

Information Sheet on Ramsar Wetlands (RIS) – 2009-2014 version

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

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Designation date

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Site Reference Number

Contributors:

Upper Navua Conservation Area local management committee, Fijian Affairs Board, National Trust of Fiji, University of the South Pacific, Wetlands International, Birdlife International, South Pacific Regional Herbarium, World Wildlife Fund, Wildlife Conservation Society, Environmental Consultants Ltd., Mainstream Environmental Consulting Pty Ltd., Rivers Fiji Ltd

2. Date this sheet was completed/updated:

September 19th 2012

3. Country:

Republic of Fiji

4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Upper Navua Conservation Area – (UNCA)

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

- a) Designation of a new Ramsar site ; or
b) Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ; or
ii) the boundary has been extended ; or
iii) the boundary has been restricted**

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
ii) the area has been extended ; or
iii) the area has been reduced**

** **Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) a hard copy (required for inclusion of site in the Ramsar List):
ii) an electronic format (e.g. a JPEG or ArcView image)
iii) a GIS file providing geo-referenced site boundary vectors and attribute tables .

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The length of the Upper Navua Conservation Area is 24km with 200m buffer zone. The boundary also has a gorge which is approximately 75 meters deep and varies in width from 5 to 25 meters. Approximately 58% of the entire boundary is the catchment area. Lush highland rainforest surrounds the entire drainage.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

18° 7'28.69"S 177°56'52.26"E. (approximate centre of the site)

9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The Upper Navua Conservation Area is located in the Province of Serua on the south central side of the island of Viti Levu. The nearest towns are Pacific Harbour, located about 40 kilometers away and Navua Town, located along the lower reaches of the Navua River. Approximately 15 villages/settlements are located along the Navua River including the larger town of Navua (Navua Town) located near the mouth of the river.

10. Elevation: (in metres: average and/or maximum & minimum)

Upper Reach 110 meters

Lower Reach 47 meters

11. Area: (in hectares)

615 hectares including the river.

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The upper Navua River cuts a narrow gorge through the province of Serua in the central highlands of Viti Levu. The Navua River represents Fiji's third largest freshwater drainage and is one of the very few relatively untouched major drainages remaining in Fiji. The gorge is approximately 75 meters deep and varies in width from 5 to 25 meters. The Upper Navua Conservation Area (UNCA) encompasses this river gorge and approximately 58% of the entire catchment area. Lush highland rainforest surrounds the entire drainage and provides a host of botanical cures that are utilized by the indigenous peoples of the area. The forest, river and associated biodiversity provide the necessary supplies and food required for daily living and a wide range of ecosystem services to the entire catchment area including flood control for lower areas. The site is nationally and internationally exceptional in terms of both fauna and flora.

Only one village (Nabukelevu) is located within the Upper Navua Conservation Area, however in earlier times the area hosted a number of village sites that have since been abandoned. There are also a number of burial grounds and other sacred sites protected by local custom, and by the UNCA where appropriate. These ancient village sites are now protected by local custom and are well known by the indigenous community. Today, logging is perhaps the greatest income provider for the landowners followed by agriculture and now by a recently established eco-tourism industry (Rivers Fiji Ltd.) that runs river trips through the gorge. The numerous villages located downstream of the Upper Navua Conservation Area depend in a large part on the bounty of protein provided by the fish, prawns and molluscs found in the waters of the Navua River.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1	2	3	4	5	6	7	8
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Criterion 1: A wetland should be considered internationally important if it contains a representative, rare or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.

The consistent rainfall that the eastern side of Viti Levu receives is responsible for the Upper Navua being ranked third amongst Fiji's freshwater drainages in terms of water discharged. The Upper Navua Conservation Area is one of the very few relatively untouched major drainages remaining in Fiji and an excellent representative of this wetland type within the Fiji Tropical Dry Forests biogeographic region. The Upper Navua River also plays a significant role in the ecological health of the entire drainage. The Upper Navua's waters empty into one of Fiji's largest lagoons and premier dive sites (Beqa Lagoon) which is known for its abundance of soft corals and numerous other marine attractions. The numerous villages located downstream of the Upper Navua Conservation Area are highly dependent on the fish, prawns and molluscs found in the waters of the Navua River.

Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.

English Name	Scientific Name	IUCN Status	CITES Status	National Status(EPs* Act)
Birds				
Pink-billed Parrot Finch	<i>Erythrura kleinschmidti</i>	VU	Not listed	Schedule 1 of the EPS
Black-faced Shrikebill	<i>Clytorhynchus nigrogularis</i>	VU	Not listed	Schedule 1 of the EPS
Kadavu Parrot	<i>Prosopiea splendens</i>	VU	Appendix II	Not listed
Reptiles				
Fiji Banded Iguana	<i>Brachylophus fasciatus</i>	EN	Appendix 1	Not listed
Plants				
Masiratu	<i>Degeneria vitiensis</i>	VU	Not listed	Schedule 1 of the EPS
	<i>Astronidium pallidiflorum</i>	CR	Not listed	Schedule 2 of the EPS
	<i>Aglaiia parksii</i>	VU	Not listed	Not listed
	<i>Geissois superba</i>	VU	Not listed	Not listed

- * **EPS Act** – Endangered and Protected Species Act 2002
- * **Schedule 1** – Highly protected species which cannot be traded but special permission required
- * **Schedule 2** – Protected and can be traded through permitting system issued by the Department of Environment (DOE)

Criterion 3: A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.

A highly significant component of the vegetation is the endemic sago palm *Metroxylon vitiense*, which must be considered as endangered, as it is rapidly disappearing in its more accessible coastal habitats because of over utilisation. The species is super-abundant in the gorge, having a population consisting of approximately several thousands of individuals. In the near future this population may constitute the last undisturbed natural populations of this palm. The site is also notable as having the most well developed examples known from Fiji of ultimate riparian

vegetation (adapted to fast-flowing rivers), riverbank and gorge and cliff-face vegetation. The site also contains the endemic family *Degeneriaceae* with the monotypic *Degeneria vitiensis*. This family is thought to be a Gondwanaland relic and an ancestral link to all flowering plants. It is listed as vulnerable but is widespread in Fiji. Also present in the site are at least four globally threatened plants identified as *Gulubia microcarpa*, *Astronidium pallidiflorum*, *Aglaia parksii*, and *Geissois superba*.

Criterion 8: A wetland should be considered internationally important if it is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.

The endemic Orange-spotted Scaleless Goby (*Schismatogobius vitiensis*), and the undescribed *Sicyopterus* sp. both exhibit amphidromous life cycles. These fishes spawn in fresh water but the eggs or newly hatched young are swept downstream and out to sea where they remain for a few weeks, before returning upstream often in mass migrations. The gorge represents a significant portion of migratory pathway and also spawning grounds for these species. There are also reports of a migratory crab that utilizes the gorge during migration, however this has yet to be identified.

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region: Fiji Tropical Dry Forests

b) biogeographic regionalisation scheme (include reference citation): WWF Ecoregions
<http://worldwildlife.org/ecoregions/oc0201>

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

The Upper Navua River gorge is approximately 75 meters deep and varies in width from 5 to 25 meters. The geology is described as navua mudstone, which is further defined as well-bedded mudstone and fine-grained sandstone, minor limestone and basal conglomerate. (Geology of Northern and Central Viti Levu ~Navua River Map GS 429 - Viti Levu Sheet 18). A small deposit of andesitic flows and pyroclastics is located near the village of Nabukelevu. The age of the mudstone is dated to the Mio-Pliocene. Pieces of fossilized coral and petrified wood can be seen within the layers of mudstone.

The depth of the Upper Navua River is 6 meters; however the depth varies during heavy and medium rainfall and also during dry days.

The Upper Navua River has approximately 50 waterfalls in the dry season and easily 100+ during the wettest times of the year. The salinity is low and the pH level is neutral. The area has a dry tropical rain forest climate, with the wet season from November to April each year. Annual rainfall is up to 6,000mm.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

See 16 Above

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The Navua River represents Fiji's third largest freshwater drainage with only the Rewa and Sigatoka Rivers draining larger areas. The Upper Navua river has approximately 50 waterfalls in the dry season and easily 100+ during the wettest times of the year. There are approximately 53 mapped major side streams that feed into the river within the UNCA. Hydrologically, the Upper Navua is unique in that the upper reaches of the Navua river are channelled into a narrow and sheer-walled canyon near Managaqe Creek creating a funnel effect that sees water fluctuations of 30 feet and greater during severe weather. This gorge is likely to play a role in flood control for lower lying areas of the catchment.

19. Wetland Types**a) presence:**

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va • Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

Not applicable

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The Upper Navua Conservation Area is one of the very few relatively untouched major drainages remaining in Fiji. From an ecological perspective this feature alone makes it especially significant. Maintaining the ecological character of the site is crucial in maintaining ongoing ecosystem services in the entire catchment. Noteworthy biodiversity features are described in the summary below.

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

The site is notable as having the most well developed examples known from Fiji of ultimate riparian vegetation (adapted to fast-flowing rivers), river gorge and cliff-face vegetation. Although the near-river flora is relatively impoverished compared with the relatively species-rich tropical lowland rainforest, it consists of native species (many of which are endemic) that are restricted to fast-flowing river habitats. For example are *Syzygium seemannianum*, *Ficus bambusifolia* and *Acalypha rivularis*.

Surprisingly, this ultimate riparian vegetation also included the conifer *Podocarpus nerifolius*. While this species is also found in lowland rainforest and high-altitude forest in Fiji and other countries, it has never been reported as a riparian plant. Possibly the most significant component of the vegetation is the endemic sago palm (*Metroxylon vitiense*), which must be considered as endangered, as it is rapidly disappearing in its more accessible coastal habitats because of over utilisation. The species is super-abundant in the gorge, having a population consisting of several thousands of individuals. In the near future this population may constitute the last undisturbed natural populations of this endemic palm.

Several weedy species may compete with the native vegetation and eventually significantly reduce their abundance. The major threats are common bamboo (*Bambusa vulgaris*), hooked pepper bush (*Piper aduncum*), trailing daisy (*Wedelia trilobata*), and African tulip tree (*Spathodea campanulata*).

The latter two are presently restricted to the lower reaches of the gorge but will inevitably move upstream (unless actively controlled), as both are weeds of disturbed sites and the river is a naturally disturbed through flooding. The common bamboo has already spread throughout the river and it is probably too late for any control measures

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14. Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

The waters of the site contain breeding populations of at least two endemic freshwater fish species (*Redigobius leveri* and *Schismatogobius chrysonotus*) and one undescribed new taxa, which should be considered as vulnerable due to their limited known range. These taxa represent at least a quarter of the endemic freshwater fish species in the country. The forests surrounding the gorge contain 17 endemic species of birds, 15 of which are endemic to the island of Viti Levu. Notable are the globally vulnerable Pink-billed Parrot Finch (*Erythrura kleinschmidti*) the Black-faced Shrikebill (*Clytorhynchus nigrogularis*), , and Kadavu Parrot (*Prosopeia splendens*). Also notable is the endangered Fiji Banded Iguana (*Brachylophus fasciatus*). Other IUCN Red-List species are the near-threatened Masked Shining Parrot (*Prosopeia personata*), and the Samoan Flying-Fox (*Pteropus samoensis*), as well as the endemic Giant Forest Honeyeater (*Gymnomyza viridis*) .

Preliminary surveys have been done of ichthyofauna, avifauna and vegetation within the UNCA.

The introduced Cichlid (*Oreochromis mossambicus*) was found in the UNCA. This is the most widely introduced freshwater fish in the Pacific and is a serious pest competing for food with native fish and birds. This species may contribute to a decline in water quality and may threaten the endemic species fishes present.

23. Social and cultural values:

a) Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

The only village located on the upper reaches of the UNCA is Nabukelevu. The village is very traditional, in a modern sense. Most homes are framed with milled timbers and finished with corrugated siding, although a few structures are still designed and built in a traditional manner. Electricity from generators, flush toilets and other modern conveniences are available but not many families have them. The village is still presided over by the village chief or headman and the elders.

The Upper Navua is a primary source of protein for the village as is the surrounding rainforest where plants are collected and pigs hunted. Gardens/plantations are still tended in a relatively traditional manner with some produce being sold in the markets but most being kept for personal use. Dalo/Taro and kasava/Cassava are the primary food crops, with some fruit, and other vegetables being grown in less quantity. Some livestock are kept; mostly cows, pigs and chickens.

The local community is very aware of their existence and assures any land use around these areas is done with great care and concern. Logging provides the greatest influx of employment opportunities. The only other outside employment opportunity comes from Rivers Fiji Ltd in the form of guides, porters and trail maintenance. The village itself, their cultural practices, their rituals and their openness and hospitality offer a great resource, both for ecotourism but for also the cultural exchange, education and participatory action that will ensure that the ideals of the Ramsar Convention are achieved.

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box and describe this importance under one or more of the following categories:

i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:

The main villages associated directly with the UNCA, Nabukelevu and Wainadiro, constitute cultural resources that have for centuries been associated with the river. They are riverine societies that have developed, over decades and centuries an intimate knowledge of the river, its ecology, its biodiversity and the economic, social and ecological value of the river and its resources to their cultural continuity. This knowledge has served, and will continue to serve as the foundation for the long-term preservation and sustainable use of the river and near-river resources within the UNCA.

ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:

There are a number of cultural sites (abandoned villages, burial caves, etc.) located in or near the UNCA. Traditional customs seem to provide adequate protection for the sites at present. The local community is very aware of their existence and assures any land use around these areas is done with great care and concern.

iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:

iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

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This knowledge has served, and will continue to serve as the foundation for the long-term preservation and sustainable use of the river and near-river resources within the UNCA.

Additionally the village itself, their cultural practices, their rituals and their openness and hospitality offer a great resource, both for ecotourism but for also the cultural exchange, education and participatory action that will ensure that the ideals of the Ramsar Convention are achieved.

24. Land tenure/ownership:

a) within the Ramsar site:

All the land within and surrounding the Ramsar site of Upper Navua Conservation Area is owned by the traditional land owning families - hereafter called *mataqali*. There are eight *mataqali* that lay claim to the land and the elders of these families live in several different villages in the region. They are the *mataqali* Navau, Sauturaga-Nabukelevu, Sauturaga-Nakorovou, Ketenatukani, Vunimoli, Vunitavola, Cawanisa, and Naviaraki-Korovisilo. The land is currently under conservation lease to a private enterprise, Rivers Fiji Ltd of Pacific Harbour which operates commercial rafting trips on the Navua River and is an eco-tourism venture working with the land owners in consultation with the I Taukei Land Trust Board (TLTB) land trustee to preserve the Upper Navua Gorge.

The Nabukelevu/Wainadiro/Waibogi villagers are paid per village not per *mataqali*

b) in the surrounding area: Same as above

25. Current land (including water) use:

a) within the Ramsar site:

Current land use reflects the work of Rivers Fiji Ltd. to set aside the Upper Navua Gorge as a conservation area. In November of 2000, Rivers Fiji successfully acquired a conservation lease covering 16 kilometers and 200 meters to either side of the river. The Upper Navua Conservation Area is the first of its kind in Fiji and an attempt to protect this section of river from logging and mineral interests while providing tourist dollars to the NLTB, and the local villages and *mataqali* for setting their land aside for conservation. Rivers Fiji currently operates between 2 and 4 commercial white-water rafting trips per week through the UNCA and a percentage of the income from each trip goes directly to two villages and eight *mataqali*.

b) in the surroundings/catchment:

The surrounding area is either under logging lease or, in select areas, used for subsistence farming by the local villagers. The rich cultural landscapes, which are confined mainly to the lower portions of the river near Wainadiro, include shifting agricultural gardens, grazing lands, trails and tracks, fishing grounds, traditional camping or refuge sites, secondary forests and agroforests, and Nabukelevu and Wainadiro Villages. All of these landscapes offer considerable potential for ecotourism development and include culturally significant biodiversity and associated history that needs to be preserved.

The shifting agricultural gardens and associated agroforestry systems are a prominent feature of the Fijian cultural landscape. They include major staple food plants, such as taro (**dalo**), cassava (**tavioka**), yam (**uvi**) and sweet potato (**kumala**) and associated plants, such as bananas and plantains (**jaina** and **vudi**), coconut palms (**niu**), breadfruit (**uto**), mango (**maqo**), papaya (**weleti**), a range of citrus trees (**moli**), Polynesian viapple (**wi**) (*Spondias dulcis*), Malay apple (**kavika**) (*Syzygium malaccense*) and a wide range of other culturally useful multipurpose trees and plants, such as sugarcane (**dovu**), Fiji asparagus (**duruka**) (*Saccharum edule*) pineapple (**vainaviu**), pandanus (**voivoi**) and kava (**yaqona**) (*Piper methysticum*), the culturally important plant that yields the socially and spiritually important beverage known by the same name. Open grazing areas, with cattle and horses (a major means of mountain and river valley transport) are increasingly

common closer to Wainadiro Village, and, although constituting relatively degraded landscapes, offer cultural landscape diversity and have become an important component of the Fijian cultural landscape.

The river constitutes part of the traditional fishing grounds or **iqoliqoli** of the Fijians landowners. Along the river are countless named locations known to be good fishing sites or “holes”, many of which have traditional names, or which are only known to the best fishers (both men and women). Different types of sites (e.g., deep holes, areas of rapids, slow-flowing section, particular tributaries, etc.) are favored habitats for different food species, such as freshwater eels (**duna**), prawns (**ura**), crabs (**sarakali**), shellfish (**sici**) or the wide range of freshwater finfish (**ika**) found in the river system. There are also a number of traditional camping sites, caves or safe havens, again, most of which have names that have been used for centuries by fishers, travelers or, in the past warriors, for temporary stays or to take refuge. The names and histories of these places need to be preserved and serve as both a cultural and potential ecotourism resource.

The secondary forests and agroforests, which are most common between Nabukelevu and the upper part of the UNCA and near Wainadiro, are perhaps one of the most culturally and economically important resources and of considerable ecotouristic interest, with most of the plants and animals being of some cultural importance to the Fijian people. These secondary (disturbed or modified) forests contain many useful wild or semi-wild food trees, an incredibly wide range of medicinal plants, are a main source of firewood, construction materials, dyes, perfumes, fragrances and body ornamentation, a wide range of handicrafts and many other products and services that could not be reproduced or replaced by the modern cash economy. Of particular importance are a number of named varieties of wild yam (**tivoli**, **rauva andtikau**), birds (**manumanu vuka**), fruit bats (**bekwa**), edible cicadas (**nanai**) and the wild pig (**vuaka niveikau** or **vore**).

26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

a) within the Ramsar site:

The site's ecological character has remained relatively untouched because of its remoteness and inaccessibility. The Upper Navua Conservation Area is currently under lease for 25 years with the option for renewal. This lease restricts access and prevents extractive interests from damaging the ecology of the area. Rivers Fiji is seeking extension of the lease to 99 years.

b) in the surrounding area:

The ecological character around the site is particularly vulnerable to extractive interests, primarily logging, that have run-off implications for the Upper Navua Conservation Area and beyond. Logging increases erosion and subsequently the siltation into the streams and creeks that feed the Upper Navua Conservation Area and ultimately flow onto the barrier reefs of Beqa Lagoon downstream. Increased siltation will most likely have adverse effects on the freshwater fauna in the gorge as well. Run-off from the logging roads has started to discolour some of the side streams flowing into the UNCA. Other potential risks might come from hydroelectric development in the future. Previous studies to determine the viability of such a project were abandoned for another site in Fiji.

27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

In November 2000, Rivers Fiji received permission from TLTB, the relevant *mataqali* and Fenning Pacific (logging company) to re-designate the Upper Navua Canyon from a logging lease to a conservation area lease. To help Rivers Fiji support management of the conservation area they have also been involved in establishing an eco-tourism focused company that among other things ascribes to the following guiding principle.

"To enhance visitors and indigenous peoples awareness of, and appreciation for the culture and environment by providing activities that promote conservation and preservation through socially responsible and environmentally sensitive interaction with the people, landscape and ecosystems that make the Fijian Highlands so distinct and unique."

Rivers Fiji won the 1999 Fiji Visitors Bureau "Best Activities" award and has been recognized for its sustainable nature by winning the Environmental Tourism award in 2001 for Fiji granted by the Ministry of Tourism.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?:

A management is currently being developed for the UNCA. This plan is currently being updated to incorporate recent biological survey information. The management plan will be aligned to the Ramsar Management Planning guidelines.

d) Describe any other current management practices:

A National Wetlands Steering Committee was formalized and is a subcommittee to the National Environment Council (NEC). One of the objectives of the committee is to oversee and advice on the management practices that occur at the Ramsar Site.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

Rivers Fiji is seeking the extension of the UNCA lease from 25 to 99 years. Rivers Fiji is also seeking outside interest in setting aside more land along the UNCA corridor aside for conservation. As the business becomes more successful Rivers Fiji hopes to increase the size of the conservation area both in length and width. It is hoped that site will eventually gain National Park status and complete protection of the area. Perhaps one of the greatest steps to be taken in the conservation of this area is a proper boundary survey and marking of the borders to prevent accidental and deliberate encroachment.

29. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Throughout 2003 a number of scientific expeditions have been made within the gorge and surrounding areas to ascertain the biodiversity and ecological character of the site. These are among the first to systematically document the biodiversity of the gorge. A series of four surveys were undertaken by Wetlands International – Oceania (ichthyofauna), Birdlife International, Environmental Consultants Ltd (Avifauna), South Pacific Regional Herbarium (flora), University of the South Pacific. All of the inner gorge surveys were heavily subsidised and made logistically possible by Rivers Fiji Ltd.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Conservation education is carried out by Rivers Fiji Ltd. in conjunction with its commercial rafting operation. In addition to developing the conservation area and river management plan for the Upper Navua Gorge Conservation Area, Rivers Fiji has been responsible for training guides in the minimum impact strategies necessary for the conservation of this unique waterway. Employees at Rivers Fiji have been busy developing interpretive materials for their guests and the local communities surrounding the canyon. It is their hope this will help both native landowners and visitors alike appreciate the river canyon as a resource critical to the health of an entire ecosystem that stretches all the way from some of Fiji's highest mountains to the depths of the surrounding sea.

Wetlands International –Oceania pulled together a team from the University of the South Pacific, Birdlife International – Fiji Programme, Environmental Consultants Ltd, Department of Environment, Fijian Affairs Board and National Trust that visited the site and village of Nabukelevu in April, 2003. This team carried out a multidisciplinary survey activities and also discussed Ramsar and wetland conservation with elders and community members. Subsets of this initial team have re-visited the site and village three times throughout the year to continue discussions on the wise use of the site and to continue survey activities. Birdlife International prepared awareness pamphlets which were given to the villagers with a copy of the Fijian-translated version of the survey report done by the team from the initial visit.

Rivers Fiji Ltd has been taking teachers and students from the surrounding villages and mataqali on river trips with members of the Department of Environment and Forestry. These trips would have a strong conservation message and the teachers/students will then become the ambassadors for Rivers Fiji's conservation area movement for the UNCA.

Other trips have occurred with local administrators from the Fiji Visitors Bureau, Department of Environment, Department of Forestry, Ministry of Lands and Minerals etc. The focus of these trips is to cultivate stronger cooperation between Rivers Fiji and various land management agencies involved in long-term conservation and protected/reserved land designation. The Nature Fiji and the Rivers Fiji are in the process of producing environmental educational materials for distribution to schools and villages in the area

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Tourism to Fiji's highlands is a relatively new development since most of the tourism focus is based around the coastal areas of Viti Levu and surrounding islands. However, in 2002 the UNCA gained international exposure through the televised international race called "Eco-challenge". Logistics for this race were assisted by Rivers Fiji who hosted a section of the race. Whitewater rafting and kayaking continue to take place five days a week within the Upper Navua Conservation Area led by Rivers Fiji (see previous section). There is considerable additional potential for trekking and camping/lodging to be developed in this area as infrastructure improves with time. Other possible tourism attractions might include canyoning along approved streams, day-hikes to waterfalls and mountain biking on the abandoned logging tracks. Recent communication between Birdlife International and Rivers Fiji Ltd indicate a strong possibility of birdwatching tours being done in the area. It should be noted that Rivers Fiji Ltd. won the 1999, Fiji Visitors Bureau "Best Activities" award and has been recognized for its sustainable nature by winning the Environmental Tourism award in 2001 granted by the Ministry of Tourism.

Rivers Fiji is in the process of developing a bird watching tour within and around the Ramsar site.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

The land is managed by Rivers Fiji on behalf of the native landowners (*mataqali*). The I Taukei Land Trust Board (TLTB) issues leases on behalf of the *mataqali* to interested parties such as Rivers Fiji. The land leased by Rivers Fiji was designated "Native Land Reserve" and required special consideration by the TLTB and members of its board to be re-designated so Rivers Fiji could establish the UNCA. Now with the lease in hand Rivers Fiji manages the land on behalf of the *mataqali* and in conjunction with the TLTB as the trustee for the *mataqali*.

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

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General Manager Rivers Fiji,
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34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Dutson, G., Masibalavu, V., Salusalu, B., Watling, D. 2003. **Birdlife International Fieldwork Report 8: Bird**

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Keppel, G. and Thaman, R. 2003. **Preliminary report on the vegetation of Upper Navua Conservation Area (UNCA)**. Technical report. University of the South Pacific. 4pgs

Masibalavu, V., Gaunavinaka, T., Liley, D. and Lake, S. 2003. **Birdlife International Fieldwork Report 10: Bird Survey of Nabukelevu Forest**. Birdlife International Fiji. 4pgs

Geology of Northern And Central Viti Levu - Navua River Map GS 429 - Viti Levu Sheet 18

WWF, **Tropical and subtropical dry broadleaf forest**, www.worldwildlife.org,np,nd, November 25th, 2012, <<http://worldwildlife.org/ecoregions/oco201>>

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