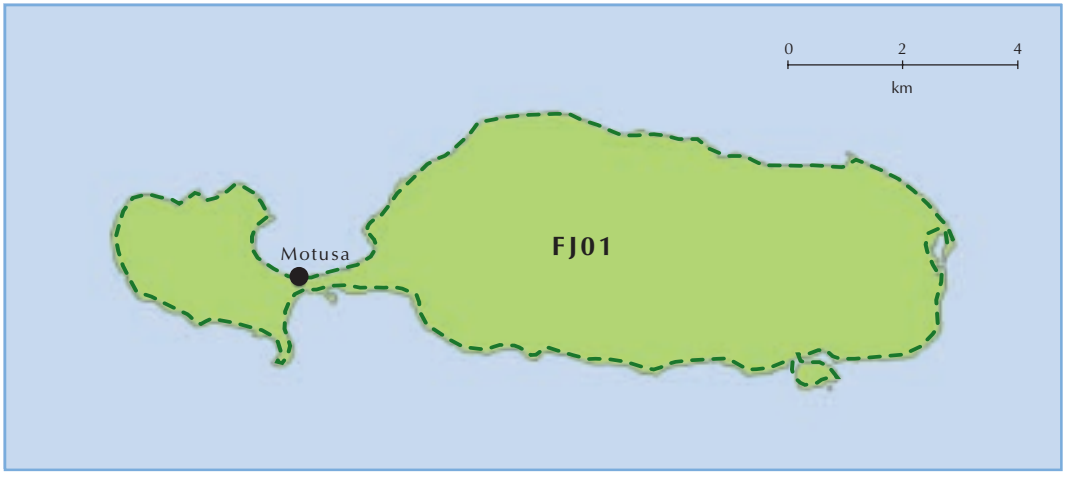
SITE ACCOUNTS

Maps are given for each IBA and indicate the IBA boundaries. IBAs defined by designated protected areas have the same definitive boundaries as the protected areas. IBAs without an official designation have indicative boundaries based on forest cover. Green indicates 'dense' and 'medium dense' natural forest as mapped by the National Forest Directory (1990–93). (Forest cover was not mapped for Rotuma, Kadavu, Ogea or Vatu-i-Ra.) Locally significant rivers, dams, villages and mountains are marked.

FJ01 ROTUMA

Coordinates 12°35′S 177°10′E (north of main Fijian group) **Area** 42 km² **Altitude** 0–260 m
Status Unprotected. Site of National Significance.
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)



Summary

This IBA covers all of Rotuma as this small island group, situated 465 km north of the main Fijian islands, is the only location for the Rotuman Myzomela (VU). This common bird of all forest, bush and garden habitats probably needs no specific conservation actions but improved quarantine against colonisation by invasive alien species would benefit all Rotuma's biodiversity as well as traditional agriculture.

Site description

The IBA consists of the main island of Rotuma and associated small satellite islets. The Rotuman Myzomela is a permanent resident on the main island and probably Uea but may be only a visitor to the smaller islets. The main island is a shield volcano divided into two parts by a sandy isthmus, with coastal terraces, a central plateau (30–60 m) and steep volcanic cones. It has a wet tropical climate with about 3,350 mm of rain annually, and lowland rainforest as climax vegetation. Most of the land has been cultivated at some time in the past, and the forest is mostly a mosaic of forest in various stages of succession. The myzomela also visits the limited areas

Rotuman Myzomela *Myzomela chermesina*.
(ILLUSTRATION: DICK WATLING)

of mangrove, but most of the coast is rocky, with some sandy-mud bays, and a barrier reef. Rotuma is inhabited by an island people, closely related to both Polynesians and Fijians, who speak their own language. About 2,500 Rotumans live on the island and the population has been stable for many years with migration draining off the net population increase. The island's physical isolation has led to a powerful and relatively traditional local government. The land is Native Tenure administered through a specific Act.

Birds

A1 (globally threatened species)

- [Bristle-thighed Curlew (VU) – non-breeding visitor in unknown but probably very small numbers]
- **Rotuman Myzomela** (VU) – common to abundant across the island

A2 (restricted-range species)

- Five species (compared to 35 on the main Fiji group). See Appendix 2.

The total world populations of the Rotuman Myzomela and the Rotuman subspecies of Polynesian Starling *A. t. rotumae* and Lesser Shrikebill *C. v. wiglesworthi* occur in this IBA. Rotuma also supports isolated out-lying populations of Crimson-crowned Fruit-dove and Polynesian Triller. The offshore islets of Ha'atana, Hofliua and Hatawa have nationally significant seabird colonies.

Other biodiversity

Rotuma has one other endemic vertebrate, the Rotuman Forest Gecko, and two other lizards endemic to Fiji, the Green Tree Skink and Barred Tree Skink.

Conservation

The Rotuman Myzomela is common in all habitats on the main island, including forest edge and plantations and has no known threats. It is categorised as Vulnerable because its very small geographical range makes it potentially susceptible to chance catastrophes such as cyclones, disease or invasive alien species. Colonisation by exotic predators (other than Pacific Rat, which is already present) is a possible threat, but the myzomela's abundance and wide habitat tolerance should protect it from cyclone damage. It could be used as a figurehead species to promote tighter quarantine controls to prevent colonisation by invasive alien species for the benefit of all other native species and traditional agriculture. The nesting seabirds have been traditionally harvested for food and the sustainability of this practice needs investigation.

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Bristle-thighed Curlew *Numenius tahitiensis*. (PHOTO: Guy Dutson/BirdLife)

FJ02 WAILEVU/DREKETI HIGHLANDS

Other names Delainacau; Drawa; Waisali; Delaikoro
Coordinates 16°38′S, 179°24′E (central Vanua Levu) **Area** 720 km² **Altitude** 90–941 m (Delainacau 300–744 m; Drawa 300–700 m; Valili 457–904 m; Waisali 350–650 m; Delaikoro 90–941 m)
Status Unprotected except for Waisali Forest Amenity Reserve (120 ha). Most is a Site of National Significance.
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)

Tavea Peak, Wailevu. (PHOTO: MOALA TOKOTA'A/WCS)

Summary

This IBA contains the only known site for the Vanua Levu subspecies of Long-legged Warbler (EN), and has all the other endemic birds on Vanua Levu except for the Silktail, which is restricted to another peninsula. It consists of the largest remaining important forests in Vanua Levu, and includes six Sites of National Significance as outlined in the BSAP: Delaikoro, Waisali, Tavea, Valili, Drawa and Delainacau.

Site description

The Wailevu/Dreketi Highlands IBA consists of lowland and montane forest along the southern spine of Vanua Levu island. The northern slopes have some dry forest but the central hills and southern slopes are mainly tropical lowland rainforest with an average rainfall of 3,500–4,800 mm/annum. Delaikoro has rugged terrain with lowland rainforest reaching up to montane cloud forest and the highest peak in Vanua Levu at 941 m. Logging roads run from the lowlands (e.g. Sueni and Nadavaci villages) up into the fringes of the ridge, and it has been proposed that some roads could be upgraded into a public road across the hills to Savusavu. Much of Valili (about 14 km^2) is still unlogged, especially around the ridges extending east to west towards Delaikoro. Delainacau (about 11 km^2) is largely logged but the steep slopes remain as old-growth forest. The Drawa forest (6,346 ha) is the site of a large sustainable forestry project lead by GTZ. A central ridge-top area of protection forest covers 32% of Drawa, 24% is either preserved forest (for conservation) or non-forest, and 44% is multiple-use forest where timber production is allowed. The Waisali forest (120 ha) was established as a nature reserve in 1991 and is administered as such by the National Trust of Fiji. Most of this reserve is tropical lowland rainforest ranging from 350 m to 650 m altitude. Although many of the gentle slopes have been logged, it contains some of the best remaining stands of *Dakua* trees in Fiji. The IBA contains parts of 172 Native Lands (totalling about 64,137 ha), about 22 Freehold Lands (about 3,631 ha) and 9 Crown Scheduled Lands (678 ha).

Birds

A1 (globally threatened species)

- **Friendly Ground-dove** (VU) – fairly common in some areas
- [Long-legged Warbler (VU) – the only record of the Vanua Levu subspecies *T. r. clunei* was from here in 1974; probably still occurs]
- **Black-faced Shrikebill** (VU) – rare

A2 (restricted-range species)

- 22 species (out of 24 on Vanua Levu), including two of the three endemic to Vanua Levu and Taveuni. See Appendix 2.

This IBA supports eight of the nine subspecies endemic to Vanua Levu.

Other biodiversity

Limited surveys have been undertaken in Waisali and Drawa only. Waisali is the only known site for the Fijian Ground Frog (EN) on mainland Fiji (Viti Levu and Vanua Levu) despite the presence of mongoose. Waisali also supports the Fijian Tree Frog (NT) and at least four species of reptile including the Turquoise Tree Skink which is known only from one other specimen. The BSAP technical botanical report identified six Vanua Levu sites of high botanical biodiversity, four of which are part of this IBA (Waisali, Mt Dikeva, Mt Delainacau and Mt Kasi). Botanical surveys at Drawa showed that 51% of flora species are native, 47% are endemic to Fiji and 10 species are threatened within Fiji.

Conservation

This IBA is threatened primarily by logging. Whilst environmentally friendly logging may not have major effects on birds, much of the logging on Vanua Levu is unsustainable and causes extensive forest destruction as well as the subsequent problems of increased numbers of invasive alien species (e.g. mongoose), and agricultural expansion. Other minor threats include fire and hunting. Waisali is managed by the National Trust of Fiji as an ecotourism site which offers pools, forest, especially *Dakua* trees, and birdwatching. Visitor facilities developed in 2005 included constructing tracks between the pools, with a *bure* and visitors' information. The GTZ sustainable forest management project at Drawa forest aims to balance the conservation of forest and endemic plants with income for local stakeholders from forestry and agriculture. The Delaikoro, Delainacau and Valili areas currently lack any conservation effort. Conservation work needs to be initiated at the *mataqali* level of the villages in these areas. An opportunity is afforded by the road up to the Delaikoro radio mast which offers easy birdwatching on the way up to the island's highest peak with beautiful views to Labasa to the north and Savusavu to the south.

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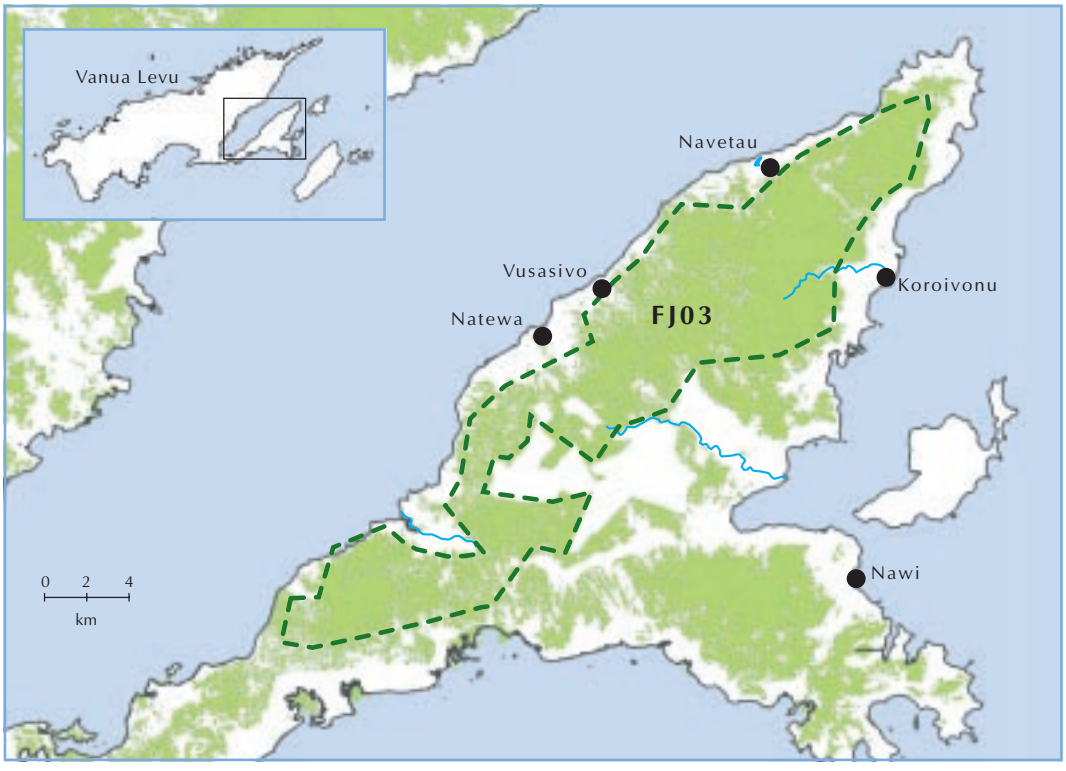
FJ03 NATEWA/TUNULOA PENINSULA

Other names Tunuloa; Tunuloa Silktail Reserve; Natovotovo forest
Coordinates 16°36′S, 179°49′E (south-east Vanua Levu) **Area** 176 km² **Altitude** 0–832 m
Status Not protected. Site of National Significance.
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)



Summary

This IBA contains most of the large remaining forest tracts on the Natewa/Tunuloa peninsula. This peninsula has a unique assemblage of birds including the threatened Vanua Levu subspecies of Silktail (NT). It also supports large numbers of the other species endemic to Vanua Levu/Taveuni and Friendly Ground-doves (VU).

Site description

This IBA covers the largest tracts of remaining old-growth forest on Natewa/Tunuloa, a large peninsula on the south of Vanua Levu. The IBA is mostly lowland tropical rainforest extending along the central ridge of the peninsula, including many steep slopes with stunted or montane forest. It contains the largest remaining stands of unlogged forest but also includes adjacent areas of logged forest making one large contiguous forest. The IBA is bounded by more highly degraded forest, mostly forest which has been logged heavily in recent years, mahogany plantations and agriculture. The land tenure includes parts of 68 Native Lands (totalling about 20,506 ha), two Freehold Lands (about 320 ha) and two Crown Scheduled Lands (about 246 ha).

Birds

A1 Globally threatened species

- **Friendly Ground-dove** (VU) – often seen
- **Silktail** (NT) – a high proportion of the Natewa/Tunuloa subspecies *L. v. kleinschmidti*

A2 Restricted-range species

- 21 species (out of 21 on Natewa peninsula and 24 on Vanua Levu), including all three endemic to Vanua Levu and Taveuni. See Appendix 2.

This IBA supports seven of the nine subspecies endemic to Vanua Levu. The peninsula is also ornithologically unique in having no Giant Forest Honeyeaters or Blue-crested Broadbills which are otherwise widespread across Vanua Levu and Taveuni.

Other biodiversity

There have been no systematic surveys of any biodiversity groups except for birds in the IBA.

Conservation

The Natewa/Tunuloa peninsula has suffered extensive logging which continues around the IBA. Logging is often unsustainable, leading to increased numbers of invasive alien species as well as degraded forest. Logging is more of a threat to the gentler southern slopes. Extensive areas of native forest have also been cleared for mahogany plantations but hopefully this practice has now been discontinued. Forest birds can be found in tracts of native forest along watercourses and on steeper slopes within logged forest and mahogany plantations, but their survival is dependent on maintenance of these native trees. Agriculture is also encroaching into the forest as there are very limited areas of flat land on the peninsula not converted into coconut plantations. The IBA is the source of all rivers and drinking water for villages along the peninsula. The impacts of unsustainable logging on drinking water quality, marine resources in Natewa Bay and other environmental problems have lead a number of the *mataqali* in at least four villages around the IBA to seek assistance for forest conservation. The impacts of invasive alien species on the birds are unknown but, as with all sites on Vanua Levu, mongoose are likely to be significant predators of birds, their eggs and chicks. The Savusavu area is becoming popular with tourists and the improved road to Natewa/Tunuloa is opening tourism opportunities for the peninsula.

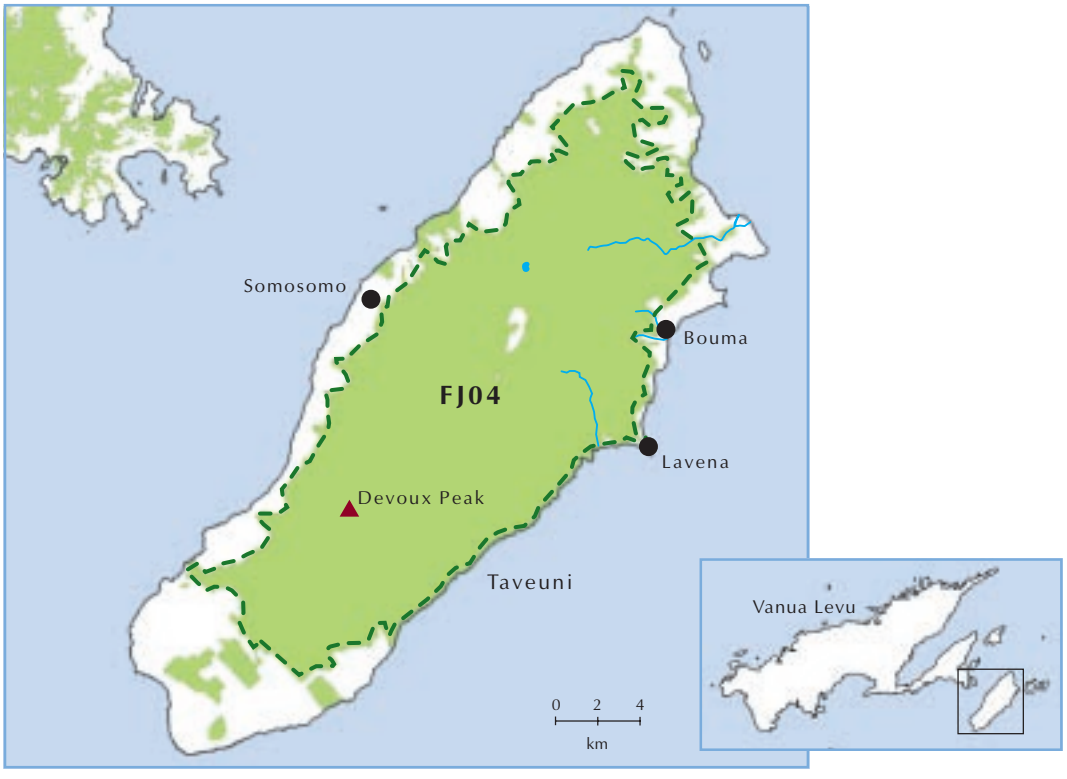
References

BirdLife International Fiji Programme IBA project field reports Nos 24 and 41.

Orange Dove *Chrysoenas victor*. (PHOTO: Tim Laman)

FJ04 TAVEUNI HIGHLANDS

Other names Ravilevu Nature Reserve; Taveuni Forest Reserve; Bouma National Heritage Park
Coordinates 16º53'S, 180ºE (Taveuni) **Area** 287 km² **Altitude** 0–1,241 m
Status Ravilevu Nature Reserve (40 km²) and Taveuni Forest Reserve (113 km²) were gazetted as protected areas in 1958 and are managed by the Department of Forestry. Bouma National Heritage Park is a community-managed protected area (under agreement with the Native Lands Trust Board (NLTB) but not legally protected).
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)



Summary

The Taveuni Highlands IBA supports a good population of Friendly Ground-Doves (VU), the majority of the world's Silktails (NT), the largest number of Tahiti Petrels (NT) in Fiji and many other endemic birds. The three reserves have been combined into a single IBA which forms a contiguous forest block. This is the largest currently protected area in Fiji and includes a spectacular expanse of primary forest from shore to summit.

Site description

The Taveuni Highlands IBA is the combination of the Ravilevu Nature Reserve, Taveuni Forest Reserve and Bouma National Heritage Park together with adjacent old-growth forest in the mountains and hills to the north-west. The land tenure is a mixture of Native Lands and Freehold Lands. This IBA covers approximately 65% of Taveuni, Fiji's third biggest island (442 km²). Taveuni is an old shield volcano dotted with more than 150 volcanic craters, which last erupted in 1658. The southern slopes rise steeply out of the sea and are characterised by high rainfall (up to 7 m/year), land-slips and regenerating forest. The mountains are even wetter (up to 10 m/year), but

Silktail *Lamprolia victoriae*.
(PHOTO: VILIKESA MASIBALAVU/BIRDLIFE)

the north side is in a slight rain-shadow. Most of the IBA is lowland and montane forest but large areas of the steep unstable slopes have broken-canopy forest. Additional habitats include the coast and some small wetlands, notably Lake Tagimaucia which has few birds but is nationally important as a large freshwater lake and marsh. Taveuni is exceptional in having a high proportion of remaining forest including an intact ridge-to-reef ecosystem, extremely rare in the Pacific. Taveuni is also extremely important as the largest mongoose-free island in Fiji. Although it has most of the other invasive alien species found across Fiji, these are probably having lesser impacts because Taveuni retains a large unfragmented forest.

Birds

A1 Globally threatened species

- [Red-throated Lorikeet (CR) – historical records (last sighting in 1875); may still occur]
- **Friendly Ground-dove** (VU) – fairly common
- **Black-faced Shrikebill** (VU) – uncommon
- **Tahiti Petrel** (NT) – the largest recorded numbers in Fiji (>150 were seen offshore in 2003)
- **Silktail** (NT) – most of the estimated 5,000–8,000 pairs on Taveuni breed here

A2 Restricted-range species

- 23 species (out of 23 on Taveuni), including all three endemic to Taveuni and Vanua Levu. See Appendix 2.

[A4ii Congregatory seabird species

- Tahiti Petrel – poorly known but may meet the threshold of >100 pairs]

The Taveuni Mountains retain extensive unsurveyed forest which may be suitable for Red-throated Lorikeet, but none has been recorded since 11 specimens were taken between 1887 and 1912. The majority of the world populations of eight subspecies of bird endemic to Taveuni breed in this IBA.

Other biodiversity

Only partial surveys have been completed for plants but at least seven plant species are identified as endemic to this IBA. Threatened endemic plants include *Syzygium phaeophyllum* (CR), *Alsmithia longipes* (EN) and *Neuburgia macroloba* (EN). Also found commonly at higher altitudes on the island is the well-known Tagimaucia *Medinilla waterhousei*, which has been suggested as a suitable national flower for Fiji. The Fiji Flying-fox (CR) is only known from a few specimens from the summit forests of Taveuni. Both the Fijian Ground Frog (EN) and Fijian Tree Frog (NT) are found here, alongside several lizards which do not occur on islands with mongoose.

Conservation

The Taveuni highlands are relatively well-protected. The Ravilevu Nature Reserve and the Taveuni Forest Reserve are managed by the Department of Forestry. The Bouma National Heritage Park is a community-based initiative which accommodates and guides tourists as part of an integrated conservation and development project, owned by the villages of Lavena, Korovou, Vidawa and Waitabu. Like Koroyanitu on Viti Levu, the initiative has benefited from guidance and assistance from the New Zealand government in a project which is led by the NLTB. These protected areas have little active management and are under some threat from expanding small-scale subsistence and cash-crop agriculture, especially kava (*yaqona*). This encroachment is likely to continue unless local people are more aware of (and benefit more directly from) the links between tourist income and the conservation of Taveuni's coral reefs and traditional village and rainforest environment. The extensive old-growth forests, including significant areas of intact ridge-to-reef ecosystems have lead to the Taveuni Mountains being suggested as a potential World Heritage Site. Designation could be used to promote the island to tourists and to improve conservation and environmental awareness. Although Taveuni has many fewer invasive alien species than most islands, these pose a greater threat than habitat loss. The most important bird conservation action is to ensure that mongoose do not colonise the island from neighbouring Vanua Levu where they have extirpated all ground-nesting bird species. Black Rats may also be causing problems by predating birds (notably Red-throated Lorikeet) but this has not been demonstrated in Fiji.

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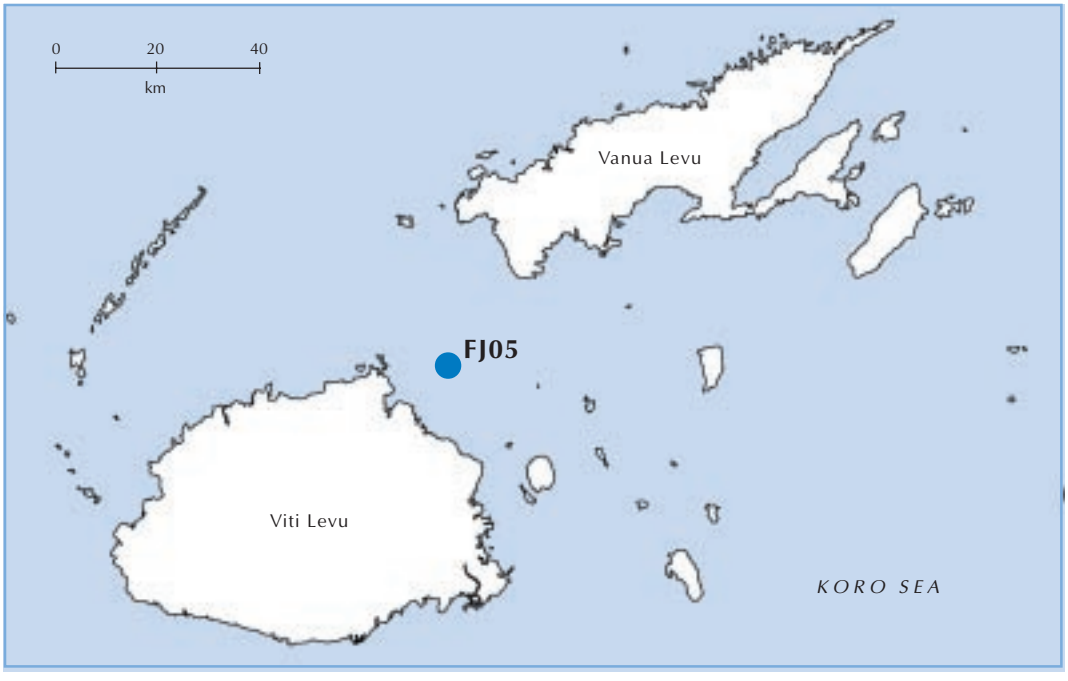
FJ05 VATU-I-RA

Coordinates 17°22′S, 178°26′E (between Viti Levu and Vanua Levu) **Area** 2 ha **Altitude** 0–65 m
Status Unprotected. Site of National Significance.
Dates of BirdLife visits 18–19 and 22–23 December 2003
IBA criteria A4i, A4iii (congregatory seabirds)



Summary

The tiny island of Vatu-i-Ra supports a large Black Noddy breeding colony, larger numbers of non-breeding Black Noddies and may still support nationally important numbers of breeding Red-footed Boobies and Lesser Frigatebirds. These birds, their eggs and nestlings are probably eaten by rats and visiting fishermen but the traditional land-owners are supportive of conservation efforts.

Site description

Vatu-i-Ra is a small island approximately 100 m by 300 m wide, comprising two small hills connected by a narrow neck. About half of the island is composed of hills of volcanic rock, and the other half is flat coral sand, not far above the spring high tide level. Most of the island is dominated by the tree *Pisonia grandis* which has a canopy of 5–10 m on the flat land but less than 2 m on the hill. There is a distinct strand vegetation of various other littoral trees and bushes.

Birds

A4i Congregatory seabird species

- Black Noddy population estimated at 4,550–28,000 pairs (>1% threshold of 4,000 pairs)

Vatu-i-Ra.
(PHOTO: XXXXXXX)

A4iii Congregatory seabird species

- Total population of Black Noddies, including non-breeder, estimated at 34,000 birds in the 1970s (> threshold of 20,000 birds)

Good data on nesting seabirds were collected in 14 visits between 1974 and 1983, but only single surveys were made in 1963 and 2003. Estimates of the number of breeding birds are: Red-footed Booby (300–500 pairs in 1963; 400 pairs in 1974; 400 birds and 20

nestlings in 2003), Lesser Frigatebird (500–700 pairs in 1963; 250 pairs in 1974; 150–250 non-breeders in 2003), White-tailed Tropicbird (one pair in 1974; one bird seen in 2003), Brown Noddy (80 pairs in 1970s; 50–100 pairs in 2003), Black Noddy (4,550 pairs in the 1970s; perhaps 28,000 in 2003), Bridled Tern (200 pairs in 2003) and Black-naped Tern (30 pairs in 2003). Black Noddies fluctuate in numbers and non-breeding numbers were estimated to be between 10,885 and 58,203 between 1974 and 1983. A BirdLife survey in December 2003 counted nests in five quadrats of 10 m^2 which, if representative of the whole island, could be extrapolated to give an indicative population estimate of 28,000 pairs (202, 201, 285 and 260 nests on flat-land quadrats; 58 nests on the hill quadrat). However, other areas of the island probably had fewer birds than these quadrats, meaning that the overall population was less than 28,000 pairs. The only other species breeding on Vatu-i-Ra is the Eastern Reef Heron (1 pair in 1974; 2 birds in 2003). Brown Booby, Crested Tern and some migrant land-birds have been recorded in small numbers but probably do not breed.

Other biodiversity

Turtles were reported to nest on the beach but the species is unknown.

Conservation

The island is uninhabited but is regularly visited by fishermen and occasional tourists on diving trips. The breeding seabirds, their eggs and chicks are sometimes eaten by visiting fishermen, and probably also eaten by Polynesian rats. Trapping during the 2003 visit indicated a high rat density but their impact on the breeding success of the birds is unknown. Fishermen regularly stop overnight on the island and there is evidence of at least the two larger species, Red-footed Booby and Lesser Frigatebird, being taken for food. Counts of boobies and frigatebirds have declined since 1963, suggesting that they may have declined from over-hunting. However, seabird numbers fluctuate between seasons and do not follow regular annual cycles so comparisons between these counts may not be valid. The land-owning community has expressed interest in sustainable management of the site. The opportunity exists to develop a management plan for the island to include rat eradication and reduction of seabird harvesting. This could be linked to a more structured programme of visits by tourists to benefit the managing community but there is likely to be only a small market as visits involve a relatively long journey on rough seas.

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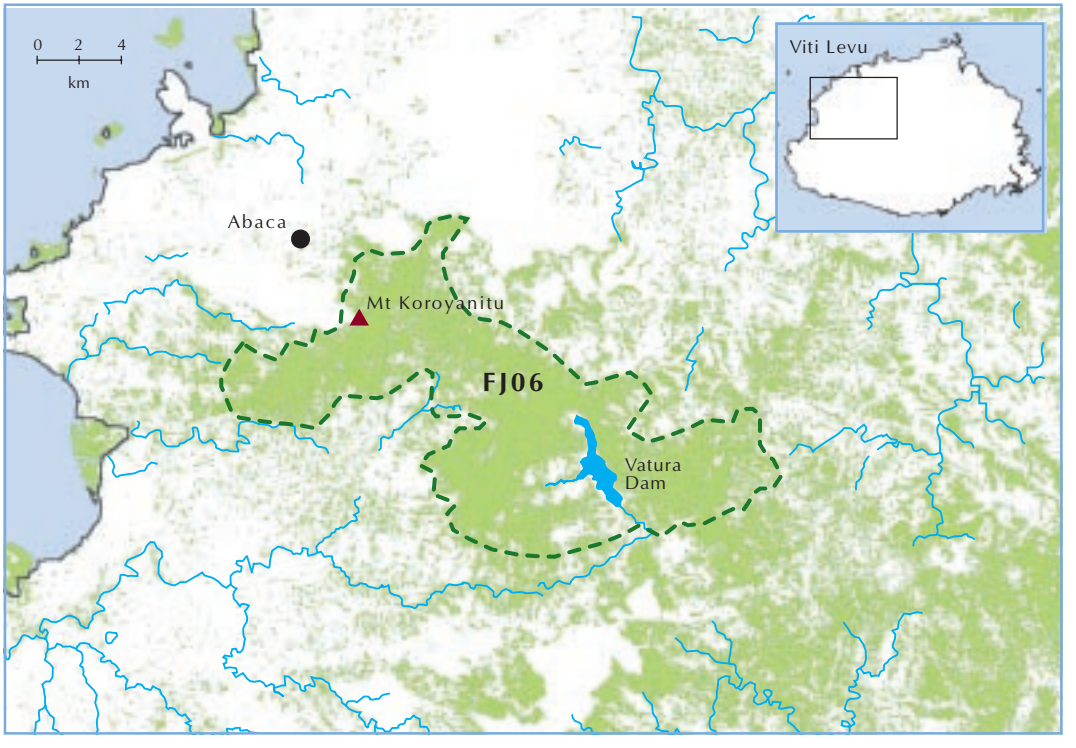
Black Noddy *Anous minutus*. (PHOTO: Guy Dutson/BirdLife)

FJ14

Ogea

FJ06 KOROYANITU/VATURU

Other names Koroyanitu National Heritage Park; Mt Evans; Abaca
Coordinates 17°43′S, 177°37′E (west Viti Levu) **Area** 171 km² **Altitude** approximately 610–1,195 m
Status Vaturu is a water catchment protected under the tenure of the Lands Department/Native Lands Trust Board (NLTB). Koroyanitu is a community-declared conservation area. Both are Sites of National Significance.
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)



Vatura. (PHOTO: DIGGER JACKSON)

Summary

Koroyanitu and Vaturu support the sub-set of endemic birds which occur in the drier transitional forest of west Viti Levu, and this drier forest also supports high numbers of Friendly Ground-doves (VU). Koroyanitu is a community-managed protected area and Vaturu is a protected water catchment forest.

Site description

Koroyanitu and Vaturu are the two largest forest blocks in the drier west of Viti Levu. Vaturu is the water catchment for the Vaturu Dam, the main water supply for the town and port of Nadi. The catchment has been extensively logged but is mostly old-growth forest. This lowland forest is transitional between the dry forests at lower altitudes and the wet forests to the east, with a more open understorey than the wet forests of other IBAs in central and east Viti Levu. The reservoir has some fringing wetland vegetation and open water of little ornithological interest. The IBA boundaries include all the contiguous dense forest. Koroyanitu is the forested part of the Mt Evans mountain range to the west of Viti Levu's central highlands, containing Mt Koroyanitu, Fiji's third highest peak. It is only 16 km from Lautoka, Fiji's second largest city. The IBA is mostly montane rainforest, transitional between the dry forests of the western lowlands and the wet forests of the centre and east of Viti Levu. Forest remains on the steep slopes and peaks of the mountain range but the lower slopes have been cleared for agriculture, some becoming fire-maintained grasslands. The IBA follows NLTB in recognising the conservation area as including all forest above 300 m altitude. The land tenure across the IBA comprises 86 Native Lands (totalling about 15,411 ha) and eight Crown Lands (about 1,584 ha).

Birds

A1 Globally threatened species

- **Friendly Ground-dove** (VU) – fairly common at Vaturu
- **Black-faced Shrikebill** (VU) – rare at Vaturu
- **Masked Shining Parrot** (NT) – fairly common at Vaturu and Koroyanitu

A2 Restricted-range species

- 22 species (out of 25 on Viti Levu), including two of the three endemic to Viti Levu. See Appendix 2.

Vaturu and Koroyanitu are important in conserving the geographical distribution of Fiji's restricted-range species. They have drier forests than those in eastern Viti Levu and support a different sub-set of Fiji's forest birds. The nationally threatened Peregrine Falcon nests in the Koroyanitu cliffs and hunts over the IBA.

Other biodiversity

Koroyanitu and the Mt Evans range is a hot-spot for endemic plants including two species found nowhere else in the world, *Aglaia evansensis* (CR) and *Syzygium minus* (EN). The vertebrate fauna of Koroyanitu includes the Fijian Tree Frog (NT), but no biodiversity surveys have been undertaken at Vaturu.

Conservation

This IBA is better protected than many but small-scale forest loss from expanding small-scale agriculture and fire is still a threat. The impact of invasive alien species is poorly known and needs further research. Koroyanitu National Heritage Park is a community-based conservation and tourism project based primarily in Abaca and Navilawa villages, initially supported by NLTB, SPREP and NZAID, now assisted by the National Trust of Fiji. Community support is partly dependent on the income generated from accommodating and guiding tourists, so sustainable conservation requires an ongoing flow of visitors. The forest at Vaturu is protected to conserve the water supply for Nadi. Access to Vaturu is restricted, and should be protected against both logging and agricultural expansion. Both sites are close to Fiji's main tourist hub at Nadi – Koroyanitu already receives many visitors and a similar ecotourism initiative could be established around Vaturu.

References

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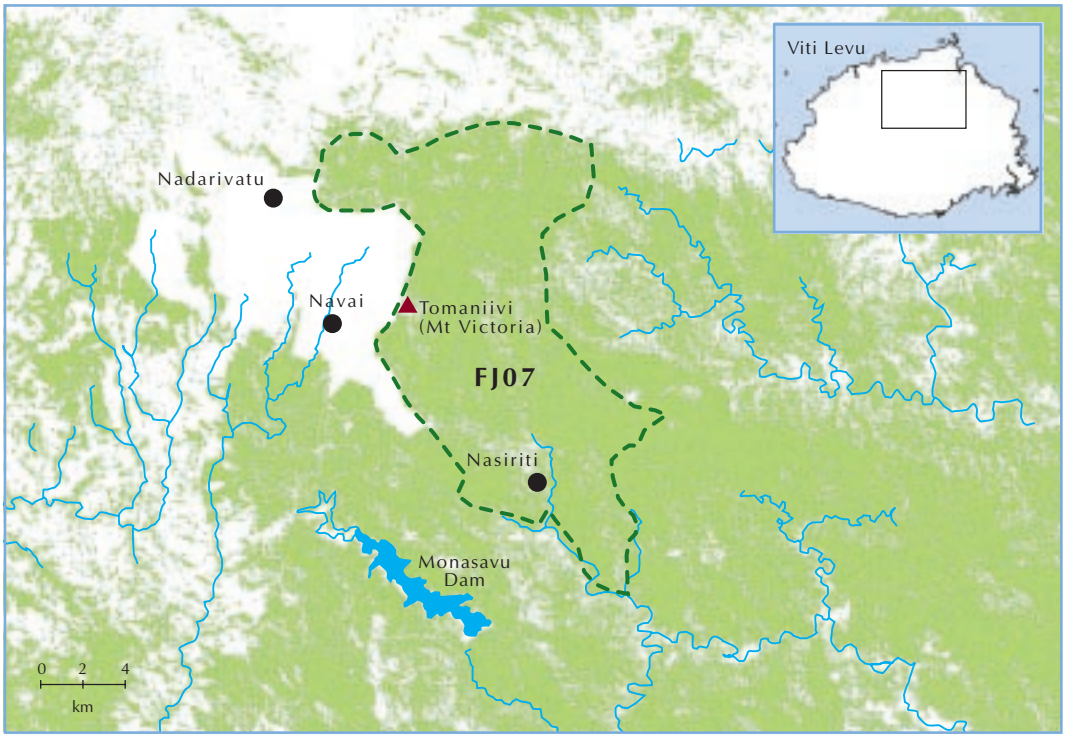
Fiji Goshawk *Accipiter fufitorgues*.
(PHOTO: Guy Dutson/BirdLife)

FJ07 GREATER TOMANIIVI

Other names Tomaniivi Nature Reserve; Wabu Forest Reserve; Tomaniivi = Mt Victoria
Coordinates 17°37′S, 178°2′E (central Viti Levu) **Area** 175 km² **Altitude** 500–1,324 m
Status Contains Tomaniivi Nature Reserve (13 km²) and Wabu Forest Reserve (11 km²), both leased by the Department of Forestry.
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)



Summary

Greater Tomaniivi IBA supports the largest known population of Long-legged Warbler (EN), has good populations of Pink-billed Parrotfinches (VU) and used to be the best-known site for Red-throated Lorikeet (CR). The IBA comprises two large government reserves with lowland and montane rainforest extending up to Fiji's highest mountain.

Site description

Greater Tomaniivi combines Tomaniivi Nature Reserve and Wabu Forest Reserve with other contiguous forests forming a single forest block. This covers the upper slopes of Tomaniivi or Mt Victoria, Fiji's highest mountain, and extends on to the lower slopes in the north-east. Tomaniivi contains a significant proportion of the highest-altitude montane forest in Fiji, an important habitat for birds and other biodiversity. The forest on Tomaniivi is classified as lowland to 700 m, upland (montane) forest between 700 m and 850 m, and cloud forest (montane cloud forest) from 850 m to the summit at 1,324 m. In the lower valley of the Wabu creek, dense stands of *Dakua* form an unbroken canopy in places. The boundaries of the IBA encompass the entirety of these two reserves. To the south are forestry plantations and agriculture. To the west the forest is patchy and mostly logged, extending to the Nausori Highlands, but retains many interesting bird species, notably a high population density of Black-faced Shrikebills. To the east, the forest continues along the central Viti Levu highlands and is patchy and degraded but is currently still contiguous with the next IBA, Rairaimatuku Highlands. The nearest village, Navai, is situated on the road at the base of the Tomaniivi trail but other villages also have land-ownership rights over the IBA. These land-owners lease the reserves to the government. The land tenure includes part of one large Native Reserve, 53 Native Lands (totalling about 14,125 ha), two Crown Lands (2,016 ha) and one Freehold (1,282 ha).

Birds

A1 Globally threatened species

- [Red-throated Lorikeet (CR) – second-last known site (last recorded in 1991); may still occur]

- **Long-legged Warbler** (EN) – largest known population (12 pairs in 1 km^2)
- **Friendly Ground-dove** (VU) – uncommon
- **Black-faced Shrikebill** (VU) – common at Tomaniivi and uncommon at Wabu
- **Pink-billed Parrotfinch** (VU) – uncommon or rare at both Tomaniivi and Wabu
- **Masked Shining Parrot** (NT) – common at lower altitudes, uncommon in montane forest

A2 Restricted-range species
- 24 species (out of 25 on Viti Levu), including all three endemic to Viti Levu. See Appendix 2.

Greater Tomaniivi is perhaps the best hope for Red-throated Lorikeet surviving anywhere in the world but ongoing surveys are still required to confirm its current status. The population of Long-legged Warblers may be much larger than currently known but, again, requires further fieldwork.

Other biodiversity

Tomaniivi supports several threatened plants, some of which are endemic to the mountain, e.g. *Schefflera costata* (VU). Recent PABITRA (IAS/Dept Forestry/BirdLife/WCS) surveys at Wabu discovered the tree *Acmopyle sahniana* (CR), Fijian Blossom-bat (VU) and an insectivorous bat, probably Polynesian Sheath-tail-bat (EN). Herpetological surveys have found very few reptiles or amphibians (but include the endemic Fijian Tree Frog (NT) and Green Tree Skink), perhaps because the site is relatively cold.

Conservation

Tomaniivi Nature Reserve and Wabu Forest Reserve are protected by government and their conservation future should be secure. There remains, however, the problem of invasive alien species. Alien plants spread up the trail to the summit and mongoose are found even in the most remote parts of Wabu. The impact of invasive alien species on Fijian birds is poorly known but this IBA may have historically supported colonies of Collared Petrels which are now extirpated from Viti Levu as a result of mongoose predation. More importantly, the recent decline and possible extinction of Red-throated Lorikeet has no clear explanation but may be caused by chronic predation by Black Rats. Rats could be controlled at Greater Tomaniivi but this would be expensive and best justified if nesting Red-throated Lorikeets could be found. More survey work is required for this species. A second potential problem is the protection status of forest reserves which allows them to be managed in a way which could include logging. The Wabu Forest Reserve is of such international importance that it warrants a management plan forbidding any such activities or an upgrade in status to nature reserve. Tomaniivi/Mt Victoria is uniquely placed to attract tourists wishing to climb the short (but steep) trail to the summit. The village of Navai and other local villages and landowners have created a small tourism industry to accommodate and guide visitors who wish to climb the mountain. This could be developed to include more conservation awareness for both the tourists and the villages, and to improve the income generated from the reserves. Access to Wabu is authorised only by permission of the Department of Forestry.

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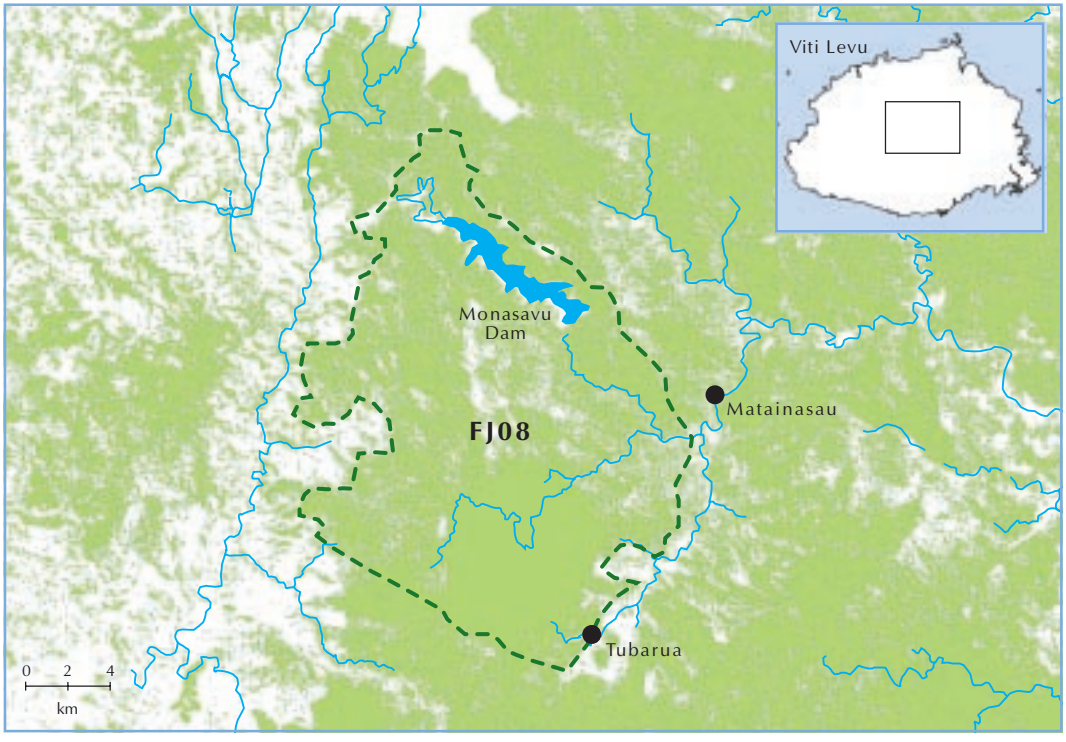
Pink-billed Parrotfinch *Erythrura kleinschmidti*.
(PHOTO: Bavari Thaman/Patrick Pikacha)

Wabu Forest Reserve.
(PHOTO: Guy Dutson/BirdLife)

FJ08 RAIRAIMATUKU HIGHLANDS

Other names Monasavu Dam; Nadrau plateau
Coordinates 17°46′S, 178°0′E (central Viti Levu) **Area** 287 km² **Altitude** approximately 610–930 m
Status Unprotected. Site of National Significance.
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)



Summary

The Rairaimatuku Highlands qualifies as an IBA as it is one of only three known sites for the Long-legged Warbler (EN). It is a large area of montane forest supporting all the other threatened and endemic species on Viti Levu, but the extremely rare Red-throated Lorikeet (CR) has not been seen for some years. Some of the area receives partial protection as a watershed for Fiji's largest hydro-electric dams.

Site description

Rairaimatuku is part of Viti Levu's large central plateau. The majority of the IBA is high-altitude lowland rainforest, with areas of montane forest at higher altitudes, especially in exposed locations on steep slopes. Extensive areas of unlogged forest remain but much of the road-side forest on flatter gradients has been logged and, in some places, logging roads extend far from the public highways. There are a number of small villages in the area, surrounded by small areas of agriculture, forestry plantations and secondary forest. Patchy and degraded forest extends west to the previous IBA of Greater Tomaniivi and, much more patchily, south to the next IBA, Sovi Basin. Monasavu Dam and associated smaller dams power a series of hydro-electric generators, providing the majority of Fiji's electricity. Forest has been flooded to create these reservoirs and small areas have been cleared or degraded around these sites. The dam is owned by the Fiji government and leased by the Fiji Electricity Authority (FEA). The forested watershed is owned by local land-owners but is not leased or managed by FEA, even though the FEA relies on the catchment for an uninterrupted supply of water for its hydropower. Recent logging in the area, under government permit, has drawn national and international criticism. It has since been stopped with forestry officials currently under investigation. The land tenure is mostly Native Lands except for three Crown Lands totalling about 1,490 ha.

Birds

A1 Globally threatened species

- [Red-throated Lorikeet (CR) – last known site (last sighting in 1993); may still occur]
- **Long-legged Warbler** (EN) – one of only two known populations; at least two pairs
- **Friendly Ground-dove** (VU) – uncommon

- **Pink-billed Parrotfinch** (VU) – uncommon
- **Black-faced Shrikebill** (VU) – fairly common
- **Masked Shining Parrot** (NT) – uncommon at this altitude

A2 Restricted-range species
- 24 species (out of 25 known from Viti Levu), including all three endemic to Viti Levu. See Appendix 2.

The montane forests from Rairaimatuku to the Greater Tomaniivi IBA are the best hope for survival of Red-throated Lorikeet but ongoing surveys are still required to confirm its current status. The species was reportedly "well known to everyone in Nadrau" in 1979 and there are a few records in the Nadrau area until 1993. The IBA is nationally important for the numbers of Pacific Black Duck on Monasavu reservoir, where a maximum of 120 have been seen, and Peregrine Falcons probably breed.

Other biodiversity

The Rairaimatuku area is the only known site for the endemic Montane Tree Skink although this species is likely to occur elsewhere in montane Viti Levu. Other endemic species include Fijian Tree Frog (NT) and Green Tree Skink, but the plants and other biodiversity are poorly known.

Conservation

The Rairaimatuku area is threatened by logging. New logging tracks were being opened during project fieldwork (2002–04), degrading the forest and opening access to invasive alien species, such as mongoose and Black Rats. Whilst there is no logging in the immediate water catchments of the various hydro-electricity dams, which are protected by the FEA, this logging is likely to have an impact on the water level and quality in the dams through local climate change and run-off. Forest is being lost at a much slower rate through clearance for agricultural land, especially close to the roads. The FEA office close to the Monasavu Dam could be used as a base for education, research and conservation. The impacts of invasive alien species are poorly known but predation by mongoose probably caused the historical extirpation of Collated Petrel and predation by rats may have caused the recent or imminent extinction of the Red-throated Lorikeet.

References

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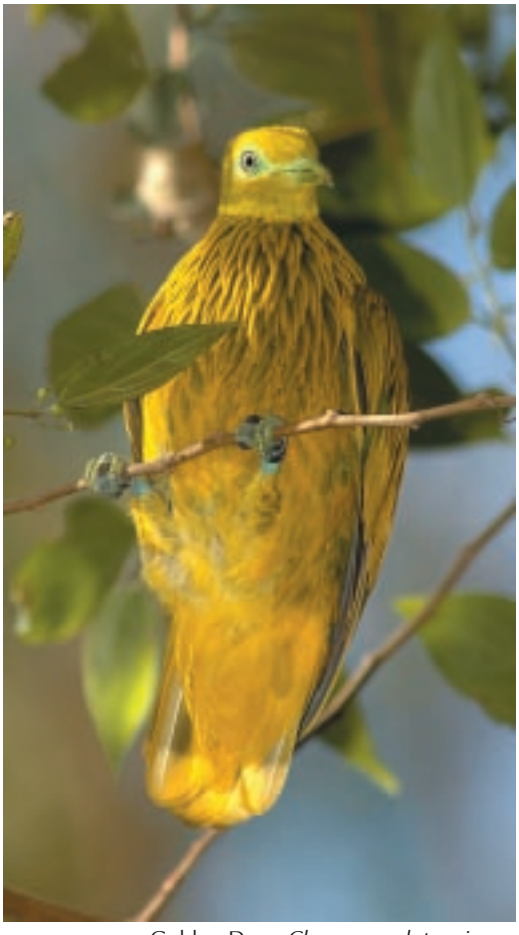
Watling, D. *in litt.* 2005

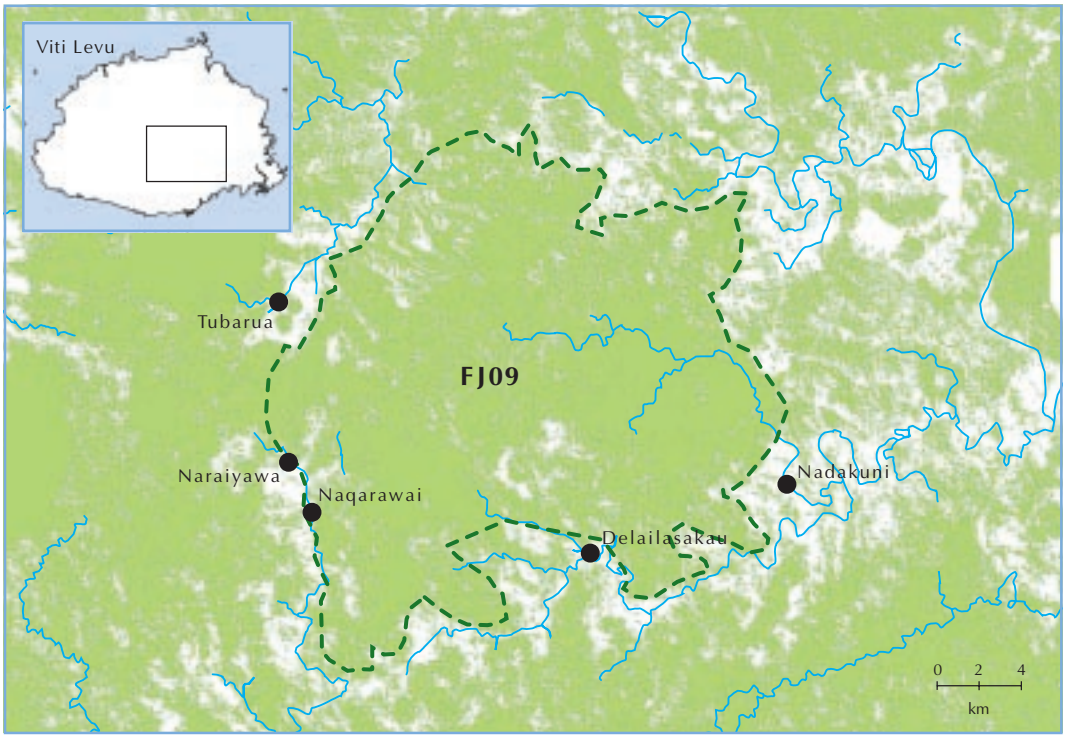


Golden Dove *Chrysoenas luteovirens*.
(photo: Paul Noakes)

Rairaimatuku Plateau.
(photo: Wildlife Conservation Society South Pacific Program)

FJ09 SOVI BASIN

Other names Sovi Basin Conservation Area; includes Korobasabasaga
Coordinates 17°55′S, 178°12′E (south-east Viti Levu) **Area** 407 km² **Altitude** 80–1,185 m
Status Proposed conservation area; Site of National Significance.
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)



Summary

Sovi Basin is the largest (proposed) protected area in Fiji. It is unique in the Pacific islands in being a large uninhabited basin with a pristine watershed of lowland rainforest. It supports populations of most of Viti Levu's birds including Long-legged Warbler (EN) and relatively large numbers of Pink-billed Parrotfinches (VU).

Site description

Sovi Basin is a large basin or amphitheatre of low rolling hills ringed by steep volcanic peaks rising to 1,185 m. The hills in the western third of the basin are mostly between 300 m and 600 m, otherwise between 80 m and 300 m and drain through a narrow gorge to the east. The basin is composed of plutonic granite surrounded by andesite volcanics while the basin soils are infertile red-yellow podzols. Rainfall has been estimated at over 2,800 mm in the wet season (November–April) and 1,200—1,600 mm in the dry season, and lowland temperatures average 25°C. The outer boundaries of the IBA follow the edge of the contiguous dense forest, which includes the outer slopes of the basin. The next IBA, the Viti Levu Southern Highlands, is separated by the cultivated Waimanu valley, and the Rairaimatuku Highlands IBA is across patchy agriculture and degraded forest remnants to the north. The basin has 11 different lowland forest types, 45% of the wet forest types in Fiji. These are all old-growth forests except for small areas of previously cleared land along the main rivers. The canopy in the basin is about 20–25 m high with emergents up to 30 m, but is only 7–20 m high on the steep high-altitude slopes. Sovi Basin is under traditional ownership of 13 *mataqali*, belonging to the three *Tikina*; Waimaro (97%), Nadaravakawalu and Namosi. As well as these Native Lands, there are eight small Crown Lands (totalling about 1,306 ha) and two Freehold Lands (80 ha). The basin was inhabited a few generations ago but abandoned because of poor soils and accessibility into the basin. Sovi is only 35 km from the capital, Suva.

Birds

A1 Globally threatened species

- **Long-legged Warbler** (EN) – three sightings (29–31 March 2005)
- **Friendly Ground-dove** (VU) – uncommon

- **Black-faced Shrikebill** (VU) – uncommon
- **Pink-billed Parrotfinch** (VU) – generally rare but locally uncommon
- **Masked Shining Parrot** (NT) – fairly common

A2 Restricted-range species
- 24 species (out of 25 on Viti Levu), including all three endemic to Viti Levu. See Appendix 2.

As the largest (proposed) protected area in Fiji, it supports the largest protected populations of many of Fiji's restricted-range species. Further survey work is necessary to clarify the status of the Long-legged Warbler and of the 'missing' species, Red-throated Lorikeet. The nationally threatened Peregrine Falcon is often reported and is likely to breed.

Other biodiversity

The endemic Fijian Burrowing Snake (VU) is known historically from Sovi and several other endemic reptiles occur including Green Tree Skink and Fijian Copper-headed Skink. The Fijian Tree Frog (NT) also occurs. Recent PABITRA surveys suggest that the basin supports about 680 species of vascular plants, one third of Fiji's total. This includes large numbers of *Schefflera euthytrica* (DD) in a very rare lowland rainforest formation on plains around creeks dominated by Verbenaceae trees.

Conservation

Sovi Basin has been the subject of ongoing action to secure agreement for conservation instead of logging. By 2005, all the land-owners had signed up to cancelling the logging concession and were negotiating a compensatory conservation trust fund, largely from the Global Conservation Fund. This project has been lead by Conservation International in collaboration with other institutions, notably the National Trust of Fiji. Assuming the success of these negotiations, the forests of Sovi look set to be conserved as the largest protected area in Fiji. The trust fund will resource some conservation actions, the most important being an assessment of the impact of invasive alien species. Sovi has fewer invasive alien species than most sites because it is a large block of forest without roads but it has most of the harmful species on Viti Levu, notably mongoose and Black Rat. Sovi would be an ideal place to conduct research on the impact of these species and to undertake trial actions to control them.

References

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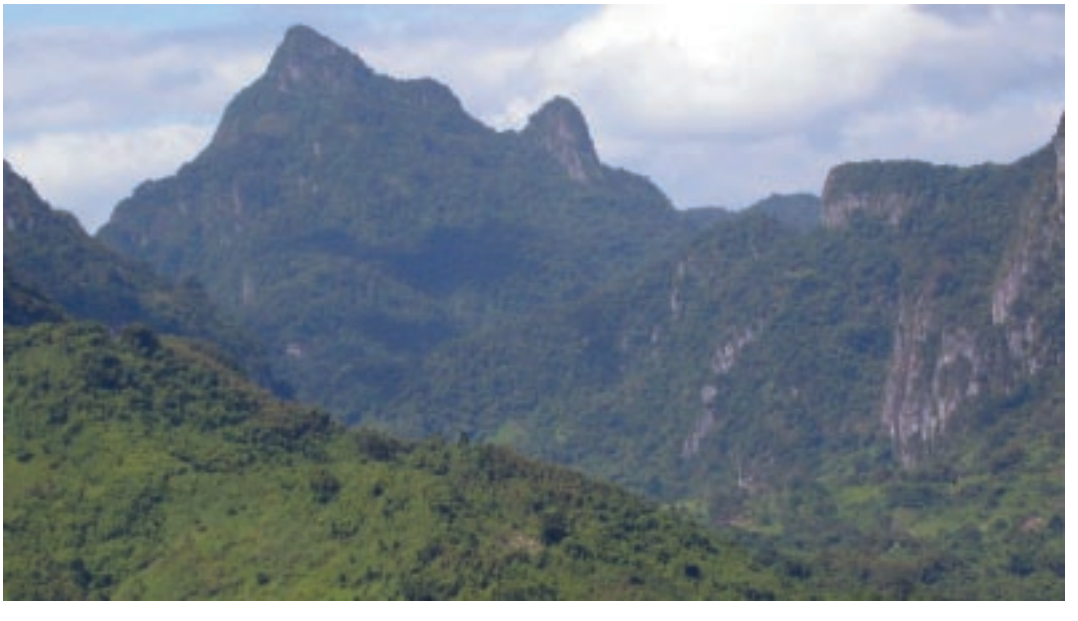
Typical village, Sovi Basin. (photo: Guy Dutson/BirdLife)

FJ10 VITI LEVU SOUTHERN HIGHLANDS

Other names Namosi; Waimanu; Savura
Coordinates 18°5′S, 178°17′E (south-east Viti Levu) **Area** 670 km² **Altitude** 427–915 m
Status Savura (448 ha) and Vago (25 ha) Forest Reserves are designated as water catchment reserves. The Garrick Memorial Reserve (429 ha) is owned by the National Trust of Fiji. The upper Navua gorge is a proposed Ramsar site. The rest of the IBA is unprotected but includes several Sites of National Significance.
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)

Namosi, Viti Levu Southern Highlands. (PHOTO: GUY DUTSON/BIRDLIFE)



Summary

The Viti Levu Southern Highlands supports all of Viti Levu's threatened and endemic birds including Long-legged Warbler (EN) and good numbers of Pink-billed Parrotfinches (VU). Savura Creek is a protected water catchment area, and the IBA's location adjacent to Suva offers great education and awareness opportunities.

Site description

The IBA is mostly lowland rainforest along a chain of hills and low mountains, rising to the mountains of Makuluva (615 m) and Nakorolo (860 m) in Namosi, and Nakobalevu (464 m) and Korobaba (422 m) in the east. A botanical transact up Mt Korobaba recorded a transition from multi-layered forest with emergents up to 35 m and a rich development of epiphytes and climbers, to a 4–14 m tall broken-canopied scrub, poor in epiphytes and climbers. This and other isolated Fijian mountains often have stunted vegetation because of the shallowness of the soil, exposure to strong winds and the *Massenerhebung* effect of lower altitudinal zones on smaller mountains. A study of the Savura Forest Reserve recorded 560 indigenous vascular plant species, of which 52% are endemic to Fiji. The IBA is bordered to the west by the logged forests of Serua, to the south by the coastal agricultural belt and to the north by the agriculture along the Waimanu river valley. To the east, the IBA is bordered by settlements on the edge of Suva and the mahogany plantations of the Colo-i-Suva Forest Park. The IBA is likely to benefit from movement of birds to and from the degraded Serua forests and the Sovi Basin IBA to the north. Much of the IBA is unlogged because of steep slopes but logging roads are scattered across the area, especially at lower altitudes. A few small areas have been planted with mahogany. The land tenure is mostly Native Lands, with 18 small Freehold Lands (totalling about 2,031 ha) and five Crown Lands (1,177 ha).

Birds

A1 Globally threatened species

- **Long-legged Warbler** (EN) – one heard three times at Mt Korobaba but probably more widespread
- **Friendly Ground-dove** (VU) – uncommon or rare, often absent
- **Black-faced Shrikebill** (VU) – uncommon throughout
- **Pink-billed Parrotfinch** (VU) – generally uncommon but locally fairly common
- **Masked Shining Parrot** (NT) – generally common

A2 Restricted-range species

- 24 species (out of 25 on Viti Levu), including all three endemic to Viti Levu. See Appendix 2.

Forest along a section of the main Namosi road has the highest known population density of Pink-billed Parrotfinches: 11 records in 50 'observer-hours' in December 2002. The IBA contains historical nest sites for the nationally threatened Peregrine Falcon.

Fiji White-eye *Zosterops explorator*.
(PHOTO: PAUL NOAKES)

Other biodiversity

Namosi is the best known site for the endemic Fijian Burrowing Snake (VU). A skink similar to the Turquoise Tree Skink, hitherto known only from Vanua Levu, has been recorded here.

Conservation

The IBA is threatened by logging and, in places, by mining. A large open-cast mine has been proposed in Namosi where the bedrock contains copper and gold ore in quantities which would make such a mine commercially viable if prices rise. Small-scale logging occurs in scattered places across the IBA. Much of the Garrick Memorial Reserve was illegally logged in the 1980s. The biggest problem with selective logging is creating access to invasive alien species, such as mongoose and Black Rats. Some natural forest has been clear-felled and planted with mahogany but this practice has been discontinued in recent years. Agriculture is expanding up the foothills in many areas. The Savura and Vago Forest Reserves act as a water catchment for Suva and have been protected from logging since 1963. One new conservation area has been proposed: the forest 200 m each side of the upper Navua river from Nabukelevu to Wainadiro is leased by Rivers Fiji and is awaiting designation as Fiji's first Ramsar site.

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WATLING D. *in litt.* 2005

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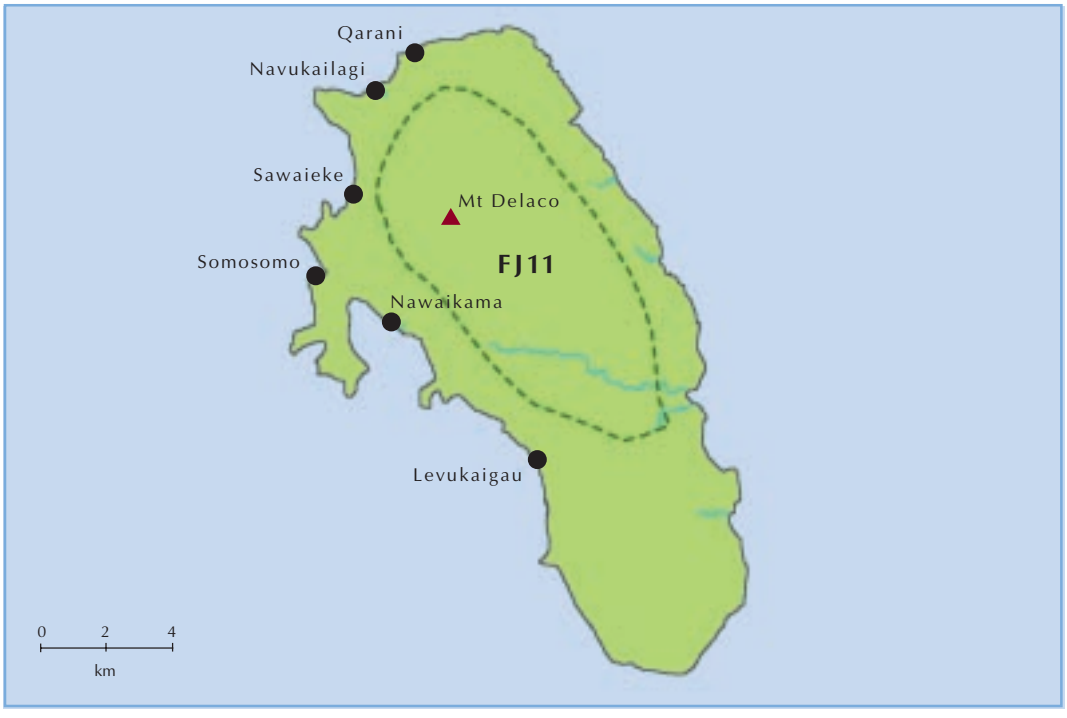
FJ11 GAU HIGHLANDS

Coordinates 18°1′S, 179°19′E (east of Viti Levu) **Area** 52 km² **Altitude** 0–738 m
Status Unprotected. Site of National Significance. Alliance for Zero Extinction site.
IBA Criteria A1 (globally threatened birds); A2 (restricted-range birds); A4ii (congregatory seabirds)



Summary

Gau is the only known breeding site of the Fiji Petrel (CR). The exact nesting areas are unknown but presumed to be in the forested hills and mountains of the island interior. This same area also has the largest known population of Collared Petrels (NT) and a number of endemic forest species.

Site description

The IBA covers the entire forested interior of the island. Gau is the fifth largest island in Fiji with a population of just 3,000 people subsisting on fishing and farming. The agricultural coastal fringe, with gardens extending up to 300 m, is excluded from the IBA. The IBA is lowland rainforest with stunted forest on ridge-tops and includes some of the world's lowest-altitude montane cloud forest on the high exposed slopes. The only maintained track in the hinterland provides access to a Telecom repeater tower situated just below Mt Delaco, the island's highest peak at 738 m.

Fiji Petrel *Pseudobulweria macgillivrayi*. (PHOTO: DICK WATLING)

Birds

A1 Globally threatened species
- **Fiji Petrel** (CR) – the only known breeding site for this species
- [Tahiti Petrel (NT) – has also been found ashore and is likely to breed]
- **Collared Petrel** (NT) – the only known breeding site (but several other sites are suspected)

A2 Restricted-range species
- 13 species (out of 36 in Fiji). See Appendix 2.

A4ii Congregatory seabird species
- **Fiji Petrel** – meets the threshold of >1 pair
- **Collared Petrel** – meets the threshold of >10 pairs

There are only a handful of records of Fiji Petrels in the world, all of single birds attracted to lights on Gau. Tens or hundreds of pairs of Collared Petrel constitute the only known breeding site of this species but several other islands are likely to support this poorly known species. Two subspecies, Island Thrush *T. p. hades* and Golden Whistler *P. p. vitiensis,* are endemic to Gau.

Other biodiversity

Gau is free of mongoose and supports good numbers of amphibians and reptiles including the Fijian Ground Frog (EN) and Banded Iguana (EN). Preliminary studies suggest that it has high numbers of endemic plants.

Conservation

Fiji Petrel conservation is likely to be dependent on controlling various invasive alien predators. Small petrels across the world are susceptible to predation at the nest by feral/introduced cats, pigs and rats, all of which are present throughout the forest on Gau. There appear to be no cliffs or inaccessible mountainous ledges on Gau where petrels could nest out of the reach of these predators. Research is urgently needed to locate the petrel nesting grounds, to monitor breeding success and the impact of these predators. Fortunately, Gau lacks mongoose but conservation action needs to include preventative measures to ensure that they do not colonise from nearby Viti Levu and Vanua Levu. The hill forests are not under extensive threat of clearance or degradation but subsistence gardens are slowly encroaching uphill and there are reports of villagers finding newly dug burrows within their gardens. These burrows are likely to be made by Wedge-tailed Shearwaters, not Fiji Petrels. Shifting cultivation leaves grassland fallows which are at risk from uncontrolled fire which can damage adjacent forest. Agricultural activities are slowly increasing as the population increases, and as some restrictions are placed on harvesting of marine resources. There may be potential for a low level of specialised ecotourism to cater for interested ornithologists as and when the Fiji Petrel nesting grounds have been located.

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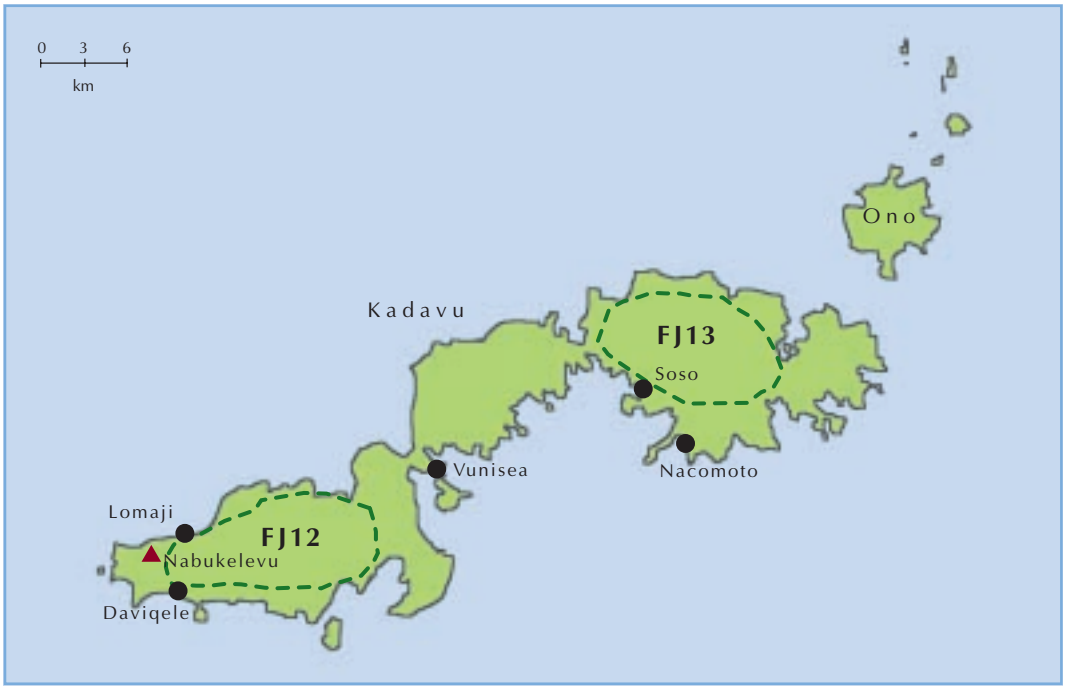
Forest, Gau. (photo: Moala Tokota'a/WCS)

FJ12 NABUKELEVU

Other names Mt Washington
Coordinates 19°7′S, 177°59′E (west Kadavu) **Area** 79 km² **Altitude** 0–805 m
Status Unprotected. Site of National Significance.
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)



Summary

Nabukelevu is the highest mountain on Kadavu and the largest area of montane forest in west Kadavu. It holds the four bird species endemic to Kadavu, and may still support nesting colonies of threatened seabirds. The lower slopes have been largely cleared for agriculture but the top of the mountain remains untouched because of its rugged terrain and high rainfall.

Site description

Nabukelevu is a spectacular isolated mountain rising steeply from the sea in west Kadavu. Its name is said to mean 'giant yam mound', an accurate description of this steep-sided massif. It is an andesitic volcanic lava dome which last erupted in the Holocene. Many of the lower slopes have been cleared for agriculture and the IBA boundary starts at the lower boundary of the forest on the west, south and east. To the north, the IBA extends down to the sea as this very steep slope supports little human activity and may be important for nesting seabirds. Nabukelevu is the only area in west Kadavu that retains extensive old-growth forest but scattered, mostly degraded, forest extends east to connect it to the old-growth forests close to Vunisea. The north slope of Nabukelevu and some upper reaches of the west and south slopes are dominated by scrubby forest on boulder-strewn steep slopes, which is probably climax vegetation for these slopes which are susceptible to land-slides. The mid-altitudes on the west, south and east slopes have old-growth lowland rainforest. This is of higher stature on flatter land but much of the area is steep and any flatter areas at lower altitude have been cleared for agriculture. The plateau and the steep upper slopes are low-stature montane forest, which show no sign of human activity except for a rarely used trail to a summit clearing. The mountain

Clearing.
(PHOTO: GUY DUTSON/BIRDLIFE)

is usually shrouded in cloud and receives a high level of rainfall. Nabukelevu is under traditional ownership of local people. Daviqele, the chief village of the Nabukelevu *Tikina*, owns the south slope, Nabukilevuira owns the west side, and Lomati owns the north-eastern side and the summit, including the only trail to the top.

Birds

A1 Globally threatened species

- [Polynesian Storm-petrel (VU) – one breeding record in September 1876; current status unknown]
- **Kadavu Shining Parrot** (VU) – common in adjacent agricultural land, probably nesting in the IBA
- [Collared Petrel (NT) – many hundreds breeding in 1925; current status unknown]
- **Whistling Dove** (NT) – fairly common at lower altitudes
- **Kadavu Fantail** (NT) – common, especially at lower altitudes

A2 Restricted-range species

- 15 species (out of 18 on Kadavu and 36 in Fiji), including all four endemic to Kadavu. See Appendix 2.

[A4ii Congregatory seabird species

- **Collared Petrel** – may meet the threshold of >10 pairs]

Nabukelevu is the only known nesting site in Fiji for the Polynesian Storm-petrel and one of a handful of sites for the Collared Petrel but the current status of these species is unknown (none were seen during the BirdLife survey). It supports all the four species and eight subspecies endemic to Kadavu, including good numbers of Kadavu Honeyeaters and probably the largest population of the montane Island Thrush subspecies *T. p. ruficeps*. Current breeding colonies of seabirds on the headland west of Davigele and other rocky headlands are thought to be Wedge-tailed Shearwaters not Collared Petrels. Two other globally threatened species that occur on Kadavu, Friendly Ground-dove (VU) and Black-faced Shrikebill (VU), are likely to occur in small numbers in old-growth forest at lower altitudes.

Kadavu Fantail *Rhipidura personata*.
(PHOTO: GUY DUTSON/BIRDLIFE)

Other biodiversity

Nabukelevu is believed to support several species of plants endemic to the mountain itself as the high montane plateau is unique within Kadavu. Its herpetofauna and other biodiversity are poorly known.

Conservation

There are two main threats to Nabukelevu's birds: clearance of lower altitude forest for agriculture, and predation by invasive alien mammals. With increasing human population pressure, there is slow ongoing clearance of forest for agricultural land. People are being forced to walk further to their gardens and would welcome help to improve the productivity of land closer to the villages which should reduce the pressure for further clearance. Alternative income activities such as promoting tourist treks to the summit could help to demonstrate an economic reason for conserving the forest and its birds and relieve the agricultural expansion. It is unlikely that the limited human pressure will impact on the steep slopes and summit. However, there is evidence of feral cats on the summit and they are likely to predate any ground-nesting seabirds, notably Polynesian Storm-petrel and Collared Petrel. These seabirds urgently require surveying and may need protection against cats and other invasive alien mammals. Kadavu Shining Parrots may be affected by the collection of nestlings for local use as pets. An investigation into the numbers collected and destinations for any traded birds should be undertaken across Kadavu.

References

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CORREIA (1925) Whitney South Sea expedition diary O: 1 (in American Museum of Natural History). Unpublished.

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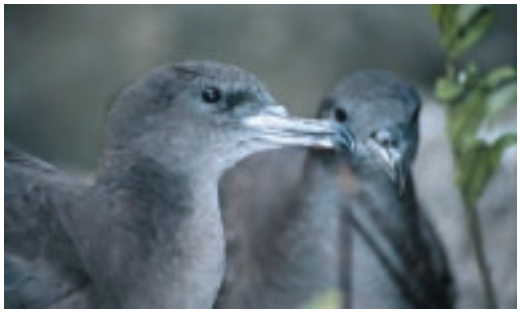
WRIGHT, S. AND CABANIUK, S. (1996) Towards an Integrated Environmental Conservation and Tourism Development Plan for Kadavu Province. Suva: Native Lands Trust Board. Unpublished Report.

Wedge-tailed Shearwater *Puffinus pacificus*.
(PHOTO: JAMES MILLETT)



FJ13 EAST KADAVU

Other names Mt Biloniyaqona; Mt Challenger
Coordinates 18º59′S, 178º22′E (east Kadavu) **Area** 78 km² **Altitude** c.100–634 m
Status Unprotected
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)

Summary

East Kadavu has the largest area of old-growth forest in Kadavu including extensive areas of lowland rainforest. It supports the largest populations of the four bird species endemic to Kadavu, and probably also nesting colonies of Collared Petrels (NT).

Site description

Extensive forests remain in east Kadavu but many have been logged, encroached by agriculture or burned. The East Kadavu IBA is the largest block of old-growth lowland and lower montane forest on the island. The terrain is rugged and includes the second and third highest peaks on Kadavu, Mt Niabutubutu at 634 m and Mt Biloniyaqona. The higher peaks and steeper slopes support montane forest, sometimes with long slender *kiki* reeds on the highest peaks. This slowly merges into lowland rainforest across most of the IBA. Forest at the lowest altitudes is dryer, becoming semi-deciduous forest in the driest areas along the north coast, but most of this has been extensively degraded. The IBA is bounded by degraded, mostly logged forest with some agricultural incursions. Old-growth forests extend down to 100 m in some places, but only to 400 m elsewhere.

Birds

A1 Globally threatened species
- **Friendly Ground-dove** (VU) – uncommon
- **Kadavu Shining Parrot** (VU) – common
- [Collared Petrel (NT) – reported to breed but unconfirmed]
- [Black-faced Shrikebill (VU) – likely to occur in small numbers]

Friendly Ground-dove *Gallicolumba stairi*.
(PHOTO: GUY DUTSON/BIRDLIFE)

- **Whistling Dove** (NT) – common
- **Kadavu Fantail** (NT) – common

A2 Restricted-range species
- 16 (out of 18 on Kadavu and 36 in Fiji), including all four endemic to Kadavu. See Appendix 2.

[A4ii Congregatory seabird species
- **Collared Petrel** – may meet the threshold of 10 pairs]

Other biodiversity

East Kadavu has not been surveyed for other biodiversity. The lowland dry forests are likely to support species not occurring at Nabukelevu, the other IBA on Kadavu.

Conservation

The main threat to East Kadavu's birds is forest degradation by logging, fire and agricultural expansion. The IBA is neither protected nor clearly defined from the large areas of degraded forest in east Kadavu, enabling easy encroachment from the logged forests and agriculture around the IBA. This erosion of the main forest block may accelerate if the area attracts infrastructural development such as more tourism facilities and a proposed airstrip. As elsewhere in Fiji, logging roads allow increased access into the forest by invasive alien mammals. Cats are likely to predate Collared Petrel eggs and chicks, and rats are likely to predate various tree-nesting species. People report the continuing traditional practice of harvesting Collared Petrels for food. Research should be undertaken to confirm the species, and assess whether harvest rates are sustainable. Kadavu Shining Parrots may be affected across the island by the collection of nestlings for local use as pets. Finally, Kadavu is the second-largest island in Fiji free of mongoose (after Taveuni); mongoose colonisation is perhaps the greatest threat to its birds. There are currently no conservation activities in east Kadavu but conservation of a large tract of old-growth forest as a sustainable resource for the land-owning communities should be included in any island-scale planning, alongside actions to prevent the arrival of mongoose.

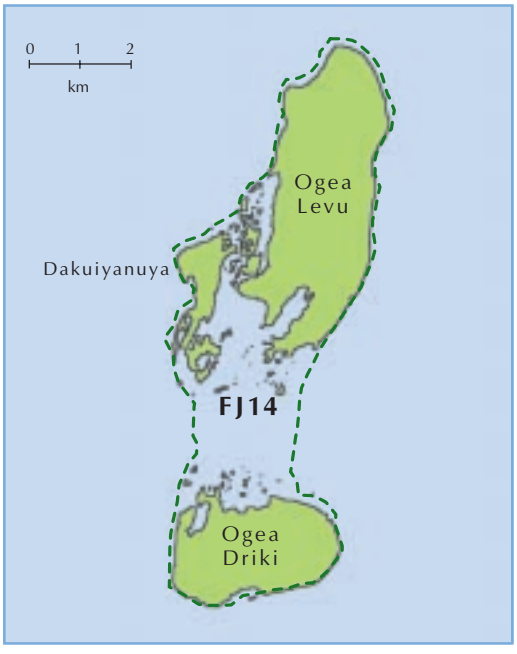
References

BIRDLIFE INTERNATIONAL Fiji Programme IBA project field report No. 43.

CORREIA (1925) Whitney South Sea expedition diary O: 1 (in American Museum of Natural History). Unpublished.

FJ14 OGEA

Coordinates 19°11′S, 178°25′E (Lau group in south-east Fiji) **Area** 20 km² **Altitude** 0–91 m
Status Unprotected. Site of National Significance.
IBA criteria A1 (globally threatened birds); A2 (restricted-range birds)



Ogea Monarch *Mayrornis versicolor*.
(ILLUSTRATION: DICK WATLING)

Summary

This IBA covers the world range of the Ogea Monarch (VU) which inhabits forest on three small islands. It is a remote and poorly known island group, and the threats and possible conservation work for the IBA and the Ogea Monarch need research.

Site description

The IBA covers the entire range of the Ogea Monarch: the two principal islands of Ogea, Ogea Levu and Ogea Driki (13 km² and 5 km² respectively, 2 km apart), and the smaller island of Dakuiyanuya (immediately adjacent to Ogea Levu). In 1986, the islands were estimated to have a total population of *c*. 2,000 people who subsist on farming and fishing. These are raised coralline islands which retain extensive forest as the soil is too poor for commercial agriculture or coconut plantations. Less than 10% was estimated to have been cleared for subsistence agriculture. The remaining land is old-growth forest which varies in structure depending on the substrate and is stunted in higher land exposed to the south-east trade-winds. As the threats to this species are likely to be threats to the whole island group, the entirety of the islands are included in the IBA.

Birds

A1 Globally threatened species

- **Ogea Monarch** (VU) – entire world population

A2 Restricted-range species

- 11 species (out of 36 in Fiji), including the **Blue-crowned Lory** which is not in any other Fiji IBA. See Appendix 2.

This IBA has six endemic subspecies which are restricted to the Lau group or other small islands in the south of Fiji and are not included in any other IBAs (Appendix 5). The Blue-crowned Lory is also restricted to the South Lau group within Fiji but is more widespread around Tonga and Samoa.

Other biodiversity

No surveys have been undertaken.

Conservation

The threats to the Ogea Monarch are poorly known but it may be threatened by chance catastrophic events (such as cyclones), predation and other impacts of invasive alien species, and hybridisation with the closely related Slaty Monarch which also occurs on Ogea. Research is needed on the potential impacts of alien species such as feral cats and Black Rats. The proportion of birds showing plumage features of Slaty Monarch does not appear to have increased, suggesting that hybridisation is not a new or increasing threat. The threat from habitat loss is low as it is (currently) uneconomic to clear the forest, and it appears that this species prefers degraded or

successional forest. Ornithologists have visited the island on three occasions (in 1924, 1986 and 2004) and the population was estimated at approximately 2,000 birds in 1986. Some basic monitoring of this species is required, but all work is confounded by the difficulty of finding transport to this isolated island.

References

HOBCROFT, D. *in litt*. 2005

MAYR, E. (1933) Birds collected during the Whitney South Sea Expedition. XXV. Notes on the genera *Myiagra* and *Mayrornis*. *American Museum Novit.* 651.

WATLING, D. (1988) Notes on the status and ecology of the Ogea Flycatcher *Mayrornis versicolor*. *Bulletin of the British Ornithologists Club* 108: 103–112.

POSSIBLE ADDITIONAL IBAS

The following three sites may qualify as IBAs if further surveys confirm populations of key threatened birds.

Serua

The extensive lowland and upland forests west of the Viti Levu Southern Highlands IBA are heavily logged and have many further logging concessions. No bird surveys have been undertaken. A possible site for Red-throated Lorikeet (CR) and Long-legged Warbler (EN) and likely to support most of Viti Levu's Vulnerable and range-restricted (endemic) species. However, the extensive and ongoing forest degradation reduces the importance and long-term viability of the site.

Ovalau

The forests above about 200 m on Ovalau island are largely old-growth but with evidence of historical inhabitation and degradation. A Friendly Ground-dove (VU) was recorded on recent surveys (BirdLife International Fiji Programme IBA project field reports Nos 17 and 28), and Black-faced Shrikebill (VU) has been reported historically. The hills are a historical nesting site for Collared Petrel (NT) (Watling 1986) but no evidence of this species was found during a recent survey. There are unconfirmed recent reports of Red-throated Lorikeet (CR) and Long-legged Warbler (EN). Ten specimens of Red-throated Lorikeet were taken on the island between 1875 and 1887 (Swinnerton and Maljkovic 2002). [Swinnerton, K. and Maljkovic, A. (2002) The Red-throated Lorikeet Charmosyna amabilis in the Fiji Islands. Suva: National Trust for Fiji and World Parrot Trust. Unpublished report. Watling, D. (1986) Notes on the Collared Petrel *Pterodroma (leucoptera) brevipes*. *Bulletin of the British Ornithologists Club* 106: 63–70.]

Vanuabalavu

The upland forest on this small island is a historical nesting site for Collared Petrel (NT) (Watling 1986) but there have been no recent surveys. [Watling, D. (1986) Notes on the Collared Petrel *Pterodroma (leucoptera) brevipes*. *Bulletin of the British Ornithologists Club* 106: 63–70.]

GAPS AND REPRESENTATION

The IBA network effectively covers its target species: all the known populations of the two CR and one EN species and >40% of the populations of the eight VU, six NT and 36 endemic/range-restricted species are protected in these IBAs. (This is based on the total area of IBAs approximating to 39% of the total forest area using FAO (2005) figures or 41% of the area of 'dense' and 'medium-dense' natural forest on the main islands listed in Table 1.)

Two exceptions are the range-restricted Crimson-crowned Fruit-Dove, which occurs in only two IBAs (Rotuma and Ogea) and Blue-crowned Lory, on only one IBA (Ogea). No additional IBAs are proposed for these species as they are common in other countries but only just extend into Fiji, where they occur on small islands with little other bird conservation interest. Moreover, both species are tolerant of degraded forest, probably move between islands, and are best conserved by activities at the national or archipelago level, not at the site or IBA level.

More survey work is needed for the three CR and EN species (Fiji Petrel, Red-throated Lorikeet and Long-legged Warbler), and any new populations should be protected as new IBAs or extensions to existing IBAs. Additional sites known to support VU and NT species are generally extensively logged, otherwise degraded, or too small to support viable populations. It is unknown whether these birds are breeding 'sustainably' in logged forest with its networks of logging roads, increased numbers of invasive alien species and patches of cultivation as well as the damaged habitat.

Only one site qualifies as an IBA based on the number of congregatory birds. Fiji does have large numbers of nesting seabirds but most colonies are not globally significant in comparison with the vast numbers of the same species in Polynesia, the Coral Sea and the Indian Ocean. Vatu-i-Ra is the only known site exceeding the threshold of 1% of the population of a waterbird or seabird – here the Black Noddy. The next closest candidate sites for seabirds are Namenalala, where 1,000 pairs, and Yabu, where >300 pairs of Red-footed Boobies have been counted (Clunie 1985; Tarburton 1978), significantly short of the qualifying threshold of 1,500 pairs. Similarly, most of Fiji's waterbirds do not occur in globally significant numbers. The closest candidate site, the Suva Point mudflats, regularly supports 150 Wandering Tattlers (Watling, D. *in litt.* 2005), for which the qualifying threshold is 250 birds. [Clunie, F. (1985) Seabird nesting colonies of the Ringgold Islands. *Domodomo* 3: 90–109. Tarburton, M. K.

Wandering Tattler.
(PHOTO: K. VANG AND W. DABROWKA/BIRD EXPLORERS)

(1978) Some recent observations on seabirds breeding in Fiji. *Notornis* 25: 303–316.]

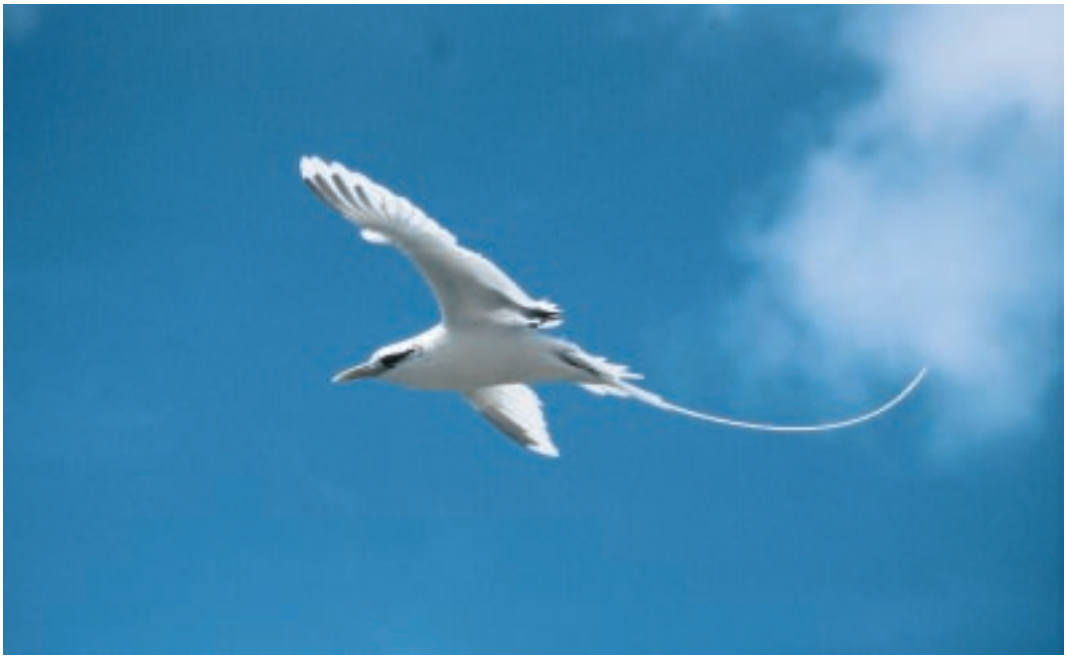
Fiji's non-forest birds are poorly conserved by the IBA network because none are of global conservation importance. Seabird, shorebird, wetland and grassland birds are poorly represented, and some may not occur in any IBAs, e.g. the White-faced Heron and Mangrove Heron. Most of these species are widespread and some are introduced, including the Java Sparrow, which is categorised as Vulnerable in its native country of Indonesia, but no IBAs have been identified for its introduced population on Fiji. Seabirds are well represented and waders (shorebirds) are partially represented in the Sites of National Significance (see below).

Other Sites of National Significance

Sites which do not qualify as global IBAs may still be of regional or national importance for bird conservation. The IBA process could be extended for use at a regional or national level but it is clearer to use the 'IBA' label only for sites of global importance. Sites of Fijian importance are best proposed as 'Sites of National Significance' (SNS) as this is a term already used by the Fiji government. The Fiji BSAP has a preliminary register of SNS, many of which were nominated because of their birds, or have significant bird populations. All IBAs are already designated as SNS, except for the Wailevu/Dreketi Highlands IBA, Viti Levu Southern Highlands IBA and East Kadavu IBAs which contain extensive areas outside SNS. No new SNS were identified during the project but it is noted that several endemic bird subspecies are not covered by either IBAs or SNS (Appendix 5). The following SNS were listed for their bird conservation importance but do not qualify as *global* IBAs.

- *Seabird colonies:* Vatu-i-Lami, Mubulau, Namenalala, Cikobia, Nukubasaga, Nukusimanu, Vetaua, Yabu, Sovu, Wailagilala Atoll, Naiabo, Vanuamasi, Reid Reef, Lateviti, Kibobo Island, Nuku Cikobia, Vekai Island, Nukusoge, Yagasa Levu Island, White Rock, Kadomo Island, Monoriki Island, Vatu-i-Ra, Nanuyaira Island and Vunivadra Island
- *Migratory waders:* Suva Point and Saweni flats
- *White-browed Crake:* Naulu Lokia Swamp.

White-tailed Trpicbird *Phaethon lepturus*. (PHOTO: JAMES MILLETT)



Fiji's other threatened biodiversity

The Critically Endangered Crested Iguana *Brachylophus vitiensis*. (PHOTO: TIM LAMAN)

The 2004 IUCN Red List of Threatened Species (www.redlist.org) lists 170 globally threatened species in Fiji:

- 17 bird species, as listed in Table 5.
- 3 turtles, 2 iguanas, 1 snake, 1 frog, 4 bats and the Coconut Crab – some are known well enough to designate Key Biodiversity Areas for most species
- 50 marine species – these are mostly widespread hunted species (e.g. whales, sharks and tuna) but the status of most coral reef species, including species endemic to Fiji, is poorly known
- 90 plants – this number is likely to be greatly under-estimated as plants are so poorly known; about 63% of Fiji's 1,600 native plant species are endemic to Fiji, and many are likely to be threatened.

Ideally, conservation plans would be based on these species as well as birds. Key Biodiversity Areas or Sites of National Significance could be identified for some the few species with adequate data (e.g. iguanas, Fiji Ground Frog, some bat colonies, some plants). The IBA network is likely to include populations of most of the other terrestrial species but much more basic survey work is needed.