For a living planet

A Forests Strategy for Solomon Islands 2006-2011

Final Report from
WWF SI Forests Strategy Planning Workshop

October 18 and 19, 2005

WWF Solomon Islands

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List of Abbreviation

AusAID	Australian Overseas Aid Programme
BSSE	Bismarck Solomon Seas Ecoregion
CI	Conservation International
DFEC	Department of Forestry, Conservation and Environment
ECANSI	Environmental Concerns Action Network of Solomon Islands
EU	European Union
FSC	Forest Stewardship Council
GP	Greenpeace
KFPL	Kolombangara Forest Products Ltd.
MCCF	Makira Community Conservation Foundation
NRDF	Natural Resource Development Foundation
NTFPs	Non Timber Forest Products
RAPPAM	Rapid Assessment of Priority Protected Areas Management
RMO	Resource Management Ordinance/Order
SIDT Eco-forestry	Solomon Islands Development Trust Eco-forestry Programme
SIFMP	Solomon Islands Forestry Management Project
SILMMA	Solomon Islands Locally Managed Marine Areas
SOLFRIS	Solomon Islands Forest Resources Inventory
SPRIG	South Pacific Regional Initiative on Genetics
SWIFT	Solomon Islands Western Islands Fair Trade
TDA	Tetepare Descendants' Association
TNC	The Nature Conservancy
UNDP	United Nations Development Programme
VETE	Village Eco-Timber Enterprises
WCMC	World Conservation Monitoring Centre (UN Environment Programme)
WHA	World Heritage Area
WWF SI	WWF Solomon Islands

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1.0 Executive Summary

Solomon Islands Forests - A Biological Treasurehouse ...

- The Solomon Island forests are one of the 200 most important "ecoregions" in the world and one of the 10 most threatened forest ecoregions
- With New Guinea, the forests of the Solomon Islands make up the largest block of tropical rainforest remaining in the Asia Pacific and one of the three great rainforest areas on the planet.
- The Bismarck and Solomon Seas ecoregion boasts the highest diversity of saltwater fish and coral species in the world. Reef fish diversity and abundance is increasingly being seen as connected to the health of forested streams.
- A range of forest types are found across the Solomon Islands, many of them unique to this region.
- The Solomon Island forests with 4500 species of plants are recognised as one of the world's great Centres of Plant Diversity rich in unique palms, orchids and climbing pandanus. 25 tree species are threatened.
- The Solomon Islands forests have more unique restricted range and unique bird species by area than any other place on earth. 72 of the 163 land birds in the Solomon Islands are found only here or in close neighbouring islands. Most provinces hold at least one unique bird found only on that province and up to 12 unique species in the case of Makira. Many of these restricted species are also gravely threatened. On these grounds alone, the Solomon forests deserve world attention to support their protection and sustainable management.
- A significant proportion of the mammals, lizards, frogs, snails and insects in the Solomon Islands are found nowhere else. Three bat species are critically endangered and deserve urgent attention.

... fundamental to life and livelihood of Solomon Island peoples...

- Forests provide some of the fundamental systems required to support life. Experience in other Pacific Islands has shown that forest loss can result in issues such as failure of water supply in drought periods, loss of fisheries and landslides.
- Rural Solomon Islanders depend heavily on over 600 forest products for their subsistence livelihood and are increasingly gaining income from the sale of forest products such as rattan and ngali nuts and plantation timbers. Forests are also important for defining and maintaining cultural identities and cultural values of Solomon Islands peoples.
- Solomon Islanders, like so many in the Pacific, are struggling to integrate the use of natural resources for cash with the need to maintain the subsistence resource base on which daily life for most continues to depend.
- The Solomon Islands has one of the poorest records for forest protection on the planet with only 0.28% of its territory included in protected areas. A number of regions recommended as priorities for conservation in 1990 have subsequently been logged or cleared for oil palm.
- An unknown number of traditional protected areas or "tambu" sites exist that afford

strong but localized protection for forests across the islands. Traditional systems of forest protection appear to be breaking down in many areas.

... under extreme and increasing threat ...

- The desperate search by government for export earnings often favors unsustainable short-term industries at the expense of long term production and threatens the natural resource base necessary to sustain the subsistence economy.
- Logging is the major threat to Solomon Islands forests as it targets all commercial lowland and low montane forests. Current operations are preceding at four times sustainable yield levels and are in no way ecologically sustainable. A recent AusAID inventory predicts the depletion of natural forests by 2015 or earlier, a situation which will collapse the forests sector and have dramatic and negative impacts on the Solomon Islands economy.
- The cultivation of oil palm requires the clearance of large areas of lowland forest and the processing of the fruit causes severe pollution of receiving rivers and coastal areas. Currently several large oil palm operations are underway and more are proposed.
- While impacts from mining are often localized, poorly regulated mining practices often lead to serious problems in groundwater contamination, negative impacts on aquatic ecosystems and negative socio-economic impacts on local populations.
- Invasive Species such as weeds and feral animals are becoming more widespread in Solomon Islands.
- Remaining patches of coastal lowland forest are under pressure from further forest clearance with the expansion of shifting cultivation leading to reduction in soil fertility, lower crop yields and loss of biodiversity.
- Many of the forest areas identified as priorities for conservation by the Maruia Society in 1990 have since been logged, converted to oil palm or have experienced gradual forest loss from the expansion of agricultural areas.

There is an urgent need to reform legislation and institutions in Solomon Islands to support new models of sustainable forest management ...

- There is desperate need for reform of the forest sector which is widely recognised as corrupt and poorly managed. Timber production accounts for approximately 60% of government revenues. Yet this income stream is predicted to collapse by 2015 with the exhaustion of natural forests.
- A number of organisations are assisting communities to manage their own forests for timber production using portable sawmills. These efforts offer opportunities to link to non-timber forest product harvest and to promote alternative models of income generation for landowners.
- Current forestry legislation lacks consistency and coherence due to frequent amendments and gives very poor coverage to environmental issues.
- Appropriate and effective national legislation that promotes biodiversity conservation through establishment of protected areas, sustainable forest management and that meets the needs of customary landowners is desperately needed.
- Successful stewardship of Solomon Islands forests must provide viable alternatives to landowners that meet basic economic needs, while promoting the conservation of biodiversity and the protection of the range of forest values.
- The establishment of a national forests network would strengthen the advocacy efforts of NGOs with respect to improved forest governance and provide a forum for dialogue with

government and industry.

WWF and Partners propose a strategy for sustainable forest management in Solomon Islands...

- That supports Solomon Islands peoples to conserve their rich biodiversity.
- That establishes a viable and ecologically representative protected areas network that conserves biodiversity and protects the conservation values of Solomon Islands Rain Forests.
- That harnesses market mechanisms including an international campaign in collaboration with key partners to raise awareness of unsustainable logging practices and an investigation into potential Forest Stewardship Council certification for large-scale commercial forestry companies.
- That offers landowners viable alternatives to the current model of industrial logging through development of community enterprise such as eco-milling and non-timber forests products.
- That improves forest governance and reduces illegal logging in Solomon Islands
- That focuses on 5 geographic areas that meet criteria of high biological priority and link with exisiting forest conservation and sustainable forest management work. These include Kolombangara Crater to Vila River Catchment, Tetepare-Hele Islands Complex, Mt. Maetambe-South Choiseul Forests Complex, Bauro Highlands in Makira Province and the Komarindi Conservation Area of Guadalcanal.

2.0 Introduction

Since 2002, WWF Solomon Islands has been primarily a marine focused programme, although its earlier Community Resource Conservation and Development Project in Western Province had both marine and forest components. Following a significant reduction in available funding in late 1999, WWF concentrated its efforts on community-based conservation work with Gizo Island and Tetepare Island communities, and much of the work conducted there has been of a marine nature.

Rapidly increasing levels of unsustainable logging in Solomon Islands, and the detrimental impacts this will have on marine ecosystems, has encouraged WWF SI to develop a forest programme as part its current 5 year strategic plan (2006 -2011). Specifically, this programme will concentrate on three broad areas of work, namely protected areas establishment, sustainable forest management through community enterprise and improved forest governance.

While Solomon Islands is a signatory to the UN Convention on Biological Diversity and has endorsed the target of establishing a representative system of protected areas on land by 2010 and in the seas by 2012, the current situation is far from this goal. Today, only 0.28% of terrestrial ecosystems in Solomon Islands have formal legislative protected area designation. This coverage is one of the lowest of protected areas in the South Pacific region, and in the world. Several of these areas are now mostly degraded from logging, oil palm development and encroaching human settlement. Given the tremendous pressure exerted on these forest ecosystems by the logging industry and the fact that government revenue is largely dependant on earnings from this sector, pressure on remaining intact forests will only increase in coming years. This will have dramatic and negative impacts on both viability of these unique terrestrial systems, their associated marine ecosystems, and on the livelihoods and cultural identities of Solomon Islanders unless action is taken now to conserve biodiversity and protect ecological, socio-economic and cultural values of Solomon Islands forests.

2.1 Purpose of Report

On October 18 and 19, 2005, WWF SI hosted a Forests Strategy Planning Workshop for key partners to determine where WWF should focus its efforts with respect to forests programming. The objective of the workshop was to develop a Forests Strategy for WWF in the Solomon Islands by working with partners to identify areas of common interest. Participants included national and provincial government representatives, AusAID's Sustainable Forest Management programme, Oxfam, Greenpeace, SIDT Eco-forestry Programme, NRDF, ECANSI, MCCF, East Rennell World Heritage Trust Board, Lauru Rural Training Centre and others.

While the workshop was originally designed to develop a forest strategy solely for WWF SI, participants felt that it provided an opportunity to develop a collaborative strategy for addressing forest issues in the Solomon Islands. As a result, a strategy was prepared that reflected the collective intentions of the organisations taking part in the workshop.

This document constitutes the report on the workshop and contains a Solomon Islands Forests Strategy for 2006-2011 that is supported by the participating organisations. A separate stand alone strategy document is also available.

3.0 Understanding Solomon Islands Forests and Forest Management

3.1 Ecoregions

The Solomon Island forests are one of the 200 most important "ecoregions" in the world and one of the 10 most threatened forest ecoregions

In 1998, global experts undertook the first comparative analysis of biodiversity to cover every major habitat type across the five continents of the world and its oceans (Olsen and Dinnerstein, 1998). This identified over 200 of the world's most important "ecoregions" - ecological regions that cover a relatively large area of land or water and contain a geographically distinct assemblage of natural communities that share a majority of their species, dynamics and environmental conditions.

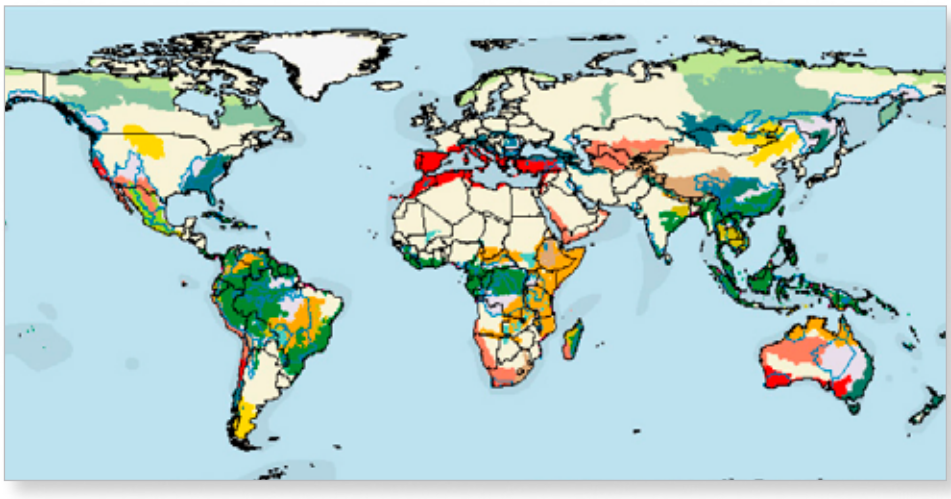

Figure 1: Global 200 Ecoregions of the World

The Solomon Islands Rain Forests Ecoregion is firmly included in this Global 200 list and is ranked in the highest category of "Globally Outstanding". This is in recognition of being "true oceanic islands with high vertebrate endemism, including single-island endemics, restricted-range mammals, and an astounding 69 bird species found nowhere else in the world. There are 148 known bird species, including endemic beauties such as the Guadalcanal honey-eater and the San Cristobal midget. Living in the thick forest are pademelon wallabies, giant fruit bats and flying foxes." (Wikramanayake et. al., 2002).

However, the Solomon Islands Rain Forests Ecoregion is also now listed as one of the 10 most threatened forest ecoregions in the world (WWF, 2003). With only a fraction of one percent of these forests included in protected areas and logging and oil palm threatening a great deal of the lowland regions, the Solomon Islands are now rated as some of the most vulnerable forest ecosystems on earth.

With New Guinea, the forests of the Solomon Islands make up the largest block of tropical rainforest remaining in the Asia Pacific and one of the three great rainforest areas on the planet.

Tropical rainforests are one of the richest ecosystems on earth containing more plants and animals in each hectare than almost any other vegetation type. And yet the area of tropical rainforests is shrinking rapidly and threatening serious loss of the world's biodiversity.

Figure 2: Three Great Tropical Forests of the World

With the reduction of the great Borneo forests by logging, oil palm and fire, the block of tropical rainforests covering New Guinea and the Solomon Islands together is now the largest remaining in the Asia Pacific region. The forests of the New Guinea and Melanesia bioregion, which include the Solomon Islands, cover 94 million ha of land. This is the largest area of tropical rainforest remaining in the Asia Pacific region, significantly larger than the forests of Borneo and 10 times the area of the neighboring World Heritage listed Wet Tropic rainforests of Australia. These are by far the most significant rainforests of the Pacific in extent and stand with New Caledonia as the most significant in biological diversity and endemism.

The Bismarck and Solomon Seas boast the highest diversity of saltwater fish and coral species in the world. Reef fish diversity and abundance is increasingly being seen as connected to the health of forested streams.

The marine areas of the Solomon Islands are part of the Bismarck Solomon Seas Ecoregion (BSSE), one of the richest marine areas of the world. A Rapid Ecological Assessment conducted by TNC in 2004, indicated that Solomon Islands has the second highest diversity of coral species in the world after Raja Ampat in Indonesia. Over 494 coral species were found with several new species discovered. The BSSE also has high levels of fish biodiversity with 1019 different species noted in this same survey.The far western end of the BSSE in the Raja Ampat Islands in Papua, Indonesia boasts the highest diversity of coral and saltwater fish species on the planet.

Recent studies are showing that there is a much more significant link between forests and reef fish biomass and diversity (pers. comm. A. Jenkins 2005). It is well known that a number of fish spend part of their life cycle in waters around mangrove forests. In addition it is becoming clear that other fish such as snappers spend time in forested streams during their juvenile period. Indeed a significant proportion of reef fish inhabit the upper and lower reaches of forest streams in their early developmental stages.

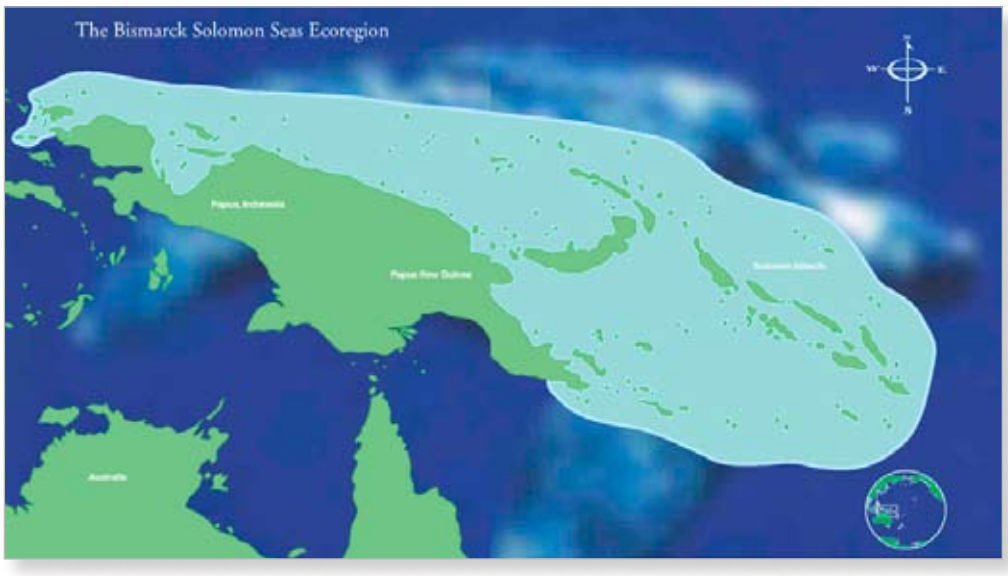

Figure 3: Bismarck Solomon Seas Ecoregion is one of the richest marine areas on the planet

3.3 Vegetation Types

A range of forest types are found across the Solomon Islands, many of them unique to this region.

Mueller and Dubois (1998) recognize 7 vegetation types in Solomon Islands, while Whitmore (1966) has further identified six lowland rainforest types.

Coastal strand vegetation (saline swamps) are found on lands subject to inter-tidal flooding, such as estuaries and foreshores. These are primarily mangrove areas that occur on 2.3% of Solomon Islands land area and are poor in species diversity (dominated by Bruguiera spp. and Rhizophora spp.). Extensive areas of this vegetation type are found on Isabel, New Georgia, Malaita, Marovo lagoon, Makira and east Guadalcanal. Saline swamps play critical roles as food and cultural resources for rural communities.

Riverine forests (freshwater swamps) are characterized by mixed herbaceous species, palms, Pandanus spp. and other wetland or wet ground species such as sago and rosewood. Such areas are particularly sensitive to soil compaction from logging. Lauvi lagoon area of Guadalcanal and west-central Makira are notable areas of this vegetation type.

Lowland forest, including hill forest, is the climax vegetation and most common forest type in the country. Floristically it is closely related to forests of Malesia (Malaysia, Philippines, Indonesia, and PNG), although there are fewer genera and species and trees are smaller. There are 60 major tree species, twelve of which form the canopy layer including Calophyllum kajewski, Callophyllum vitiense, Eleocarpus sphaericus, Enospermum meddulossum, Gmelina molucana, Maranthes corymbosa, Parinari solomnensis, Pometia pinnata, Dillenia salmononensis and Schizomeria serrata. Hill forest is lowland forest found on higher slopes and well drained sites. It has a Pometia dominated canopy, and includes species such as Callophyllum kajewski, Endospermum medullosum, Gmelina moluccana, Canarium, Parinari and Vitex. Lowland forest forms the bulk of commercial forest in Solomon Islands, while the lower slopes of Mt. Maetambe in Choiseul are a good example of lowland hill forest.

Montane, or cloud forest, occurring at higher altitudes is present in Solomons as low as 700m. There is a marked reduction in species numbers here with a prevalence of Myrtaceae, Podocarpus spp. and epiphytic rhododendrons. No clear lower montane forest zone is distinguishable, while upper montane comprises stunted moss covered trees such

as Dacrydium and Eugenia. There is little commercial exploitation of this area. Kolombangara Crater and Popomanaseu on Guadalcanal are good examples.

Non-forest communities, such as the seasonal dry forests or grasslands cover 1-2% of Solomons land area. These are believed to be human induced landscapes from the use of fire. Introduced grass species, such as Themeda australisis (kangaroo grass) & Imperata cylindrica dominate. These are located mostly in northern plains of Guadalcanal and the Florida Islands.

A detailed breakdown of the above vegetation zones, including zone components and species is provided in the following chart.

Vegetation Types (adapted from Mueller and Dubois, 1998)

Zone	Zone components	Major Species	Location
Coastal strand vegetation (mangroves)	Tall forest dominated by Rhizophora sp.& Brugueria sp.	Rhizophora sp.& Brugueria sp. dominated Impoea, Spinifex, Canavalia, Thuarea, Cyperus, Scaevola, Hibiscus, Pandanus, Tournefortia, Cerbera, Calophyllum, Barringtonia, Terminalian and Casuarina	Isabel, New Georgia, Malaita, Makira, eastern Guadalcanal
	Low forest dominated by Rhizophora apiculata	Rhizophora apiculata dominated Impoea, Spinifex, Canavalia, Thuarea, Cyperus, Scaevola, Hibiscus, Pandanus, Tournefortia, Cerbera, Calophyllum, Barringtonia, Terminalian and Casuarina	Isabel, New Georgia, Malaita, Makira, eastern Guadalcanal
Freshwater swamp/Riverine forest	Camphosperma brevipetiolata dominated	Campnosperma breviopetiolata Inocarpus fagiferus, Eugenia tierneyana, Barringtonia spp., Calophyllum vexans, Pterocarpus indicus	Widespread on most islands, New Georgia
	Closed canopy Terminalia brassi dominated	Terminalia brassi, Inocarpus fagiferus, Eugenia	Widespread on most islands, New Georgia
	Freshwater swamp - sago	Metroxylon salomonense	Widespread on most islands, New Georgia
	Low open canopied - pandanus	Eugenia tierneyana, Inocarpus fagiferus, Erythrina orientalis and pandanus	Widespread on most islands, New Georgia
	Mixed swamp forest	Inocarpus fagifer, Syzygium tierneyana, Intsia bijuga, Barrington racemosa, Callophyllum vexans, Pterocarpus indicus, Campnosperma brevipetiolata, Terminalia brassi	Widespread on most islands, New Georgia

Lowland forest	Lowland beach forest	Ipomoea pescaprae, Canavalia rosea, Virna marina, Wollastonia biflora, Barringtonia asiatica, Callophyllum inophyllum, Cerbera manghas, Heritiera littoralis, Intsia bijuga, Terminalia catappa, Casuarina equisetifolia	Widespread
	Lowland forest - mixed sp.	Calophyllum kajewski, Callophyllum vitiense, Eleocarpus sphaericus, Enospermum meddulossum, Gmelina molucana, Maranthes corymbosa, Parinari solomnensis, Pometia pinnata, Dillenia salmononensis, Schizomeria serrata, Terminalia calamansanai	Widespread
	Camphosperma dominated lowland forest	Camphosperma breviopetiolatum	Widespread
	Hill forest	Pometia pinnata, Callophyllum kajewski, Endospermum medullosum, Gmelina mollucana, Canarium spp., Parinari salomonensis, Vitex cofassus	Lower slopes of Mt. Maetambe (Choiseul)
	Low diversity forests	Ultramafic soils, Casuarina papuana, Dillenia crenata, Gulubia hombronii, Xanthostemon, Myrtella beccarri, Pandanus lamprocephalus	South tip of Choiseul and Isabel, San Jorge
Montane	Upper montane	Syzygium (Eugenia) sp, Metrosideros sp., Ardisia sp., Ficus, Rhododendron, Dacrydium spp, Podocarpus pilgeri	Kolombangara, Popomanaseu (Guadalcanal)
Seasonal dry forest and grasslands		Pometia pinnata, Vitex cofassus, Kleinhovia hospita, Themata sp., Imperata cylindrica Pterocarpus indicus, Antiasis toxicaria, Ficus spp. and Sterculia spp.	Northern Guadalcanal, Florida Islands

3.4 Key Taxa

The Solomon Island forests with 4500 species of plants are recognised as one of the world's great Centres of Plant Diversity, rich in unique palms, orchids and climbing pandanus. 25 tree species are threatened.

The Solomon Islands is recognised as one of the world's Centres of Plant Diversity (Davis et. al., 1995). With an estimated 4,500 species of higher plants, it is one of the richer rainforest areas in the world and is significantly more diverse than most other Pacific islands with the exception of New Guinea.

While Solomon Islands plants generally exhibit low endemism relative to Western Melanesia, specific plant families, such as the palms, orchids and climbing pandanus families exhibit high degree of species endemism. For example, 57% of palms, 50% of orchids (230 species) and 75% of the climbing pandanus species are endemic. Of particular interest are the ancient plants (the most primitive group of flowering plants), such as the Winteraceae family which has 4 endemics in Solomons and the pea family (Lees et. al., 1990).

Solomon Islands has over 25 threatened tree species, including ebony, rosewood, rattan and some palms. Ebony (Diospyros insularis) is listed as critically endangered. The status of many other forest plants is still unknown. A complete listing of endangered tree species of Solomons is given in Appendix 7.5. During the workshop WWF and partners conducted an analysis of key areas of threatened tree species. While these exist throughout the country, the greatest number is in Guadalcanal and Choiseul.

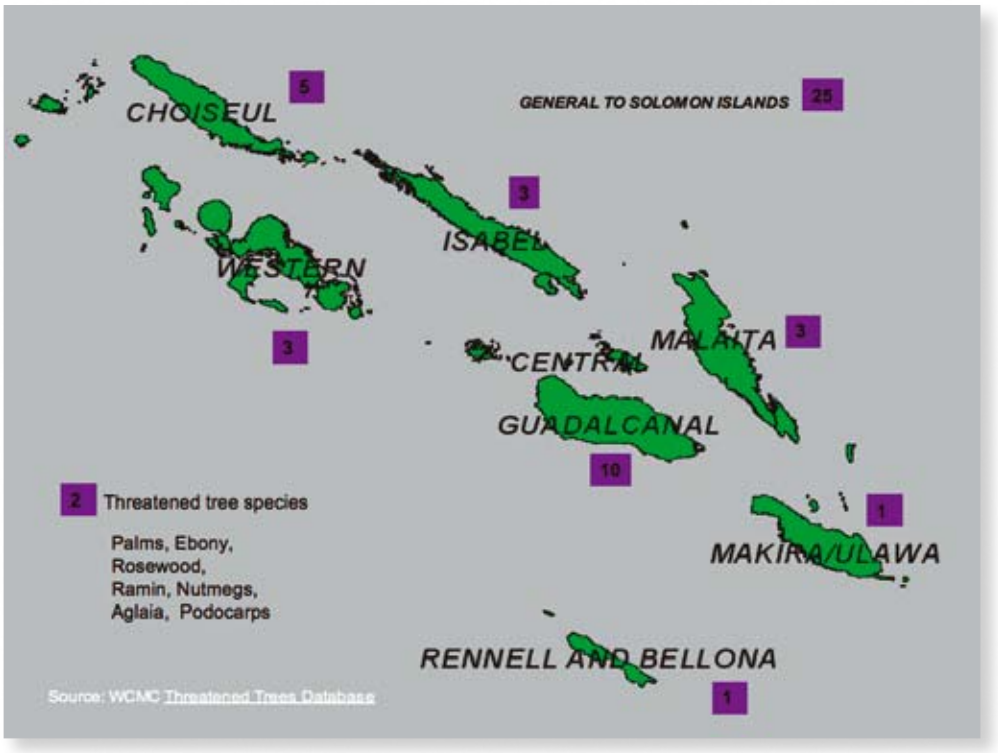

Figure 4: Threatened Tree Species of Solomon Islands

The Solomon Islands forests have more unique restricted range and unique bird species by area than any other place on earth. 72 of the 163 land birds in the Solomon Islands are found only here or in close neighbouring islands. Most provinces hold at least one unique bird found only on that province and up to 12 unique species in the case of Makira. Many of these restricted species are also gravely threatened. On these grounds alone, the Solomon forests deserve world attention to support their protection and sustainable management.

An exhaustive global review of the geography of unique bird species (Stattersfield et. al., 1998) found that the Solomon Islands has the highest levels of bird endemism in the world. On this ground alone the Solomon forests deserve world attention for their protection.

Of the 163 land birds in Solomons, 72 (44%) are endemic or near endemic and a further 62 (38%) are considered unique sub-species. The white eyes (Zosterops spp.) of Western Province are a classic textbook example of speciation. The well-know American geographer and ornithologist Jared Diamond (1976) has remarked that "there is no other place in the world...where biological phenomenon of speciation and population variation among islands are so obvious".

An analysis of endemic birds conducted during the workshop indicated a number of priority areas for bird conservation. For restricted range and threatened species, Guadalcanal is highest priority, followed by key endemic areas of Western Province and Makira. Choiseul is also a priority area for threatened species.

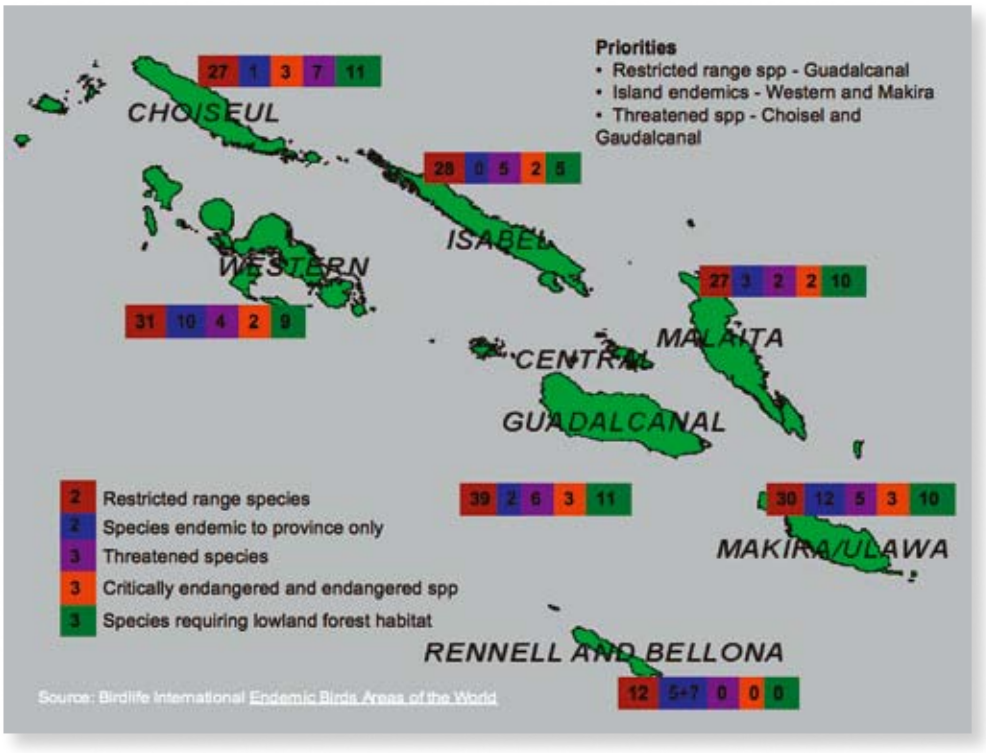

Figure 5: Endemic Birds of Solomon Islands

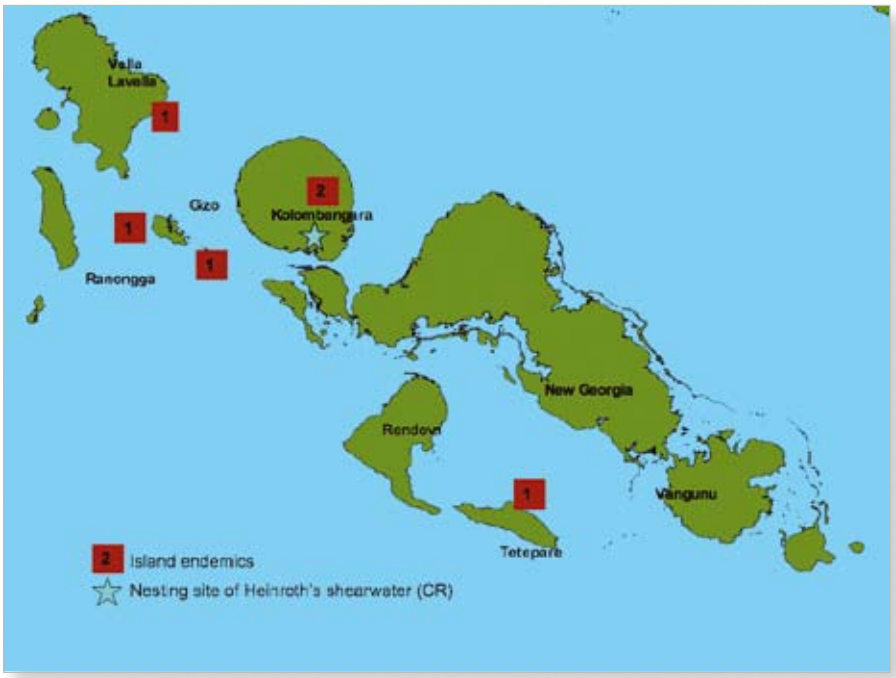

Figure 6: Endemic Birds of Western Province

A significant proportion of the mammals, lizards, frogs, snails and insects in the Solomon Islands are found nowhere else. Three bat species are critically endangered and deserve urgent attention.

Solomon Islands is home to 53 known species of mammals, mostly bats, rats and possums. There are 3 endangered species of rat including Spechts mosaic tailed rat (Melomys specti), Poncelet's giant rat (Solomys ponceleti) and Emperor rat (Uromys emperata).

Of the 34 species of bats in the Solomon Islands, 19 are endemic and 3 are critically endangered, including the Montane Monkey-faced bat (Pteralopex pulchra), Guadalcanal monkey faced bat (Pteralopex atrata) and Bougainville monkey-faced bat (Pteralopex ansep).

Reptiles and amphibians also exhibit high endemism here. The Shenomorphus skink genus has 9 endemic species, while the Corucia genus is endemic. Snakes have one endemic genus (Loveridgelaps) and the Solomonenlaps genus is endemic to both Solomons and Bougainville. Saltwater crocodiles (Crocodylus porosus) are widespread through the islands.

Solomon Islands is home to 25 frog species which show high endemism at the genus level. There are 25 endemic snail species. Insects are particularly unknown, although 130 species of butterflies have been recorded, including 35 endemics. Many of these endemic species are of the large and beautiful bird-wing butterflies.

3.5 Values

Forests provide some of the fundamental systems required to support life. Experience in other Pacific Islands has shown that forest loss can result in issues such as failure of water supply in drought periods, loss of fisheries and landslides.

In addition to their significant biodiversity and species endemism, the forest ecosystems of the Solomon Islands play critical ecological roles that sustain life. The maintenance of watersheds and water quality, soil retention and erosion control, provision of critical habitat for fauna, climate regulation, nutrient cycling and the pollination of plants are just a few of the essential ecological services provided by forests to Solomon Islands, the New Guinea and Melanesian bioregion, and the world.

Experience from Solomon Islands and the wider region has demonstrated that forest loss can result in issues such as failure of water supply, loss of fisheries and landslides. Forest loss in Solomon Islands is occurring at an alarming rate. Satellite mapping work undertaken by a recent forest inventory suggests that natural forests will be exhausted in Solomon Islands by 2015 unless dramatic efforts are undertaken to reverse this trend. An environmental impact assessment by the UK-based NGO Forests Monitor (1997) detailed pollution from sedimentation and loss of water supply and predicted a consequent long-term loss of forest productivity in Isabel province as a result of poor logging practices. An increase in logging operations in Marovo lagoon in recent years in Solomon Islands has left many rural communities faced with high levels of sedimentation resulting in fish kills and contaminated water supplies. Logging at Viru Harbour in Western Province has also caused high levels of fish kills for many years even after logging operations had ceased (pers. comm. L. Kilivisi, 2005). Currently, logging in catchment areas around Honiara town water supply is believed to be responsible for failing and intermittent water supply to Honiara residents

In Western Province, Papua New Guinea, forest loss associated with road construction and unsustainable logging during the Kiunga-Aiambak project resulted in loss of clean water supply, loss of wildlife and game species and threats to food security (Greenpeace, 2001).

Rural Solomon Islanders depend heavily on over 600 forest products for their subsistence livelihood and are increasingly gaining income from the sale of forest products such as rattan and ngali nuts and plantation timbers. Forests are also important for defining and maintaining cultural identities and cultural values of Solomon Islands peoples.

The majority of Solomon Islanders (85%) are highly dependant on forests to maintain largely subsistence lifestyles. Henderson and Hancock (1988) have identified more than 600 species of plants used for a range of uses from food products to housing materials to fish poisons. Many Solomon Islanders supplement bush medicines from the forests for western treatments, while forests provide important nutrition sources during certain times of year (i.e. Canarium spp.).

Industrial timber production accounts for 60% of government revenue derived largely from duties payable on raw log exports. Plantations also account for significant wood flows with industrial scale plantations occurring in Kolombangara, Isabel and Santa Cruz. In addition to large scale industrial plantations, village based plantations cover 2000 ha and support mostly high value species such as teak and mahogany. Approximately 500 small scale licensees for village based milling provide an important source of housing materials and for local milling of kwila and rosewood which are prohibited for export as round logs.

Non-Timber Forest Products (NTFPs) of significant value to Solomon Islands include ngali nuts, handicrafts, butterfly farming and rattan (Calamus spp.). The marketing of forest products such as ngali nuts is also a significant cash generator for many people, especially women. Isabel Development Company is currently working on cane furniture from rattan, although there is also an undeveloped informal sector in Gizo and Malaita. Other areas of potential NTFPs identified during the workshop include biodiesel from coconut oil, kava, fruit drying, noni (herbal medicine), mangrove fruit and sandalwood.

Solomon Islanders, like so many people in the Pacific, are struggling to integrate the use of natural resources for cash with the need to maintain the subsistence resource base on which daily life for most continues to depend.

In addition to the above ecological and socio-economic values, forests play critical roles in defining and maintaining cultural identities. Cultural values often exert an enormous influence on community natural resource decision-making. Globalization, the influence of the cash economy and unsustainable western lifestyles are impacting the traditional knowledge of landowners and pose new challenges for incorporating traditional ecological knowledge into natural resource decision-making processes.

3.5 Protected Areas

The Solomon Islands has one of the poorest records for forest protection on the planet with only 0.28% of its territory included in protected areas. A number of regions recommended as priorities for conservation in 1990 have subsequently been logged or cleared for oil palm.

The Solomon Islands is a signatory to the Convention of Biological Diversity and has endorsed the target of establishing a representative system of protected areas on land by 2010 and in the seas by 2012. However, the current situation is far from this goal. Currently, 0.28% of Solomon Islands terrestrial ecosystems are under formal legislative protection. This is one of the lowest protected areas coverage in the South Pacific and in the world. Formal protected areas are recognised as the cornerstone of biodiversity conservation and sustainable development.

Solomon Islands lacks any formal protected areas legislation. Most existing legislation that governs the development of natural resources is inappropriate for biodiversity conservation and unsuitable for meeting the needs of customary landowners. At the provincial level, Western Province has developed a Resource Management Ordinance, under which customary owners can apply for an order to set guidelines about the use of their resources. Some communities such as those on Simbo have used this to give legal protection to their megapode hatcheries, while several other communities such as those around Gizo and Tetepare Islands are making efforts towards these. Solomon Islands was the site for the first World Heritage area in the Pacific, Lake Tengamo in Rennell Island. Marovo Lagoon has also been proposed as a second site.

National legislation that is appropriate to biodiversity conservation and that meets the needs of customary landowners is urgently required.

Existing Forest Protected Areas with formal protection

No	Name	Description	Area
1	Queen Elizabeth National Park	Mt. Austen area of Honiara, currently overrun by squatter settlement, highly degraded	1093 ha
2	Lake Tengamo, Rennell Island	World Heritage Listed Lake Tengamo	37,000 ha

Existing Forest Protected Areas with informal protection

No	Name	Description	Area
1	Tetepare Conservation Area	Tetepare Island - marine and terrestrial area. Western Province.	11,000 ha
2	Makira Conservation Area	Bauro Highlands, Makira Island	63,000 ha
3	Simbo Conservation Area	Megapode hatcheries - RMO, Western Province	725 ha
4	Komarindi Catchment Area	Established by DFEC in early 1990s, Guadalcanal	19,300 ha
5	Arnavon Marine Conservation Area	Mostly marine, but 500m buffer of terrestrial area, Western Province	

An unknown number of traditional protected areas or "tambu" sites exist that afford strong but localized protection for forests across the islands. Traditional systems of forest protection appear to be breaking down in many areas.

It should be recognised that there are countless traditional protected areas or "tambu" sites that afford strong protection for forests across the islands. There number and size of these is unknown. Participants to the workshop indicated that many communities are experiencing a breakdown of traditional systems of forest protection and argue that forest conservation efforts should try to revive such practices where possible.

In 1990, the Maruia Society of New Zealand conducted a survey of areas of biological importance across the Solomon Islands and proposed a set of locations for the establishment of a representative reserve system (see Lees, et. al., 1990). Many of these areas have subsequently been degraded by logging, oil palm development or agricultural clearance. A revision of this analysis is now urgently needed. In 2003, a similar review of the environmental values of the Bismarck Solomon Seas proposed a set of priority marine areas (WWF, 2003).

3.6 Threats

The desperate search by government for export earnings often favors unsustainable short-term industries at the expense of long term production and threatens the natural resource base necessary to sustain the subsistence economy.

As elsewhere in the Pacific, globalization and its far-reaching economic and social consequences are having dramatic impacts on the lives of Solomon Islanders and their

natural resources. The need for income to participate in cash economy and the desire for economic development and basic social services coupled with a high population growth rate (2.8% per annum) has been driving much of the change in attitude to exploitation of natural resources. There is a critical need for effective protection of biodiversity and sustainable forest management.

Large-scale commercial development projects, such as mining, oil palm and logging, are favoured by the central government because they offer high rates of return with almost all of the investment and economic risk being borne by transnational corporations. In the case of logging and mining, there are also immediate and lucrative cash benefits for landowners, without the need for any investment or labour on their part. A high proportion of the country's coastal forests have been converted to copra, coconut oil and palm oil production, despite low economic returns.

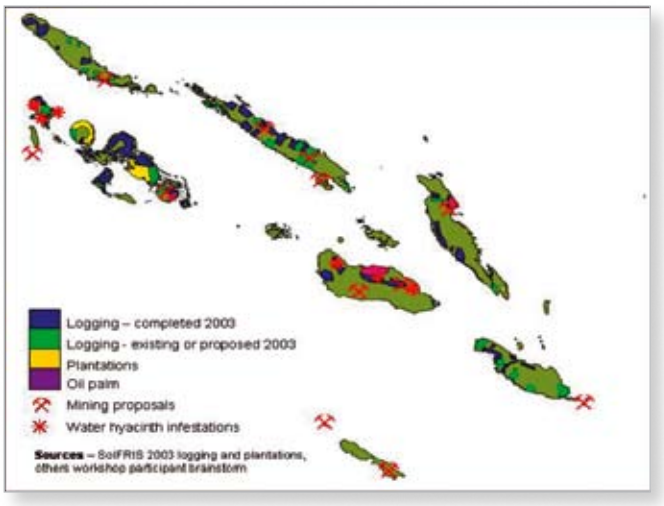

Figure 7: Threats to Solomon Islands Forests

Logging is the major threat to Solomon Islands forests as its main target is lowland and low montane forests. Current operations are proceeding at almost four times sustainable yield level and are in no way ecologically sustainable. A recent AusAID inventory predicts the depletion of natural forests by 2015, a situation which will jeopardize the existence of the forest sector and have dramatic and negative impacts on the Solomon Islands economy.

Commercial logging poses the greatest threat to lowland and low montane forests in Solomon Islands. The timber industry has been the largest single source of foreign earnings since 1990. During the 1980s, logging maintained a regular harvest of about 300,000 cubic metres per year but this has escalated dramatically for at least the last decade. In 2004, almost 1,000, 000 cubic metres of raw logs were exported from Solomon Islands. This is almost 4 times the sustainable yield, or sustainable harvest level. A recent forest inventory by AusAID suggests that if present cutting rates are maintained, natural forests will be exhausted by 2015 or earlier (AusAID, 2003).

The cultivation of oil palm requires the clearance of large areas of lowland forest and the processing of fruit causes severe pollution of receiving rivers and coastal areas. Currently, several oil palm operations are underway and more are proposed.

The cultivation of oil palm requires the clearance of large areas of lowland forest and the processing of the fruit causes severe pollution of receiving rivers and coastal areas. Currently several large oil palm operations are underway in Solomons. The new Guadalcanal Palm Oil Ltd. venture has been established after the former operator ceased production during the ethnic tension. Silvannia Products Ltd has begun development of a 4000 ha oil palm operation on Vangunu Island, although a recent audit shows that only 700 ha have been planted and it is widely acknowledgement that this is primarily a logging operation (Solomon Star, 2005). Vangunu Island is one of the major islands protecting Marovo Lagoon. Large-scale oil palm development replaces natural forests with a monocrop and has major impacts on the marine ecosystems of the lagoon, with a consequent loss of biodiversity and available resources for traditional harvesting by local communities. Oil palm development is also currently proposed for the Aluta Basin of Malaita.

While impacts from mining are often localized, poorly regulated mining practices often lead to serious problems in groundwater contamination, negative impacts on aquatic ecosystems and negative socio-economic impacts on local populations.

The only mining operation in Solomon Islands is the Gold Ridge Mine in central Guadalcanal. Mine operations were suspended during the 2002 ethnic tension, but an Australian consortium has made efforts to reopen in recent months. Prospecting continues in Guadalcanal and other areas and several deposits of commercially viable ore have been identified on Vangunu, Vella Lavella, Choiseul, Simbo, Isabel, Shortlands and Malaita. Micro-diamonds have been discovered on Malaita, while Rennell and Bellona are known to have bauxite deposits. Nickel deposits have been identified on St. George and the weathercoast of Isabel. While impacts from mining are often localized, poorly regulated mining practices often lead to serious problems in groundwater contamination, negative impacts on aquatic ecosystems and negative socio-economic impacts on local populations.

Invasive species such as weeds and feral animals like rats and cats are becoming more widespread in Solomon Islands.

Invasive species such as weeds like Meremia pelata and feral animals like rats and cats are becoming more widespread in Solomon Islands, although little is known about their effects and very few management programmes have been instituted to address them. Merremia pelata infestations are common on disturbed sites such as logged areas. Most commonly occurring invasive species include cane toads (Bufo marinus) which were introduced into Solomon Islands in the middle of the last century. They are now distributed widely throughout lowland areas, and have devastated populations of indigenous frogs. Black twig borer, rhinocerous beetle, fruit flies, fire ants, pigs, dogs, cats and rats are also present. Feral cats, in particular, have had an impact on many ground-dwelling bird species, including megapode populations (Megapodius eremita) on Simbo Island, while pigs have impacts on soil stability and cause damage to forests. Water hyacinth (Eichhornia crassipes) has invaded river systems on Vella Lavella and Choiseul. Paper mulberry (Browsonaetia papyrifera) has made inroads in Guadalcanal. The mimosa weed is common throughout Guadalcanal and has spread to other areas, although Solomons does not yet have Mimosa pigra which strangles trees. African tulip tree, rain tree, wild tamarind and giant sensitive plant are also present. The Asian myna bird (Acridotheres tristis) is common on Guadalcanal but has not reached other parts of Solomons.

Remaining patches of coastal lowland forest are under pressure from further forest clearance with the expansion of shifting cultivation leading to reduction in soil fertility, lower crop yields and loss of biodiversity.

Remaining patches of habitat within the coastal lowland rainforest belt are coming under intense pressure from further clearance. Expansion of shifting cultivation to natural forest areas not previously cleared, including those opened up by 'selective' logging is occurring especially in the more densely populated province of Malaita. In areas previously cleared for agriculture there is a reduction in the fallow period and/or an extension in the period of cultivation, leading to lower yields due to decreases in soil fertility and increases in weeds and pests.

Many of the forest areas identified as priorities for conservation by the Maruia Society in 1990 have since been logged, converted to oil palm or have experienced gradual forest loss from the expansion of agricultural areas.

Many of priority areas for conservation identified by Maruia society have been logged, converted to oil palm or have been gradually eroded due to expanding agricultural areas.

3.7 Forest Management Institutions and Actors

There is desperate need for reform of the forest sector which is widely recognised as corrupt and poorly managed. Timber production accounts for approximately 60% of government revenues. Yet this income stream is predicted to collapse by 2015 with the exhaustion of natural forests.

It is widely recognized that the Solomon Islands forest sector is corrupt, poorly regulated and needs significant reform. Enforcement of legislation is poor as government departments suffer a severe lack of capacity and financial resources. This has led to high levels of illegal logging and many abuses of regulations within the forest sector.

The 2003 AusAID funded SOLFRIS inventory calculated a sustainable yield as 255,000 m3/year, yet the 2004 harvest rate was in excess of 1,000,000 m3, almost 4 times the estimated sustained yield of sustainable harvest rate. If logging continues at its current pace, Solomon Islands natural forests will be exhausted by 2015 and government revenues will plummet, sinking the country into an ever increasing dependency on foreign aid.

The forest industry provides direct employment, or indirect employment through small-scale family plantations, to approximately 75, 000 people. Between 50 to 70% of government foreign revenue derived from duties payable on raw log exports totaling $90 million SBD in 2003 is generated by the forest industry. This translates to 30% of Solomon Islands non-aid income.

Asian forest companies, mostly Malaysian, Chinese and Korean comprise the majority of the logging companies operating in Solomon Islands, although a few Australian companies are also active. Companies generally negotiate directly with the customary landowners for access to timber in exchange for, often unfulfilled, promises of community-development projects such as clinics or schools. Although land ownership is vested in clans, many companies prefer to deal with individual representatives of the clan. Hence, such individuals are often self-appointed and land disputes are common. The customary ownership system means that almost 90% of forests are essentially under 'private' control. This differs from the state owned or crown land ownership models prevalent in many western countries. While customary land ownership poses major challenges for the regulation of the forest industry, it is also one of the Melanesia's greatest strengths in

that almost everyone has a right to land and hence the poverty generally associated with landless communities is not seen here. Landowners are often mistrustful of government who try to make rules regarding customarily owned land.

Plantations also play a significant role in the forest sector. Large-scale industrial plantations such as those at Kolombangara operating under the FSC-certified Kolombangara Forest Products Ltd (KFPL) and those at Viru operated by Eagon Ltd are one possibility of meeting future wood supply needs of Solomon Islands. Small-scale family owned plantations (about 5000 families) of high value species like teak, mahogany, eucalyptus and Gmelina arborrea are play a major role in plantation production. Combined plantation exports from these sources totalled 96,000m3 in 2003, although these are predicted to rise to a maximum of 250,000 m3/yr by 2015 at which point a land base constraint will make further expansion impossible.

A number of organisations are assisting communities to manage their own forests for timber production using portable sawmills. These efforts offer opportunities to link to non-timber forest products harvest and to promote alternative models of income generation for landowners.

A current AusAID funded forestry project is focusing on legislative reform, institutional strengthening of the SI Forestry Division and supporting the rural sector, mostly in small-scale milling and expansion of family plantations. Several other small scale forest enterprises such as eco-timber milling are underway with their proponents advocating for the development of alternatives to industrial forestry. NRDF supports community-based eco-milling projects in Vella Lavella and Choiseul. Greenpeace and SIDT's Eco-forestry Programme offer training in eco-forestry to communities, including project management capacity building, timber grading and milling assistance and assist in securing markets through Village Eco-timber Enterprise (VETE), which links producers to customers through the establishment of markets for Solomon Islands timber and promotes lesser known species to overseas buyers. Greenpeace also works with communities to certify operations to Greenpeace Eco-forestry standards.

Oxfam Australia is active in capacity building of civil society organizations to speak out on the impacts of large scale natural resources developments and encourages communities to influence and participate in decisions affecting their livelihoods. Oxfam is primarily a network building organization working at community, provincial, national and regional levels. It supports SIDT's Eco-forestry Programme and Greenpeace eco-timber projects. Oxfam also supports Environmental Concerns Action Network of Solomon Islands (ECANSI), which is focused on raising community awareness of social and economic impact of logging. ECANSI also works to raise awareness of legal rights and entitlements in relation to forests and lands as determined in Solomon Islands legislation and the Solomon Islands Logging Code of Practice, with the objective of helping communities make informed decisions regarding their natural resources.

Tetepare Descendants' Association (TDA) has established a conservation area on Tetepare Island in Western Province. TDA works at the community level to promote the conservation and sustainable management of Tetepare's natural and cultural resources through eco-tourism and sustainable livelihood projects in member communities.

Makira Community Conservation Foundation (MCCF) aims to conserve the natural resources of Makira Island for the benefit of local communities through a consensus approach that works within the traditional land tenure framework, and focuses on community development and appropriate technology. MCCF work with 38 local communities in natural resources management and supports village economic development projects such as ngali nut processing and eco-tourism. MCCF works closely with and, is supported by Conservation International.

UNESCO's World Heritage has worked with communities on Rennell Island to

designate Lake Tengamo as World Heritage site and provides support to community conservation efforts there.

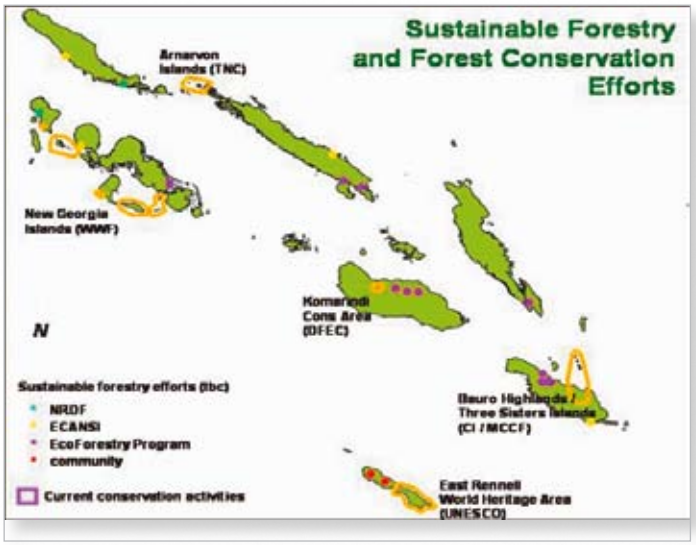

Figure 8: Current Work on Sustainable Forestry and Forests Conservation

3.8 Forest Policy Context

Current forestry legislation lacks consistency and coherence and gives very poor coverage to environmental issues.

The current legislation that oversees forestry operations in Solomon Islands is the Forest Resources and Timber Utilisation Act originally enacted in 1969. Frequent amendments have been made over the years to reflect changing forest policies resulting in a current act which is unwieldy and difficult to interpret. This legislation requires licensing for all felling of trees and milling, which are granted by the Commissioner for Forests. There is provision for the Minister to declare "Forest Reserves" under this act for the purposes of conserving water resources, although this has never been used. The Act also empowers the Minister to impose levies.

The 2004 Forestry Bill which aimed to update the Forests act was tabled by parliament in late 2004. This bill sets out improved sectoral planning procedures, revises the system of timber felling licenses to put the onus for performance on the loggers instead of the license holder (usually customary landowners), introduces logging controls (such as the Logging Code of Practice), and requires performance bonds. Last year the bill was shelved after calls for improved consultation. Many people saw this as a political delaying tactic and at present there seems little hope of reform of the current act until a new government is elected in 2006.

There are also Forest Regulations under the current Forests Act that have been prepared due to the reluctance of Parliament to pass Forestry Bill. These were gazetted in 2005 and require loggers to comply with a range of specified practices which aim to reduce logging damage and thus protect the productivity of the forest. These regulations legalized the Code of Logging Practice and increased licensing fees. There are penalties for non-compliance and they specify the requirements for the application for a felling license and the content of such license. These also introduce the requirement for a performance bond.

The 1998 Environment Act established the Division of Environment and Conservation. Official gazettal of the Act did not occur until 2003. This Act requires that any development such as logging, sawmilling and other forms of timber processing require an

environmental impact statement or public environmental report before Director approval to commence with the development provided specified conditions have been met.

The 1998 Wildlife Protection and Management Act regulates trade in wildlife and prohibits some species for export.

Currently, there is no appropriate national legislation for the establishment of protected areas other than the inadequate provisions with the Forests Act to declare reserves for protection of water catchments. A 1954 National parks Act exists but it is archaic and irrelevant. This act created Queen Elizabeth National Park in the Mt. Austen area near Honiara in the same year, which today is a "paper" park that is highly degraded from encroaching human settlement. No provisions exist within this act to empower customary landowners to make decisions about their resources, instead it follows an out-dated colonial model of national park creation by annexing land by government decree.

Western Province is the only province with provincial legislation that has been used by some communities to demarcate conservation areas and give legal recognition to customary landowners who want to apply rules to how their resources should be used. Simbo Island has used the Resource Management Ordinance to protect megapode birds in the mid 1990s. Currently, WWF SI and the community-based Tetepare Descendants' Association are making efforts towards RMO establishment for Gizo Marine Conservation Area and Tetepare Island respectivel

Appropriate and effective national legislation that promotes biodiversity conservation through the establishment of protected areas, sustainable forest management and that meets the needs of customary landowners is desperately needed.

Effective and appropriate legislation for establishment of protected areas that promotes the conservation of biodiversity and is responsive to the needs of customary landowners is long overdue for Solomon Islands.

4.0 Lessons on Forest Management

4.1 Principles for Successful Stewardship of Solomon Islands Forests

Successful stewardship of Solomon Islands forests must provide viable alternatives to landowners that meet basic economic needs, while promoting the conservation of biodiversity and the protection of a range of forest values.

Workshop participants identified several lessons for successful forest management using their collective understanding and extensive experience with conservation and sustainable forest management projects. There was an overwhelming agreement that forest conservation efforts must go hand in hand with demonstrated viable income-generating alternatives for landowners. Projects that blend both practical demonstrations and conservation awareness are more likely to achieve success. The success of such practical alternatives is also largely dependant on having secure markets (such as a direct selling agent in the case of eco-timber) and effective transportation means. These are major challenges for Solomon Islands which is a small player in international markets and has a highly dispersed geography.

Workshop participants believe that capacity must be built at the grassroots and that the focus of income generation projects should be on the family and extended family network. The participation of women must be given high priority in all phases of project design and implementation and women must be empowered to take leadership roles especially on the financial management side. Clear, effective criteria are needed to guide the community selection process. Good leadership at the village level is acknowledged to be a key factor in determining the success of forest management projects. Past experience suggests that early intervention is needed before communities have made decisions to log their forests. Additionally, while communities may be willing to engage in a particular project they often face additional challenges of raising initial 'cash flow' to raise start up capital and many have experienced difficulties in getting good planting stock at appropriate prices. Participants also felt that where possible traditional knowledge and practices of forest protection must be valued and incorporated into future forests conservation work. This was felt to be especially critical given the perceived loss of this traditional knowledge within younger generations.

Participants expressed frustration over the weak enforcement of existing legislation and felt that a stronger network is needed to pressure national and provincial governments to improve forest governance and promote sustainable forest management. Participants advocated for increased support to forest extension workers in order to get technical expertise to rural communities, and argued that such extension workers need to be proactive in engaging rural communities.

There is also a need to establish a broader network that includes provincial and national authorities and larger NGOs and regional organizations to advocate for improved forest governance. Current efforts at forest conservation are ad hoc and coordination among NGOs is weak.

Successful forest conservation efforts must be holistic in nature and encompass both forest and marine interfaces where possible.

4.2 Gaps in Forests Work in Solomon Islands

The establishment of a national forests network would strengthen the advocacy efforts of NGOs with respect to improved forest management and provide a forum for dialogue with government and industry.

Workshop participants identified three key areas where improved forests management was needed in Solomons. This was done using small groups and then within a larger discussion. Ideas were refined using the Specific, Measurable, Achievable, Realistic and Timely (SMART) criteria. Broadly key areas discussed were strengthening the ad hoc network that exists with NGOs engaged in forest work to share lessons and support each other. Key to this discussion was the idea that increased collaboration will allow a more effective advocacy for policy change. Also of key concern was the feeling that conservation activities must offer practical solutions to landowners, not simply awareness. This must be done in a way that empowers landowners and gets them involved in all aspects of project management.

Capacity building is an enormous need, both at the community level and within the NGOs and community-based organizations themselves. Participants specifically identified a need to strengthen existing community based organizations, local NGOs, Rural Training Centres and communities with respect to sustainable forest management.

Participants also identified gaps in forest governance, particularly within enforcement of existing legislation and inappropriate or outdated legislation. It was felt that while some of the legislation is good, it needs to be backed up by government action and that government also needs to be supported and encouraged to value forest conservation, protected areas and alternatives, more sustainable models of forest management. Partners believe they can play a role in encouraging government to be more pro-active through the development of a Forests Network.

4.3 Priority Sites and Key partners for WWF Forests Work

Priorities sites for forests work include areas of Choiseul, Western Province, Makira and Guadalcanal. These have been chosen based on biological uniqueness, level of threat, proximity to critical marine areas and relevance to existing WWF work. WWF will work through or in partnership with existing NGOs and community based organisations in other areas where areas of interest coincide.

Priority areas were chosen on the basis of their biological uniqueness, susceptibility to threats and their connection or proximity to where WWF SI is already working. Using GIS maps and accumulated knowledge from participants, as series of digital layers were produced indicating areas of high species endemism, threatened species, restricted range species, important marine areas, threats and existing work sites.

There have been a few analyses of priority areas for forest conservation conducted in Solomons. The most complete one is by Lees (1990) who identified priority areas by island. This is the analysis used to inform discussions at the workshop. These priority areas were overlaid with WWF and TNC's priority marine areas of the BSSE, to get a more complete picture of priority areas for Solomons.

As logging of lowland forests is the number one threat to forests at present, participants felt that action should be undertaken in threatened areas where logging has been proposed but has not yet started. Areas identified included Choiseul and Guadalcanal for tree species, Guadalcanal, Western Province, Choiseul, Makira and Rennell for birds, Guadalcanal, Malaita, western Province and Isabel for mangroves and freshwater

swamps, montane forest areas of Kolombangara, Popomanaseu in Guadalcanal. Of particular interest are the ebony forests on ultra basic soils in South-east Choiseul, in which twenty species of endemics have been identified under the SPRIG project.

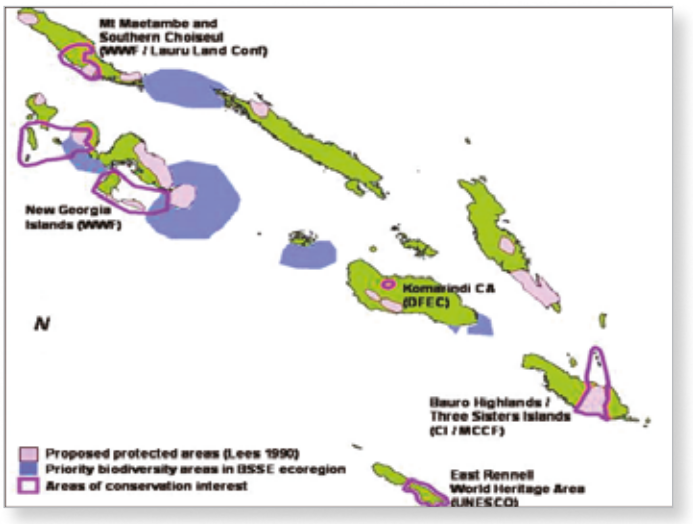

Figure 9: Priority Areas for Forests Conservation

5.0 Towards a Forests Strategy for Solomon Islands

WWF and partners propose a strategy for sustainable forest management in the Solomon Islands ...

- That supports Solomon Islands peoples to conserve their rich biodiversity by offering alternatives to the current model of ecologically unsustainable timber production
- That establishes a viable and ecologically representative protected areas network that conserves biodiversity and protects the conservation values of Solomon Islands Rain Forests
- That offers viable alternatives to the current model of industrial logging through development of community enterprise such as eco-milling and non-timber forests products
- That improves forest governance and reduces illegal logging in Solomon Islands
- That focuses on 5 geographic areas including Kolobangara Crater to Vila River Catchment, Tetepare-Hele Islands Complex, Mt. Maetambe-South Choiseul Forests Complex, Bauro Highlands in Makira Province and the Komarindi Conservation Area of Guadalcanal

5.1 WWF Global Targets for Forests

WWF's global forests programme is measured against 3 targets - protect, manage and restore. The Solomon Islands forest programme will contribute to both the protect and manage targets and will be measured against the following milestones.

Target 1: Protect

By 2010, the establishment and maintenance of viable, representative networks of protected areas in the world's threatened and most biologically significant forest regions.

M1	At least 25 million hectares of new forest protected areas are established in the world's most outstanding, as well as least represented and/or highly threatened priority forest ecoregions by 2007
M2	By 2007 at least 40 priority countries will have carried out national or regional system-wide protected area management effectiveness assessments and started implementation of key recommendations.

Target 2: Manage

By 2010, improved management in 200 million hectares across the world's production forests, through a combination of credible certification and a step-wise approach to improved forest management.

M2	50 Governments commit to and implement time-bound processes to eliminate illegal logging and trade by 2007.
M3	Identify and start implementing appropriate management in High Conservation Value Forests within 20 priority landscapes by 2007.
M5	5 million hectares in focal forest ecoregions are managed under community-based forest management agreements that increase locally retained revenue from, and enhance tenure over the full range of forest products by 2007.

5.2 Goal and Thematic Areas

Goal: To support Solomon Islands peoples to conserve biodiversity and to ensure sustainable forest management through promotion of sustainable livelihoods and improved forest governance.

The Solomon Islands forests programme has three broad thematic areas. These are:

Thematic Area 1: Protected Areas

Establishment of a viable and ecologically representative protected areas network that will support communities to use their forests resources in a sustainable manner, while ensuring that ecological, socio-economic and cultural values are conserved. These will be primarily community-based conservation areas, in which WWF and partners will work with traditional landowners and forest dependant communities, to identify and develop sustainable options for forest management. This team will work collaboratively with national government to develop appropriate legislation and policy, and will work with existing provincial legislation to have such areas legally validated, where appropriate.

Thematic Area 2: Sustainable Forest Management through Market Mechanisms and Community Enterprise

Market mechanisms are harnessed to promote SFM, including a campaign on illegal logging to raise international awareness of unsustainable logging practices, as well as an investigation into potential FSC certification for forest companies active in Solomon Islands. Sustainable forest management practices are also supported through the development of viable alternatives at the community level, including support to small-scale community eco-milling and the development of non-timber forests products. WWF will collaborate with partners who are active at the community-level in promoting these alternatives to large-scale commercial forestry.

Thematic Area 3: Forest Governance

WWF aims to support increased collaboration between partners to ensure strengthened forest governance in Solomon Islands in order to promote sustainable forest management. Working alone and through partners, WWF will address key issues of illegal logging and corruption in the forests sector and support appropriate legislative change to strengthen sustainable forest practices.

The programme will focus on 4 main geographic areas:

1. Kolombangara Crater-Vila River Catchment to Coastal Zone at Ringi
2. Tetepare-Hele Islands Complex
3. Mt. Maetambe-South Choiseul Forests Complex
4. Bauro Highlands & Three Sisters - Makira Province
5. Komarindi Catchment - Guadalcanal

5.3 Targets and Timeline of Solomon Islands Forests Strategy

Theme	WWF Global Targets and Milestones	Year 1 Targets	Year 5 Targets
I **Forest Protected Areas**	Global Target: By 2010, the establishment and maintenance of viable, representative networks of protected areas in the world's threatened and most biologically significant forest regions. M1: At least 25 million hectares of new forest protected areas are established in the world's most outstanding, as well as least represented and/or highly threatened priority forest ecoregions by 2007. M2: By 2007 at least 40 priority countries will have carried out national or regional system-wide protected area management effectiveness assessments and started implementation of key recommendations.	_ RAPPAM assessment of protected areas management effectiveness and protected areas legislation (WWF) _ Analysis of vegetation loss and identification of priority areas for conservation (WWF) _ Review of SI legislation on forests and protected areas (WWF) _ Investigation into potential WHA listing for conservation sites (WWF) _ Bauro Highlands Protected Area approved (MCCF, CI)	_ National protected areas legislation in place that supports communities to establish conservation areas and develop sustainable alternatives to current models of industrial logging (WWF & network) _ Establishment of 2 new community-managed protected areas (Mt. Maetambe/South Choiseul, Kolombangara Crater-Vila River Catchment) (WWF and partners) _ Strengthening of 3 existing protected areas (Tetepare-Hele Islands, Komarindi Guadalcanal & Bauro Highlands) (WWF and partners) _ Legislative protection for 5 community-managed protected areas (WWF and partners) _ Biological rapid assessment of Bauro highlands in Makira (MCCF, CI) _ Community resource management plans for Bauro Highlands approved (MCCF, CI) _ Media outreach and communication strengthened (EFU, GP, NRDF) _ No industrial logging and viable alternatives developed in Bauro Highlands (CI, MCCF)

2 **Sustainable Forest Management through market mechanisms and community enterprise**	Global Target 2: By 2010, improved management in 200 million hectares across the world's production forests, through a combination of credible certification and a step-wise approach to improved forest management. M3: Identify and start implementing appropriate management in High Conservation Value Forests within 20 priority landscapes by 2007. M5: 5 million hectares in focal forest ecoregions are managed under community-based forest management agreements that increase locally retained revenue from, and enhance tenure over the full range of forest products by 2007.	_ International campaign on illegal logging (WWF, Oxfam and GP) _ Investigation into potential for FSC certification for large-scale forest companies _ Investigation of viable NTFPs for Solomon Islands (ngali nut, palm seeds etc) (WWF and partners) _ By 2005, strengthened communication between landowners for 10 projects in 5 provinces on Isabel, Makira, Malaita, Western and Central (EF, GP, NRDF) _ Eco-forestry community projects established and expanded in SI (EFU, GP, NRDF) _ Develop a policy on reforestation and rehabilitation of logged areas (all) _ WWF to support partners in finding long-term financing for forests work (WWF)	_ Eco-timber export thru Noro for Western and Choiseul (Vete, SIDT, NRDF, GP) _ Viable NTFPs (ngali nut) project in Makira, Choiseul & Rendova (WWF and partners) _ 5 communities have decided against logging and developed alternatives and protected their forests - South Malaita (2), Makira, Isabel and Choiseul (ECANSI, SIDT, GP, Oxfam)
3 **Forest Governance**	Global Target 2: By 2010, improved management in 200 million hectares across the world's production forests, through a combination of credible certification and a step-wise approach to improved forest management. M2: Governments commit to implement timebound processes to eliminate illegal logging and trade by 2007.	_ Support existing CBOs and Forests Network to address issues of illegal logging and publicize poor practices (WWF) _ Forests Bill in place under new SI government (ECANSI & partners) _ SI Forest Network established and mobilized to address illegal logging, corruption in the forest sector and promote SFM (WWF and partners) _ Partners to support one major legal case that advocates for social change and human rights (ECANSI, GP)	_ Appropriate measures are formulated to control the issuing of logging license (SFM) _ Forestry Dep't to implement its policy in processing 20% in-country and exporting 80% of the annual quota determined by SFM (all) _ Implementation of existing Forests Act (all) _ Strengthened SI Forestry Department (all)

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Aaron Jenkins, July 2005.

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7.0 Appendices

7.1 Workshop Agenda

Date: Tuesday October 18 and Wednesday October 19, 2005

Venue: Mendana Hotel (Coastwatchers Conference Room)

Workshop Objectives:

1. To develop a Forests Strategy for WWF in the Solomon Islands

Within these objectives, the following needs have been identified:

- To understand what has been successful in previous forest conservation and management efforts in the SI and how these lessons might be used for future activities.

- To explore whether WWF's global Forests Targets are relevant to the SI and how they 'might be achieved

- To be able to clearly articulate the values and threats to forests ecosystems in SI and what WWF can contribute to their conservation

- To ensure that any WWF work on forests supports and adds on to the efforts of our partners

Workshop sub-objectives:

WHY? Articulate and agree objectives and targets for WWF forests conservation work in Solomon Islands. Set priorities based on information collected through workshop and background documents.

WHERE? Define and agree the most appropriate geographical focus/foci for the Forests Strategy.

HOW? Define and agree WWFs "mode of working", given WWFs niche in SI in relation to partners. Identify Key Strategies for implementation

WHAT? Identify activities to achieve targets above.

WHO? Clarify partners with WWF to achieve the targets above.

HOW MUCH? Assess resource needs for implementing a successful Strategy. This will include human resource, financial and capacity building needs

NEXT STEPS? Plan and commit to the next steps to put the Strategy into action - who will do what, when and how?

Output: Draft Forests Strategy

1) An outline of draft Forests Strategy that will link to WWF SI's strategic plan and forest thematic areas.

2) An internal justification document that can be used as a basis of concept paper for potential donors outlining potential projects, donors and accompanying funding strategy.

Agenda

Tue 18 October 2005

Understanding Forest Management in the Solomon Islands

8:30am Welcome and Introductions

9:00am Understanding Solomon Islands Forests and Forest Management
- Sources of Information - What is known?

10:30am Coffee break

10:45am Understanding Solomon Islands Forests and Forest Management
- Values – What's important?
- Threats - What could destroy the values?

12:00pm LUNCH

1:00pm Understanding SI Forests and Forest Management (con't)
- Forest Management Institutions and Approaches
- Legislation and Policy
- Forest Management Planning

2:30pm Lessons from the Past
- Previous efforts for forest conservation and management

3:00pm Coffee break

3:15pm What works? Principles for successful forest management work

4:00pm Current Activities in SI Forest Management
- Presentations by partners
- Current work on forest management

4:30pm Gaps and needs

5:00pm Close

Wed 19 October 2005

A Strategy for WWF's Contribution to Forest Management

9:00am Planning for the Future
- Recap of Day 1

9:30am Presentation on WWF global targets for forests

10:15am coffee break

10:30am WHY – Drafting of targets (5 years) for SI

11:00am WHERE – Priority sites for action

11:30am HOW – Strategies and Policies

12:30pm LUNCH

1:30pm WHO – Partners and their involvement

2:00pm WHAT – Activities

3:00pm coffee break

3:15pm HOW MUCH – People and Resources – what is needed for first 3 years?

4:00pm Next Steps

4:30pm Evaluation

5:00pm Close

7.2 Workshop Participants List

Name	Affiliation	Email	Phone
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7.3 Solomon Islands Threatened Tree Species

Data from WCMC Database of Threatened Trees

Family	Species	IUCN Status	Description
Ebenaceae	Diospyros insularis	EN A1cd+2cd, B1+2c	A tree of primary lowland rainforest found in only a few localities in the Solomon Islands and New Ireland of the Bismarck Archipelago. Overexploitation and logging have resulted in the species becoming highly endangered, possibly critically endangered.
Meliaceae	Aglaia brassii	VU A1c	This understorey tree is fairly common in lowland primary and secondary forest up to 500m. The main threat to the species is loss of habitat.
Meliaceae	Aglaia parksii	VU A1c	A small tree of lowland primary forest threatened by habitat destruction.
Meliaceae	Aglaia rubrivenia	VU A1c	Restricted to the Solomon Islands, this small tree is found in primary montane forest.
Meliaceae	Aglaia saltatorum	VU A1c	Occurring in lowland forest up to 520m, this small tree is threatened by habitat loss. The species was probably introduced to Niue.
Thymelaeaceae	Gonystylus macrophyllus	VU A1cd	A widespread tree occurring in primary forest reaching an altitude of 1500m in some areas. The species is extremely rare in Papua New Guinea and occurs only on New Georgia and Choiseul in the Solomon Islands, where it is locally common. It is one of the important 'ramin' timber species and the heartwood is used as incense. This species might eventually be split into several distinct species, as the present species concept might be too wide.
Leguminosae	Intsia bijuga	VU A1cd	A lowland rainforest tree which produces one of the most valuable timbers of South East Asia. The species has been exploited so intensively for merbau timber that few sizeable natural stands remain. Few plantations are established. In Peninsular Malaysia, trees are never common and rarely reach a commercial size. There are apparently good stands still in Indonesia and Papua New Guinea.
Rubiaceae	Mastixiodendron stoddardii	VU A1cd+2cd, B1+2abcde	A large timber tree of primary lowland rainforest, restricted to New Britain in the Bismarck Archipelago and the Solomon Islands. New Britain is one of the most intensively logged islands in the Bismarck Archipelago, thereby threatening this species with habitat destruction. The Solomon Islands population is also at risk from logging activities.
	Parinari papuana ssp. salomonense	VU A1cd+2cd, B1+2abcde	A lowland rainforest tree restricted to the Solomon Islands. It is locally common in parts of the New Georgia group. Populations are located in a prime logging area and the tree makes up a fairly large proportion (6-10%) of the logs exported to Japan. Habitat loss is also a threat.

Family	Species	IUCN Status	Description
Anacardiaceae	Mangifera altissima	VU A1d	A timber species of lowland evergreen forests in northern and central Philippines. It is nowhere abundant and the timber is available only in small quantities.
Leguminosae	Pterocarpus indicus	VU A1d	A widespread tree found in lowland primary and some secondary forest, mainly along tidal creeks and rocky shores. Populations have declined because of overexploitation, sometimes illegal exploitation, of the narra timber, as well as from increasing general habitat loss. The Viet Nam population has been extinct for some 300 years. An extensive forest survey in Sri Lanka has failed to find the species and information on populations in India, Indonesia and the Philippines indicate the species is seriously threatened. Exploitation of the few known stands in Peninsular Malaysia may have caused its extinction there and what are believed to be the largest remaining populations, in New Guinea, are being heavily exploited. Cultivated populations are widely distributed throughout the tropics.
Guttiferae	Calophyllum confusum	VU B1+2abcde	A tree known only from the New Georgia group in well-drained, lowland, primary rainforest.
Combretaceae	Terminalia rerei	VU B1+2abcde	Restricted to San Cristobal and Guadalcanal, this timber species of lowland rainforest is subject to overexploitation. It is further threatened by habitat loss from indiscriminate logging practices.
Leguminosae	Archidendron oblongum	VU B1+2c	Endemic to the Solomon Islands, this large tree is restricted to lowland rainforest in alluvial valleys. It is traditionally utilised as a timber for construction and fuel.
Guttiferae	Calophyllum obscurum	VU B1+2c	Restricted to primary forest on ridges or flooded coral platforms, this tree is found on the islands of Choiseul, Santa Isabel and Malaita.
Palmae	Livistona woodfordii	VU D2	A palm tree of lowland rainforest and swamp forest, restricted to Nggela Island.
Myristicaceae	Myristica kajewski ssp. robusta	VU D2	A primary forest tree, possibly restricted to ultrabasic soils. It is known from only 2 collections, both from Choiseul.
Myristicaceae	Myristica petiolata	VU D2	A forest tree known only from 2 collections: Santa Ysabel and Big Nggela Island.
Araucariaceae	Agathis vitiensis	LR/nt	A massive tree and important timber species. It is found in low densities. It could become of conservation concern if logging were to become more intensive.
Meliaceae	Aglaia flavida	LR/nt	The wood of this common tree is used for construction of houses, tools and canoes. Habitat destruction is possibly a threat.

Family	Species	IUCN Status	Description
Meliaceae	Aglaia parviflora	LR/nt	Widespread in the Moluccas, New Guinea and the Solomon Islands, this forest tree could soon be threatened by habitat loss. The wood of this tree is used for house construction in Papua New Guinea.
Meliaceae	Aglaia samoensis	LR/nt	A small tree occurring in primary and secondary forest up to 830m; habitat loss could pose a threat.
Meliaceae	Aglaia silvestris	LR/nt	A widespread, variable species of various habitat types, occurring up to 2100m. Habitat destruction could be a serious threat in the near future. An important source of timber.
Sapotaceae	Burckella sorei	LR/nt	Confined to the islands of Bougainville in the North Solomons and Guadalcanal in the South Solomons, this timber tree is found mainly in primary lowland rainforest. It is threatened by logging activities and over-exploitation, especially as it occurs in a region subject to heavy logging activities.
Podocarpaceae	Dacrydium magnum	LR/nt	Populations are known from the islands of Guadalcanal, Choiseul and Santa Ysabel in the Solomons, from the Louisades in Papua New Guinea and Obi Island in the Moloccas. The species is scattered to locally common in areas of lowland rainforest, especially on ridge crests. Forest management activities and agricultural pressures could cause rapid population losses to most or all parts of the range.
Myristicaceae	Myristica globosa	LR/nt	Confined to evergreen rainforest up to 1200m, this tree is cut for its penarahan timber.
Myristicaceae	Myristica guadalcanalensis	LR/nt	A tree found in well-drained primary and secondary forest endemic to the islands of Guadalcanal, Rennell and Malaita.
Myristicaceae	Myristica kajewski ssp. kajewski	LR/nt	A tree locally common in well-drained forest, restricted to Guadalcanal and San Cristóbal.
Myristicaceae	Myristica xylocarpa	LR/nt	A tree that occurs in well-drained forest and ridge forest up to 250m on the islands of Santa Ysabel, San Cristóbal and Guadalcanal.
Palmae	Areca guppyana	DD	A small palm tree of primary forest, endemic to the Solomon Islands, where it is under threat from logging, increasing agriculture and mining. Trees are planted in sacred places and cemeteries.
Burseraceae	Canarium liguliferum	DD	A lowland rainforest species known only from the Solomon Islands.

Family	Species	IUCN Status	Description
Palmae	Clinostigma haerestigma	DD	A palm tree of lowland Casuarina forest on ultrabasic soils, restricted to south-east Santa Isabel.
Palmae	Cyrtostachys kisu	DD	A palm endemic to the islands of Choiseul and Baga, where it is scattered in lowland to submontane rainforest.
Palmae	Drymophloeus lepidotus	DD	A rainforest palm, occurring up to 600m, restricted to the Solomon Islands. The genus is in need of taxonomic revision.
Palmae	Drymophloeus pachycladus	DD	Confined to Makira Island, this palm tree is located inland in moist lowland forest up to 600m. The genus is in need of taxonomic revision.
Palmae	Drymophloeus subdistichus	DD	A palm tree, scattered in lowland rainforest. The genus is in need of taxonomic revision.
Palmae	Gulubia hombronii	DD	Endemic to the Solomon Islands, this palm tree is scattered in broadleaved, swamp and cloud forest on ultrabasic soils from 100 to 1500m.
Anacardiaceae	Pentaspadon motleyi	DD	In Papua New Guinea, this species occurs mainly in primary forest on the banks of streams and rivers in the Gulf and Madang Provinces and Bougainville in the North Solomons. It is under great threat from habitat destruction in these areas and is considered to be endangered (EN C2a). The situation is likely to be similar elsewhere.
Palmae	Physokentia dennisii	DD	A palm tree found in gullies and on lower hill slopes in damp shaded forests between 200 and 700m.
Podocarpaceae	Podocarpus spathoides	DD	The species is known from occurrences on Mt. Ophir in Peninsular Malaysia, Morotai in the north Moluccas, Rossel Island in the Louisiade Archipelago of Papua New Guinea, and the Solomon Islands.
Palmae	Pritchardia woodfordiana	DD	Endemic to Nggela Island, this palm tree occurs in moist open forest up to 20m. There is some indication that the taxon represents a form of P. pacifica.
Palmae	Rhopaloblaste elegans	DD	A primary forest palm tree found in the moist lowlands of the Solomon Islands.

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