – terrestrial resources harvested for sale include: taro roots and leaves (*dalo and rourou*), cassava (*tavioka*), kava (*yaqona*), banana (*jaina*), plantain (*vudi*) and edible hibiscus (*bele*).



**Figure 3. 8.** Percentage of surveyed households engaging in planting particular terrestrial resources for subsistence and sale<sup>32</sup>

<sup>30</sup> Watling D (2005) Palms of the Fiji Islands. Environmental Consultants Fiji Ltd. Suva, Fiji.

<sup>31</sup> Tuiwawa M & Korovolavula I (2000) Ethnobotanical Study Report, Drawa Block, Vanua Levu

### 3.3.2 Freshwater habitat description

In Wailevu East, the rivers of Nasekawa and Drakaniwai join near the village of Dreketi to drain into Savusavu Bay. The headwaters of the Nasekawa River are within the district of Koroalau, though as described above in section 3.1, communities in the villages of Nakawaga and Nukubolu have expressed interest in joint management implementation with Wailevu East in recognition of the ecological and hydrological connectivity between their lands and rivers. In Wailevu West, the Navilagolago and Yanawai rivers drain into Savusavu Bay near the villages of Natua and Dawara. Forests in the upper Wailevu West regions contain streams that are tributaries of the Dreketi River that drains on the northern side of Vanua Levu in Macuata Province.

#### A) Freshwater fauna

To date, only one stream in the Nasekawa River catchment has been surveyed. Eleven species of freshwater fish were found, including: the eels *Anguila bicolor bicolor* and *Gymnothorax polyuranodon*; the gudgeons *Giurus margaritacea* and *Hypseleotris guentheri*; an endemic species of *Stenogobius* goby; the widespread goby *Sicopterus lagocephalus*; the flagtails *Kuhlia marginata* and *K. rupestris*; the pipefish *Microphis leiaspis* and *M. retzii*; and the non-native tilapia *Oreochromis mossambicus*.<sup>33</sup> The stream had slightly lower species richness than would have been predicted based on catchment forest cover alone, which is possibly due to the direct or indirect impacts of the non-native tilapia that can potentially prey on small native species and make water quality conditions worse by stirring up bottom sediments when nesting.

#### B) Threatened and endemic species

Although *Stenogobius* sp. 1 is the only endemic species found so far in Wailevu, there are likely other endemic freshwater fish in streams located in areas with high forest cover and no natural or man-made barriers to dispersal (e.g., overhanging culverts).

#### C) Economically and culturally important resources

Local households surveyed in 2011 identified the following freshwater resources harvested for subsistence: prawns (*ura*); shellfish (*sici*, *dreve*, *vivili*); mussels (*kai*); eels (*duna*); gudgeons (*vo*); gobies (*bali*); tilapia (*maleya*); garfish (*moto*); trevally (*saqa*); crab (*qari*); jungle perch (*ika droka*); and silver flagtail (*sesere*). Several residents also reported harvesting prawns, crab, and tilapia for sale, with prawns cited most commonly as a source of income.<sup>34</sup>

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<sup>32</sup> WCS (2011) *Socioeconomic Survey: Wailevu District*

<sup>33</sup> Jenkins AP, Jupiter SD, Qauqau I, Atherton J (2010) The importance of ecosystem-based management for conserving migratory pathways on tropical high islands: A case study from Fiji. *Aquatic Conservation: Marine and Freshwater Ecosystems* 20:224-238

<sup>34</sup> WCS (2011) *Socioeconomic Survey: Wailevu District*.

### 3.3.3 Coastal and estuarine habitat description

The coastline of the district of Wailevu extends approximately 64 km in length along Savusavu Bay, including 7.7 km<sup>2</sup> of mangroves. Coastal and estuarine habitats play an important role in maintaining key functions, such as: trapping and filtering land-based pollutants; acting as nursery, breeding and feeding grounds for many marine and freshwater species; and providing protection to inland habitats and villages from unexpected events such as cyclones, tidal waves, and tsunamis.

#### A) Flora and fauna

The mangrove and seagrass systems of Wailevu have not yet been intensively surveyed, but they are likely to be similar to those in the adjacent district of Kubulau. In Kubulau, three mangrove species have been recorded. Kubulau District has a large dominant *Bruguiera gymnorhiza* zone with a small a very narrow *Rhizophora stylosa* and *R. x selala* zone. Preliminary assessment of seagrass beds in Kubulau identified *Syringodium isoetifolium* as the dominant species in intertidal and shallow subtidal areas, with *Halodule* sp. found in certain areas.<sup>35</sup>

#### B) Threatened and endemic species

The information on the diversity and abundance of threatened coastal and estuarine flora and fauna is limited for Wailevu. The endemic rabbitfish (*Siganus uspi*) was sighted in coastal habitats during marine surveys in 2011.

Species favoured for food are generally perceived to be decreasing in abundance (see Figure 3.9 below). This was most pronounced in relation to mud crabs (75% perceive decreasing abundance and only 5% perceiving an increase) and land crabs (70% perceiving a decrease and 15% perceiving an increase).<sup>36</sup>

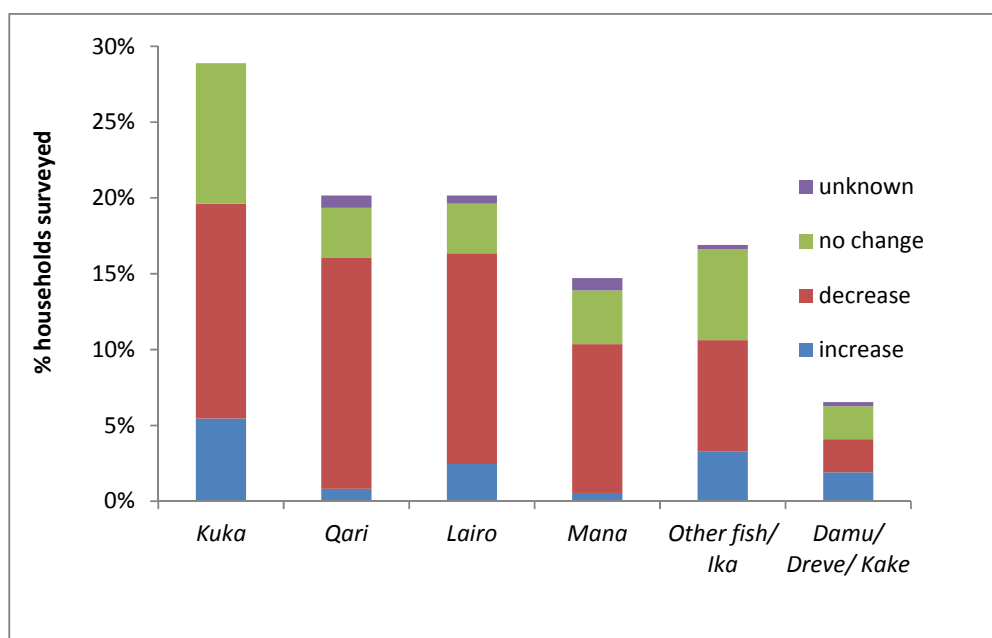


Figure 3. 9. Preferred coastal and estuarine resources for consumption

<sup>35</sup> WCS (2009) *Ecosystem-Based Management Plan: Kubulau District, Vanua Levu, Fiji*. Wildlife Conservation Society, Suva, Fiji, 121 pp

<sup>36</sup> WCS (2011) *Socioeconomic Survey: Wailevu District*

### C) Economic and culturally important species

Coastal fisheries in Wainunu are used mainly for subsistence, with a small number of fish and crabs sold by fewer than 1% of households surveyed.<sup>37</sup>

Preferred coastal fishery resources for consumption include mud crab (*qari*), land crab (*lairo*), mangrove crab (*kuka*), mud lobster (*mana*), other reef fish and some freshwater fish. The most frequently consumed resources from coastal and estuarine habitats are mangrove crab (*kuka*), followed by mud crab (*qari*) and land crab (*lairo*).

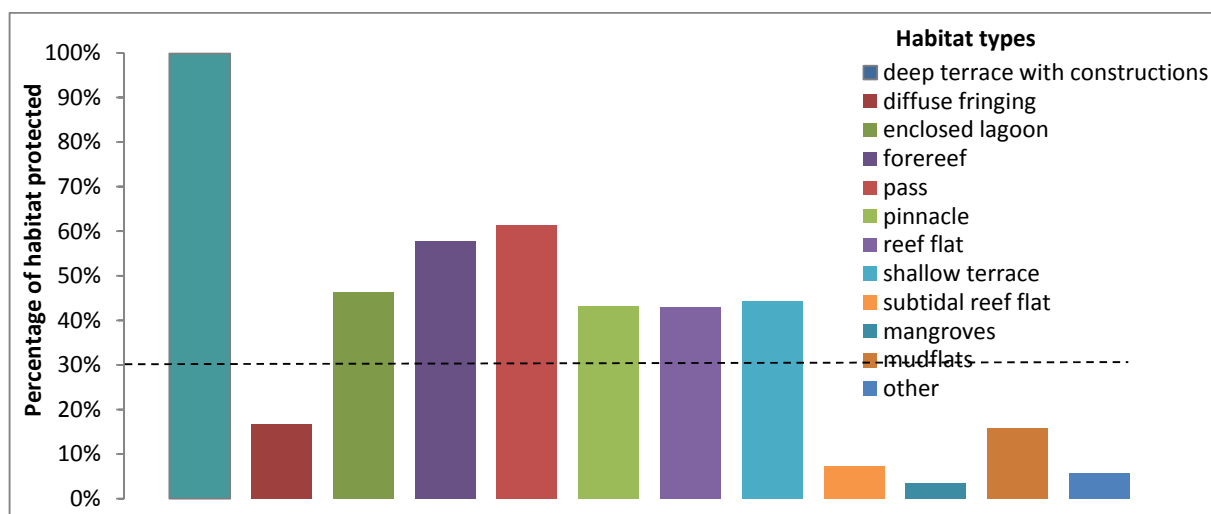
Mangroves are important as a source of fuel, either charcoal or firewood, and have often been used as primary materials for building boats, houses and furniture.<sup>38</sup>

### D) Threats to coastal and estuarine habitats

Mangroves and seagrass meadows are directly threatened from inland activities. Threats to mangroves habitats include mangrove cutting, sedimentation, use of chemicals, deforestation, and littering. Sedimentation is considered the biggest threat to seagrass meadows, followed by tropical cyclones, storms, and the use of chemicals. These threats equally affect coastal fringing reefs.

#### 3.3.4 Marine habitat description

The 279 km<sup>2</sup> within the Wailevu *qoliqoli* covers a diverse array of habitats, including reef flats dominated by macroalgae, seagrass beds, coastal fringing reefs, soft bottomed lagoons, patch reefs, barrier reefs and mangrove areas. **Figure 3.10** below shows the representation of these coral reef habitat types within the MPA network in Wailevu as of 2013 (which is illustrated in **Figure 4.1**). Deep terraced reef with constructions are well protected, while diffuse fringing reefs, subtidal reef flats, mangroves and mudflats might benefit from additional protection in tabu areas.

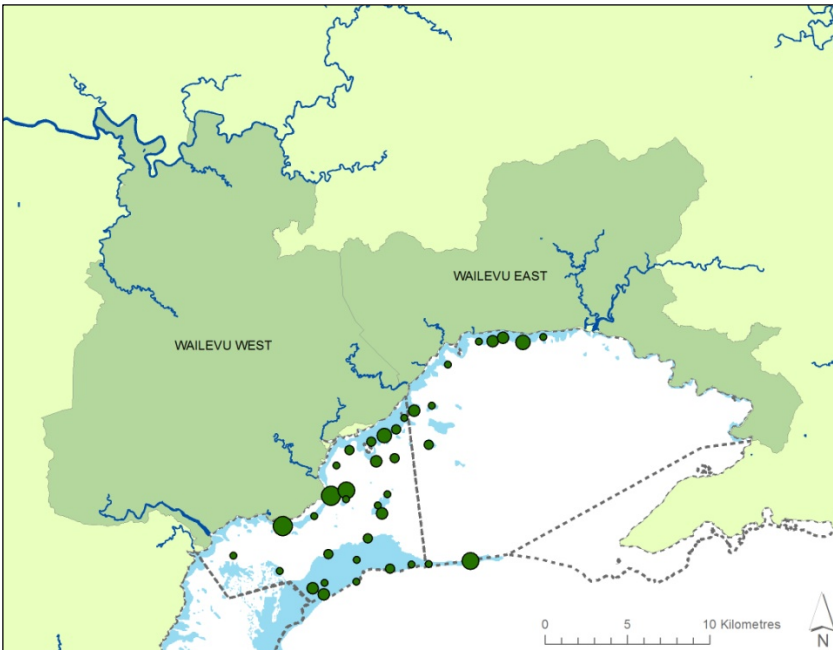


**Figure 3. 10.** Representation of coral reef and coastal habitat types within the MPA network in Wailevu (dashed line indicates a representation target of 30%)

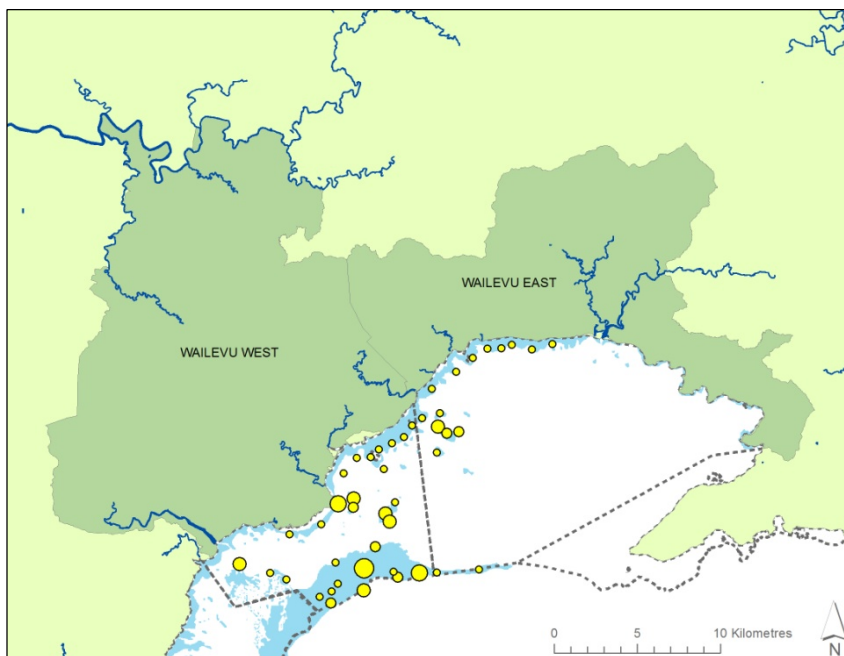
<sup>37</sup> WCS (2011) *Socioeconomic Survey: Wailevu District*

<sup>38</sup> WCS (2011) *Socioeconomic Survey: Wailevu District*

Biological monitoring surveys conducted in April 2011 found the reef areas to be impacted from prior tropical cyclones and heavy predation from crown-of-thorns starfish (*bula*) that moved west across Savusavu Bay. However, there were areas of the qoliqoli with high fish biomass and high numbers of juvenile corals, which are ideal areas to be protected as these factors will promote reef recovery (Figure 3.11 and Figure 3.12 below).<sup>39</sup>



**Figure 3. 11.** The size of the green circles indicates the relative amount of herbivorous fish biomass recorded at each survey site. Herbivorous fish are important for cleaning algae off of the reef, providing space for new corals to settle and grow. They therefore are important for reef recovery.



**Figure 3. 12.** The size of the yellow circles indicates the relative abundance of juvenile corals found at each survey site. The presence of young corals indicates that there is good potential for these sites to recover following disturbance.

<sup>39</sup> WCS (2011) Reef Resilience Assessment Data: Wailevu District



## A) Flora and fauna

Of the 48 sites surveyed in the qoliqoli, fish species richness within families monitored<sup>40</sup> was greatest at sites on the offshore barrier reef, east of Cakau Mata Nuqa, northwest of Dogodogo Islands, and west of Naqiri Island. Although complete biodiversity assessments were not done for Wailevu, staff from the Wildlife Conservation Society counted 184 species from our target species list.

The most abundant of these include grazers and detritivores (*Acanthurus triostegus*, *Ctenochaetus striatus*, *Chlorurus bleekeri*, *Chlorurus sordidus*, *Scarus rivulatus*, *Siganus doliatus*), predatory snapper and emperor (*Monotaxis grandoculis*, *Lethrinus harak*, *Lutjanus fulvus*, *Lutjanus gibbus*), schooling fusiliers (*Pterocaesio tile*) and wrasses (*Thalassoma hardwicke*, *Halichoeres hortulanus*), bream (*Scolopsis bilineatus*) and goatfish (*Parupeneus barberinus*) with mixed diets. Although much of the coral was dead at many locations, the residual live coral was dominated by *Acropora*, *Pavona*, *Pocillopora* and *Porites*, with some *Favia*, *Favites*, *Fungia*, *Galaxea*, *Goniastrea*, *Isopora*, *Leptastrea*, *Millepora*, *Montipora*, *Platygyra*, *Psammocora*, *Stylophora* and *Turbinaria*.

## B) Threatened and endemic species

*Siganus uspi*, a Fijian endemic rabbitfish, was the only endemic fish species recorded, however as noted above, the Wildlife Conservation Society survey protocols only target certain fish groups and these groups do not contain many endemic species in general. Therefore, there are likely to be considerably more endemic fish found in Wailevu's qoliqoli. Blacktip (*Carcharhinus melanopterus*) and whitetip (*Triaenodon obesus*) sharks were spotted during dive surveys, as well as several turtles (likely green or hawksbills) and endangered humhead wrasse (*Cheilinus undulatus*).

## C) Economically and culturally important species

Wailevu residents surveyed identified the following as preferred resources for food and sale from the sea: trevally (*saqa*, *dole*), mackerel (*walu*, *salala*), barracuda (*oqo*), emperor (*sabatu*, *dokonivudi*, *kabatia*), triggerfish (*cumu*), snapper (*kake*), large grouper (*kawakawa*), surgeonfish (*dridri*, *ikaloa*), parrotfish (*ulavi*, *rawarawa*), mullet (*kanace*), sweetlips (*drekeni*), rabbitfish (*nuqa*), grunter (*dreve*, *qitawa*), silver biddy (*matu*), needlefish (*busa*), wrasse (*dradravi*), shellfish (*qeqe*, *savulu*, *tukinidara*), lobster (*urau*), sea cucumbers (*dairo*, *dri lolo*) and seaweed (*lumi*).<sup>41</sup> Giant clams and sea cucumbers were likely once plentiful in Wailevu, but their populations have been severely affected by commercial extraction. Natuvu village has embarked on commercial aquaculture of sea cucumbers (*dairo*) to raise income for the community.

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<sup>40</sup> WCS (2009) WCS-Fiji scientific monitoring protocol handbook. Version 3.1. Wildlife Conservation Society, Suva, Fiji, 42 pp.

<sup>41</sup> WCS (2011) *Socioeconomic Survey: Wailevu District*

# 4 IMPLEMENTATION PLAN

## 4.1 OVERVIEW

The communities of Wailevu have been engaged in a range of consultation, planning and conceptual modelling activities as part of the ongoing local adaptive management process. Together communities outlined their vision for the future to represent what they are working towards and identified conservation targets to focus planning and measure progress.

EBM principles were applied to highlight direct and indirect threats to achievement of management targets. Community representatives also explored the social, economic, societal and institutional factors which underlie or allow these threats to occur. This enabled the identification of appropriate strategies and specific actions through which to mitigate threats and achieve desired results. The actions formed the basis of a management implementation plan.

A version of this implementation plan in Fijian will be distributed to communities and stakeholders and is available from the Resource Management Committees or the Wildlife Conservation Society on request.

### 4.1.1 Management Rules

Communities have identified a range of management rules relating to local resources and ecosystems.<sup>42</sup> As well as new rules to manage behaviours and address threats, this process highlighted existing rules and laws that were not being implemented. New and existing management rules are outlined together in this section.

### 4.1.2 Protected Areas

Setting aside areas to be protected from hunting, fishing, gathering or other types of resource extraction has long been practiced as a mechanism for sustainable management in Fiji. Although Fijians have long implemented tabus on harvesting various resources, this type of customary management was often implemented for social, cultural or spiritual reasons, such as to conserve food for feasts or to respect the passing of a chief, rather than explicitly for conservation.<sup>43</sup>

Modern community conservation initiatives have increasingly linked to these cultural practices in Fiji.<sup>44</sup> Community identified and managed protected areas have emerged rapidly across Fiji's marine and coastal ecosystems, with more than 150 such areas, covering more than half of inshore customary fisheries (*i qoliqoli*), registered within the Fiji Locally Managed Marine Area (FLMMA) network between 2001 and 2011.<sup>45</sup>

This plan has sought to integrate terrestrial, freshwater and marine ecosystems within a network of protected areas through an Ecosystem Based Management (EBM) approach.

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<sup>42</sup> Confirmed at *Wailevu Ecosystem-Based Management Planning Workshop*, Nabalebale 31 Jan to 2 Feb 2012

<sup>43</sup> Veitayaki J (1997) Traditional marine resource management practices used in the Pacific Islands: an agenda for change. *Ocean & Coastal Management*, 37, pp.123-136

<sup>44</sup> Lees A, Siwatibau S (2007) Review and analysis of Fiji's conservation sector. Austral Foundation

<sup>45</sup> Govan H, Jupiter S, Comley J (2012) Recognition and Support of ICCAs in Fiji. In: Kothari, A. with Corrigan, C., Jonas, H., Neumann, A., and Shrumm, H. (eds) *Recognising and Supporting Territories and Areas Conserved By Indigenous Peoples And Local Communities: Global Overview and National Case Studies*. Secretariat of the Convention on Biological Diversity, ICCA Consortium, Kalpavriksh, and Natural Justice, Montreal, Canada. Technical Series no. 64, 32 pp

A total of 30 protected areas have been established in Wailevu. These are outlined in **Table 4.1** below and **Figure 4.1** on the following page.

**Table 4. 1.** Size and management responsibility for each community declared protected area in Wailevu District. <sup>46</sup>

	Protected Area	Habitat	Responsibility (village)	Km <sup>2</sup>
Wailevu West	Naurere	Terrestrial	Natua	4.18
	Nasavu Creek	Freshwater	Valeni	0.31
	Nabeka	Freshwater	Keka	0.82
	Qaraicoro	Freshwater	Naviavia	0.98
	Cakau Mata Nuqa	Marine	Naiqaqi	0.54
	Vaturokobe	Coastal/ Marine	Vunidamoli	4.16
	Cakau ni Vonu	Coastal/ Marine	Natuvu	6.84
	Cakau Levu	Marine	District MPA	8.74
	Koroulala	Marine	Dawara	2.52
	Naviavia MPA	Coastal/ Marine	Naviavia	0.24
	Valeni MPA	Coastal/ Marine	Valeni	3.79
	Cakau Bucobuco	Marine	Laucala	1.17
Wailevu East	Natoaika	Terrestrial/ Freshwater	Vunivesi, Daroko and Nabucalevu	1.13
	Matabavu	Terrestrial/ Freshwater	Levuka	0.17
	Navota Creeks	Freshwater	Levuka	1.68
	Savuvoce Creeks	Freshwater	Bagata	0.40
	Waisali Tabu	Freshwater	Waisali	1.78
	Drakaniwai River Catchment	Freshwater	Nabalebale, Vakativa, Naloaloa	3.78
	Levuka Tabu	Freshwater	Levuka	1.10
	Waiqiloa	Freshwater	Bagata	1.06
	Vatudamu	Marine	Nakoso	1.52
	Vatuwaqa Ciri	Marine	Vatulele	1.07
	Wailevu Village Central	Marine	Wailevu Village	0.77
	Wailevu Village West	Marine	Wailevu Village	0.76
	Wailevu Village East	Marine	Wailevu Village	0.59
	Wainitivari Tabu	Marine	Nakasa	0.86
	Nukubolu MPA	Marine	Vuadomo	0.29
	Ucui Vatudarava	Marine	Urata	0.29
	Gusu ni Wai	Marine	Jerusalemi	1.08
	Koroalau	Nukubolu Reserve	Terrestrial/ Freshwater	Nakawaga and Nukubolu
Upper Nasekawa Basin rivers		Freshwater	Nakawaga and Nukubolu	7.65
<b>TOTAL</b>				<b>66.5</b> <sup>47</sup>

<sup>46</sup> Identified at the *Ecosystem-Based Management Planning Workshop* in Nabalebale on 31 Jan–2 Feb 2012. Modified at Management Support Workshops in Vunidamoli and Bagata on 17–20 Apr 2012 and approved following community amendments by the Wailevu Hierarchy Council (*Bose Vanua*) on 22 March 2013

<sup>47</sup> This is an accurate reflection of the total area of new protected areas. It is greater than the sum of the figures above due to their having been rounded to 2 decimal places.

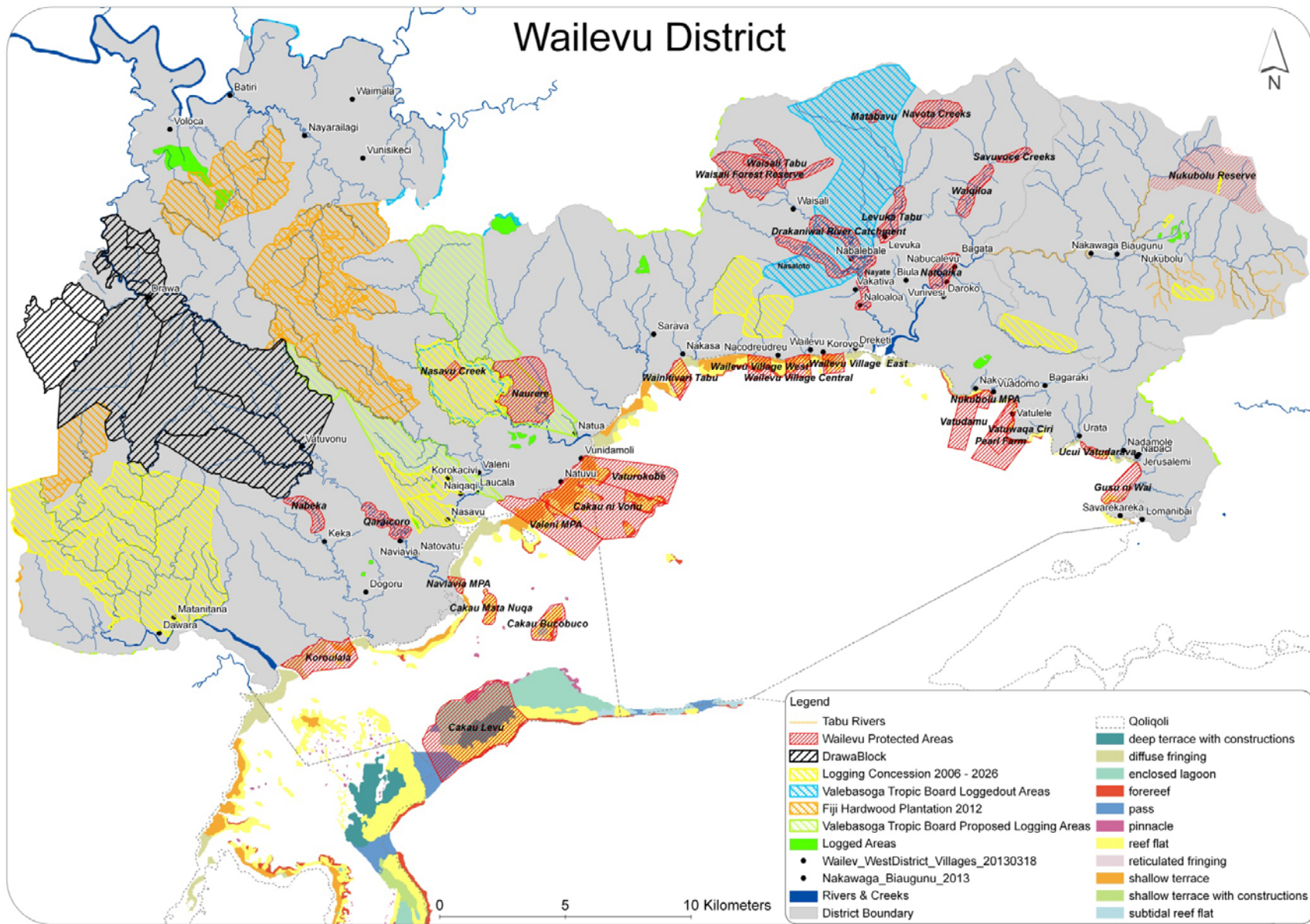


Figure 4. 1. Map highlighting the protected areas identified in Wailevu District

## 4.2 MANAGEMENT OF TERRESTRIAL AND FRESHWATER ECOSYSTEMS

### 4.2.1 Management Targets for Terrestrial and Freshwater Ecosystems

Due to overlapping threats and integrated strategies, terrestrial and freshwater ecosystems have been brought together in the following section of the management plan. The following management targets were identified for terrestrial and freshwater ecosystems in Wailevu.<sup>48</sup>

Terrestrial targets	Freshwater targets
Maintain or restore the diversity and abundance of <b>native trees</b>	Maintain or enhance <b>water quality</b>
Maintain or restore the abundance and diversity of <b>forest fauna</b>	Maintain abundance and biomass of <b>freshwater fish and invertebrate food species</b> ( <i>jungle perch, eels, gobies and prawns</i> )
Maintain or restore the abundance and diversity of <b>fruit trees</b>	Maintain or restore <b>healthy riparian vegetation</b>

### 4.2.2 Threats to Terrestrial and Freshwater Ecosystems

Participants identified the following key threats to the health and productivity of terrestrial and freshwater ecosystems in Wailevu:

Threats to terrestrial ecosystems	Threats to freshwater ecosystems
Clearing land for agriculture (particularly by burning) Excessive use of chemicals (weedicide and fertiliser) in farming Soil erosion	
Unsustainable logging practices Invasive species (particularly the vine <i>Merremia peltata</i> that is prevalent in disturbed areas of the forest)	Inappropriate disposal of human, animal and domestic waste Gravel extraction Overhanging culverts Non-native fish species Destructive fishing methods Deforestation in riparian zone

Common factors identified as contributing to the above threats include:

- a lack of understanding, particularly about the impacts of unsustainable practices;
- lack of planning, particularly in relation to farming, fishing, use of trees and waste disposal;
- lack of awareness and/or enforcement of existing management rules;
- increasing financial pressures and farming as the only source of income; and
- laziness, exacerbated by *yaqona* abuse.

These targets and threats are illustrated graphically in **Appendix 4** (terrestrial threat diagram) and **Appendix 5** (freshwater threat diagram) and provided a reference when drafting the following management rules and activities.

<sup>48</sup>Adopted at the RMC Management Support Workshops in Bagata and Vunidamoli, April 2012, and approved at the Wailevu Hierarchy Council (*Bose Vanua*) in March 2013.

### 4.2.3 Management Rules for Terrestrial and Freshwater Ecosystems

Table 4.2 below outlines management rules that apply generally to all land, rivers and streams in Wailevu District.

Table 4. 2. Terrestrial and freshwater management rules

Management Rule	Exception	National	District <sup>49</sup>	Management Action
<b>Logging</b>				
Commercial logging operations must not be commenced without environmental impact assessment (EIA) and approval from the Department of Environment.	None	X <sup>50</sup>		Monitor new logging operations and report breaches to the Department of Environment and Department of Forestry.
Commercial logging operations must not be commenced without the consent of landowners and approval from the iTaukei Land Trust Board and Department of Forestry	None	X <sup>51</sup>		Monitor new logging operations and report breaches to the iTaukei Land Trust Board and Department of Forestry.
Logging operations must comply with logging licence conditions and the Forest Harvesting Code of Practice.	None	X <sup>52</sup>		Monitor compliance with Forest Harvesting Code of Practice and notify Department of Forestry of breaches.
Logging operations must leave buffer strips beside rivers and streams: <ul style="list-style-type: none"> <li>• 20m stream width: 30m buffer</li> <li>• 10-20m stream width: 20m buffer</li> <li>• 0-10m stream width: 10m buffer</li> </ul>	Bridges and stream crossings approved by Department of Forestry.	X <sup>53</sup>		Monitor compliance with Forest Harvesting Code of Practice and notify Department of Forestry of breaches. <b>Note:</b> Stream width is measured from bank to bank. Buffer width is horizontal distance measured from stream bank.
Rare or protected tree species must not be felled or taken.	None	X <sup>54</sup>		Monitor compliance with Forest Harvesting Code of Practice and notify Department of Forestry of breaches.

<sup>49</sup> District rules were adopted at Management Support Workshops (Vunidamoli and Bagata April 2012) and confirmed by the District Council (*Bose ni Tikina*) 22 March 2013

<sup>50</sup> *Environment Management Act 2005*, Schedule 2, Part 1

<sup>51</sup> *Native Lands Trust Act, Forest Decree 1992*

<sup>52</sup> *Forest Decree 1992, Fiji Forest Harvesting Code of Practice 2008*

<sup>53</sup> *Forest Decree 1992, Fiji Forest Harvesting Code of Practice 2008*

<sup>54</sup> *Fiji Forest Harvesting Code of Practice 2008*



Management Rule	Exception	National	District <sup>55</sup>	Management Action
<b>FISHING</b>				
<b>Destructive fishing methods are prohibited:</b> - Chemicals and poisons - Nets with mesh less than 50mm - Night diving	Hand nets with a mesh of 40mm can be used for freshwater prawns.	X <sup>56</sup>		Raise awareness of rule. Monitor compliance. Report breaches to RMC.
<b>Introduction or farming of invasive fish species is prohibited.</b>	Where tilapia are kept in well managed ponds sufficient distance from rivers/streams (outside floodplain).		X	Raise awareness of rule. Monitor compliance. Report breaches to RMC.
<b>FARMING AND LIVESTOCK</b>				
<b>Burning to clear land for faming is prohibited</b>	None		X	Provide education on alternatives. Raise awareness of rule and reasoning. Monitor compliance. Report breaches to RMC.
<b>Agricultural leaseholders must not clear, burn or cultivate any land within 24 feet (7.2m) of a river or stream.</b>	None	X <sup>57</sup>		Monitor compliance with lease conditions. Notify the iTaukei Land Trust Board of breaches.
<b>Livestock and piggery are prohibited within 30m of river banks.</b>	None		X	Raise awareness of rule. Monitor compliance. Report breaches to RMC.

<sup>55</sup> District rules were adopted at Management Support Workshops (Vunidamoli and Bagata April 2012) and confirmed by the District Council (*Bose ni Tikina*) 22 March 2013

<sup>56</sup> *Fisheries Regulations* r8 bans use of any *derris* or *duva* extract. *Fisheries Regulations* r16

<sup>57</sup> *Native Land Trust (Leases and Licences) Regulations 1984*, r.23, Fourth Schedule, cl.25. *Conditions of lease for agricultural purposes.*

Management Rule	Exception	National	District <sup>58</sup>	Management Action
<b>DEVELOPMENT AND WASTE</b>				
<b>No extraction of gravel from rivers without appropriate consideration of the environmental impacts</b>	Development that is beneficial to us all and has received approval from the Department of Lands.	X <sup>59</sup>		Department of Environment ensure EIAs in compliance with Environmental Management Act (EMA)
<b>Dumping of rubbish is prohibited</b>	None	X <sup>60</sup>	X	Report commercial/industrial breaches to Department of Environment. Report other breaches to RMC.
<b>Industrial or commercial development must not be undertaken without environmental impact assessment.</b>	None	X <sup>61</sup>		Report breaches to Department of Environment.
<b>Houses and village structures must not be built within 30m of any stream without environmental impact assessment.</b>	None	X <sup>62</sup>		Report breaches to Department of Environment.

<sup>58</sup> District rules adopted at Management Support Workshops (Vunidamoli and Bagata April 2012) and confirmed by the District Council (*Bose ni Tikina*) 22 March 2013.

<sup>59</sup> *Crown Lands Act* [Cap 132], s.10 states that material on the streambed belongs to the government and its extraction requires approval from Department of Lands. The Environmental Management Act states that an Environmental Impact Assessment is required for gravel extraction (under Schedule 2, Part 1) when it involves dredging or excavating a river bed.

<sup>60</sup> *Litter Decree 1991, s8.*

<sup>61</sup> *Environment Management Act 2005.*

<sup>62</sup> *Environment Management Act 2005, Schedule 2, Part 3.*



#### 4.2.4 Best Practice Considerations for Terrestrial and Freshwater Ecosystems

To maintain and restore the health, productivity and resilience of terrestrial ecosystems, the following practices are recommended:

RECOMMENDATION	RATIONALE
<b>FARMING</b>	
Do not use fire to clear land for farming.	Burning reduces soil fertility, increases soil erosion and reduces downstream water quality.
Do not clear, burn or farm within 50 metres of stream and river banks	Broad riparian buffers reduce soil erosion and improve downstream water quality.
Do not allow clearing, burning, farming or grazing in drinking water catchments.	Clearing, burning and grazing reduces the quality and quantity of drinking water.
Use fertilisers and pesticides only as necessary, and always follow manufacturer's instructions.	Fertilisers cause algal growth and eutrophication. Many pesticides are toxic to people and animals.
Do not farm on steep slopes. Use terrace and contour planting to control soil erosion.	Farming steep slopes increases soil erosion and reduces downstream water quality.
<b>FORESTS AND WATER CATCHMENTS</b>	
Do not allow clearing, burning, logging or grazing in old growth forests.	Old growth forests are home to many unique species, and may take centuries to fully recover.
Do not allow clearing, burning, logging or grazing within 100 metres of old growth forests.	Logging and grazing near old growth forest increases the risk of invasive species.
Do not allow logging within 100 metres of a river of stream.	Broad riparian buffers reduce soil erosion and improve downstream water quality.
Do not allow logging in drinking water catchments.	Logging reduces the quality and quantity of drinking water.
Monitor logging operations and report any breaches of Logging Code of Practice or licence conditions.	Community monitoring ensures compliance with environmental protection rules.
Replant logged areas using local native species.	Restoring forests after logging helps to maintain water catchment health and biological diversity.
<b>RIVERS AND RIPARIAN ZONES</b>	
Restore degraded river banks and riparian zones by planting native trees and shrubs.	Riparian vegetation reduces erosion and provides food and shade for freshwater fauna.
Do not build crossings, weirs or other structures in a manner that prevents fish migration.	Migration up and down rivers is a vital part of the life cycle of many fishes, including food fish.
<b>INVASIVE SPECIES</b>	
Do not introduce invasive species.	Invasive species reduce agricultural productivity and threaten native plants and animals.

#### 4.2.5 Terrestrial and Freshwater Protected Areas

Communities have identified terrestrial and freshwater protected areas (see Figure 4.1 on page 25) as a key element of their management plan. These are accorded traditional *tabu* status. Locations of these areas and the specific management rules that will be applied to them are outlined below.

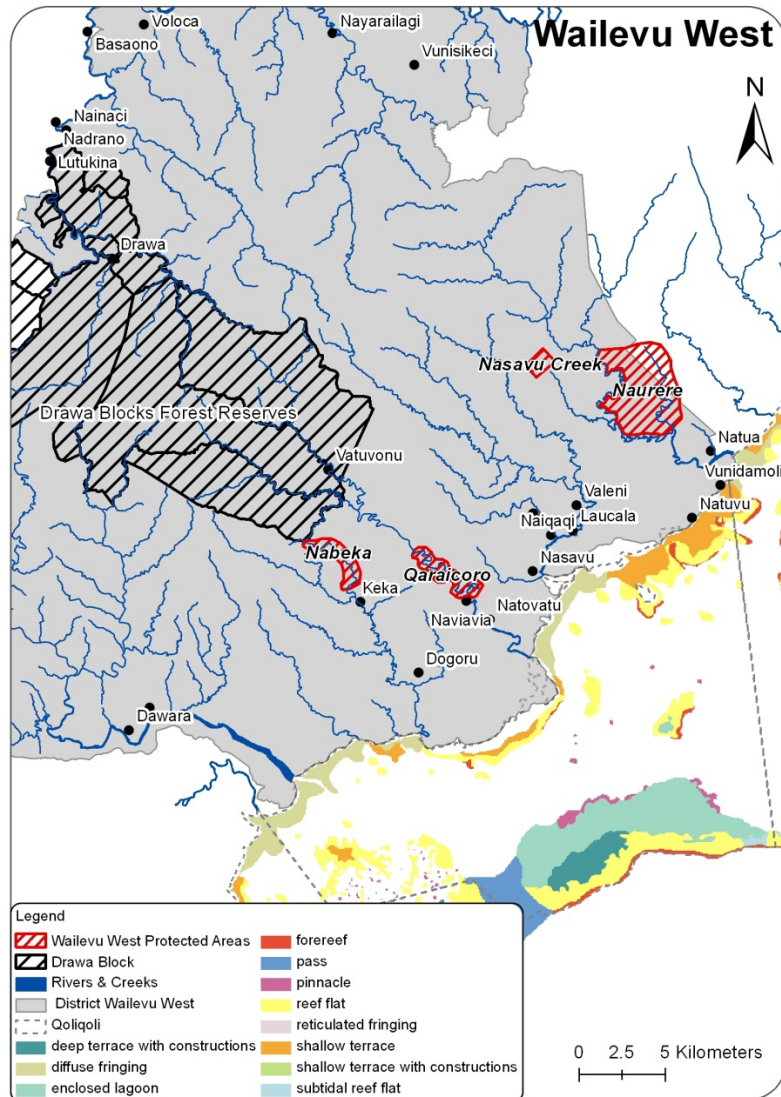


Table 4. 3. Management rules for terrestrial/freshwater protected areas in Wailevu West.

Responsibility	Rule	Exception
<b>Nabeka</b>		
Keka	No taking of fish or invertebrates	Can be opened (one day only) to cater for a limited number of church or village functions
<b>Qaraicoro</b>		
Naviavia	No taking of fish or invertebrates	None
<b>Nasavu Creek</b>		
Valeni (Mataqalis Vunisisiti & Droniwai)	No logging	None
<b>Naurere Creeks</b>		
Natua	No logging or cutting of trees No taking of fish or invertebrates No one is allowed in the forest <i>tabu</i> area No farming is allowed within the <i>tabu</i> area No killing of animals or birds	Can be opened (one day only) to cater for a limited number of church or village functions

The Drawa Block Forest Reserve is a large sustainable forestry project that has been supported by GTZ (who provide technical development support on behalf of the German Government) in partnership with the Forestry Department and local communities. A central ridge-top area of protection forest covers 32% of Drawa, 24% is either preserved (for conservation) or non-forest, and 44% is multiple-use forest where timber production is allowed.

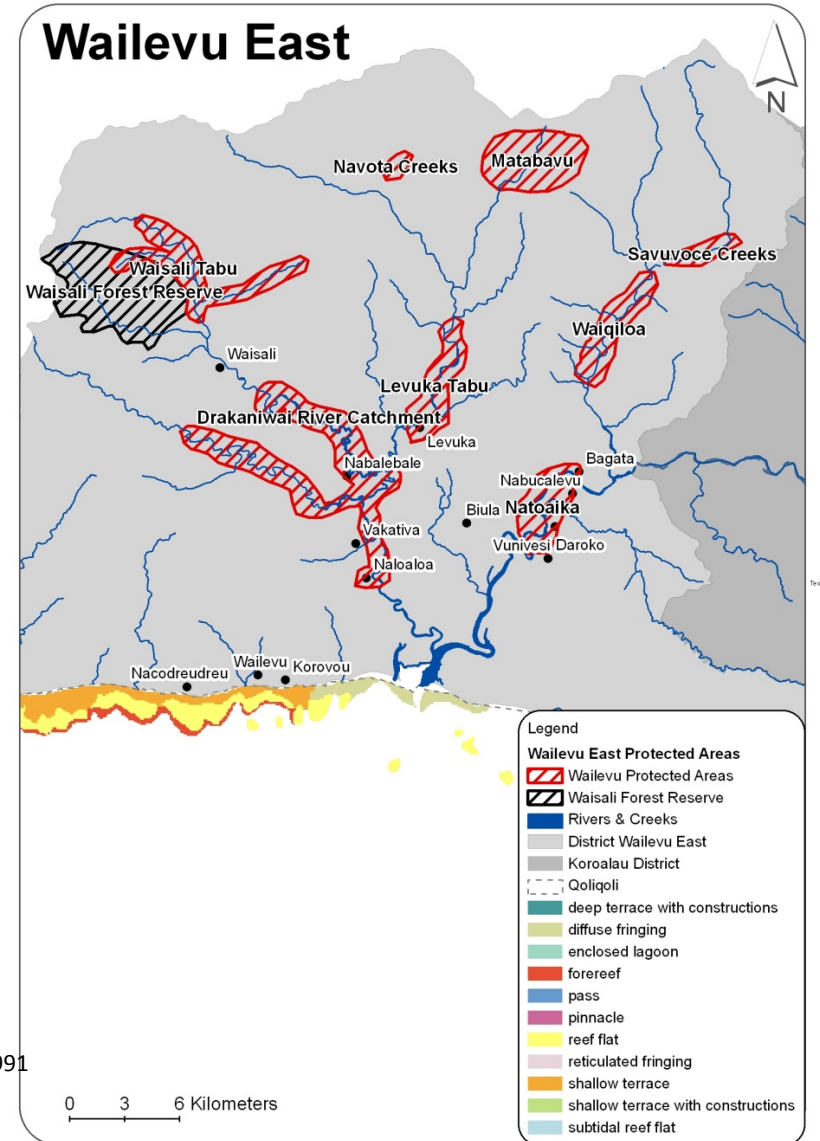
Figure 4. 2. Terrestrial and freshwater protected areas in Wailevu West (left).

Figure 4. 3. Terrestrial and freshwater protected areas in Wailevu East (below)

Table 4. 4. Management rules for terrestrial /freshwater protected areas in Wailevu East.

Responsibility	Rule	Exception
<b>Waisali Tabu<sup>63</sup></b>		
Waisali	No taking of fish or invertebrates	None
<b>Drakaniwai River Catchment</b>		
Yavusa Drakaniwai (Nabalebale, Vakativa, Naloalao)	No taking of fish or invertebrates	None
<b>Levuka Tabu</b>		
Levuka	No taking of fish or invertebrates	Can be opened (one day only) to cater for a limited number of traditional occasions. Can be opened for ecotourism activities
<b>Navota Creeks</b>		
Levuka	No taking of fish or invertebrates	Can be opened (one day only) to cater for a limited number of traditional occasions.
<b>Matabavu</b>		
Levuka	No logging or cutting trees No farming No taking fish or invertebrates No killing animals or birds	None
<b>Natoaika</b>		
Yavusa Natoaika (Mataqalis Vunivesi, Daroko and Nabucalevu)	No taking of fish or invertebrates	None
<b>Waiqiloa</b>		
Bagata	No taking of fish or invertebrates	Can be opened (one day only) to cater for a limited number of traditional occasions Can be opened for ecotourism
<b>Natoaika</b>		
Yavusa Natoaika (Vunivesi, Daroko and Nabucalevu)	No taking of fish or invertebrates	None

<sup>63</sup> Links to Waisali Forest Reserve which has been managed by the National Trust of Fiji since 1991



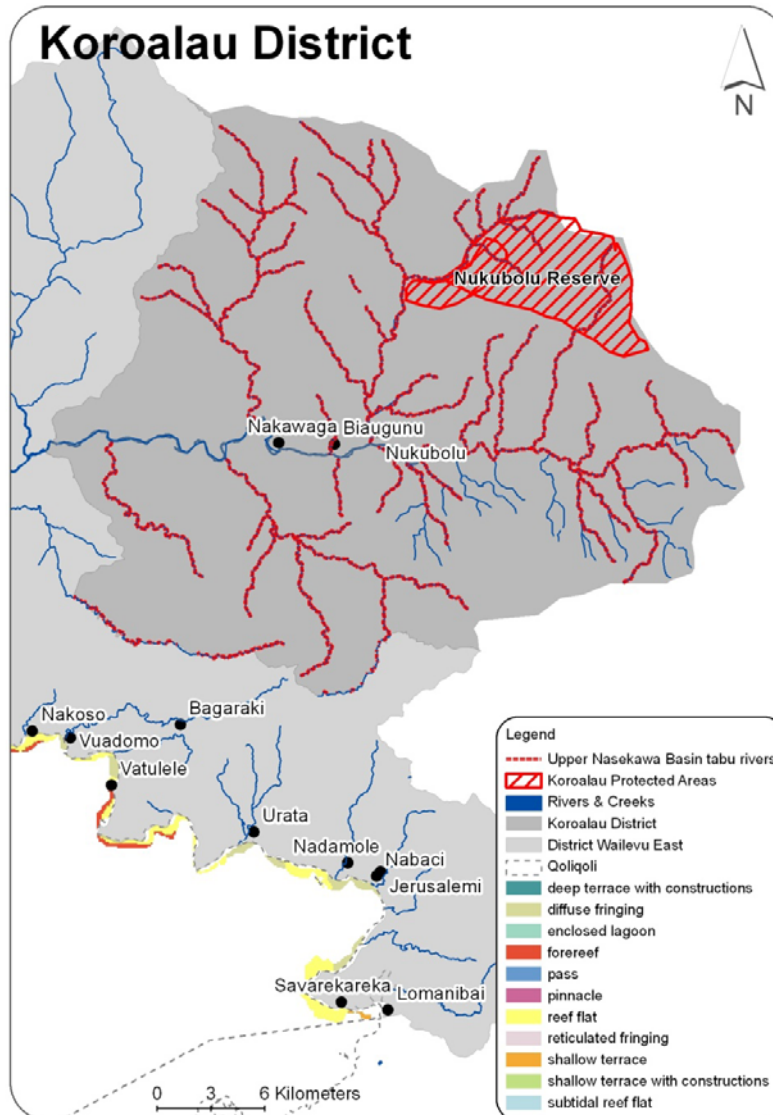


Figure 4. 4. Terrestrial and freshwater protected areas in Koroalau.

Upper Naswkawa Basin Tabu Rivers have a 10m buffer from the edge of riverbanks.

Table 4. 5. Management rules for terrestrial and freshwater protected areas in Koroalau

Responsibility	Rule	Exception
<b><i>Nukubolu Reserve</i></b>		
Nukubolu	No logging or cutting trees No farming No fishing No killing of animals or birds	None
<b><i>Upper Nasekawa Basin tabu rivers</i></b>		
Nukubolu and Nakawaga	No taking of fish or invertebrates	None

#### 4.2.6 Management Activities for Terrestrial and Freshwater Ecosystems

Table 4.6 below outlines management activities to be undertaken in relation to terrestrial and freshwater ecosystems in Wailevu District.<sup>64</sup>

Table 4.6. Management activities for terrestrial and freshwater ecosystems.

ISSUE	ACTIVITY	IMPLEMENTATION	TO BE COMPLETED BY
<b>SHORT TERM</b>			
<b>Protected areas haven't been officially established and blessed</b>	Communities can start implementing rules and protected areas immediately, final plans need to be presented to Tui Wailevu and Bose Vanua for endorsement at a blessing/ launching ceremony	RMCs	Feb 2013
<b>Lack of awareness of sustainable farming practices</b>	Education/training on sustainable farming practices, including alternatives to burning and shifting cultivation and the intensive use of chemicals	WCS to engage a training provider and organise training through RMCs	May 2013
<b>Communities and stakeholders need to be aware of protected area boundaries and understand rules</b>	Update villages through village meetings. Ensure they understand rules and protected area boundaries	RMC representatives	Mar 2013
	Identify key stakeholders and provide them with updated rules and maps of protected areas	WCS and RMCs	Feb 2013
<b>Lack of awareness of the impacts of logging and failure to comply with rules and laws</b>	Education/training to build understanding and help apply principles of forest conservation	RMCs to highlight management rules and promote good practice	Apr 2013
	Circulate copies of the Fiji Forest Harvesting Code of Practice to those monitoring forest areas		Apr 2013
<b>Need effective monitoring and enforcement to implement the plan</b>	Identify and put in place local mechanisms for monitoring terrestrial and freshwater rules, recording any breaches and feeding back to RMCs. Confirm this with villages through village meetings	RMCs	May 2013

<sup>64</sup> Identified at the RMCs at Management Support Workshops in Bagata and Vunidamoli, April 2012.

ISSUE	ACTIVITY	IMPLEMENTATION	TIMEFRAME
<b>MEDIUM / LONG TERM</b>			
<b>Need effective monitoring and enforcement to implement the plan<sup>65</sup></b>	Record and report breaches of the rules and the logging code of practice.	RMCs	Jun 2013 onwards
	Review how breaches are acted upon when reported	RMCs	Sept 2013
	Review potential to formalise Protected Area status if required	WCS and Dept Forestry can provide options for protected area status for RMCs consideration	Mar 2014
<b>Need to change attitudes and practices in local communities</b>	RMC members to identify and undertake any training required to increase their effectiveness in communication and monitoring. They will apply these skills to implement the management plan and influence attitudes and behaviours of local people	WCS and RMCs	Dec 2013
<b>Lack of alternative income puts pressure on villages to utilise their natural resources unsustainably</b>	Provide training and support development of local sustainable enterprises (with an initial focus on kuta mats, virgin coconut oil and eco-tourism)	WCS, RMCs and partners with relevant remit, funding and skills	Aug 2013

<sup>65</sup> See Section 5 for more detailed guidelines and protocols for monitoring and enforcement of management rules.

## 4.3 MANAGEMENT OF COASTAL AND ESTUARINE ECOSYSTEMS

### 4.3.1 Management Targets for Coastal and Estuarine Ecosystems

The following management targets were identified for coastal and estuarine ecosystems in Wailevu<sup>66</sup>:

Targets for coastal and estuarine ecosystems
<ul style="list-style-type: none"> <li>• Maintain or increase total <b>area of mangroves</b>.</li> <li>• Maintain or increase abundance and biomass of <b>crabs and mangrove lobsters, fish, invertebrates, prawns, beche-de-mer and shellfish</b>.</li> </ul>

### 4.3.2 Threats to Coastal and Estuarine Ecosystems

Participants also identified the following key threats to the health and productivity of estuarine and coastal ecosystems in Wailevu:

Threats to coastal/estuarine ecosystems	Contributing factors
Mangrove cutting	<ul style="list-style-type: none"> <li>• Lack of awareness of the importance of mangrove ecosystems</li> <li>• Harvesting firewood for copra driers</li> </ul>
Poor waste management	<ul style="list-style-type: none"> <li>• Lack of rubbish disposal pits (leading to dumping in mangroves)</li> <li>• Waste from pig pens</li> <li>• Lack of awareness of environmental and health impacts</li> </ul>
Over-harvesting of fish and invertebrates	<ul style="list-style-type: none"> <li>• Lack of awareness of importance of mangrove fisheries</li> <li>• Need to cater for functions and community events</li> <li>• Increased need for money</li> <li>• Lack of motivation to follow good practice fishing methods</li> <li>• Longing for certain foods</li> </ul>
Poisoning and use of chemicals	<ul style="list-style-type: none"> <li>• Lack of understanding about the impacts</li> <li>• Laziness and poor time management</li> </ul>
Foreshore development	<ul style="list-style-type: none"> <li>• Increased interest from developers and increasing need for money (linked to growth in population and paid-for goods and services)</li> </ul>
Flooding	<ul style="list-style-type: none"> <li>• Cutting or burning trees on the riverbank</li> <li>• Natural disasters</li> </ul>

These targets and threats are illustrated graphically in **Appendix 6** (coastal and estuarine threats diagram).

<sup>66</sup>Adopted at the RMC Management Support Workshops in Bagata and Vunidamoli, April 2012.



### 4.3.3 Management Rules for Coastal and Estuarine Ecosystems

The following management rules apply to all coastal and estuarine areas in Wailevu District, as shown in **Table 4.7** below.

**Table 4.7.** Coastal and estuarine management rules (continued over the page)

Management Rule	Exception	National	District <sup>67</sup>	Management Action
<b>FISHING AND CRABS</b>				
<b>Laying of nets beside mangrove for fishing is prohibited</b>	Prawn nets		X	Monitoring by fish wardens and Turaga ni Koro. Report breaches to RMC.
<b>No laying nets overnight</b>	None		X	Monitoring by fish wardens and Turaga ni Koro. Report breaches to RMC.
<b>Using a net in an estuary or within 100m of the mouth of any river or stream is prohibited</b>	Fishing with a hand net, wading net or cast net.	X <sup>68</sup>		Monitoring by fish wardens. Report breaches to Department of Fisheries.
<b>Use of derris roots (fish poison) prohibited</b>	None	X <sup>69</sup>		Monitoring by fish wardens. Report breaches to Fisheries Department.
<b>Harvesting undersized fish and crabs is prohibited</b>	None	X <sup>70</sup>		Raise awareness of size limits (distribute tables and rulers). Monitoring by fish wardens.
<b>Taking any protected species is prohibited</b>	None	X <sup>71</sup>		Report breaches to the Department of Environment.

<sup>67</sup> All district rules were initially adopted by the RMCs in Vunidamoli and Bagata, 17-20 April 2012.

<sup>68</sup> *Fisheries Regulations* r.7 states 'No net other than hand nets, wading nets and cast nets shall be permitted for the purpose of taking fish in the estuary of any river or stream or in the sea within 100m of the mouth of a river or stream.

<sup>69</sup> *Fisheries Regulations* r8 bans use of any derris or duva extract for fishing in Fiji

<sup>70</sup> *Fisheries Regulations* r. 18, 19, 21, 25B.

<sup>71</sup> *Fisheries Regulations, Endangered and Protected Species Act 2002.*



Management Rule	Exception	National	District <sup>72</sup>	Management Action
<b>CUTTING MANGROVES</b>				
<b>Cutting and clearing of mangroves for commercial purposes is prohibited.</b>	Except cutting of rotten mangrove trees to establish access for boats or harvesting approved by the RMC and Department of Lands.	X <sup>73</sup>	X	Monitor. Report breaches to RMC and Department of Lands.
<b>WASTE DISPOSAL</b>				
<b>Dumping of rubbish in estuaries, mangroves and on foreshores is prohibited</b>	None	X <sup>74</sup>	X	Report breaches by commercial or industrial facilities to Department of Environment. Report other breaches to RMC.
<b>PIGS AND LIVESTOCK</b>				
<b>Livestock and piggery are prohibited within 50m of mangrove forest and coastal high tide mark</b>	None		X	Raise awareness of this rule and reasoning. Monitor compliance. Report breaches to RMC.
<b>SAND AND BEACHFRONT TREES</b>				
<b>Sand extraction for commercial use is prohibited</b>	Village housing schemes and projects with approval from the Department of Lands. <sup>75</sup>		X	Raise awareness of this rule and reasoning. Monitor compliance. Report breaches to RMC and Department of Mineral Resource Dept
<b>Cutting of native trees and coconut on the beachfront is prohibited</b>	For herbal medicine		X	Raise awareness of this rule and reasoning. Monitor compliance. Report breaches to RMC.

<sup>72</sup> All district rules were adopted by the RMC in Vunidamoli and Bagata, 17-20 April 2012.

<sup>73</sup> *Crown Lands Act* [Cap. 132], s.32. *Forest Decree 1992*, ss.9, 22. Customary rights to harvest timber for firewood and village construction are protected in *Forest Decree*.

<sup>74</sup> *Litter Decree 1991*, s8.

<sup>75</sup> *Crown Lands Act* [Cap 132], s.10.

#### 4.3.4 Best Practice Considerations for Coastal and Estuarine Ecosystems

To maintain and restore the health, productivity and resilience of coastal and estuarine ecosystems, the following practices are recommended:

RECOMMENDATION	RATIONALE
Limit harvesting of mangroves to ensure no net loss in mangrove area.	Mangroves are valuable as a fish hatchery, nursery, feeding ground and habitat.
Restore degraded mangrove areas by planting native mangrove species.	Mangroves reduce coastal erosion and provide valuable protection from storm surges.
If a <i>tabu</i> is opened, do not use nets with a mesh size less than 75mm (except for small hand nets) and limit take to amount likely to have accumulated during closure	Periodic harvesting can affect species abundance and diversity, wiping out any conservation gains through the <i>tabu</i> .
Houses and village structures (including jetties) should not be built within 30m of high tide mark without an environmental impact assessment. <sup>76</sup>	Building in the coastal zone could cause coastal erosion and result in pollution of marine waters.
Industrial or commercial development must not be undertaken without environmental impact assessment. <sup>77</sup>	A wide range of environmental impacts may result from such development, for example coastal erosion or pollution and damage to natural ecosystems such as mangroves.

#### 4.3.5 Coastal and Estuarine Protected Areas

There are twelve MPAs that include or adjoin the coastline of Wailevu and incorporate coastal and estuarine habitats (see **Figure 4.1** and **Table 4.1**). The management rules for these areas focus on the prohibition of fishing as a means of preserving or enhancing fish stocks and are described in Tables 4.10 and 4.11 in the section on marine habitats. There are no protected areas with an exclusive focus on managing coastal or estuarine habitats or conserving their incumbent species.

<sup>76</sup> *Environment Management Act, 2005*

<sup>77</sup> *Environment Management Act, 2005*

#### 4.3.6 Management Activities for Coastal and Estuarine Ecosystems

**Table 4. 8.** Management activities for coastal and estuarine ecosystems in Wailevu District.<sup>78</sup>

ISSUE	ACTIVITY	IMPLEMENTATION	TIMEFRAME
<b>SHORT TERM</b>			
<b>Communities and stakeholders need to be aware of and understand management rules</b>	Update villages through village meetings. Ensure they understand management rules for coastal and estuarine ecosystems	RMCs	Mar 2013
	Identify key stakeholders and provide them with updated management rules	WCS and RMCs	Feb 2013
<b>Need effective mechanism for monitoring and enforcement to implement plan</b>	Identify and put in place local mechanisms for monitoring coastal/estuarine areas, recording any breaches of rules and feeding back to RMC and relevant authorities. Confirm this with villages through village meetings	RMCs	Apr 2013
	Report incidents of illegal commercial sale of timber from mangroves (to help enforce the national law prohibiting commercial mangrove cutting)	Villages and RMCs	Immediately and on an ongoing basis
<b>MEDIUM / LONG TERM</b>			
<b>Need effective monitoring, enforcement practice and review of implementation<sup>79</sup></b>	Record and report breaches of rules and laws for coastal and estuarine ecosystems	Fish wardens	May 2013 onwards
	Review enforcement issues at district level to identify specific issues /challenges	Fish wardens, RMCs and Department of Fisheries	Sep 2013
	Consider establishment of additional coastal and estuarine protected areas in Wailevu	RMCs	Mar 2014 Mar 2015
<b>Need to change attitudes and practices in local communities</b>	RMCs actively seek to influence attitudes and changes in local practices. WCS and YMST to provide relevant information and support towards this	WCS and RMCs	Aug 2013

<sup>78</sup> Identified at the RMC Management Support Workshops in Bagata and Vunidamoli, April 2012.

<sup>79</sup> See Section 5 for more detailed guidelines and protocols for monitoring and enforcement of management rules.

## 4.4 MANAGEMENT OF MARINE ECOSYSTEMS

### 4.4.1 Management Targets for Marine Ecosystems

The following management targets were identified for marine ecosystems in Wailevu<sup>80</sup>:

Targets for marine ecosystems
<ul style="list-style-type: none"> <li>• Increase abundance and biomass of food fish and endangered fish species (including bumphead parrotfish, grouper, emperor and humphead wrasse)</li> <li>• Increase invertebrate abundance and biomass, including clams, conch and beche-de-mer.</li> <li>• Maintain or improve abundance and diversity of coral species and enhance the health, productivity and resilience of coral reefs.</li> <li>• Maintain or improve abundance and diversity of sharks</li> </ul>

### 4.4.2 Threats to Marine Ecosystems

Participants identified the following threats to the health and productivity of marine ecosystems:

Threats to marine ecosystems	Contributing factors
Overfishing	<ul style="list-style-type: none"> <li>• Lack of awareness of community management rules</li> <li>• Lack of awareness of impacts of overharvesting</li> </ul>
Destructive fishing practices including dynamite, <i>derris</i> root, compressor, night diving and using nets with undersize mesh	<ul style="list-style-type: none"> <li>• Lack of alternative sources of protein</li> <li>• Lack of awareness and enforcement of national fisheries legislation</li> <li>• Increased need for money (linked to growth in population and paid-for goods and services)</li> <li>• Failure to comply with national laws on destructive fishing methods</li> </ul>
Oil spill from village boats	<ul style="list-style-type: none"> <li>• Lack of care and awareness by fishermen</li> </ul>
Sedimentation from run-off	<ul style="list-style-type: none"> <li>• Logging, farming and mining practices that contribute to soil erosion</li> </ul>
Poaching	<ul style="list-style-type: none"> <li>• Lack of enforcement and monitoring of <i>tabu</i> areas</li> <li>• Lack of equipment and boat for fish wardens</li> </ul>

Increasing demand for cash and lack of alternative income sources were identified as driving the intensity of fishing practices. Overfishing is exacerbated by enhanced access to markets via locally based middlemen and limited enforcement and monitoring linked to a lack of equipment and resources for fish wardens.

Strategies to address these threats identified the need to develop alternative sources of income, raise awareness on the impacts of unsustainable practices and properly enforce management rules.

These targets and threats are illustrated graphically in **Appendix 7** (Wailevu marine threats diagram) and provided a reference when identifying protected areas and drafting management rules and activities.

<sup>80</sup>Identified at the RMC Management Support Workshops in Bagata and Vunidamoli, April 2012

#### 4.4.3 Management Rules for Marine Ecosystems

The following management rules apply across all of Wailevu’s customary fishing grounds, as shown in **Table 4.9** below.

**Table 4.9.** Marine management rules for Wailevu customary fishing grounds.

Management Rule	Exception	National	District <sup>81</sup>	Management Action
<b>FISHING METHODS</b>				
<b>Use of SCUBA and compressor is prohibited</b>	Except for scientific survey and eco-tourism (diving) approved by RMC and Tui Wainunu	X <sup>82</sup>		Monitoring by fish wardens. Report breaches to Department of Fisheries and Police.
<b>Using crowbar for harvesting invertebrates is prohibited</b>	None		X	Monitoring by fish wardens. Report breaches to RMC.
<b>Use of derris roots (fish poison) or dynamite is prohibited</b>	None	X <sup>83</sup>		Monitoring by fish wardens. Report breaches to Department of Fisheries and the Police.
<b>Nets with mesh size less than 50mm are prohibited<sup>84</sup></b>	None	X <sup>85</sup>		Monitoring by fish wardens. Report breaches to Department of Fisheries and the Police.
<b>Taking of undersized fish and invertebrates, smaller than their size limit, is prohibited</b>	None	X <sup>86</sup>		Monitoring by fish wardens. Report breaches to Department of Fisheries and the Police.
<b>Laying nets overnight on reefs is prohibited</b>	None		X	Monitoring by fish wardens. Report breaches to RMC.
<b>Night diving to fish with spear or speargun is prohibited</b>	None		X	Monitoring by fish wardens. Report breaches to RMC.
<b>Fishing for ‘trade or business’ without a fishing licence, or breaching the conditions of a fishing license is prohibited</b>		X <sup>87</sup>		Monitoring by fish wardens. Report breaches to Department of Fisheries and the Police.

<sup>81</sup> All district rules were adopted by the RMC in Vunidamoli and Bagata, 17-20 April 2012.

<sup>82</sup> Fisheries (Restrictions on use of Breathing Apparatus) Regulations 1997 r 4: anyone using or owning underwater breathing apparatus to catch fish is liable to a fine of \$400 and/or imprisonment for six months

<sup>83</sup> *Fisheries Regulations* r8 bans use of any derris or duva extract for fishing in Fiji. *Fisheries Act* (Cap 158) s 10(4) outlaws use of dynamite for fishing - fines up to FJD5,000 and mandatory jail term for all convictions

<sup>84</sup> *Fisheries Regulations* r16 (hand nets with a mesh of 40mm can be used for freshwater prawns and nets with a mesh of 15mm can be used for sardines)

<sup>85</sup> *Fisheries Regulations* r16

<sup>86</sup> Catching fish that have not yet reproduced reduces the productivity of the fishery

<sup>87</sup> *Fisheries Act* (Cap 158) s 5(3)

Management Rule	Exception	National	District <sup>88</sup>	Management Action
<b>PROTECTED SPECIES</b>				
<b>Taking of conch is prohibited</b>	None	X <sup>89</sup>		Monitoring by fish wardens. Report breaches to Department of Fisheries and the Police.
<b>Catching of sharks is prohibited</b>	None		X	Monitoring by fish wardens. Report breaches to RMC
<b>Fishing of whales and dolphins is banned</b>	None		X	Monitoring by fish wardens. Report breaches to RMC
<b>Taking any of the protected marine species is prohibited, including Humphead Wrasse, Bumphead Parrotfish and turtles (or their eggs).</b>	None	X <sup>90</sup>		Monitoring by fish wardens. Report breaches to Department of Environment and police.
<b>CORAL</b>				
<b>Dropping anchor on coral reef is prohibited</b>	None		X	Monitoring by fish wardens. Report breaches to RMC.
<b>Removing coral is prohibited</b>	None		X	Monitoring by fish wardens. Report breaches to RMC.
<b>DIVING</b>				
<b>No unauthorised diving</b>	The Tui Wailevu and the RMC will approve any research and eco-dive within the Wailevu qoliqoli		X	Monitoring by fish wardens Report breaches to RMC
<b>No night diving</b>			X	Monitoring by fish wardens. Report breaches to RMC.
<b>WASTE</b>				
<b>Dumping of rubbish in the ocean or on the foreshore is prohibited</b>		X <sup>91</sup>	X	Report breaches by commercial or industrial facilities to Department of Environment. Report other breaches to RMC.

<sup>88</sup> All district rules were adopted by the RMCs in Vunidamoli and Bagata, 17-20 April 2012.

<sup>89</sup> *Fisheries Regulations, Endangered and Protected Species Act 2002.*

<sup>90</sup> *Fisheries Regulations, Endangered and Protected Species Act 2002*

<sup>91</sup> *Litter Decree 1991, s8.*

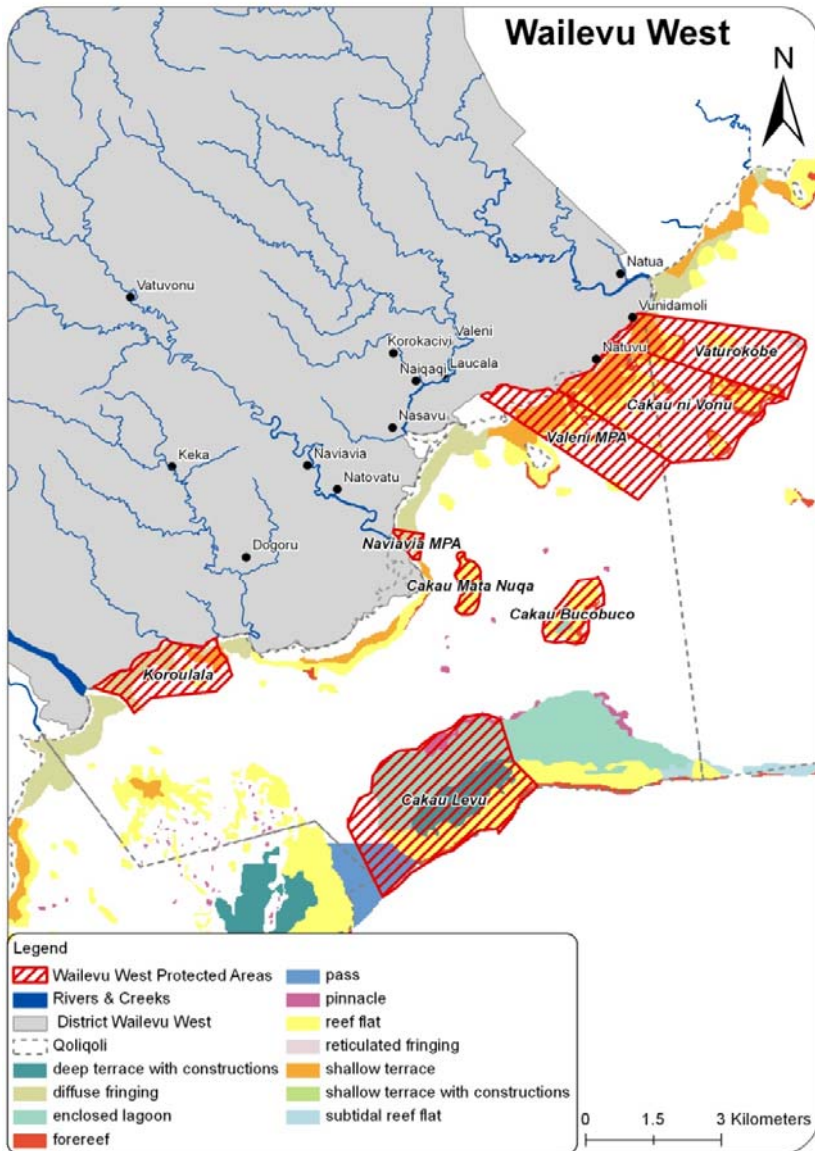
#### 4.4.4 Best practice Considerations for Marine Ecosystems

To maintain and restore the health, productivity and resilience of marine ecosystems, the following practices are recommended:

RECOMMENDATION	RATIONALE
Protect MPAs for at least 5 years before any harvesting	A tabu will take time to have affect changes to abundance, biomass and diversity. 5 years is the minimum recommended period on which real change can be reliably measured
If MPAs are opened, do not use nets with a mesh size less than 75 mm (except for small hand nets), limit take to amount likely to have accumulated during closure, leave the largest females to reseed the population, and shut down the harvest once the target has been reached	Periodic harvesting can affect species abundance and diversity, wiping out any conservation gains through the <i>tabu</i> .
Do not take fish or invertebrates that are gravid (e.g. large stomach fish, berried crustaceans).	Protecting gravid fish and crustaceans increases the productivity of the fishery.
Do not take fish in migratory 'bottlenecks' during peak migration seasons.	Targeting migrating fish in reef channels or estuaries reduces the productivity of the fishery.
Consider relocating giant clams to marine protected areas or <i>tabu</i> areas.	Protecting clams until they reach reproductive size will help local clam populations to recover.
Maintain spawning aggregations by protecting spawning sites, including reef channels	Protecting spawning aggregation sites increases the productivity of the fishery.
Do not take fish or invertebrates smaller than the Recommended Catch Size Limits listed in Appendix 3	Catching fish that have not yet reproduced reduces the productivity of the fishery.

#### 4.4.5 Marine Protected Areas

Communities have identified MPAs as a key element of their management plan. These will be accorded traditional *tabu* status. The locations and specific management rules for these areas are outlined below.



**Figure 4. 50** MPA management rules for MPAs in Wailevu West

Responsibility	Rules	Exception
<b>Koroulala</b>		
Dawara	No taking fish or invertebrates	None
<b>Cakau Mata Nuqa</b>		
Naiqaqi	No harvesting of invertebrates No spear fishing or line fishing No tourist visits No night diving	Can be opened for a short time to cater for a limited number of traditional occasions
<b>Cakau Bucobuco</b>		
Laucala	No taking fish or invertebrates	Can be opened (one day only) to cater for a limited number of church, school or government obligations
<b>Valeni MPA</b>		
Valeni	No taking of fish or invertebrates	None
<b>Cakau ni Vonu</b>		
Natuvu	No taking of fish or invertebrates	None
<b>Vatuokobe</b>		
Vunidamoli and Natua	No taking of fish or invertebrates No entry in to the MPA	None
<b>Cakau Levu</b>		
District	No taking fish or invertebrates	Can only be opened for the passing of Tui Wailevu



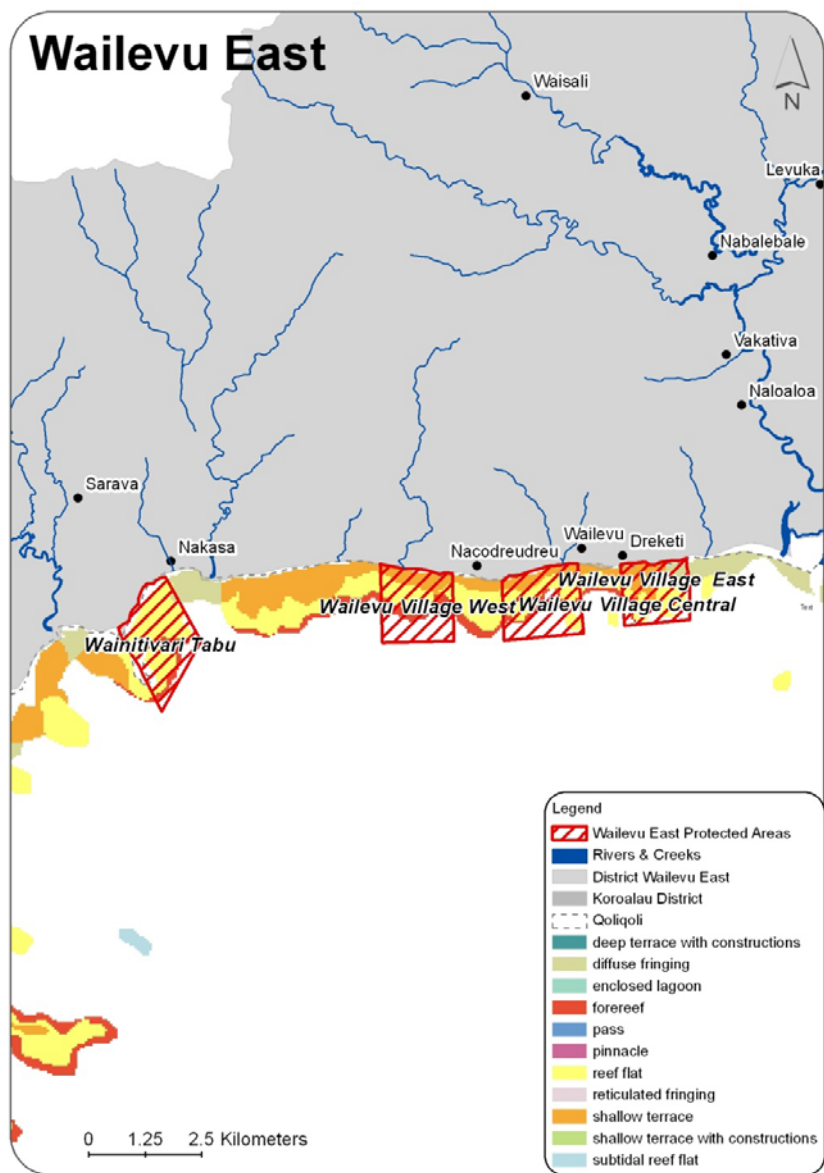


Figure 4. 6. MPAs in Wailevu East fishing grounds (section to the west of the Nasekawa River estuary).

Table 4. 11. Management rules for MPAs in Wailevu East (west of the Nasekawa River estuary)

Responsibility	Rule	Exception
<b>Wainitivari</b>		
Nakasa	No taking fish or invertebrates	Can be opened (one day per year only) to cater for a church or village function
<b>Wailevu Village West</b>		
Wailevu Village and Nacodreudreu	No taking fish or invertebrates	None
<b>Wailevu Village Central</b>		
Wailevu Village	No taking fish or invertebrates	None
<b>Wailevu Village East</b>		
Wailevu Village and Dreketi	No taking fish or invertebrates	None

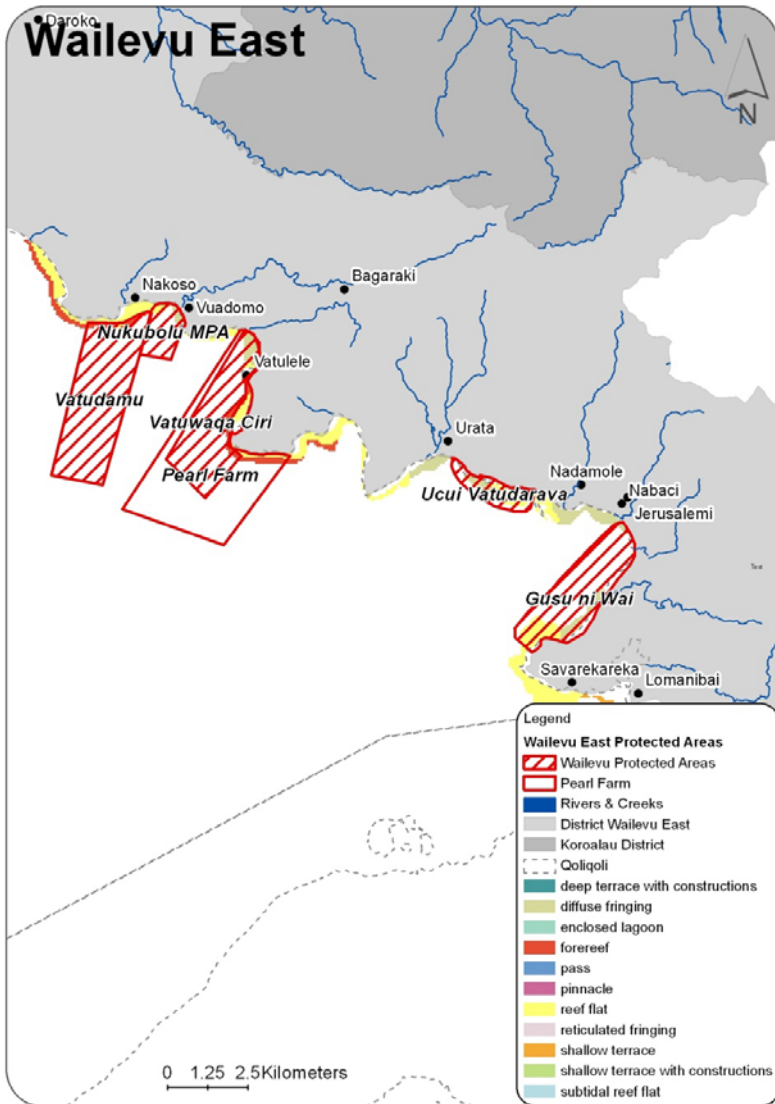


Table 4. 12. Management rules for MPAs in Wailevu East (east of Nasekawa River estuary)

Responsibility	Rule	Exception
<b>Vatudamu</b>		
Nakoso	No taking fish or invertebrates	None
<b>Nukubolu MPA</b>		
Vuadomo	No taking fish or invertebrates	Can be opened for a short period to cater for a limited number of church or village functions
<b>Vatuwaqa Ciri</b>		
Vatulele	No taking of fish or invertebrates	None
<b>Ucu Vatudarava</b>		
Urata	No taking of fish or invertebrates	None
<b>Gusu ni Wai</b>		
Jerusalemi, Nabaci and Nadamole	No taking of fish or invertebrates	None

Figure 4. 7. MPAs in Wailevu East fishing grounds (east of the Nasekawa estuary)

#### 4.4.6 Management Activities for Marine Ecosystems

**Table 4. 13.** Management activities for marine ecosystems in Wailevu District.<sup>92</sup>

ISSUE	ACTIVITY	IMPLEMENTATION	TIMEFRAME
<b>SHORT TERM</b>			
<b>Protected areas haven't been officially established and blessed</b>	Communities can start implementing rules and protected areas immediately, final plans need to be presented to Tui Wailevu and Bose Vanua for endorsement at a blessing/ launching ceremony	RMCs	Feb 2013
<b>Communities and stakeholders need to be aware of MPA boundaries and understand all rules</b>	Explain management rules and highlight MPA boundaries at village meetings.	RMCs	Mar 2013
	Consider whether/how MPA boundaries will be demarcated	WCS and village meetings	Feb 2013
	Identify key stakeholders and provide them with updated rules and maps of protected areas	WCS identify stakeholders and send rules and maps	Mar 2012
	Raise awareness of catch size limits and fish breeding seasons by producing and distributing size limit flyers/posters and fish rulers.	RMCs and fish wardens	Apr 2013
<b>Need to establish an effective mechanism for monitoring and enforcement</b>	Identify and put in place local systems for monitoring marine areas (particularly MPAs), recording any breaches of rules and feeding back to RMCs, Department of Fisheries and police. Confirm this with villages through village meetings.	RMCs working with fish wardens and villages	May 2012
	Enforce rules and laws, reporting and acting upon breaches as appropriate.	RMCs working with fish wardens and villages	May 2013 onwards
<b>Build capacity to promote good practice and enforce management rules</b>	Identify key training needs, identify training providers and organise training.	WCS and RMCs	Mar 2013
<b>MEDIUM / LONG TERM</b>			
<b>Need effective monitoring, enforcement and review of implementation</b>	Record and report breaches or rules and laws	Fish wardens	Jul 2012 onwards
	Monitor the impact of the MPAs against the targets identified in Section 4.3.1 above	WCS and RMCs	Jul 2014
	Consider the coverage and placement of additional MPAs in Wailevu	RMCs	Feb 2016

<sup>92</sup> Identified at the RMC Management Support Workshops in Vunidamoli and Bagata, 17-20 April 2012.

# 5 COMPLIANCE AND ENFORCEMENT

## 5.1 PROMOTING COMPLIANCE

The management rules set out in this management plan represent a synthesis of community rules and national laws relevant to ecosystem management. The community rules are based on extensive consultation and have been endorsed by the Wailevu Hierarchy Council (*Bose Vanua*). The national laws were created by the national government, and are legally binding on all people throughout Fiji.

The Resource Management Committees (RMCs) for Wailevu West and Wailevu East are responsible for coordinating activities to **raise awareness** of these management rules, and to **promote voluntary compliance** with the community rules (and compulsive compliance with the national rules). RMCs are also aware of the need to **develop awareness and understanding** within local communities through their work. In particular, RMCs are responsible for:

- distributing one copy of this **management plan** to **every village** in the district.
- distributing copies of the **management rules** to **every household** in the district.
- organising **meetings** to explain the management rules in **every village** in the district.
- organising **meetings in neighbouring districts** to explain the management rules.
- producing **flyers** and other materials to **raise awareness** of the management rules.

RMCs will emphasise the benefits of the rules, and highlight the communities' common interest in sustainable management of natural resources and ecosystems in the district.

RMCs will work with chiefs, church leaders, government officers and other stakeholders (including men, women and youth) to promote awareness of, and respect for, the management rules.

## 5.2 MONITORING AND SURVEILLANCE

RMCs are responsible for coordinating monitoring and surveillance activities to identify breaches of the rules set out in this management plan.

They will be specifically responsible for:

- planning for effective operation of community fish wardens;
- securing adequate resources and equipment for marine patrols;
- establishing a monitoring and surveillance program to identify breaches of management rules for terrestrial, freshwater and estuarine ecosystems; and
- ensuring adequate recording and reporting of breaches.

### 5.3 ENFORCEMENT

The options available for enforcement of management rules will depend on whether the rule is a community rule and/or a national law. The management rule tables in this management plan indicate whether each rule is a national law or a district community rule.

For example, in the extract below (Table 5.1):

- diving at night is prohibited by a community rule; and
- dynamite fishing is prohibited by a national law.

The footnotes to the table identify the source of the management rule.

**Table 5. 1.** Extract from the marine rules table (Table 4.8, pages 37-38), illustrating how rules are referenced by their source.

Management Rule	Exception	National	District	Management Action
Night diving prohibited			X <sup>93</sup>	Monitoring by fish wardens. Report breaches to RMCs
Leaving nets overnight (or for a period more than 1 tide) is prohibited			X <sup>94</sup>	Monitoring by fish wardens. Report breaches to RMCs
Fishing for shark is prohibited			X <sup>95</sup>	Monitoring by fish wardens. Report breaches to RMCs
The use of dynamite is prohibited		X <sup>96</sup>		Monitoring by fish wardens. Report breaches to Fisheries Department.
Nets with mesh size less than 50 mm are prohibited <sup>97</sup>		X <sup>98</sup>		Monitoring by fish wardens. Report breaches to RMCs
Catching, eating or sale of humphead wrasse is prohibited		X <sup>99</sup>		Monitoring by fish wardens. Report breaches to Fisheries Department.

<sup>93</sup> Adopted at the RMC Management Support Workshops in Vunidamoli and Bagata, 17-20 April 2012.

<sup>94</sup> Adopted at the RMC Management Support Workshops in Vunidamoli and Bagata, 17-20 April 2012.

<sup>95</sup> Adopted at the RMC Management Support Workshops in Vunidamoli and Bagata, 17-20 April 2012.

<sup>96</sup> *Fisheries Act* (Cap 158) s 10(4). Fines up to FJD5,000 and mandatory jail term for all convictions.

<sup>97</sup> *Fisheries Regulations* r16 (hand nets with a mesh of 40mm can be used for freshwater prawns and nets with a mesh of 15mm can be used for sardines) – see Appendix 2 for net size limits.

<sup>98</sup> *Fisheries Regulations* r16.

<sup>99</sup> *Endangered and Protected Species Act 2002*.

### 5.3.1 ENFORCEMENT OF NATIONAL LAWS

The RMCs will play a leading role in enforcing the rules within this management plan.

Government officers and police are responsible for enforcing national laws. Courts may impose penalties for breaches of national laws, including fines and prison sentences, and may make other orders, including cancellation of certain types of licences.<sup>100</sup> In some cases, government agencies have the power to suspend or cancel licences<sup>101</sup> or issue binding orders and notices.<sup>102</sup>

Members of the public, including resource owners, can improve law enforcement by monitoring and reporting breaches and advocating for stricter enforcement by government.

#### COMMUNITY FISH WARDENS

Community fish wardens play a special role in enforcement of the *Fisheries Act*. Fish wardens who have been appointed by the Permanent Secretary for Fisheries have the legal power to:

- order a person to display their fishing licence, gear or catch;
- board and search fishing vessels; and
- if they reasonably suspect that an offence has been committed, take the offender, the vessel, gear and catch to the nearest police station or port.

Obstructing a fish warden from boarding and searching a vessel is a criminal offence.<sup>2</sup>

It is important to note that fish wardens only have the power to enforce the *Fisheries Act*. They do **not** have the legal power to enforce other legislation.

<sup>1</sup> *Fisheries Act*, s.7(1). WHERE IS THIS REFERENCE IN THE ABOVE TEXT?

<sup>2</sup> *Fisheries Act*, s.7(2).

Detaining or assaulting a person or taking their things without legal authority is a criminal offence. This means, for example, that it is illegal to seize or damage a fishing vessel only because it was found fishing in a tabu area.

If a community rule has been breached, it may be useful to investigate whether a national law has also been breached. For example, if a vessel is found fishing in a tabu area, investigate whether the vessel has been fishing for trade or business without a licence, using a prohibited fishing method (e.g. poison, dynamite, undersized nets) or taking legally protected fish (e.g. undersized fish).

<sup>100</sup> For example, fishing licences may be cancelled if the court finds the licence holder guilty of a fisheries offence: *Fisheries Act*, s 8.

<sup>101</sup> For example, the Conservator for Forests may revoke a logging licence if a breach has occurred or is likely to occur: *Forest Decree*, s 19.

<sup>102</sup> For example, the Director of Environment may issue a prohibition notice to prevent an immediate threat or risk to the environment: *Environment Management Act 2005*, s 21.



If a national law is believed to have been breached, the following **enforcement protocol** should be followed:

1. Report the incident to the RMCs, providing as much detail as possible, including:
  - description of the incident
  - location of the incident
  - time and date of the incident
  - name and contact details of the alleged offender
  - registration number of the offender's vessel or vehicle
  - names and contact details of any witnesses
  - photographs, video and/or physical evidence.
2. If RMCs believes that a law has been breached RMCs may report the breach to the police and/or relevant government agency. Relevant government agencies are identified in the management rule tables.
3. RMCs must record the details of any report that it makes to the police and/or government agency, including the name and contact details of the officer who received the report.
4. RMCs must record the details of any action taken by the police or government agency (e.g. investigation, verbal warning, cancellation of licence, prosecution).
5. If RMCs are dissatisfied with the response of the police or government agency, they may:
  - contact the relevant officer's supervisor;
  - report the lack of action to the *Bose Vanua*;
  - report the lack of action to partner organisations; and/or
  - report the lack of action to the media.

In any case, RMCs may also initiate the community-based enforcement protocol described in the following section 5.3.2.

### 5.3.2 ENFORCEMENT OF COMMUNITY RULES

Community-based rules must be enforced in a manner that does not breach national laws. It is a criminal offence to assault or detain a person or take or damage their property without legal authority. This means, for example, that it is illegal to seize a vessel only because it was found fishing in a *tabu* area.

If a community rule has been breached, the following **enforcement protocol** should be followed:

1. Report the breach to the RMCs, providing as much detail as possible, including:
  - description of the incident
  - location of the incident
  - time and date of the incident
  - name and contact details of the alleged offender
  - registration number of the offender's vessel or vehicle
  - names and contact details of any witnesses
  - photographs, video and/or physical evidence.
2. RMCs must attempt to contact the person alleged to have breached the rule, to inform them of the alleged breach and to ask them to explain their side of the story.
3. If RMCs believes that a community rule has been breached, RMCs must inform the *Bose Vanua* of the breach, and may recommend an enforcement response.
4. If the *Bose Vanua* believes that a community rule has been breached, it may order such enforcement action(s) as it considers appropriate within the bounds of the law, including, but not limited to:
  - a verbal or written warning
  - taking the offender to task in a village meeting
  - ordering the offender to perform a community service
  - in the case of a licensed fishing vessel, placing the offender on notice that the Tui Wailevu will not issue a letter of consent for them or their vessel for a fixed period.

**Note:** This enforcement protocol may also be used for breaches of national laws, especially in cases where RMCS considers the response of the police or relevant government agency to be inadequate.

# 6 MANAGEMENT INSTITUTIONS

## 6.1 WAILEVU HIERARCHY COUNCIL

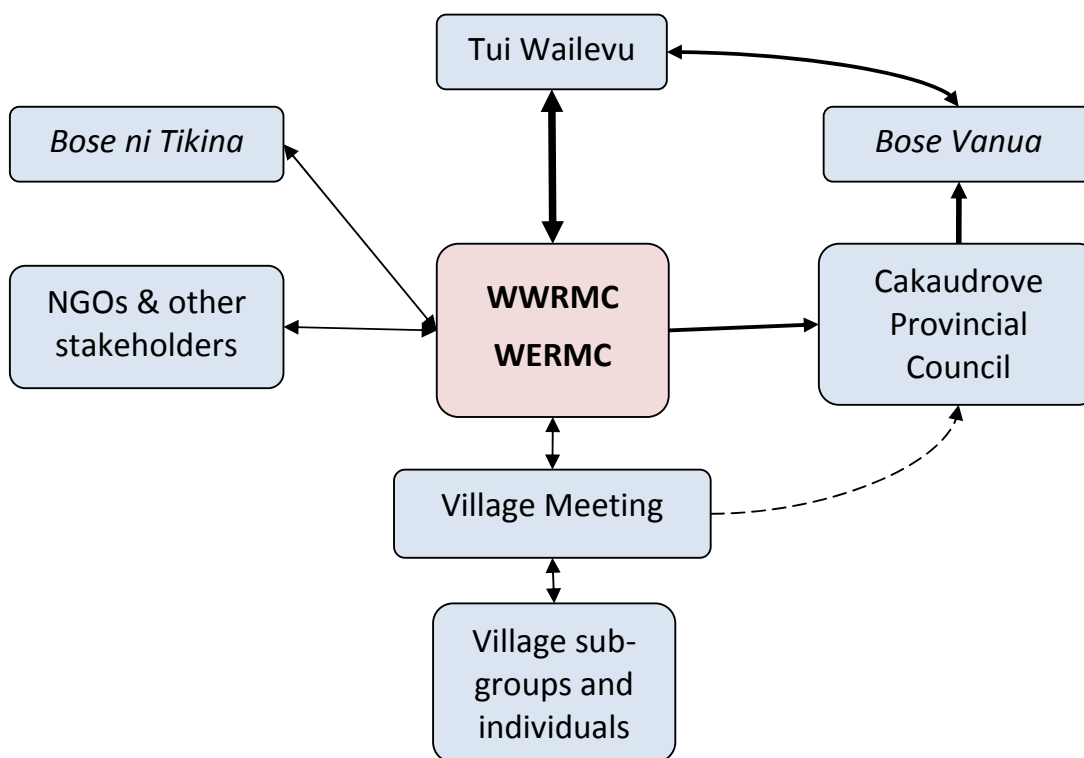
The Wailevu Hierarchy Council (*Bose Vanua*) consists of the paramount chief (*Tui Wailevu*) and clan chiefs (*turaga ni yavusa*) of Wailevu.

The communities of Wailevu recognise the traditional authority of the Bose Vanua to make decisions in relation to a wide range of matters affecting community life, including the use and management of natural resources. The Bose Vanua has formally endorsed this management plan, and entrusts the RMCs with primary responsibility for its implementation.

## 6.2 WAILEVU RESOURCE MANAGEMENT COMMITTEES

Wailevu West Resource Management Committee and Wailevu East Resource Management Committee (the RMCs) consist of at least one representative from each village in their respective area, nominated by their village.

**Figure 6.1** below demonstrates how the RMCs fit with other management institutions and key stakeholders. This structure links with the traditional hierarchy and outlines decision making and communication processes (which are outlined further in section 7.1).



**Figure 6. 1.** RMCs in relation to management institutions and stakeholders with reference to communication and decision-making processes.

The purpose of the RMCs is to promote and support sustainable management of natural resources in Wailevu district. The functions of the committee are:

- to coordinate **implementation** of the management activities identified in this management plan;
- to **raise awareness** of the management rules and activities set out in this management plan;
- to coordinate **enforcement** of the management rules set out in this management plan;
- to assess proposed **resource use and development activities**, to ensure they are consistent with this management plan, national laws and ecosystem-based management principles;
- to provide **information and advice** on resource management and alternative livelihoods;
- to **organise training** on sustainable resource management and alternative livelihoods;
- to **liaise with stakeholders**, including resource users, conservation partners and donors;
- to transparently **manage and distribute funds** for resource management and other activities; and
- to **monitor and report** to resource owners and stakeholders on implementation of this plan.

RMC protocols were adopted at the Management Support Workshops in Vunidamoli and Bagata, 17-20 April 2012. The RMC committee members were also elected at these workshops and their membership is outlined in **Table 6.1** on the next page.

Recognising their ecological and hydrological connectivity with ecosystems downstream, representatives from Nakawaga and Nukubolu have been joined the Wailevu East Resource Management Committee.

RMC representatives may be appointed for a three year term, with the option of reappointment for a further three years. All terms begin from March 2012, when the *Bose Vanua* approves the first Wailevu Ecosystem-based Management Plan. No representative may serve on the committee for more than six years.

RMCs will meet four times per year, and may hold additional meetings as necessary. Committee members from a majority of villages must be present to make decisions (i.e. 7 out of the 12 villages must be represented in Wailevu West; and 9 out of the 17 in Wailevu East). The RMC Chairmen report to the *Bose Vanua* and attend *Bose Vanua* meetings as an observer.

### 6.2.1 RMC SUB-COMMITTEES

The RMCs have chosen not to establish any sub-committees, but will monitor their workloads to determine whether they need to do so in future.

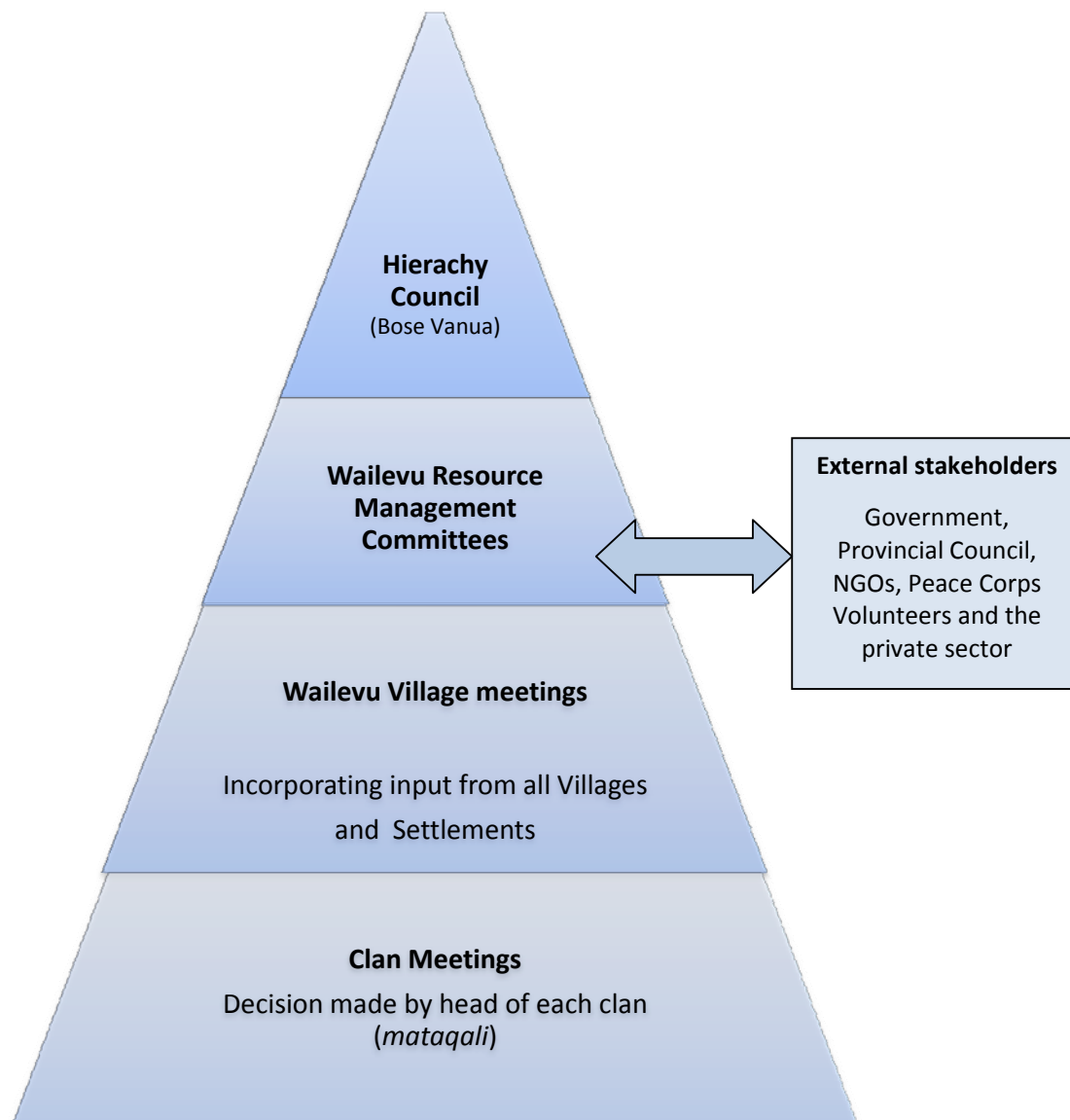
**Table 6. 1.** Wailevu Resource Management Committees - membership and office bearers.

Wailevu East Resource Management Committee			Wailevu West Resource Management Committee		
Name	Village	Ph.	Name	Village	Ph.
<b>Chairman</b>			<b>Chairman</b>		
Timoci Rokosuli	Naloaloa	9233856	Eroni Vunisa	Vunidamoli	9346972
<b>Vice-Chairman</b>			<b>Vice-Chairman</b>		
Viliame C	Nakasa	8659194	Isireli Vueti	Natua	
<b>Secretary</b>			<b>Secretary</b>		
Lusiana Rasaku	Bagata	8799518	Manasa Levaci	Natuvu	9681282
<b>Assistant Secretary</b>			<b>Assistant Secretary</b>		
Vatiliai Tubelili	Urata	9828664	Peni Navu	Natua	8426115
<b>Treasurer</b>			<b>Treasurer</b>		
Ilisabeta Vusaniu	Nabalebale		Joseva V Moroka	Natuvu	8400647
<b>Assistant Treasurer</b>			<b>Assistant Treasurer</b>		
Tomasi Raikivi	Dreketi	8691493	Seremaia Matai	Vunidamoli	9346972
<b>Committee Members</b>			<b>Committee Members</b>		
Pio Matamasi	Nabaci	7574045	Nicky Masibana	Valeni	8374778
Mikaele Naqila	Nabaci	9959362	Laisenia Senikarawa	Naiqaqi	8429058
Eveni Butolekanasiga	Nadamole	8424582	Sakaraia Tamanotu	Natuvu	9607937
Salesi Maleba	Nadamole	7561818	Peni Navu	Natua	8426115
Marika Tuirabe	Jerusalemi	8453420	Naibuka Vakaloloma	Valeni	8374778
Viliame Ratulala	Nadamole		Josefa Nayalo	Keka	8201711
Malakai Rakula	Jerusalemi	9346498	Tekove Nabete	Naviavia	8201619
Iliesa T Bolakania	Waisali	8436108	Waisale dutaboto	Naviavia	8201619
Sowani Koniferedi	Levuka		Epineri Tuberi	Naiqaqi	8429058
Vatunisau Rokodugunivanua	Nabalebale	9060532	Maciu Katalone	Dawara	9077588
Ilaitia Veramu	Levuka		Jese Baledrokadroka	Vunidamoli	
Isimeli Serea	Vuadomo	9440997	Jovesa Baravilala	Vunidamoli	8792945
Aisake Soqosoqo	Bagata	8716833	Waqa Bualagilagi	Vunidamoli	8685886
Isei Rokodali	Nakoso	8204152	Paula Soqa	Dawara	9077588
Soani Nauco	Nabaci	8784603	Ravula	Valeni	
Onisivoro Molo	Levuka	8207428			
Jovesa Beqa	Bagata	8446380			
Joana Jane Tora	Bagata	8716833			
Pita Ligairi	Nabalebale				
Maciu Namoce	Vunivesi	8499196			
Uraia Masivou	Vunivesi	8499196			
Sosiceni Vakatulala	Bagata	9578395			
Rogasiano Ranuka	Waisali	9713546			
Iliesa Matakubou	Jerusalemi	8340019			
I Larua	Nabalebale	8203584			
Paula Cagimoce	Nabalebale				
Niumaia Mairara	Bagata				
Vilimone Tulevu	Bagata				
Livai Maqanatangane	Vatulele				
Atama Rogocake	Nabaci	8700412			
Sakeo Baitu Nacani	Waisali				
Apisai Moko	Urata				
Meresiana Walota	Vakativa	8204143			
Maria Alumeci	Vakativa	8795676			
Nemani Bikaca	Nakawaga/ Nukubolu				

# 7 MANAGEMENT ROLES AND PROCESSES

## 7.1 IMPLEMENTATION OF THE MANAGEMENT PLAN

The RMCs bear overall responsibility for implementation of this management plan. The committees are accountable to the Wailevu Hierarchy Council (*Bose Vanua*) for timely and effective implementation of the plan, in collaboration with local communities (*vanua*), village leaders, civil society partners, government agencies and the private sector.



**Figure 7. 1.** The relationships between Wailevu Resource Management Committees, the district Hierarchy Council, villages and clans.



### 7.1.1 MANAGEMENT RULES

The RMCs are responsible for raising awareness of the management rules set out in this plan, monitoring compliance with the rules and taking action to ensure enforcement of the rules.

The management rules provide for certain decisions to be made by persons other than the RMCs. For example, certain village *tabu* areas may be opened by the relevant local chiefs (*turaga-ni-yavusa*). In such cases, decisions must be communicated to the RMCs as soon as practicable to ensure they are able to effectively monitor overall implementation of the management plan.

### 7.1.2 MANAGEMENT ACTIVITIES

The RMCs are responsible for liaising with the stakeholder(s) identified for each management activity to ensure that the activity is completed in a timely and effective manner.

### 7.1.3 SUSTAINABLE INCOME GENERATION

This management plan aims to support long-term sustainable development in Wailevu by maintaining the health and productivity of the district's ecosystems. It acknowledges that most village households rely on those ecosystems as their primary source of food and income.

Communities' commitment to the process will depend to a large degree on how they perceive it to be affecting their income and quality of life. As such, Wailevu's RMCs aspire to develop new sources of income generation linked to EBM activities with which to support local sustainable development initiatives, such as:

- scholarships for tertiary education;
- small grants and loans for sustainable microenterprise initiatives; and
- management and restoration of terrestrial, freshwater and marine ecosystems.

Professional, transparent accounting and reporting is needed to ensure efficient and equitable use of funds, and to support sustainable resource management and community development.

Scoping of local activities has highlighted income generating potential around the production of woven mats, community-based ecotourism and virgin coconut oil (the latter building on the success of a women's cooperative in Wailevu Village that has established a customer base including local hotels and a supermarket).

The Wildlife Conservation Society is investigating the feasibility of these activities with a view to supporting the development of structures and capacity within local communities.

## 7.2 AMENDMENT OF THE MANAGEMENT PLAN

The process for amending this management plan varies depending on the nature of the amendment.

### 7.2.1 DISTRICT-LEVEL MANAGEMENT RULES

For amendments to **district-level management rules** – that is, rules that apply throughout the district and to the district MPA:

1. The proposed amendment must be **submitted in writing** to the RMCs.
2. The RMC Chairmen must **present** the proposed amendment to the *Bose Vanua*.
3. The *Bose Vanua* may instruct the RMCs to **consult** with resource owners and/or external stakeholders in relation to the amendment.
4. If the *Bose Vanua* instructs the RMCs to consult with **resource owners**, RMCs members must raise the proposed amendment at **village meetings** in every village in the district.
5. If the *Bose Vanua* instructs the RMCs to consult with **stakeholders**, RMCs must provide **written notice** to all relevant stakeholders, and allow a reasonable period for comment.
6. The RMCS Chair must report to the *Bose Vanua* on **consultation outcomes**.
7. The *Bose Vanua* may **reject** or **approve** the amendment.
8. If the *Bose Vanua* **rejects** the amendment, the RMCs must:
  - a. post a **written notice** in the village hall in each village in the district; and
  - b. provide **written notice** to all relevant external stakeholders.
9. If the *Bose Vanua* **approves** the amendment, the RMCs must:
  - a. explain the amendment in a **village meeting** in each village in the district.
  - b. post a **written notice** in the village hall in each village in the district;
  - c. provide **written notice** to all relevant external stakeholders; and
  - d. insert a copy of the written notice in each copy of this **management plan**.

### 7.2.2 VILLAGE-LEVEL MANAGEMENT RULES

For amendments to **village-level management rules** – that is, rules that only apply to a particular village, or to designated village *tabu* areas:

1. The proposed amendment must be **approved** by the village chief (*turaga ni yavusa*).
2. If the rules only apply to the land of a particular clan (*mataqali*) – a proposed amendment must be approved by head of that clan. The head of the clan must provide written notice of the amendment to the village chief.
3. The village chief must provide written notice of any amendment to the Bose Vanua.
4. The RMCs must:
  - a. explain the amendment in a **village meeting** in each village in the district.
  - b. post a **written notice** in the village hall in each village in the district;
  - c. provide **written notice** to all relevant external stakeholders; and
  - d. insert a copy of the written notice in each copy of this **management plan**.

### 7.2.3 OTHER AMENDMENTS

Other amendments may be made as necessary by the RMCs, with the approval of the *Bose Vanua*.

The RMCs must provide written notice to external stakeholders of any changes to the management plan, and insert a copy of the notice in each copy of the management plan, including the copy kept by each village.

## 7.3 REVIEW OF THE MANAGEMENT PLAN

This management plan will be reviewed, and amended as necessary, every five (5) years. However, if a need arises to amend the plan before this time, then the early amendment can take place with the approval of RMCs.

The review process must provide an opportunity for village representatives and other relevant stakeholders to comment on the content and implementation of the management plan.

The proposed amendments must be endorsed by the RMCs and the *Bose Vanua*.

Copies of the amended management plan must be distributed to each village in the district and all members of the stakeholder consultative group.

## 8 EXTERNAL STAKEHOLDERS

A wide range of stakeholders can affect, or can be affected by, the use, conservation and management of land and natural resources in Wailevu district. This section outlines those stakeholders engaged in the management planning process to date. With a strong commitment to partnership approaches, RMCs will engage more stakeholders across public, private and non-governmental sectors as it develops further and in the course of implementation.

### 8.1 GOVERNMENT AGENCIES

#### **CAKAUDROVE PROVINCIAL COUNCIL**

Cakaudrove Provincial Office has greatly assisted the organisation and facilitation of community engagement in the processes of developing this management plan. Their continued support (particularly of the Cakaudrove Yaubula Management Support Team) will be important to ensure future engagement of relevant stakeholders and synchronisation with other activities in the province.

#### **DEPARTMENT OF FISHERIES**

The Department of Fisheries is responsible for promoting the sustainable use and management of fisheries resources. The Department bears statutory responsibility for administering and enforcing the *Fisheries Act*, including issuing fishing licences, declaring restricted fishing areas and responding to illegal fishing activities. The Department also provides fisheries extension and training services.

#### **DEPARTMENT OF FORESTRY**

The Department of Forestry is responsible for promoting the sustainable use and management of forest resources. The Department bears statutory responsibility for administering and enforcing the *Forest Decree*, including issuing logging licences, declaring forest reserves and responding to illegal logging activities. The Department also provides forestry extension and training services.

#### **DEPARTMENT OF AGRICULTURE**

The Department of Agriculture seeks to promote a productive and sustainable agricultural sector. The Department provides extension services and advice in relation to farm management, soil and water conservation, sustainable farming methods, alternative livelihoods and rural microfinance.

#### **DEPARTMENT OF ENVIRONMENT**

The Department of Environment is responsible for promoting environmental protection and sustainable natural resource use. The Department is responsible for administering and enforcing the *Environment Management Act 2005*, including provisions dealing with environmental impact assessment of development proposals (e.g. tourist resorts, forestry, mining) and pollution control. The Department is also responsible for formulation and implementation of national environmental policies, including the National Biodiversity Strategy and Action Plan and its corresponding Implementation Framework.

## **MINISTRY OF TOURISM**

The Ministry of Tourism is responsible for promoting tourism development, including sustainable tourism in rural areas. The Ministry provides advice and extension service for individuals and communities interested in developing local tourism enterprises, and provides marketing support for existing tourism enterprises.

## **MINISTRY OF HEALTH**

The Ministry of Health is responsible for delivery of medical care (including rural health services), and public health programs (including disease control, health promotion and environmental health). The Ministry seeks to improve environmental health by monitoring pollution and promoting safe water supply and sanitation (including rural toilet upgrading). The Ministry, together with local authorities, is responsible for administering and enforcing the *Public Health Act* [Cap 111].

## **ITAUKEI LANDS AND FISHERIES COMMISSION**

The iTaukei Lands and Fisheries Commission was established to register ownership of *iTaukei* lands and customary fishing grounds. The commission is empowered under the *iTaukei Lands Act* (formerly *Native Lands Act*) and *Fisheries Act* to resolve disputes in relation to *iTaukei* land and fishing rights, and is the custodian of the *iTaukei* land register and the register of customary fishing rights.

## **ITAUKEI AFFAIRS BOARD**

The *iTaukei* Affairs Board was established by the *iTaukei Affairs Act* and is responsible for the aspirations of *iTaukei* (indigenous Fijians) and acts as a repository for information pertaining to their good governance and wellbeing. The board develops, implements and monitors policies and programs to ensure the good governance and well being of the *iTaukei*.

## **ITAUKEI LAND TRUST BOARD**

The iTaukei Land Trust Board (TLTB, formerly Native Land Trust Board) is empowered to grant leases over *iTaukei* land under the *iTaukei Land Trust Act*. The TLTB must exercise its powers for the benefit of the landowners, and may issue *iTaukei* land leases subject to conditions. TLTB is responsible for ensuring compliance with lease conditions, and may cancel any land lease if the conditions of the lease are breached.

## **POLICE FORCE**

The police are responsible for maintaining law and order, preserving the peace, protecting life and property, preventing and detecting crime, and enforcing all laws and regulations with which they are directly charged. Police have a general duty to prevent the commission of any offence,<sup>103</sup> and are specifically empowered to enforce the *Fisheries Act*<sup>104</sup> and the *Forest Decree*.<sup>105</sup> Official police force policy encourages the reporting of offences by members of the public. The nearest police stations to Wailevu are located in Savusavu, Seaqaqa and Labasa.

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<sup>103</sup> *Criminal Procedure Code*, s.51.

<sup>104</sup> *Fisheries Act*, s.7, Power of inspection and detention.

<sup>105</sup> *Forest Decree*, ss.34-36, Power of inspection, Power of arrest, Power of seizure.

## **8.2 NON-GOVERNMENT ORGANISATIONS**

### **WILDLIFE CONSERVATION SOCIETY**

The Wildlife Conservation Society (WCS) is committed to the conservation of wild animals and wild places around the world, as well as improvement of local people's livelihoods through their connections with nature. The WCS approach emphasises scientific research, capacity-building, strong partnerships and local engagement. The WCS Fiji Country Program works closely with communities in Wailevu district to promote and support ecosystem-based management, by conducting scientific and social research and facilitating community-based management planning processes.

### **PEACE CORPS**

The Peace Corps, an American volunteer programme, has placed 2,200 volunteers in Fiji since 1968. Placements usually last 24 months and cover integrated environmental resource management and community health promotion. Peace Corps Volunteers have been involved in activities linking with the development and implementation of this management plan.

### **PARTNERS IN COMMUNITY DEVELOPMENT FIJI**

Partners in Community Development Fiji (PCDF) works in partnership with local communities to promote equitable and sustainable livelihoods. PCDF's work encompasses health and community awareness, sustainable management of marine and forest resources, small-business development and good governance. Through their Mainstreaming of Rural Development Innovation (MORDI) programme between 2007–2012, PCDF supported development of community capacity and infrastructure throughout Wailevu.

### **NATIONAL TRUST OF FIJI**

The National Trust of Fiji is responsible for promoting and protecting natural and cultural heritage throughout Fiji. The trust manages nine natural and cultural heritage sites (including the Waisali Forest Park in Wailevu) and works with local communities to promote heritage protection, nature conservation and sustainable tourism initiatives.

### **FIJI LOCALLY MANAGED MARINE AREA NETWORK**

The Fiji Locally Managed Marine Area (FLMMA) Network brings together local communities, academic institutions, non-government organisations and government agencies with a common interest in community-based management of marine resources. The network provides a mechanism for community conservation practitioners to exchange knowledge, skills, experiences and monitoring data. The FLMMA secretariat is currently hosted by the Department of Fisheries.

### **SECRETARIAT OF THE PACIFIC COMMUNITY AND GIZ**

With GIZ (formerly GTZ, the German Agency for International Cooperation) the Secretariat of the Pacific Community (SPC - a technical organisation supporting Pacific Island Countries) lead partners in supporting landowners within the Drawa Block to develop and implement a sustainable forest management regime. SPC and GIZ also provide technical, scientific and training support across a range of sectors.



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## APPENDIX 1 – PROTECTED SPECIES

The following species are legally protected throughout Fiji. Possessing, selling or exporting these species without a permit is a criminal offence.

### PART 1 – PROTECTED MARINE AND FRESHWATER FAUNA

SCIENTIFIC NAME	COMMON NAME	FIJIAN NAME	LEGISLATION
<b>FISH SPECIES</b>			
<i>Bryaninops dianneae</i>	Species of goby		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Ecsenius fijiensis</i>	Species of blenny		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Mesopristes kneri</i>		Reve	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Plagiotremus laudandus flavus</i>	Species of blenny		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Plectranthias fijiensis</i>	Species of sea bass		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Rotuma lewisi</i>	Species of common wriggler		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Thamnaconus fijiensis</i>	Species of filefish		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Cheilinus undulatus</i>	Humphead wrasse		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Epinephelus lanceolatus</i>	Giant Grouper		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Bathygobius petrophilus</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Hippocampus kuda</i>	Spotted seahorse		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Lairdina hopletopus</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Meiacanthus bundoon</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Parmops echinatus</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Redigobius leveri</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Redigobius sp</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Siganus uspi</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<b>MARINE REPTILES</b>			
<i>Cheloniidae spp.</i>	Green turtle		<i>Endangered and Protected Species Act 2002, s.3(a)</i>
<i>Dermochelys coriacea</i>	Leatherback turtle		<i>Endangered and Protected Species Act 2002, s.3(a)</i>
<i>Eretmochelys imbricate</i>	Hawksbill turtle		
<i>Caretta caretta</i>	Loggerhead turtle		
<i>Natator depressus</i>	Flatback turtle		
<i>Lepidochelys olivacea</i>	Olive Ridley turtle		

<b>MARINE MAMMALS</b>			
<i>Phocaena spp.</i>	Dolphin		<i>Fisheries Regulations, r.25</i>
<i>Delphis spp.</i>	Porpoise		<i>Fisheries Regulations, r.25</i>
<b>MARINE INVERTEBRATES</b>			
<i>Charonia tritonis</i>	Davui shell		<i>Fisheries Regulations, r.22</i>
<i>Cassia cornuta</i>	Giant helmet shell		<i>Fisheries Regulations, r.23</i>
<b>CORALS</b>			
<i>Antipatharia spp.</i>	Black corals		<i>Endangered and Protected Species Act 2002, s.3(b)</i>
<i>Helioporidae spp.</i>	Blue corals		<i>Endangered and Protected Species Act 2002, s.3(b)</i>
<i>Scleractinia spp.</i>	Stony corals		<i>Endangered and Protected Species Act 2002, s.3(b)</i>
<i>Tubiporidae spp.</i>	Organ pipe corals		<i>Endangered and Protected Species Act 2002, s.3(b)</i>
<i>Milleporidae spp.</i>	Fire corals		<i>Endangered and Protected Species Act 2002, s.3(b)</i>
<i>Stylasteridae spp.</i>	Lace corals		<i>Endangered and Protected Species Act 2002, s.3(b)</i>
<b>SEABIRDS</b>			
<i>Fregata ariel</i>	Lesser frigatebird	Manumanunicagi	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Nesofregatta albigularis</i>	Polynesian storm-petrel		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Phethon lepturus</i>	White-tailed tropicbird	Lawedua	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Procelsterna cernula</i>	Blue noddy		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Pseudobulweria macgillivrayi</i>	Fiji petrel	Kacau ni Gau	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Pseudobulweria rostrata</i>	Tahiti petrel	Kacau ni Taiti	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Puffinus inherminieri</i>	Audubon's shearwater		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Sula dactylatra</i>	Masked booby	Toro	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Sula leucogaster</i>	Brown booby	Toro	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Sterna anaethetus</i>	Bridled tern		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Sterna bergii</i>	Crested tern	Idre	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Sterna fuscata</i>	Sooty tern		<i>Endangered and Protected Species Act 2002, s.3(d)</i>

**PART 2 – PROTECTED TERRESTRIAL FAUNA**

SCIENTIFIC NAME	COMMON NAME	FIJIAN NAME	LEGISLATION
<b>MAMMALS</b>			
<i>Emballonura semicaudata</i>	Polynesian sheath tailed bat		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Notopterus macdonaldi</i>	Fijian blossom bat		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Pteralopex acrodonta</i>	Taveuni flying fox		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Chaerophon bregullae</i>	Fijian mastiff bat		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<b>BIRDS</b>			
<i>Clytorhynchus nigrogularis</i>	Black-faced shrikebill	Kiro	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Dendrocygna arcuata</i>	Wandering whistling-duck	Gadamu	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Erythrura kleinschmidti</i>	Pink-billed parrotfinch	SitibatitaCakaudrove	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Gallicolumba stairii</i>	Friendly ground-dove	Qilu	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Lamprolia victoria</i>	Silktaill	Sisi	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Mayornis versicolor</i>	Ogea monarch		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Myzomela chermesina</i>	Rotuma myzomela	Armea	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Nesocolopeus poecilopterus</i>	Barred-wing rail	Saca	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Poliolimnas cinereus</i>	White-browed crane		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Porzana tabuensis</i>	Spotless crane	Mo	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Trichocichla rufa</i>	Long-legged warbler	Manu Kalou	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Aerodramus spodiopygia</i>	White rumped swiftlet	Kakabacea	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Anas superciliosa</i>	Pacific black duck	Ganiviti	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Aplonis tabuensis</i>	Polynesian starling	Vocea	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Ardea novaehollandiae</i>	White faced heron	Belomatavula	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Artamus mentalis</i>	Fiji woodswallow	Kiro	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Butorides striatus</i>	Mangrove heron	Gadamu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cacomantis pyrrophanus</i>	Fan tailed cuckoo	SitibatitaCakaudrove	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cettia ruficapilla</i>	Fiji bush warbler	Qilu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Clytorhynchus vitiensis</i>	Lesser shrikebill	Sisi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Columba vitiensis</i>	White throated pigeon		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Ducala latrans</i>	Barking pigeon	Armea	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cucula pacifica</i>	Pacific pigeon	Saca	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Egretta sacra</i>	Reef heron		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Erythrura pealii</i>	Fiji parrotfinch	Mo	<i>Endangered and Protected Species Act 2002, s.3(e)</i>

<i>Foulehaio carunculata</i>	Wattled honeyeater	Manu Kalou	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Gallirallus philippensis</i>	Banded rail	Kakabacea	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Gymnomyza viridis</i>	Giant forest honeyeater	Ganiviti	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Halcyon chloris</i>	White collared kingfisher	Vocea	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Hirundo tahitica</i>	Pacific swallow	Belomatavula	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Lalage maculosa</i>	Polynesian triller	Kiro	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Mayrornis lessoni</i>	Slaty monarch	Gadamu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Myiagra azureocapilla</i>	Blue crested broadbill	Batidamu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Myiagra vanikorensis</i>	Vanikoro broadbill	Matayalo	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Myzomela jugularis</i>	Orange breasted myzomela	Delakula	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Pachycephala pectoralis</i>	Golden whistler	Ketedromo	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Petroica multicolor</i>	Scarlet robin	Diriqwala	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Phigys solitarius</i>	Collared lorry	Kula	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Ptilinopus layardi</i>	Whistling dove	Soqeda	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Ptilinopus luteovirens</i>	Golden dove	Bunako	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Ptilinopus perousii</i>	Many coloured fruit dove	Kuluvotu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Ptilinopus porphyraceus</i>	Crimson crowned fruit dove	Kuluvotu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Ptilinopus victor</i>	Orange dove	Bune	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Rhipidura personata</i>	Kadavu fantail		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Rhipidura spilodera</i>	Streaked fantail	Sasaira	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Turdus poliocephalus</i>	Island thrush	Tola	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Xanthotis provocator</i>	Kadavu honeyeater	Kikou	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Zosterops exploratory</i>	Fiji white eyes	Qiqi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Zosterops lateralis</i>	Silvereye	Qiqi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<b>REPTILES</b>			
<i>Hemiphyllodacrylus typus</i>	Indo pacific tree gecko		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Emoia Campbelli</i>	Montane tree skink		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Emoia mokosariniveikau</i>	Turquoise tree skink		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Emoia nigra</i>	Pacific black skink		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Leiolopisma alazon</i>	Lauan ground skink		<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Gehyra mutilata</i>	Stumped toed gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Gehyra oceanica</i>	Oceanic gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Gehyra vorax</i>	Giant forest gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Hemidactylus frenatus</i>	House gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>

<i>Hemidactylus garnotii</i>	Fox gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Lepidodactylus gardineri</i>	Rotuman gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Lepidodactylus lugubris</i>	Mourning gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Lepidodactylus manni</i>	Mann's forest gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Nactus pelagicus</i>	Pacific slender toed gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cyptoblepharus eximius</i>	Pacific snake eyed gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Emoia caeruleocauda</i>	Blue tailed gecko		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Emoia concolor</i>	Green tree skink		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Emoia cyanura</i>	Browntail copper striped skink		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Emoia impar</i>	Bluetail copper striped skink		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Emoia parkeri</i>	Fijian copper headed skink		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Emoia trossula</i>	Dandy skink		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Lipinia noctua</i>	Moth skink		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Ramphotyphlops flaviventer</i>	Flowerpot snake		<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<b>AMPHIBIANS</b>			
<i>Platymantis vitiensis</i>	Fiji tree frog		<i>Endangered and Protected Species Act 2002, s.3(e)</i>

**PART 3 – PROTECTED PLANTS**

SCIENTIFIC NAME	COMMON NAME	FIJIAN NAME	LEGISLATION
<b>PLANTS</b>			
<i>Polyalthia angustifolia</i>			<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Agathis vitiensis</i>		Dakua / Dakua Makadre	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Kingiodendron platycarpum</i>		Moivi	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Storckiella vitiensis</i>		Vesida	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Garcinia pseudoguttifera</i>		Bulu	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Garcinia myrtiflora</i>		Laubu	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Terminalia vitiensis</i>			<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Geissois ternate var 2</i>		Vuga	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Vupaniopsis leptobotrys</i>		Malawaci	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Weinmannia spiraeoides</i>			<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Weinmannia vitiensis</i>			<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Debeneria vitiensis</i>		Masiratu	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Bischofia javanica</i>		Koka	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Gonystylus punctatus</i>		Mavota	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Endiandra elaeocarpa</i>		Damabi	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Hibiscus storckii</i>			<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Medinilla kandavuensis</i>			<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Astronidium floribundum</i>			<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Astronidium kasiense</i>		Rusila	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Acacia richii</i>		Qumu	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Mimosaceae spec.div</i>		Vavai-loa	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Mimosaceae spec.div</i>		Vavai-vula	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Veitchia vitiensis</i>			<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Veitchia filifera</i>			<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Acmopyle sahniana</i>		DrautaCakaudrove	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Dacrycarpus imbricatus</i>		Amunu	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Decusscicarpus vitiensis</i>		Dakua salusalu	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Podocarpus neriifolius</i>		Kuasi	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Dacrydium nidulum</i>		Yaka	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Turrillia ferruginea</i>		Kauceuti	<i>Endangered and Protected Species Act 2002, s.3(d)</i>



<i>Turrillia vitiensis</i>		Kauceuti	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Alphitonia zizyphoides</i>		Doi	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Gardenia vitiensis</i>		Ndrega, Meilango	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Mastixiodendron robustum</i>		Duvula	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Gardenia vitiensis</i>		Ndrega meilago	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Santatum yasi</i>		Yasi	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Manikara spec.div</i>		Bausagali-damu	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Manikara spec.div.</i>		Bausagali-vula	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Planchonella garberi</i>		Sarosaro	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Planchonella umbonata</i>		Bauloa	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Sterculia vitiensis</i>		Waciwaci	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Gmelina vitiensis</i>		Rosawa	<i>Endangered and Protected Species Act 2002, s.3(d)</i>
<i>Barringtonia asiatica</i>		Vutu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Boodia brackenridgei</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cordia subcordata</i>		Nawanawa	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Canarium harveyi var 1</i>		Kaunicina	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cynometra insularis</i>		Cibicibi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Intsia bijuga</i>		Vesi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Gymnostoma vitiensis</i>		Velau	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Parinari insularum</i>		Sa	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Calophyllum inophyllum</i>		Dilo	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Calophyllum vitiensis</i>		Damanu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Lumnitzera littorea</i>		Sagali	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Terminalia capitanea</i>		Tiviloa	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Terminalia luteola</i>		Mbausomi tivi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Terminalia psilantha</i>		Mbausomi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Terminalia pterocarpa</i>		Tivi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Terminalia simulans</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Terminalia strigillosa.</i>		Tivi losi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Acsmithia vitiense</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Geissois imthurnii</i>		Vure	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Geissois stipularis</i>		Vure	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Geissois superba</i>		Vure	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Geissois ternate</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>

<i>Spiraeanthemum graeffei</i>		Katakata, Kutukutu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Spiraeanthemum serratum</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Weinmannia exigua</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cyathea micropelidota</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cyathea plagiostegia</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cycas seemannii</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Degeneria roseiflora</i>		Karawa yarangele	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Endospermum robbianum</i>		Kauvula	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Ischaemum byrone</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Calophyllum amblyphyllum</i>		Ndamanu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Calophyllum leueocarpum</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Garcinia adinantha</i>		Raumba, mbulumanga	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Geniostoma calcicola</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Geniostoma clavigerum</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Geniostoma stipulare</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Neuburgia macroloba</i>		Vathea	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Astronidium degeneri</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Astronidium inflatum</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Astronidium lepidotum</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Astronidium palladiflorum</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Astronidium saulae</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Astronidium sessile</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Mediniila deeora</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Medinilla kambikambi</i>		Kambikambi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Medinilla spectabilis</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Medinilla waterhousei</i>		Tangimauthia	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Vavaea amicorunt</i>		Cevua	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Xylocarpus granatum</i>		Dabi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Samanea saman</i>		Raintree	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Myristica castaneifolia</i>		Kaudamu	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cleistocalyx decussatus</i>		Yasimoli	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cleistocalyx eugenioides</i>		Yasiyasi	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Alsmiltia longipes</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Balaka longirostris</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>

<i>Balaka macrocarpa</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Balaka microcarpa</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Balaka seemanii</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Calamus vitiensis</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Clinicistigma exorrhizum</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cyplhosperma tangs</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Cyplhosperma trichospatdix</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Gulubia microcarpa</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Neuveitchia storckii</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Physokentia rosea</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Physeikentia thurstunii</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Pritchardia thurstanii</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Veitchia joannis</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Veichia pedionoma</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Veitchia petiolata</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Veitchia simulans</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Dacrydium nausoriense</i>		<i>Yaka, tangitangi</i>	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Podocarpus affinis</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Gardenia anapetes</i>		<i>Tirikiloki</i>	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Gardenia candida</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Gardenia grievii</i>		<i>Ndelandrega</i>	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Gardenia hillii</i>			<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Guetcarda speciosa</i>		<i>CakaudroveCakaudrove</i>	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Bruguiera gymnorhiza</i>		<i>Dogo</i>	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Pometia pinnata</i>		<i>Dawa</i>	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Palayuium hornei</i>		<i>Sacau</i>	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Palayuium purphyreum</i>		<i>Bauvudi</i>	<i>Endangered and Protected Species Act 2002, s.3(e)</i>
<i>Trichospermum richii</i>		<i>Mako</i>	<i>Endangered and Protected Species Act 2002, s.3(e)</i>

## APPENDIX 2 – NET SIZE LIMITS

NET TYPE	DEFINITION	NATIONAL
<b>Hand net</b>	'Hand net' means a net fixed on a frame or on two poles, which can be moved in all directions by one person, with a maximum width of 1.5 metres. <sup>106</sup>	No minimum mesh size <sup>107</sup>
<b>Cast net</b>	'Cast net' means a round net with weights around its edges, which is used by being cast over fish in such a way that it sinks to the bottom. <sup>108</sup>	30mm <sup>109</sup>
<b>Whitebait or sardine net</b>	Must only be used for taking whitebait or sardines, and must not be more than 10.5 metres wide or 1.5 metres high. It is prohibited to join two such nets together.	30mm <sup>110</sup>
<b>Wading net</b>	'Wading net' means a net fixed on a frame or on two poles which can be moved in all directions by two persons, with a maximum width 4.3 metres. <sup>111</sup>	50mm <sup>112</sup>
<b>Lawa-ni-busa</b>	'Lawa-ni-busa' means a wading net used for taking needlefish ( <i>busa</i> ). The net must only be used for taking <i>busa</i> and must not be more than 4.3 metres wide. It is prohibited to join two such nets together.	-
<b>Other nets</b>	Any net that does not fall within the above definitions, including nets that exceed the listed size limits.	50mm <sup>113</sup>

**Mesh measurement method:** Measure the distance between two diagonally opposite corners of the mesh, when the net is wet and stretched.<sup>114</sup>

<sup>106</sup> Fisheries Act, s.2.

<sup>107</sup> Fisheries Regulations, r.13.

<sup>108</sup> Fisheries Act, s.2.

<sup>109</sup> Fisheries Regulations, r.14.

<sup>110</sup> Fisheries Regulations, r.15.

<sup>111</sup> Fisheries Act, s.2.

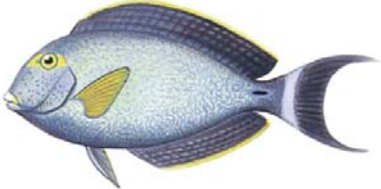

<sup>112</sup> Fisheries Regulations, r.16.



<sup>113</sup> Fisheries Regulations, r.16.

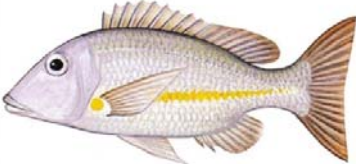
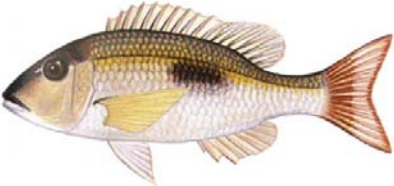
<sup>114</sup> Fisheries Regulations, r.12.

### APPENDIX 3 – RECOMMENDED FISH CATCH SIZE LIMITS



To maintain ecosystem health and productivity of fish stocks, the following size limits are recommended.



Family	Common Name(s)	Fijian Name	Minimum	Source	Example(s)
Acanthuridae	<b>Surgeonfish, Tang</b>	Balagi	<b>25cm</b>	2	 <p><i>Acanthurus xanthopterus</i> – Yellowfin Surgeonfish</p>
	<i>except Lined Bristletooth (Ctenochaetus striatus)</i>	Dridri	20cm	Modified from 2	 <p><i>Ctenochaetus striatus</i> – Lined Bristletooth</p>
	<b>Unicornfish</b>	Ta	<b>30cm</b>	1	 <p><i>Naso unicornis</i> – Bluespine Unicornfish</p>

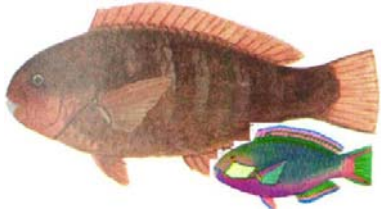

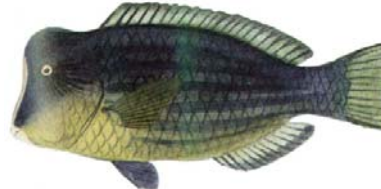
Family	Common Name(s)	Fijian Name	Minimum	Source	Example(s)
Belonidae, Hemiramphidae	<b>Garfish, Needlefish, Halfbeaks</b>	Saku	<b>30cm</b>	1	<i>Tylosurus crocodilus</i> – Hound Needlefish
		Busa	<b>30cm</b>	1	<i>Hemiramphus far</i> – Black-barred Halfbeak <i>Belone</i>
Caragidae	<b>Trevally</b>  <i>except Blue Trevally (<i>Carangoides ferdau</i>)</i>	Saqa	<b>30cm</b>	1	 <i>Caranx melampygus</i> – Bluefin Trevally
		Vilu saqa		1	
Carcharhinidae, Sphyrnidae	<b>Sharks, including Hammerhead Sharks</b>	Qio	<b>150cm</b>	2	
Chanidae	<b>Milkfish</b>	Yawa	<b>30cm</b>	1	<i>Chanos chanos</i>
Haemulidae	<b>Sweetlips</b>	Sevaseva	<b>25cm</b>	2	 <i>Plectorhinchus chaetodonoides</i> – Many-spotted Sweetlips


Family	Common Name(s)	Fijian Name	Minimum	Source	Example(s)
Labridae	<b>Wrasse</b>		<b>25cm</b>	2	<i>Chelinus chlorourus</i> – Floral Wrasse <i>Chelinus oxycephalus</i> – Snooty Wrasse
	<i>except</i> Tuskfish ( <i>Choerodon</i> spp.) <i>except</i> Humphead Wrasse ( <i>Cheilinus undulatus</i> )	Labe Varivoce	30cm No take	2 4	
Lethrinidae	<b>Emperors, Bream</b>	Sabutu	<b>25cm</b>	2	 <i>Lethrinus obsoletus</i> – Orange-striped Emperor
		Kabatia	<b>25cm</b>	2	 <i>Lethrinus harak</i> – Thumbprint Emperor
		Doknivudi	38cm	2	
		Belenidawa Kawago	38cm 45cm	2 2	
	<i>except</i> Longface Emperor ( <i>Lethrinus olivaceus</i> ) <i>except</i> Sweetlip Emperor ( <i>Lethrinus miniatus</i> ) <i>except</i> Spangled Emperor ( <i>Lethrinus nebulosus</i> )				






Family	Common Name(s)	Fijian Name	Minimum	Source	Example(s)
Lutjanidae	<b>Snapper</b>	Damu, Kake	<b>30cm</b>	1	 <p><i>Lutjanus argentimaculatus</i> – Mangrove Red Snapper</p>  <p><i>Lutjanus ehrenbergii</i> – Blackspot Snapper</p>
	<i>except</i> Yellowtail Blue Snapper ( <i>Paracaesio xanthura</i> )		38cm	2	
	<i>except</i> Red Snapper ( <i>Lutjanus bohar</i> ) <i>except</i> Humpback Snapper ( <i>Lutjanus gibbus</i> )	Bati Sabutu damu	No take No take	2 2	
	<i>except</i> Chinamanfish ( <i>Symphorus nematophorus</i> )	Tevulu	No take	2	
	<b>Jobfish</b>	Utouto	<b>38cm</b>	2	<p><i>Aprion virescens</i> – Green Jobfish</p> <p><i>Aphareus furca</i> – Smalltooth Jobfish</p>
Gerreidae	<b>Mojarra</b>	Matu	<b>10cm</b>	1	<i>Gerres oyena</i> – Blacktip Silver Bidy

Family	Common Name(s)	Fijian Name	Minimum	Source	Example(s)
Leiognathidae	<b>Ponyfish</b>	Kaikai	<b>10cm</b>	1	 <p><i>Leiognathus equulus</i> – Common Ponyfish</p> <p><i>Photopecotralis bindus</i> – Orangefin Ponyfish</p> <p><i>Gazza minuta</i> – Toothpony</p>
Mugilidae	<b>Mullet</b>	Kanace	<b>30cm</b>	2	
Mullidae	<b>Goatfish</b>	Ki	<b>15cm</b>	1	 <p><i>Upeneus vittatus</i> – Yellowstriped Goatfish</p>
		Ose	<b>15cm</b>	1	<p><i>Parupeneus barberinus</i> – Dash-and-dot Goatfish</p>

Family	Common Name(s)	Fijian Name	Minimum	Source	Example(s)
Scaridae	<b>Parrotfish</b>	Ulavi	<b>25cm</b>	2	 <i>Chlorurus bleekeri</i> – Bleeker's Parrotfish   <i>Chlorurus sordidus</i> – Bulettehead Parrotfish   <i>Bolbometopon muricatum</i> – Bumphead Parrotfish
	<i>except Bumphead Parrotfish (Bolbometopon muricatum)</i>	Kalia	No take	5	
Scombridae	<b>Spanish Mackerel</b>	Walu	<b>75cm</b>	2	<i>Scomberomorus commerson</i>
	<b>Wahoo</b>	Wau	<b>75cm</b>	2	<i>Acanthocybium solandri</i>

Family	Common Name(s)	Fijian Name	Minimum	Source	Example(s)
	<b>Indian Mackerel</b>	Salala	<b>20cm</b>	1	<i>Rastrelliger kanagurta</i>
Serranidae	<b>Groupers</b>  <i>except</i> Malabar Grouper ( <i>Epinephelus malabaricus</i> ) <i>except</i> Orange Spotted Grouper ( <i>Epinephelus coioides</i> ) <i>except</i> Blacksaddle Coral Grouper ( <i>Plectropomus laevis</i> ) <i>except</i> Brown-Marbled Grouper ( <i>Epinephelus fuscoguttatus</i> ) <i>except</i> Camouflage Grouper ( <i>Epinephelus polyphekadion</i> ) <i>except</i> Giant Grouper ( <i>Epinephelus lanceolatus</i> )	Kawakawa  Kasala Kasalanitoga Batisai Delabulewa Kawakawa Kavu	<b>38cm</b>  38cm 38cm 50cm 50cm 50cm No take	2  2, 3 2, 3 2 2 2 4	 <i>Plectropomus leopardus</i> – Leopard Coral Grouper

Family	Common Name(s)	Fijian Name	Minimum	Source	Example(s)
Siganidae	<b>Rabbitfish</b>	Nuqa	<b>20cm</b>	1	
	<i>except Foxface Rabbitfish (Siganus uspi)</i>		No take	4	<i>Siganus uspi</i> – Foxface Rabbitfish
Sphyraenidae	<b>Barracuda</b>	Ogo	<b>30cm</b>	2	 <i>Sphyraena barracuda</i> – Great Barracuda
		Silasila	<b>30cm</b>	2	 <i>Sphyraena forsteni</i> – Bigeye Barracuda
Portunidae	<b>Swimming Crab</b> ( <i>Scylla serrata</i> )	Qari dina	<b>14cm</b>	3	
Trochidae	<b>Trochus Shell</b> ( <i>Trochus niloticus</i> )	Sici	<b>9cm (max. 12cm)</b>	3	

Family	Common Name(s)	Fijian Name	Minimum	Source	Example(s)
	<b>Beche-de-mer</b> <i>except</i> Black Teatfish ( <i>Holothuria whitmaei</i> ) <i>except</i> White Teatfish ( <i>Holothuria fuscogilva</i> ) <i>except</i> Golden Sandfish ( <i>Holothuria scabra</i> var <i>versicolor</i> ) <i>except</i> Blackfish ( <i>Actinopyga miliaris</i> ) <i>except</i> Surf Redfish ( <i>Actinopyga mauritiana</i> ) <i>except</i> Curryfish ( <i>Stichopus hermanni</i> ) <i>except</i> Redfish ( <i>Thekenota ananas</i> )	Sucuwalu, Dri	<b>20cm</b>  30cm 35cm 30cm  25cm 25cm 35cm 45cm	3  3 3 3  3 3 3 3	
Pteriidae	<b>Pearl Oyster Shell</b> ( <i>Pinctada margaritifera</i> )	Civa	<b>10cm</b>	1	

Family	Common Name	Fijian Name	Minimum	Maximum	Source
Lutjanidae	<b>Snapper</b> <i>except</i> Smalltooth Jobfish ( <i>Aphareus furca</i> ) <i>except</i> Green Jobfish ( <i>Aprion virescens</i> ) <i>except</i> Yellowtail Blue Snapper ( <i>Paracaesio xanthura</i> ) <i>except</i> Red Snapper ( <i>Lutjanus bohar</i> ) <i>except</i> Humpback Snapper ( <i>Lutjanus gibbus</i> ) <i>except</i> Chinamanfish ( <i>Symphorus nematophorus</i> )	Damu	30cm 38cm 38cm 38cm No take No take No take		1 2 2 2 2 2 2
	<b>Jobfish</b>		38cm		2
Mugilidae	<b>Mullet</b>	Kanace	30cm		2
Scaridae	<b>Parrotfish</b>	Ulavi	25cm		2
Scombridae	<b>Spanish Mackerel</b>	Walu	75cm		2
	<b>Wahoo</b>		75cm		2
Serranidae	<b>Groupers</b> <i>except</i> Malabar Grouper ( <i>Epinephelus malabaricus</i> ) <i>except</i> Orange Spotted Grouper ( <i>Epinephelus coioides</i> ) <i>except</i> Blacksaddle Coral Grouper ( <i>Plectropomus laevis</i> ) <i>except</i> Brown-Marbled Grouper ( <i>Epinephelus fuscoguttatus</i> ) <i>except</i> Camouflage Grouper ( <i>Epinephelus polyphekadion</i> ) <i>except</i> Giant Grouper ( <i>Epinephelus lanceolatus</i> )	Kawakawa	38cm 38cm 38cm 50cm 50cm 50cm No take	- 100cm 100cm 80cm 70cm 70cm -	2 2, 3 2, 3 2 2 2 2



Family	Common Name	Fijian Name	Minimum	Maximum	Source
Sphyraenidae	<b>Barracuda</b>	Ogo	30cm		2
Sphyrnidae	<b>Hammerheads</b>		150cm	-	2
	<b>Swimming Crab</b> ( <i>Scylla serrata</i> )	Qari dina	14cm	-	3
	<b>Trocas Shell</b> ( <i>Trochus niloticus</i> )	Sici	9cm	12cm	3
	<b>Beche-de-mer</b> <i>except</i> Black Teatfish ( <i>Holothuria whitmae</i> ) <i>except</i> White Teatfish ( <i>Holothuria fuscogilva</i> ) <i>except</i> Golden Sandfish ( <i>Holothuria scabra var versicolor</i> ) <i>except</i> Blackfish ( <i>Actinopyga miliaris</i> ) <i>except</i> Surf Redfish ( <i>Actinopyga mauritiana</i> ) <i>except</i> Curryfish ( <i>Stichopus hermanni</i> ) <i>except</i> Redfish ( <i>Thelenota ananas</i> )	Sucuwalu, Dri	20cm 30cm 35cm 30cm 25cm 25cm 35cm 45cm	-	3 3 3 3 3 3 3 3
	<b>Pearl Oyster Shell</b> ( <i>Pinctade margaritifera</i> )	Civa	10cm	-	1

- Sources:**
1. Fisheries Act, Fisheries Regulations.
  2. Fish Size and Bag Limits for Queensland, Department of Primary Industries and Fisheries, Queensland, Australia (March 2009).
  3. Environmental Code, South Province, New Caledonia (2009).

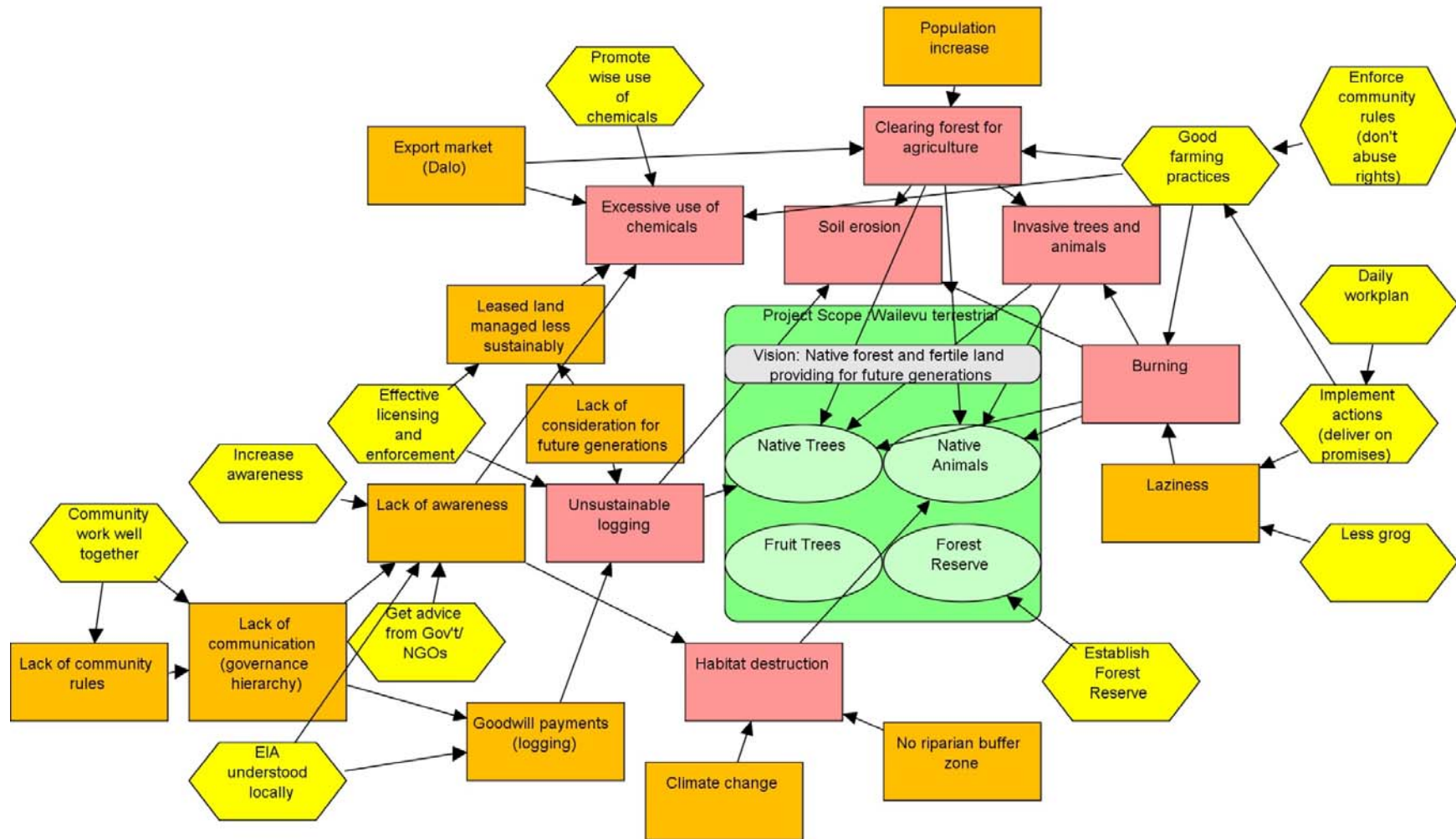
It is an offence under the *Fisheries Regulations* to kill, take, sell or display for sale any of the following species if they are less than the minimum length listed below.<sup>115</sup>

Fijian Name	Common Name	Genus	Minimum Length
Ogo	Barracuda	<i>Sphyrna</i>	300 mm
Saqa (excluding vilu saqa)	Crevally, Trevally, Pompano	<i>Caranx</i>	300 mm
Kanace	Grey Mullet	<i>Mugil</i>	200 mm
Ika Droka	Glassperch, Aholehole	<i>Dules</i>	150 mm
Nuqa	Ketang, Spinefoot Rabbitfish	<i>Siganus</i>	200 mm
Salala	Long-jawed Mackerel	<i>Rastrelliger</i>	200 mm
Saku Busa	Longtom, Garfish, Greengar	<i>Belone</i>	300 mm
Yawa	Milk Fish	<i>Chaos</i>	300 mm
Matu	Mojarra	<i>Gerres</i>	100 mm
Ulavi	Parrotfish	<i>Scarichthys</i>	250 mm
Kaikai	Pouter, Slimy, Soapy, Peperek	<i>Gazza</i>	100 mm
Donu, Kawakawa, Kavu	Rock Cod, Grouper, Salmon Cod	<i>Serranus</i>	250 mm
Kawago, Dokonivudi, Musubi	Sea Bream, Pig-faced Bream	<i>Lethrinus</i>	250 mm
Kabatia, Kake	Small Sea Bream	<i>Lethrinus</i>	150 mm
Sabutu	Small Sea Bream	<i>Lethrinus</i>	200 mm
Balagi	Surgeon Fish	<i>Hepatus</i>	200 mm
Ki, Ose	Surmullet, Goatfish, Whiskercod	<i>Mulloidichthys, Pseudopeneus, Upeneus</i>	150 mm
Damu	Snapper	<i>Lutjanus</i>	300 mm
Ta	Unicorn-Fish, Leather jacket	<i>Naso</i>	300 mm
Qari dina	Swimming Crab	<i>Scylla serrata</i>	125 mm
Sici	Trocas shell	<i>Trochus niloticus</i>	90 mm
Civa	Pearl Oyster Shell	<i>Pinctade margaritifera</i>	100 mm
Sucuwalu, Dri	Beche-de-mer	<i>Holothuria scabra</i>	76 mm

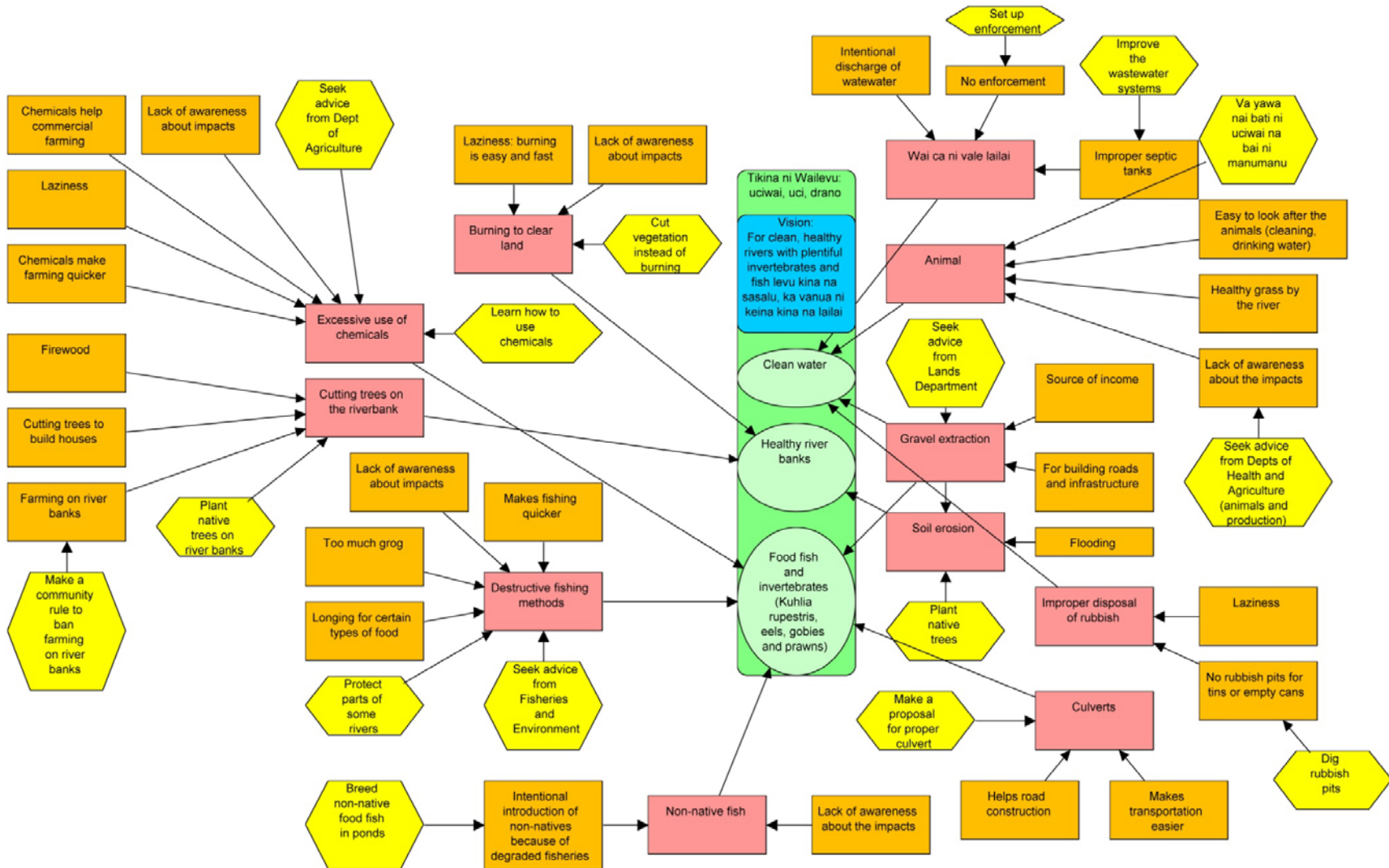
**Measurement method:** (1) Fish: measure from the point of the snout to the middle of the tailfin when the fish is laid flat. (2) Trochus: measure across the whorl. (3) Pearl Oyster Shell: measure from the butt or hinge to the opposite lip

<sup>115</sup> *Fisheries Regulations*, rr.18, 19, 21, 25B.

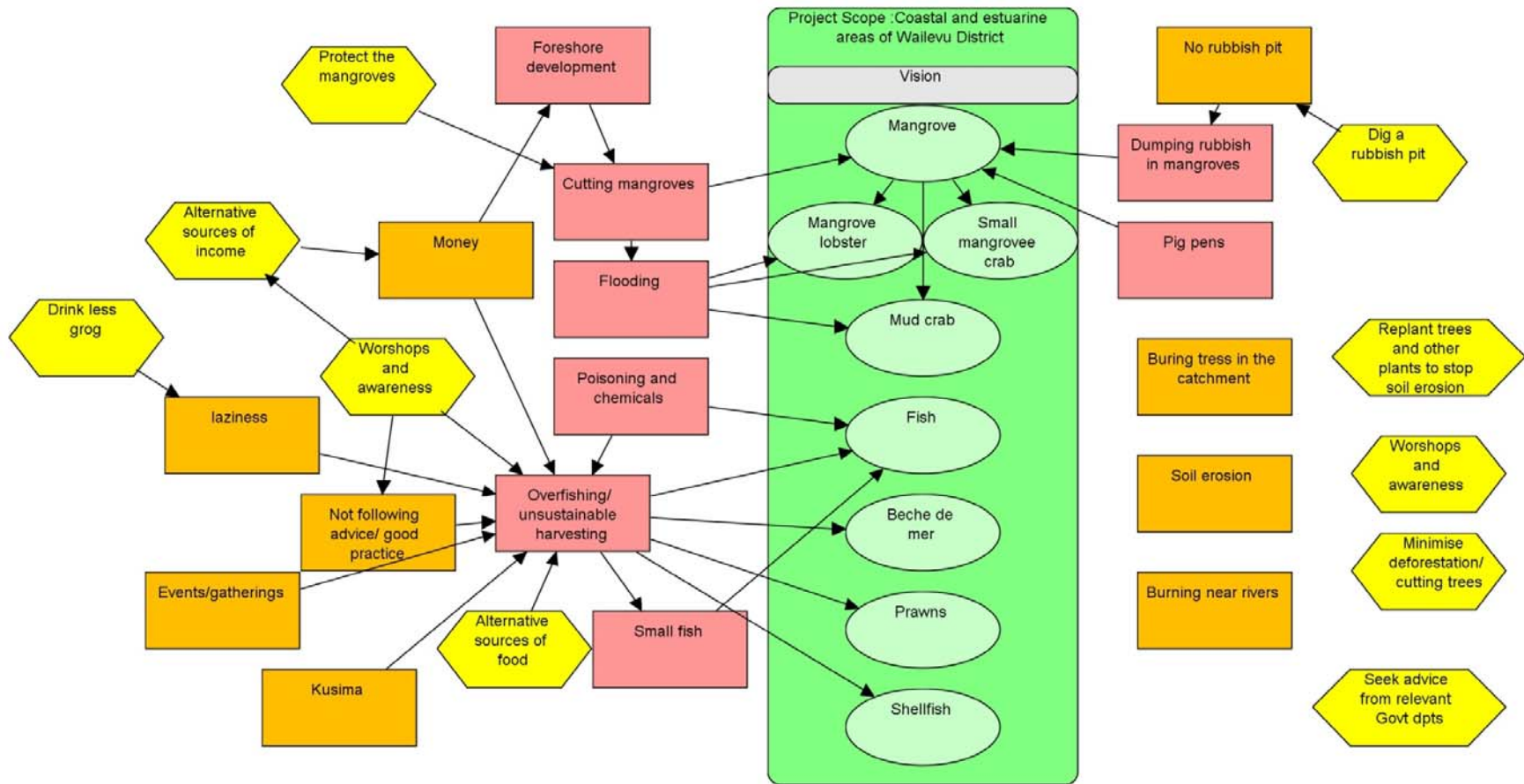
APPENDIX 4 – WAILEVU TERRESTRIAL THREAT DIAGRAM



## APPENDIX 5 – WAILEVU FRESHWATER THREAT DIAGRAM

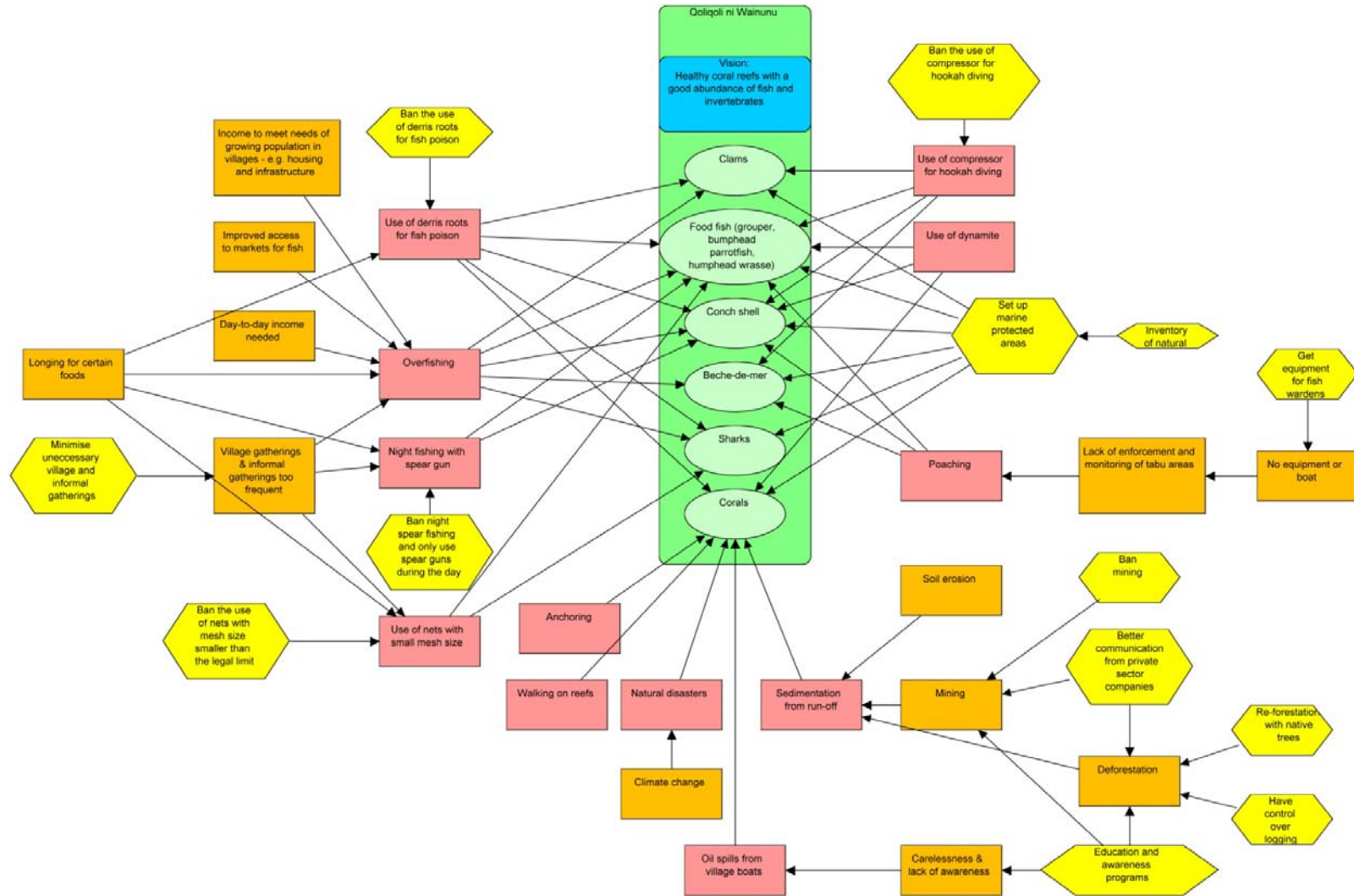


## APPENDIX 6– WAILEVU COASTAL AND ESTUARINE THREAT DIAGRAM





## APPENDIX 7 – WAILEVU MARINE THREAT DIAGRAM



## APPENDIX 8 – LEGAL MECHANISMS FOR ESTABLISHING PROTECTED AREAS

### 1.0. LEGAL PROCESS FOR ESTABLISHING MARINE PROTECTED AREAS

There are two mechanisms available for legally protecting marine areas under the *Fisheries Act*:

1. restricted areas
2. fishing licence conditions.

The key features of these mechanisms, and the process for using them, are described below.

#### 1.1. Restricted Areas

##### *Key Features*

The Minister for Fisheries can declare ‘restricted areas’, commonly known as marine reserves. Fishing in a restricted area without a permit is an offence. The current penalty as of 2013 for fishing in a restricted area with a permit is \$500 and/or three months imprisonment.

##### *Process*

The Minister may create a restricted area by either (a) creating regulations specifically for the new restricted area; or (b) amending the existing list of restricted areas in the *Fisheries Regulations*.

In either case, the Minister must take the proposed regulations (or amendment) to Cabinet for approval. The members of Cabinet are the Prime Minister and Ministers. Cabinet meets regularly to make decisions on matters of national policy. If Cabinet approves the regulations (or amendment) the Minister will then publish the regulations in the Government Gazette.

Before the Cabinet meeting, an officer of the Department of Fisheries will prepare a written submission to be presented to Cabinet by the Minister. The Cabinet submission will include a brief description of the proposal, background, discussion and recommendations.

If resource owners want the Minister for Fisheries to declare a restricted area in their *qoliqoli*, the *turaga ni yavusa* should discuss the proposal with the Department of Fisheries, and then submit a written proposal to the Minister, highlighting the conservation significance of the area, and providing evidence that establishment of the restricted area is supported by the *vanua*.

Only the Minister for Fisheries may remove or modify a restricted area. To remove or modify a restricted area, the Minister must revoke or amend the relevant regulations, following the same process for creating a restricted area.

#### 1.2. Fishing Licence Conditions

##### *Key Features*

Any person who wants to fish for ‘trade or business’ must apply for a fishing licence (unless they are only fishing with a line from the shore or with a spear).



Fishing licences can include legally binding conditions. Licence conditions can be used to prohibit fishing in particular areas, including *tabu* areas.

Breaching licence conditions is an offence. The current maximum penalty for breaching a licence condition is \$500 and/or three months imprisonment.<sup>116</sup>

#### *Process*

Fishing licences are issued by Department of Fisheries licensing officers. Before issuing a fishing licence, the Department of Fisheries will request a letter of consent from the *turaga ni yavusa*.

The *turaga ni yavusa* can use the letter of consent to ensure that *tabu* areas are included in the licence conditions. It is important to clearly define the rules of the *tabu* area(s) in the letter of consent, and attach a map that clearly and accurately illustrates the *tabu* boundaries.

Licences expire on 31 December each year. This means that a new letter of consent will be required each year, and provides an opportunity to modify the rules or boundaries of the *tabu* area(s).

## **2.0. LEGAL PROCESS FOR ESTABLISHING TERRESTRIAL PROTECTED AREAS**

There are a number of mechanisms available for legally protecting terrestrial areas, including:

1. nature reserves
2. protected catchment areas
3. conservation leases.

The key features of these mechanisms, and the process for using them, are described below.

### **2.1. Nature Reserves**

#### *Key Features*

The Minister for Forests may declare nature reserves. It is an offence to log, clear, burn, build, plant, graze, hunt or fish in a nature reserve (maximum penalty: \$10,000 fine or 2 years imprisonment).

Logging licences must not be issued in a declared nature reserve. Mining leases must not be issued in a declared nature reserve without the approval of the Conservator for Forests.

#### *Process*

The Minister for Forests may only declare a nature reserve on the recommendation of the Forestry Board. The Forestry Board is an advisory board, chaired by the Conservator for Forests. In the case of *iTaukei* land, the Minister must also obtain the consent of landowners and the iTaukei Land Trust Board (TLTB) before establishing a nature reserve.

If landowners want the Minister to declare a nature reserve on their land, the *turaga ni mataqali* should discuss the proposal with the NLTB and the Forest Department, and then prepare a written

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<sup>116</sup> Note that the *Fisheries Act* is currently in review as of 2013 and the penalties for offenses are likely to substantially increase in the forthcoming *Inshore Fisheries Decree*

proposal to the Conservator for Forests, highlighting the conservation significance of the area, and providing evidence of support from NLTB and the *mataqali*.

Only the Minister for Forests may remove or modify a nature reserve. The Minister may only remove or modify a nature reserve on the recommendation of the Forestry Board.<sup>117</sup>

## **2.2. Protected Catchment Areas**

### *Key Features*

The Minister for Water may declare any area of land or water to be a water supply catchment area. It is an offence to commit any act which causes pollution of water within a declared catchment area (maximum penalty: \$100).

Logging licences must not be issued in a declared catchment area. Mining leases must not be issued in a declared catchment area without the approval of the Commissioner for Water Supply.

### *Process*

The Minister must publish notice of his/her intention to declare a protected catchment area in the Gazette. The notice must describe the proposed catchment area, and allow at least two months for any owner, lessee or licensee of the area to object in writing to the proposed declaration. The Minister must consider any such objections before making a decision about declaration of the area.

If landowners want the Minister to declare a water supply catchment area on their land, the *turaga ni mataqali* should discuss the proposal with NLTB and the Department of Water, and then prepare a written proposal to the Minister, highlighting the conservation significance of the area, and providing evidence of support from NLTB and the *mataqali*.

Only the Minister for Water may remove a declared catchment area.

## **2.3. Conservation Leases**

### *Key Features*

The iTaukei Land Trust Board (TLTB) may issue leases over *iTaukei* land. Since development leases (for example, for logging or tourism development) cannot be issued over land that is already leased, leases can be used for conservation purposes if there is a lessee who is willing to pay to conserve a particular area (for example, Moody's Resort on Namenalala Island).

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<sup>117</sup> Note that the *Forest Decree* is currently in review as of 2013 and the process for declaring a nature reserve may change substantially as there may be broad changes to the agencies responsible for administering the legislation.

### *Process*

The terms and conditions of *iTaukei* land leases are negotiated by TLTB on behalf of landowners. The consent of more than 50% of the relevant *mataqali* is required before TLTB will issue a lease. Lease payments are negotiated by NLTB based on standard payment criteria.

If landowners have identified a lessee who is willing to enter into a conservation lease over part of their land, the *turaga ni mataqali* and the lessee should discuss the proposal with TLTB, highlighting the conservation significance of the area, and providing evidence of support from the *mataqali*.

If the lessee fails to make lease payments, or breaches the conditions of the lease, TLTB may terminate the lease.

## APPENDIX 9 – RESOURCE USE CALENDAR

The following information is based on focus group discussions facilitated within communities in the course of wider consultations in Wailevu.<sup>118</sup> The data are not comprehensive at the district level and conclusions in the body of this plan are based on a wider dataset incorporating the neighbouring district of Wainunu.

Resource use activity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Plant dalo												
Plant yam												
Harvest												
Rabbitfish												
Mangrove Jack												
Mackerel												

<sup>118</sup> WCS (2011) Socioeconomic Survey: Wailevu district

<i>Resource use activity</i>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sept</b>
<b>Mullet</b>												
<b>Grouper spawning</b>												
<b>Mud crab</b>												
<b>Land crab</b>												
<b>Mud lobster</b>												
<b>River prawns</b>												
<b>Balolo</b>												
<b>Octopus</b>												
<b>Freshwater mussels</b>												

**Key (villages):**

Dawara	
Keka, Naviavia	
Laucala, Naiqaqi, Valeni	
Nabalebale	
Nakasa	
Nakwakawa, Nabunikadamu	
Natua, Vanidamoli, Natuvu	
Vakativa, Naloaloo	

## APPENDIX 10 – USEFUL CONTACTS

### **WAILEVU WEST RESOURCE MANAGEMENT COMMITTEE**

Chairman, Eroni Vunisa  
Vunidamoli Village  
Ph. 9346972

### **WAILEVU EAST RESOURCE MANAGEMENT COMMITTEE**

Chairman, Timoci Rokosuli  
Naloaloa  
Ph. 9233856

Kubulau Resource Management Committee  
Chairman, Paulo Kolikata  
Namalata Village  
Ph. 8200844 or 7501196

### **GOVERNMENT AGENCIES**

#### **iTaukei Land Trust Board**

Deputy General Manager – Operations  
Mr Solomon Nata  
Ph: 3312733  
Email: snata@tltb.com.fj

#### **iTaukei Lands and Fisheries Commission**

Chairman, Ratu Vananalagi Vesikula  
Ph: 3301001  
Email: vananalagi.vesikula@govnet.fj

#### **Cakaudrove Provincial Office**

Roko Tui Cakaudrove, Bulutani Mataitawakilai  
Cakaudrove Provincial Office  
Ph: 8850020

#### **Department of Fisheries**

Senior Fisheries Officer Savusavu  
Mr Joji Vuakaca  
Ph: 8850967  
Email: joji.vuakaca@yahoo.com

Divisional Fisheries Officer Northern  
Ph: 8812833

#### **Department of Forestry**

Conservator of Forest, Mr Inoke Wainiqolo  
Ph: 3301611  
Email: iwainiqolo@govnet.gov.fj  
Forestry Officer Cakaudrove (Dreketi)  
Ph: 8518277

#### **Department of Environment**

Environment Impact Assessment Officer,  
Mr Viliame Momoevalu  
Ph: 3311699  
Email: vmomoevalu@environment.gov.fj

#### **Department of Agriculture**

Land Use Section, Department of Land Resource  
and Planning, Mr Atish Prasad  
Ph: 3477044  
Email: aprasad006@govnet.gov.fj

Principal Agriculture Officer Northern, Mr John Cox  
Ph: 8812244  
Email: jwcoxboss@yahoo.com

Acting Director, Land and Water Resources  
Management Division, Mr Colin Simmons  
Ph: 3383155/9904547  
Email: csimmons@agriculture.gov.fj

#### **Department of Tourism**

Principal Tourism Officer, Mr Donald Mitchell  
Ph: 3312788  
Email: dmitchell.motfiji@gmail.com

### **NON-GOVERNMENT ORGANISATIONS**

#### **Wildlife Conservation Society Fiji Program**

Program Director, Dr Stacy Jupiter  
Ph: 3315174  
Email: sjupiter@wcs.org

#### **Fij Locally Managed Marine Area Network**

Secretariat, Amelia Pei  
Ph: 3361122  
Email: ameliapei26@gmail.com

#### **Partners in Community Development Fiji**

Executive Director, Mr Tevita Ravumaidamu  
Ph: 3300392  
Email: [travumaidama@pcdf.org.fj](mailto:travumaidama@pcdf.org.fj)

#### **National Trust of Fiji**

Director, Ms Elizabeth Erasito  
Ph: 3301807  
Email: [eerasito@nationaltrust.org](mailto:eerasito@nationaltrust.org)

#### **SPC-GIZ**

Land Use Planning and Facilitation Specialist  
Ms Christine Fung  
Ph: 3305983  
Email: christinef@spc.int