

Province VI
NORFOLK-LORD HOWE-KERMADEC

Norfolk Island, nearby Philip Island, and the Coral Sea Island Territory are Australian External Territories, while Lord Howe Island is part of the Australian state of New South Wales. The Kermadec Islands come under New Zealand.

These islands and reefs on the fringes of Oceania share some characteristics both with their more tropical neighbors and with the countries to which they are politically attached.

TERRITORIES OF AUSTRALIA

255- Norfolk Island

Area 36 (34.5) sq. km Altitude 319 m

Island type: raised undulating platform of weathered volcanic material and small amount of limestone surrounded by cliffs.

Natural threats: cyclones possible

Human impact: pop. 1,849 (1981); most original forest cleared for settlement, much of the remainder cut over or disturbed; introduced species.

Ecosystems: subtropical rain forest with mixed hardwoods, palm/hardwood forest above 200 m, palm/tree fern forest along gulleys, and scattered patches of Araucaria heterophylla; scrub and grassland; small offshore coral patches.

Special features: seabird rookery

<u>Endemism:</u>	Total sp.	No. endemic	% endemic	E	VR
Plants	174	4850	28%	11(5)	35
Insects					
Other invert.					
Rept-Amph.	0				
Birds	21	5	24%	4(5)	
Mammals	2	2	100		
Marine life					

Species of conservation interest

Plants

10 endemic ferns:

Lastreopsis calantha (Aspidiaceae) endemic, Vulnerable

Asplenium dimorphum (Aspleniaceae) endemic, Vulnerable

Asplenium stipitatum (Aspleniaceae) endemic, Extinct

Blechnum norfolkianum (Blechnaceae) doubtful endemic, Vulnerable

Cyathea australis norfolkensis (Cyatheaceae) endemic, Vulnerable

Cyathea brownii (Cyatheaceae) endemic, Vulnerable

Hypolepis dicksonioides (Dennstaediaceae) endemic, Endangered

Pteris brunoniana (Pteridaceae) endemic, Vulnerable

Pteris kingiana (Pteridaceae) endemic, Vulnerable

Tmesipteris forsteri (Tmesipteridaceae) endemic, Vulnerable

1 endemic gymnosperm:

Araucaria heterophylla (Norfolk Island Pine) endemic, Vulnerable

37 endemic flowering plants:

Achyranthes arborescens (Amaranthaceae) endemic, Endangered

Crinum norfolkianum (Amaryllidaceae) endemic, Vulnerable

Alyxia gynopogon (Apocynaceae) endemic, Vulnerable

- Melodinus baueri (Apocynaceae) endemic, Vulnerable
Meryta angustifolia (Araliaceae) endemic, Vulnerable
Meryta latifolia (Araliaceae) endemic, Endangered
Capparis nobilis (Capparaceae) endemic, Vulnerable
Carex neesiana (Cyperaceae) endemic, Vulnerable
Euphorbia norkkiana (Euphorbiaceae) endemic, Endangered
Euphorbia obliqua (Euphorbiaceae) endemic, Endangered
Panicum norkkianum (Gramineae) endemic, Extinct
Pennantia endlicheri (Icacinaceae) endemic, Endangered
Cordyline oblecta (Liliaceae) endemic, Vulnerable
Korthalsella disticha (Loranthaceae) endemic, Vulnerable
Abutilon julianae (Malvaceae) endemic, Extinct on Norfolk, recently rediscovered on Philip
Dysoxylum patersonianum (Meliaceae) endemic, Vulnerable
Bulbophyllum argyropus (Orchidaceae) endemic, Endangered
Dendrobium brachypus (Orchidaceae) endemic, Vulnerable
Dendrobium macropus (Orchidaceae) endemic, Vulnerable
Oberonia titania (Orchidaceae) endemic, Endangered
Phreatia limenophyllax (Orchidaceae) endemic, Vulnerable
Rhopalostylis baueri (Palmae)(Norfolk Island Cabbage Palm) endemic, Vulnerable
Freycinetia baueriana baueriana (Pandanaeae) endemic subspecies, Vulnerable
Pittosporum bracteolatum (Pittosporaceae) endemic, Vulnerable
Clematis coccuifolia (Ranunculaceae) doubtful endemic, Vulnerable
Coprosoma baueri (Rubiaceae) endemic, Vulnerable
Coprosoma pilosa (Rubiaceae) endemic, Vulnerable
Euodia littoralis (Rutaceae) endemic, Vulnerable
Ungeria floribunda (Sterculiaceae) endemic, Indeterminate
Wikstroemia australis (Thymelaeaceae) endemic, Vulnerable
Boehmeria australis (Urticaceae) endemic, Vulnerable
Elatostema montanum (Urticaceae) endemic, Endangered
Melicytus latifolius (Violaceae) endemic, Endangered
Melicytus ramifloris oblongifolius (Violaceae) endemic subspecies, Vulnerable
Callistopteris bauerana (Hymenophyllaceae), Vulnerable
Tylophora biglandulosa (Asclepiadaceae), Vulnerable
Elaeodendron curtispiculum (Celastraceae), Vulnerable
Solanum bauerianum (Solanaceae), Endangered (Vulnerable elsewhere)

Insects

9 flies (Diptera) endemic to Norfolk and Lord Howe

Other invertebrates

Reptiles-amphibians

Birds

21 breeding land birds, including:

Cyanoramphus novaeseelandiae cookii (Norfolk Island Parakeet or Green Parrot) Endangered (RDB), population estimated at 17-30 in December 1978, captive breeding effort underway and rat control being considered.

Ninox novaeseelandiae undulata (Norfolk Island Boobook owl) endemic subspecies, Indeterminate, now reported endangered (1983).

Turdus poliocephalus poliocephalus (Gray-headed Blackbird, Island Thrush) endemic subspecies, Endangered (RDB), less than 50 on Mt. Pitt in 1969, not seen since 1975.

Zosterops albogularis (white-breasted white-eye or Silver-eye) endemic, critically Endangered (RDB).

Zosterops tenuirostris (Slender-billed White-eye) endemic, forest and scrub.

many endemic land birds now extinct

Mammals

Tadarida norfolkensis (Norfolk Island Free-tail Bat) endemic (one specimen from 1839)

Chalinolobus gouldii (Gould's Wattled Bat) endemic?

Marine life

Protected Area

Norfolk Island National Park

457 ha

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 1

Economic pressure 1

Human threat 1

Natural vulnerability 1

Practicality of conservation action 3

Reliability of data 3

Human Impact 3

Conservation Importance 35

Nepean Island

Area sq. km Altitude 32 m

Island type: limestone islet

Natural threats:

Human impact: uninhabited

Ecosystems: grassland; fringing reef

Special features: seabird rookery; native gecko Phyllodactylus guentheri

✓ Philip Island

Area 2.6 sq. km Altitude 280 m

Island type: precipitous volcanic remnant

Natural threats:

Human impact: vegetation destruction and erosion by introduced feral animals

Ecosystems: formerly forest and scrub; fringing reef

Special features: formerly feral pigs, goats and rabbits, but control measures nearly complete; seabird rookery

Endemism: Total sp. No. endemic % endemic E. VRI

Plants 3 1(2)

Insects

Other invert.

Rept-Amph. 1

Birds

Mammals

Marine life

Species of conservation interest

Plants

Hibiscus insularis (Malvaceae) endemic, Endangered (RDB)

Abutilon julianae (Malvaceae) believed Extinct, recently rediscovered

Streblorrhiza speciosa (Leguminosae) (Philip Island Glory Pea) endemic genus, Extinct (RDB)

Agropyron kingianum (Gramineae) endemic, Extinct, last seen in 1912

Insects

Other invertebrates

Reptiles-amphibians

Phyllodactylus quentheri gecko endemic to Phillip, Nepean, and Lord Howe

Birds

Mammals

Marine life

Ratings

Natural conservation status 1

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 0

Natural vulnerability 1

Practicality of conservation action 3

Reliability of data 2

Human Impact 0

Conservation Importance 15

Middleton Chain

Middleton Reef

Ring of coral with lagoon, rubble bank with seabirds; being considered as marine reserve.

Elizabeth Reef

Ring of submerged coral, one sand islet (3 m) with seabirds; being considered as marine reserve.

✓ Lord Howe

including Ball's Pyramid (554 m), and nearby islands and rocks

Area total 15.4 sq. km, Lord Howe 14.6 sq. km Altitude 875 m

Island type: eroded volcanic with 2 peaks, Mt. Gower (875 m) and Mt. Lidgbird (777 m) and some sedimentary deposits.

Natural threats:

Human impact: inhabited; tourism important; less than 20% of vegetation disturbed.

Ecosystems: lowland rain forest below 460 m in north with Drypetes and Cyrtocarya, and below 530 m in south with Cleistocalyx and Chionanthus; palm forest on coral sandstone and basalt below 300 m with Howea; palm forest with Hedyscepe on Mount Gower and Mount Lidgbird, pure stands above 610 m and mixed down to 335 m; montane rain forest on summit plateau of Mount Gower above 760 m; scrub and grasslands; tiny mangrove areas in creeks; shallow lagoon (1-2 m) to west with coral reefs offshore built largely by coralline algae, 2 passes (CRD).

Special features: considerable endemism, many species threatened or with restricted distribution; world's most southerly coral reef; seabird rookery.

<u>Endemism</u> :	Total sp.	No. endemic	% endemic	E	VRI
Plants	219	75	33%	2	75
Insects		69	50%		
Other invert.		62			
Rept-Amph.	2	2	100%		
Birds	120	4	3%	2(1)	
Mammals	1				
Marine life	477	19	4%		

Species of conservation interest

Plants

- 379 vascular plant taxa, of which 219 are native
 48 native ferns including 18 endemic ferns: 14 Rare species and:
Cyathea brevipinna (Cyatheaceae) endemic, Vulnerable
Cyathea howeana (Cyatheaceae) endemic, Vulnerable
Marattia salicina subsp. nov. (Marattiaceae) endemic subspecies,
 Endangered.
Leptopteris moorei (Osmundaceae) endemic, Vulnerable
 171 flowering plants, including 57 endemics: 44 rare species and:
Corokia carpodetoides (Cornaceae) endemic, Indeterminate
Lepidium howei-insulae (Cruciferae) endemic, Vulnerable
Elaeocarpus costatus (Elaeocarpaceae) endemic, Indeterminate
Negria rhabdanthoides (Gesneriaceae) endemic genus, Rare
Cryptocarya gregsonii (Lauraceae) endemic, Indeterminate
Carmichaelia exsul (Leguminosae) endemic, Vulnerable
Rapanea mcomishii (Myrsinaceae) endemic, Vulnerable
Dendrobium moorei (Orchidaceae) endemic, Vulnerable
Plectorrhiza erecta (Orchidaceae) endemic, Vulnerable
Hedyscepe canterburyana (Palmae) endemic genus, Vulnerable
Howea belmoreana (Palmae) endemic genus, Rare
Howea forsteriana (Palmae) endemic genus, Rare
Lepidorrhachis mooreana (Palmae) endemic genus, Rare
Passiflora herbertiana insulae-howeii (Passifloraceae) endemic
 subspecies, Endangered
Melicytus novae-zelandiae centurionis (Violaceae) endemic subspecies,
 Vulnerable
Bubbia howeana (Winteraceae) endemic, Rare
Dietes sp. endemic, nearest relatives in southern Africa
Chionochoa conspicua (Poaceae) endemic subspecies restricted to
 one clump

Insects

- 5 endemic flies (Diptera) plus 9 endemic to Lord Howe and Norfolk
Dryococoelus australis (Lord Howe Phasmid) endemic, extinct on Lord
 Howe but still on Ball's Pyramid
 Over 100 species of spider of which 50% probably endemic
 3 endemic genera and 12 species of terrestrial isopod
 endemic talitrid amphipod from the top of Mount Gower

Other invertebrates

- over 50 endemic species of land snails, including:
 9 endemic species and 16 subspecies of Hydrobiidae
Placostylus bivaricosus (giant land snail) some forms extinct but two
 colonies maintaining their numbers
Halicarcinus lacustris (freshwater crab)
Paratya (Xiphatyoida) howensis endemic freshwater prawn
 1 endemic leech
 10 endemic species of earthworms

Reptiles-amphibians

- Leiopisma lichenigera endemic skink, threatened on Lord Howe
 but common on smaller islands
Phyllodactylus guentheri endemic gecko, threatened on Lord Howe
 but common on outer islands and Phillip Island near Norfolk

Birds

Pterodroma solandri (Providence or Solander's Petrel) endemic
Tricholimnas sylvestris (Lord Howe Wood Rail) endemic, Endangered (RDB), 30 birds remain on Mount Gower summit
Zosterops tephroleuca (Lord Howe Silvereye) endemic?
Pachycephala pectoralis contempta (Lord Howe Golden Whistler) endemic subspecies
Strepera graculina crissalis (Lord Howe Pied Currawong) endemic subspecies, Endangered (RDB), 30-50 remained in 1974.
1 extinct subspecies: Turdus poliocephalus vinitinctus

Mammals

Eptesicus sagittula (large forest bat) only indigenous mammal

Marine life

57 coral species in 33 genera, 2 species undescribed
477 fish species in 107 families, of which 4% endemic to Norfolk - Middleton Reef - Lord Howe waters
Chaetodon tricinctus endemic
Pterois volitans (Lionfish) protected

Protected area

Designated World Heritage Site (1982)
Lord Howe Island Park and Preserve (II, X) 800 ha

Ratings

Natural conservation status 0
Ecosystem richness 2
Species richness 2
Economic pressure 2
Human threat 1
Natural vulnerability 0
Practicality of conservation action 4
Reliability of data 3
Human impact 4
Conservation Importance 46

Coral Sea Islands Territory

Coringa Islets, Herald Cays, Magdelaine Cays

Area sq. km Altitude m
Island type: low coral islets and cays on coral reefs
Natural threats: cyclones
Human impact: occasional tourist visits, fishing
Ecosystems: atoll forest with Pisonia, atoll scrub, coral reefs
Special features: seabird rookeries
Protected area

Coringa-Herald National Nature Reserve

Lihou Reef

Area sq. km Altitude m
Island type: horseshoe-shaped reef system with numerous small vegetated islets and sand cays.
Natural threats: cyclones
Human impact: occasional tourist visits, fishing, illegal taking of turtles and clams.
Ecosystems: atoll scrub; coral reefs with spectacular and unusual underwater topography.
Special features: seabird rookery; turtle nesting area
Protected area
Lihou Reef National Nature Reserve

Diamond Islets

Seabird rookery; turtle nesting area; proposed reserve

Tregrosse Reef

Seabird rookery; turtle nesting area; proposed reserve

Boat Reef

Isolated near-equatorial coral reef; proposed reserve

Ashmore Reef

Isolated near-equatorial coral reef; proposed reserve

✓ TERRITORIES OF NEW ZEALAND

Kermadec Islands

27 Raoul (Sunday)

Area 30 sq. km Altitude 516 m

Island type: volcanic with central crater, rich soil

Natural threats: volcanic eruptions, cyclones

Human impact: introduced plants and feral animals have had considerable impact; recent control measures.

Ecosystems: lowland dry forest with Metrosideros below 240 m; subtropical rain forest with Metrosideros kermadecensis and tree ferns; higher vegetation with tree ferns, palm Rhopalostylis and epiphytes; Myosporum scrub near coast. Tropical Freycinetia coastal zone, Freycinetia with Freycinetia

Special features: important seabird rookeries with 3 endemic seabirds; three lakes; active volcano (eruption 1964).

Endemism:	Total sp.	No. endemic	% endemic	E	VR1
Plants	113	23	20%	4(1)	2

Insects

Other invert.

Rept-Amph.

Birds 30 4

Mammals

Marine life ^{fish} 112 3

Species of conservation interest

Plants

195 vascular plant species, including 113 native species, 23 endemics

Doodia milnei (Blechnaceae) endemic, Rare

Cyathea kermadecensis (Cyatheaceae) endemic, endangered

Cyathea milnei (Cyatheaceae) endemic

Pseudopanax arboreus var kermadecensis (Araliaceae) endemic variety, Endangered

Senecio lautus var esperensis (Compositae) endemic variety, Rare

Homalanthus polyandrus (Euphorbiaceae) endemic, Endangered

Coprosma acutifolia (Rubiaceae) endemic, Endangered

Hebe breviflora (Scrophulariaceae) endemic, Endangered, one plant has been found

Boehmeria australis var dealbata (Urticaceae) endemic variety, Endangered

Lepidium oleraceum (Cruciferae) K, Vulnerable throughout range

Rorippa gigantea (Cruciferae) K, Vulnerable throughout range

Ipomoea pes-caprae ssp brasiliensis

Nephrolepis cordifolia rare

Christella dentata endangered

Insects

Other invertebrates
Reptiles-amphibians
Birds
Mammals
Marine life
Protected area

Kermadec Islands Nature Reserve

3342 ha

Ratings

(see annex proposal 1987)

Natural conservation status 1

Ecosystem richness 1

Species richness 1

Economic pressure 0

Human threat 0

Natural vulnerability 1

Practicality of conservation action 3

Reliability of data 2

Human Impact 0

Conservation Importance 24

Herald Isles

Meyer (12 ha with forest), Napier, Nugent, Dayrell, N., S. and W. Chanter islets off Raoul totalling 0.3 sq. km with abundant bird life and no introduced mammals.

202 Macauley 3,2
Area 3 sq. km Altitude 238 m

Island type: volcanic

Natural threats:

Human impact: feral goats ravaged vegetation before elimination in 1966;

Rattus exulans introduced.

Ecosystems: former forest replaced by grassland with occasional bushes

Special features:

Hazard

High rock (7 ha)

Curtis

Active volcano with fumaroles (0.5 sq. km); no introduced mammals.

Cheeseman (L'Esperance)

Barren rock with seabirds (5 ha; 136 m)

Province VII
FIJI

✓ FIJI (Independent state)

Land area 18,272 km² Sea area 1,290,000 km²
Population 671,712 (1983) Density 37 persons/km² Growth rate (est.) 2.0%/yr

The Fiji Islands form a complex group of high islands of volcanic and probably continental origin, with barrier reefs, atolls and reef islands, and raised coral islands and areas. The two largest islands of Viti Levu and Vanua Levu include 87% of the total land area. The high islands have distinct wet and dry sides.

Species of conservation interest

Plants

- ca. 1500 native vascular plant species, including 310 ferns, 40-50% endemic species, 1 endemic family and 11 endemic genera; about 1000 introduced flowering plants.
- 26 species of palms, all endemic (E:1, V:2, R:14, I:5)

Insects

- Total over 3,500 species
- 39 species of butterflies, including 7 only in Fiji
- Xois sesara (butterfly) endemic
- Papilio schmeltzii (butterfly) endemic

Other invertebrates

- high generic endemicity in land snails
- 3 Partulidae

Reptiles-amphibians

- 27 species, including 8 endemic species, 1 endemic genus (snake)
- ✓ Platymantis vitianus (Fiji Ground Frog) group endemic, K
- ✓ Platymantis vitiensis (Fiji Tree Frog) group endemic
- Brachylophus fasciatus (Banded Iguana), genus endemic to Fiji and Tonga, Vulnerable
- ✓ Brachylophus vitiensis (Crested Iguana) group endemic, Yadua Tabu and several localities in the Yasawa and Mamanuca groups, Endangered.
- Emoia concolor (Green Skink) endemic
- Emoia parkeri group endemic, Kadavu, Ovalau, Taveuni, Viti Levu
- Emoia sp. 'A', group endemic, Gau, Ovalau, Vatu Vara, Yadua Tabu
- Emoia sp. 'B', endemic
- Leiopisma n. sp., group endemic, southern Lau group

Birds

- Pterodroma brevipes (Gould's Petrel) endemic to Fiji, Viti Levu?
- Accipiter rufitorques (Fiji Goshawk) endemic to Fiji, common (1973)
- ✓ Ptilinopus victor (Orange Dove) endemic to Fiji
- ✓ Ptilinopus luteovirens (Golden Dove) endemic to Fiji
- ✓ Ptilinopus layardi (Whistling Dove) endemic to Fiji
- Ducula latrans (Peale's Pigeon) endemic to Fiji, common (1973)
- Phigys solitarius (Collared Lory) endemic to Fiji
- Chamosyna amabilis (Red-throated Lorikeet) endemic to Fiji
- ✓ Lamprolia victoriae (Silktail) ancient origin, endemic to Taveuni and Vanua Levu.
- Vitia ruficapilla (Fiji Warbler) endemic to Fiji, common (1973)

- ✓ Trichocichla rufa (Long-legged Warbler) endemic genus, Viti Levu and Vanua Levu, Endangered (RDB) or indeterminate.
Rhiphidura spilodera (Spotted Fantail) endemic to Fiji, common (1973)
Myiornis lessona (Slaty Flycatcher) endemic to Fiji, abundant (1973)
 ✓ Myiagra azurecapilla (Blue-crested Broadbill) endemic to Fiji, common (1973).
Zosterops explorer (Layard's White-eye) endemic to Fiji, abundant (1973).
Myzomela jugularis (Orange-breasted Honeyeater) endemic to Fiji, abundant (1973).
Gymnomyza viridis (Giant Forest Honeyeater) endemic to Fiji, common (1973).
Erythrura pealii (Fiji Parrot Finch) endemic to Fiji
 5 extinct species of birds

Mammals

Marine life

Tridacna gigas (Giant Clam) now rare or locally extinctHippopus hippopus (Giant Clam) now rare or locally extinctRotuma Group✓ RotumaArea 44 sq. km Altitude 256 mIsland type: volcanicNatural threats: cyclones, volcanic eruptionsHuman impact: pop. 2800 (1980), density 64 persons/km²; coconut plantations and agricultureEcosystems: some pockets of lowland rain forest; fringing reefSpecial features: hot wet climateEndemism: Total sp. No. endemic % endemic E VRI

Plants

Insects

Other invert.

Rept-Amph. 1

Birds 1

Mammals

Marine life

Species of conservation interest

Plants

Insects

Nacaduba samoensis (butterfly) endemic of concern

Other invertebrates

1 Partulidae

Reptiles-amphibians

Lepidodactylus gardineri (Rotuman Gecko) endemic

Birds

Myzomela chermesina (Rotuma Myzomela) endemic

Mammals

Marine life

RatingsNatural conservation status 0Ecosystem richness 0Species richness 2Economic pressure 0Human threat 2Natural vulnerability 1

Practicality of conservation action 0

Reliability of data 2

Human Impact 4

Conservation Importance 12

Uea

Volcanic cone (262 m), cliff bound without reef, less than 1 km²

Hatana

Volcanic island (18 m), forest

Hofliua

Volcanic island (58 m), cliff bound

Ringgold Isles

Vetauua (Veitauua, Korotuna)

Area sq. km Altitude m

Island type: low coral island on coral reef

Natural threats: cyclones

Human impact: visited occasionally

Ecosystems: atoll scrub and coconuts; coral reef

Special features: important seabird rookery (6 species, 4 breeding); potential protected area for seabirds.

Gelelevu (Nagelelevu)

including Gelelevu, Tauraria, Taininbeka

Area sq. km Altitude 18 m

Island type: atoll with 3 raised coral islets at western end, large lagoon with 3 passes.

Natural threats: cyclones

Human impact: small village; fishing

Ecosystems: atoll forest and scrub on islets, atoll reefs and lagoon

Special features: seabird rookery (6 species, 4 nesting)

Proposed protected area: recommended for protection in 1980 Park Plan

Ratings

Natural conservation status 1

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 1

Human Impact 1

Conservation Importance 11

Nukubasaga and Nukubalati (Nukupureti)

Area sq. km Altitude 21 m

Island type: coral reef with 2 rock bound islands, one large (21 m) and one small (3.2 ha, 8 m).

Natural threats: cyclones

Human impact: visited occasionally; proposed fish freezing station

Ecosystems: forest and coconuts, scrub, savanna; coral reefs

Special features: important seabird rookery; turtle nesting area; reserve recommended for seabirds.

Nukusemanu

Low coral islet on Nukusemanu Reefs, atoll scrub and coconuts; seabird rookery.

Budd Reef

Almost atoll with narrow barrier reef encircling deep (60-100 m) lagoon and islands.

Cobia (Thombia)

Circular breached volcanic crater rim (180 m, 1 km diameter) with steep slopes, rain forest.

Area 0.69 sq. km Altitude 173 m

Island type: circular breached volcanic crater rim (1 km diameter) with steep slopes, protected lagoon within crater.

Natural threats: cyclones

Human impact: recently introduced goat herd has stripped all undergrowth

Ecosystems: rain forest; mangrove fringe; fringing reef and lagoon

Special features: 15 land birds; Pteropus tonganus (Fruit Bat) colony, ca. 400; crater lagoon with rich marine life; severe habitat destruction by 150 feral goats.

Maqewa (Manggewa)

Volcanic (82 m), narrow and rocky; scrub

Yanuca (Yanutha)

Volcanic (137 m) with some forest and secondary growth, small village.

Yavu (Yabu, Iambu)

Volcanic (140 m, 113 m), thick rain forest, coconuts; uninhabited but some cultivation.

Raranitiqa (Raranitingga)

Flat volcanic islet; scrub, Pandanus and Casuarina

Tovuka

Volcanic islet, rugged (45 m); coconuts and scrub; goats causing erosion.

Nanuku Reef (Nanuka)

including Nanuku Levu, Nanuku Lailai

Area sq. km Altitude m

Island type: reef with sand islets

Natural threats: cyclones

Human impact: planted in coconuts

Ecosystems: coral reef

Special features:

Proposed protected area: recommended for protection in 1980 Park Plan

Vanua Levu GroupVanua Levu 5,535 1032

Area 5,535 sq. km Altitude 835 m

Island type: volcanic with some limestone; mountain chain creates wet (south) side and dry (north-west) side.

Natural threats: cyclones, earthquakes

Human impact: most forest cleared except in mountains and wetter areas

Ecosystems: lowland and montane rain forest types, some with sandalwood and Agathis vitiensis; grasslands; rivers and other freshwater habitats; mangroves; barrier and fringing reefs.

Special features: Vakalaca lake with "floating island" of vegetation; Salt Lake; introduced Herpestes auropunctatus (Mongoose) affecting ground birds.

Species of conservation interest

Plants

Insects

Other invertebrates

Herpestes auropunctatus (Mongoose) affecting ground birds. ✓

Reptiles-amphibians

- ✓ Platymantis vitianus (Fiji Ground Frog) group endemic, K
- ✓ Platymantis vitiensis (Fiji Tree Frog) group endemic

Birds

- ✓ Lamprolia victoriae kleinschmidtii (Silktail) endemic subspecies, low forest on south side of Natewa Peninsula, endangered, less than 100.
- ✓ Trichocichla rufa cluniei (Long-legged Warbler) endemic subspecies, Delanacau mountains, Endangered (RDB) or indeterminate.
- ✓ Prosepeia tabuensis (Red-breasted Musk Parrot) endemic to Fiji
- ✓ Ptilinopus victor (Orange Dove) endemic to Fiji

Mammals

Marine life

Protected areas

Koroutari Nature Reserve

18 ha

Vunimoli Nature Reserve

19 ha

Proposed protected areas: 1980 Parks and Reserves Plan recommends:

Bua Sandalwood Forest
Naselesele Falls Region
Dakua Roadside Reserve
Savusavu Hot Springs
Lesiaceva Point
Naidi Bay
Salt Lake
Rainbow Reef
Natewa Bay Peninsula
Waiqele Hot Springs
Vakalaca

Ratings

Natural conservation status 0

Ecosystem richness 3

Species richness 3

Economic pressure 1

Human threat 2

Natural vulnerability 2

Practicality of conservation action 1

Reliability of data 1

Human Impact 4

Conservation Importance 24

Cikobia (Thikombia)

Narrow ridge (15 sq. km; 192 m) of raised coral; fringing reef; one village; seabird rookery (4 species, 1 or 2 breeding).

40 Rabi (Rambi)

Area 69 sq. km Altitude 466 m

Island type: volcanic with steep slopes

Natural threats: cyclones

Human impact: used to resettle population from Banaba (Ocean) Island on 1200 ha plus coconut plantations.

Ecosystems: rain forest, coral reefs

Special features:

Kioa

Volcanic cone (280 m) with sheer east face, forested.

33 Taveuni

Area 435 sq. km Altitude 1,224 (1,241) m

Island type: volcanic ridge of cones, younger to south, fertile soil

Natural threats: cyclones (1978), earthquakes (1979)

Human impact: large coconut plantations and other agriculture along leeward (western), northern and southern coast

Ecosystems: dense lowland and montane rain forest types in centre and east; cloud forest; lake, mountain stream and other freshwater habitats; rocky coasts; scattered fringing reefs.

Special features: SE has highest rainfall in Fiji (7000mm/yr); crater lake Taginaucia mostly covered by vegetation.

Endemism:	Total sp.	No. endemic	% endemic	E	VR1
Plants		1			
Insects					
Other invert.					1
Rept-Amph.					
Birds	43	1			
Mammals		1			
Marine life					

Species of conservation interest

Plants

✓ Medinilla waterhousei (Taginaucia) endemic with distinctive flower

Insects

Other invertebrates

Reptiles-amphibians

✓ Platymantis vitianus (Fiji Ground Frog) group endemic, K

✓ Platymantis vitiensis (Fiji Tree Frog) group endemic

Birds

43 species, including:

✓ Ptilinopus victor (Orange Dove) endemic to Fiji, common (1973)

✓ Prosepeia tabuensis (Red-breasted Musk Parrot) endemic to Fiji, common (1973).

✓ Myiagra azureocapilla (Blue-crested Broadbill) endemic to Fiji, common (1973).

✓ Lamprolia victoriae victoriae (Silktail) endemic subspecies, in southern rain forest above 500 m, common (1973).

Mammals

✓ Pteralopex acrodonta (Monkey-faced Fruit Bat) endemic

✓ Tadarida jobensis bregullae (Mastiff Bat) endemic subspecies

Marine life

Protected area

Ravilevu Nature Reserve 4,020 ha

Proposed protected areas: 1980 Parks and Reserves Plan recommends:

Taginaucia Lake

Vurevure Bay

Mua Beach

Ratings

Natural conservation status 0

Ecosystem richness 3

Species richness 3

Economic pressure 1

Human threat 2

Natural vulnerability 2

Practicality of conservation action 1

Reliability of data 2

Human Impact 4

Conservation Importance 24

✓ Gamea (Nggamea)

Area 34 sq. km Altitude 304 m

Island type: volcanic with deeply dissected coastline and steep-sided valleys.

Natural threats: cyclones

Human impact: inhabited, local forest clearing

Ecosystems: dense rain forest; mangroves in inlets; fringing and barrier reefs.

Special features: protected area potential

Ratings

Natural conservation status 0

Ecosystem richness 2

Species richness 2

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 1

Human Impact 2

Conservation Importance 15

Matagi (Matangi)

Volcanic (93 ha; 134 m), covered with light forest

Laucala (Lauthala)

Volcanic (12 sq. km; 134 m), patches of forest, coconuts and grasslands

✓ Namena Lala

Area sq. km Altitude 98 m

Island type: volcanic, narrow and steep with central ridge, in lagoon of barrier reef, no surface fresh water.

Natural threats: cyclones

Human impact: formerly inhabited; small tourist resort

Ecosystems: thick lowland rain forest, coral reefs

Special features: on Namena Barrier Reef; seabird rookery (6 species, 2 nesting); 14 land birds.

Proposed protected area: recommended for protection in 1980 Park Plan

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 2

Economic pressure 1

Human threat 0

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 3

Human Impact 1

Conservation Importance 17

Yadua (Yandua)

Volcanic (14 sq. km; 195 m), coarse grass, Casuarina and Pandanus

✓ Yadua Taba (Yandua Tambu)

Area 0.7 sq. km Altitude 100 m

Island type: volcanic

Natural threats: cyclones

Human impact: uninhabited but used for goat grazing (until 1980) and small coconut plantations along coast; grassland burned frequently.

Ecosystems: dry beach forest with Vavaea amicornum; disturbed Casuarina forest; scrub and small trees on slopes and ridges; fire-maintained grasslands; fringing reef.

Special features: last substantial population (over 200) of endemic crested iguana.

Species of conservation interest

Reptiles-amphibians

✓ Brachylophus vitiensis (Crested Iguana) endemic to Fiji, Endangered

Protected area

Yadua Taba Crested Iguana Sanctuary (IV)

70 ha

Ratings

Natural conservation status 1

Ecosystem richness 1

Species richness 1

Economic pressure 0

Human threat 1

Natural vulnerability 2

Practicality of conservation action 4

Reliability of data 3

Human Impact 1

Conservation Importance 20

Great Sea Reef

Area 0 sq. km Altitude m

Island type: barrier reef north of Vanua Levu, over 200 km long

Natural threats: cyclones

Human impact:

Ecosystems: barrier reef

Special features:

Proposed protected area: recommended for protection in 1980 Parks Plan

Kia

(160 ha; 238 m), cultivated

Yaqaga (Yangganga)

Rocky and barren (10 sq. km; 270 m), light forest and scrub

Galoe (Ngaloa)

(76 ha; 45 m), coconuts

Tavea

(16 ha), coconuts surrounded by mangroves

Macuata-i-Wai (Mathuata-i-Wai)

Stony (3 sq. km; 152 m), Casuarina and scrub

Vorovoro

(89 m)

Mali

Conical peak (6.5 sq. km; 171 m), dry with Casuarina, scrub and grasses

Kavewa

(84 ha), light forest and scrub

Gevo (Ngevo)

(76 ha; 141 m), scrub

Druadrua (Ndruandrua)

Flat topped rocky (3.8 sq. km; 134 m), scrub

Bekana (Mbekana)

✓ Yasawa Group

Yasawa

Area 32 sq. km Altitude 244 m

Island type: volcanic ridge

Natural threats: cyclones

Human impact: population density 35 persons/km²; lowland subsistence agriculture.

Ecosystems: rain forest remnants at higher elevations; mangroves; fringing reefs.

Special features:

Sawa-i-Lau

Area sq. km Altitude m

Island type: raised coral with sheer rock face

Natural threats: cyclones

Human impact:

Ecosystems: dense scrub

Special features: marine cave

Proposed protected area: 1980 Parks Plan recommends protection of Sawa-i-Lau Cave.

Nacula (Nathula)

Volcanic ridge (22 sq. km; 244 m) with mangroves on windward side

Tavewa

(160 ha) private plantation

Matacawa Levu (Matathawa Levu)

(9.5 sq. km; 300 m) with mangroves on windward coast

Yaqeta (Yanggeta)

(7.3 sq. km; 183 m), mangroves

✓ Naviti

Volcanic and rugged (34 sq. km; 388 m), mangrove filled lagoon; resort hotel.

Drawaqa (Ndrawangga)

Nanuya Balavu (Nanuya Mbalavu)

Naukacuvu (Naukathuvu)

Narara

Viwa

Low coral island (80 ha; 2 m), coconuts, little water

Species of conservation interest

Plants

Insects

Other invertebrates

Reptiles-amphibians

Platymantis vitianus (Fiji Ground Frog) group endemic, K

Birds

Mammals

Marine life

Waya

Volcanic (22 sq. km; 571 m) with steep west coast, rain forest and light forest.

Wayasewa

Volcanic plug (6.5 sq. km; 354 m), light forest and grasslands

Kuata

Volcanic (174 m), light forest and scrub

White Rock

Seabird rookery, recommended for protection in 1980 Parks Plan

Mamanuca Group (Mamanutha Group) (CRD)

Eori

Volcanic (76 m), light forest

Navadra (Navandra)

Volcanic (128 m), light forest and scrub

Vanua Levu

Volcanic (107 m), light forest

Kadomo (Kandomo)

Volcanic (101 m), light forest

Vomo

Flat topped (116 m), grasslands and few trees

Tokoriki

(94 m), plantations, fishing

Yanuya

(129 ha; 104 m), scrub with open forest to west, coconuts to east

Monu

(223 m), open forest; fishing; recommended for protection in 1980 Parks Plan.

Monuriki

(180 m), open forest; fishing; recommended for protection in 1980 Parks Plan.

Tavua

(188 ha; 171 m), open scrub with coconuts.

Nautanivono

(73 m) small

Matamanoa

(70 m) open forest

Mana

(73 m) open forest, scrub and coconuts; fringing reef with reserve potential; resort hotel.

Qalito (Ngqalito)

(119 m) open forest; resort development

Malolo

(10 sq. km; 229 m) hilly; grassland with scattered trees; resort development

Malolo Lailai

(2.35 sq. km; 70 m) open forest and coconuts; small barrier reef and lagoon with good coral growth; resort development, airstrip.

Tai

Fringing reef with reserve potential; resort development

Levuka

Resort development

Kadavu

Matamala

Island and reefs recommended for protection in 1980 Parks Plan

Viti Levu group

456 Viti Levu 10531

Area 10,544 sq. km Altitude 1,323 m

Island type: continental and volcanic, with north-south mountain chain producing rainshadow to west, high plateau deeply dissected.

Natural threats: cyclones (1965, 1980)

Human impact: several urban and industrial centres including capital at Suva; extensive sugar cane and other agricultural development; tourism; mining; hydroelectric development; fires; introduced plants and animals including mongoose.

Ecosystems: lowland rain forest; several types of montane rain forest with Agathis, Dacrydium, Decussocarpus, etc.; cloud, riverine and swamp forests; 3 types of mangrove forest; limestone and beach forests; scrub, woodlands and grasslands; various freshwater habitats; many kinds of coral reef development, lagoons and estuaries.Special features: sand dunes at Sigatoka; introduced Herpestes eupunctatus (Mongoose) affecting ground birds.

Endemism: Total sp. No. endemic % endemic E VRI

Plants 1 1

Insects

Other invert.

Rept-Amph. 3 1

Birds 4 1 1

Mammals

Marine life

Species of conservation interest

Plants

✓ Neoveitchia storckii (Palmae) endemic genus, Endangered, single population of less than 200 trees (1972), declining.✓ Goniocladus petiolatus, rare✓ Taveunia trichospadix (Palmae)✓ Degeneria vitiensis (Degeneriaceae)✓ Readea spp. (Rubiaceae)✓ Pullea perryana (Cunoniaceae)✓ Phyllanthus wilkesianus (Euphorbiaceae) endemic, common on low hills, 1974
✓ Melastoma tomentosum (Myrtaceae) endemic, Mt. Koro

Insects

✓ Hypolimnas inopinata (butterfly) Vulnerable (RDB)✓ Polyura caphontis (butterfly) Vulnerable (RDB)✓ Papilio schmeltzii (butterfly) Vulnerable✓ Utetheisa clarae (butterfly) Vulnerable (RDB)✓ Nacaduba samoensis (butterfly)

Other invertebrates

Reptiles-amphibians

✓ Platymantis vitianus (Fiji Ground Frog) group endemic, K✓ Platymantis vitiensis (Fiji Tree Frog) group endemic✓ Ogmodon vitianus (Fiji Snake) monospecific endemic genus,

Indeterminate, protected

✓ Lepidodactylus manni (Mann's Gecko) endemic, abundant on rock facesCandoia n. sp.?, endemic

Birds

✓ Nesoclopeus poecilopterus (Barred-wing Rail) endemic, on Nadrau plateau, Endangered (RDB), last sighted 1973.✓ Prosopaea personata (Yellow-breasted Parrot) endemic, common✓ Erythrura kleinschmidti (Pink-billed Parrotfinch) endemic, Rare (RDB), 400.✓ Trichocichla rufa rufa (Long-legged Warbler) endemic subspecies, ridgetops in Namosi District, Endangered (RDB) or indeterminate.

Mammals

Marine life

Protected areas

Draunibola Nature Reserve	2 ha
Labiko Nature Reserve	1 ha
Nadarivatu Nature Reserve	93 ha
Naqaranibutuli Nature Reserve	279 ha
Tomaniivi Nature Reserve	1,322 ha
Vuo Nature Reserve	1 ha
Garrick Memorial Reserve	427 ha

Proposed protected areas; 1980 Parks and Reserves Plan recommends:

Natadola Bay (CRD)
Cuvu Bay
Sigatoka Sand Dunes
Coral Coast Reefs (CRD)
Karobe Beach
Navua Swamp
Navua River
Mt. Rama - Korobaba Range
Suva Barrier Reef (CRD)
Makuluva Island and Reefs (CRD)
Sainabula River Mangroves
Savura Creek Catchment Area
Nasinu Caves
Naulu-Lokia Swamps
Mubulau Island
Wailotua Caves
Wainihuka River
Waiqa Gorge
Waidradra Agricultural Research Station (riverine forest with endangered palm <u>Neoveitchia storekii</u>)
Sovi Gorge
Mt. Voma-Korobasahasaga Range
Wainisavulevu Falls Area
Nakauvadra Range
Namuainada Beach
Tavua Bay
Nadrau Plateau
Sigatoka Valley Caves
Nausori Highlands
Naloto Range
Nadi Bay Reefs
Lomolomo Beach
Saweni Beach and Dreketi Inlet

Ratings

Natural conservation status	0
Ecosystem richness	3
Species richness	3
Economic pressure	2
Human threat	2
Natural vulnerability	1
Practicality of conservation action	1
Reliability of data	2
Human impact	6
Conservation Importance	28

Macuata (Mathuata)

(122 m), densely wooded

Tovu

Hilly (76 m), grassland and some woodland

Malake

Hilly (4.5 sq. km; 230 m), Casuarina and Pandanus, scrub, mangroves; grazing animals.

Nanau-i-Ra

Seabird rookery

Nanau-i-Cake (Nanau-i-Thake)

(73 m), dry grassland, scattered trees and shrubs; grazing animals

Vatu-i-Ra

Island and coral reef; seabird rookery; recommended for protection in 1980 Parks Plan

Naigani (Naingani)

High rounded volcanic island (1.9 sq. km; 157 m), scrub on upper slopes, grass and reeds on lower slopes; mangroves, fringing reef; resort hotel.

Vatu-i-Lami

Seabird rookery; recommended for protection in 1980 Parks Plan

Qoma (Nggoma)

(37 m), wooded

Nuku Levu

Low coral sand islets (9 m)

Cagelai (Thangalai)

Sand cay, scrub, coconuts; platform reefs; quarantine station

Gata (Nggata)

Small soapstone island, mangrove fringe

Tawainave

Small soapstone island, mangrove fringe

Leleuvia

Sand cay with beach forest, fringing reef; suitable for protection

Viwa

Soapstone (49 m), open forest

Bau (Mbau)

Soapstone (8 ha; 24 m); completely altered by man, home of major chiefs

Mabualau (Mambualau)

Raised reef (27 m), lowland rain forest; important seabird rookery; recommended for protection in 1980 Parks Plan.

Ratings

Natural conservation status 1

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 1

Human impact 1

Conservation Importance 11

Nukulau

Makuluva

Sand cay with beach forest, with Nukulau on large reef; possible marine park, recommended for protection in 1980 Parks Plan.

Beqa Lagoon (Mbengga Lagoon)

Lagoon (390 sq. km) behind barrier reef; popular diving area; recommended for protection in 1980 Parks Plan.

Beqa (Mbengga)

Area 36 sq. km Altitude 457 m

Island type: volcanic, radially dissected with indented coast

Natural threats: cyclones

Human impact: inhabited; agricultural development

Ecosystems: beach forest; lowland rain forest; grasslands; mangroves; fringing reef

Special features: parts have protected area potential

Species of conservation interest

Plants

Insects

Other invertebrates

Reptiles-amphibians

✓ Platymantis vitianus (Fiji Ground Frog) group endemic, K

Birds

✓ Ptilinopus luteovirens (Golden Dove)

Mammals

Marine life

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 2

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

Human Impact 2

Conservation Importance 14

Ugaga (Ungunga)

Yanuca (Yanutha)

Volcanic (1.5 sq. km; 137 m)

Nanuku

Low coral sand cay with scrub and coconuts

Bird Island (Cokanabuli)

Rock (1.2 m) with seabirds; recommended for protection in 1980 Parks Plan

Vatulele

Area 31.6 sq. km Altitude 34 m

Island type: flat raised coral with cliffs to west, some volcanic rock in northwest

Natural threats: cyclones

Human impact: inhabited

Ecosystems: dense scrub with Casuarina, Pandanus and coconuts; fringing reef extending into barrier reef and lagoon.

Special features: brackish tidal pools with red prawns

Proposed protected area: recommended for protection in 1980 Parks Plan

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 1

Economic pressure 0

Human threat 1
 Natural vulnerability 1
 Practicality of conservation action 1
 Reliability of data 1
 Human Impact 2
 Conservation Importance 12

Vatu Savu

Rugged limestone islet (6 m) in Vatulele lagoon, wooded

Vatu Levu

Rugged limestone islet (9 m) in Vatalele lagoon, wooded

Vatu Lailai

Limestone islet (3 m) in Vatalele lagoon

Lomaiviti Group

Ovalau

Area ^{102.3} 139 sq. km Altitude 626 m

Island type: old volcanic cone with central basin surrounded by rugged peaks and ridges; fertile soil.

Natural threats: cyclones

Human impact: town of Levuka (pop. 1,500), former capital of Fiji; agriculture; logging

Ecosystems: lowland rain forest and other forest types; mangroves; complex of fringing and patch reefs.

Special features: forest of some conservation interest; Balolo Point with reserve potential.

Species of conservation interest

Plants

Insects

Other invertebrates

Reptiles-amphibians

✓ Platymantis vitianus (Fiji Ground Frog) group endemic, K

✓ Platymantis vitiensis (Fiji Tree Frog) group endemic

Birds

✓ Nesoclopeus poecilopterus (Barred-wing Rail) Endangered (RDB), formerly present.

Mammals

Marine life

✓ Atherina ovalaua (Hardyhead) endemic fish

✓ Engyprosopon fijiensis (Flatfish) endemic

Ratings

Natural conservation status 0

Ecosystem richness 2

Species richness 2

Economic pressure 1

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

Human Impact 4

Conservation Importance 17

Yanuca Lailai (Yanutha Lailai)

Hilly steep islet within Ovalau reef; former quarantine station

Yanuca Levu (Yanutha Levu)

Hilly steep islet within Ovalau reef

Moturiki

Area 10 sq. km Altitude 133 m

Island type: volcanic

Natural threats: cyclones

Human impact: inhabited

Ecosystems: light forest, scrub, coconuts; swamp forest and bog; mangroves; fringing reefs.

Special features: swamp forest and bog of conservation interest; land crab breeding area.

Koro

Area 104 sq. km Altitude 305 m

Island type: massive volcanic plateau with steep seaward faces

Natural threats: cyclones

Human impact: pop. 2500 (1960s); plantations; logging

Ecosystems: lowland rain forest; fringing reefs

Special features:

Makodroga (Makondrunga)

High volcanic, dense lowland rain forest; feral goats subject to some recent control; possible turtle nesting area; protected area potential.

Makogai (Makongai)

Area 8 sq. km Altitude 267 m

Island type: volcanic with four summits

Natural threats: cyclones

Human impact: forest cleared; former leper colony; steep slopes denuded by goats.

Ecosystems: grasslands; mangroves; extensive coral reefs including barrier reef.

Special features: barrier reef joining with Wakaya; feral goats subject to some recent control.

Potential protected area: island and reefs recommended for protection in 1980 Parks Plan.

Ratings

Natural conservation status 0

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

Human Impact 1

Conservation Importance 11

Wakaya

Area 8 sq. km Altitude 152 m

Island type: high bluffs to west, fault line scarp

Natural threats: cyclones

Human impact: coconut plantation

Ecosystems: fringing reefs; barrier reef with Makogai

Special features: archaeological evidence of former fortified villages; introduced red deer; reef affected by Acanthaster in 1960s.

Potential protected area: island and reefs including Makogai-Wakaya reef system recommended for protection in 1980 Parks Plan (CRD).

Ratings

Natural conservation status 0

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

Human Impact 1

Conservation Importance 11

Cakau Momo (Thakau Momo, Horseshoe Reef)

Reef without land area, recommended for protection in 1980 Parks Plan

Batiki (Mbatiki)

Volcanic (9 sq. km; 183 m), forest and grassland, fringing reefs

Nairai

Area 24 sq. km Altitude 336 m

Island type: volcanic ridge

Natural threats: cyclones

Human impact: pop. 600 (1960s)

Ecosystems: extensive surrounding coral reefs

Special features: possible protected study area for giant clams

52- **Gau** (Ngau) ^{136.1} ²³⁸

Area 140 sq. km Altitude 715 m

Island type: volcanic ridge with some limestone

Natural threats: cyclones

Human impact: inhabited; timber cutting; reforestation with exotic pine

Ecosystems: dense rain forest on high land and ridges; grasslands with

Casuarina; coconuts along shore; mangroves on north coast; fringing reef, leeward barrier reef and lagoon.

Special features:

Species of conservation interest

Plants

Insects

Other invertebrates

Reptiles-amphibians

← Platymantis vitianus (Fiji Ground Frog) group endemic, K

Birds

✓ Pterodroma macgillivrayi (MacGillivray's Petrel) endemic,

- Indeterminate (RDB), collected once in 1855, rediscovered 1984.

Mammals

Marine life

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 2

Economic pressure 1

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

Human Impact 2

Conservation Importance 15

Mabulica Reef (Mambulitha Reef)

Reef with shallow lagoon

Moala Group (Koro Sea Islands)

Moala

Area 62.5⁴⁶⁸ sq. km Altitude over 300 mIsland type: volcanic, with 8 high peaks and rugged reliefNatural threats: cyclonesHuman impact: pop. 1200 (1960s); agriculture; lower areas clearedEcosystems: forest in higher areas; lake; secondary growth lower; mangroves along coast; fringing reef and barrier reef.Special features: small lake on Delaimoala peak with matted sedges, reed fringe.

Totoya

Area 28 sq. km Altitude 366 m

Island type: volcanic eroded crater rim almost completely closedNatural threats: cyclonesHuman impact: inhabitedEcosystems: light forest, scrub, grassland; coconuts near shore; barrier reef well offshore.Special features:

Matuku

Area 57 sq. km Altitude 385 m

Island type: old volcanic crater rim breached by sea, steep slopesNatural threats: cyclonesHuman impact: inhabitedEcosystems: forest on windward slopes; grassland, reeds and Pandanus; fringing reefSpecial features:Kadavu Group (Kandavu Group)

Kadavu (Kandavu)

Area 408^{450.3} sq. km Altitude 838⁸⁰⁵ mIsland type: high volcanic ranges, irregular coastNatural threats: cyclonesHuman impact: inhabited, density 19 persons/km²; hillside terraces for agriculture, coconut plantations; logging until 1975; reforestation with exotic pines.Ecosystems: rain forest in centre and to windward; grasslands; coastal coconuts; mangroves; fringing reefSpecial features: Mt. Washington petrel breeding areaEndemism: Total sp. No. endemic % endemic E VRI

Plants

Insects

Other invert.

Rept-Amph.

Birds

Mammals

Marine life

Species of conservation interest

Plants

Insects

Other invertebrates

Reptiles-amphibians

Birds

✓ Rhipidura personata (Kadavu Fantail) endemic✓ Foulehaio provocator (Kadavu Honeyeater) endemic✓ Ptilinopus layardi (Whistling Dove) endemic to Fiji

Mammals

Marine life

Protected area

?Koba (or Kioba) Nature Reserve

14 ha

Proposed protected area: protection of Mt. Washington recommended in 1980 Parks Plan.

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 2

Economic pressure 1

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

Human Impact 3

Conservation Importance 16

Galoa (Ngaloa)

Volcanic (116 m), covered with trees; intensely cultivated

Matanuku

(174 m), grassland, sand flat, coconuts and mangroves

Ono

Area 30 sq. km Altitude 354 m

Island type: volcanic peak with steep cliffs on west coast

Natural threats: cyclones

Human impact: inhabited; agriculture; reforestation with exotic pine

Ecosystems: rain forest on windward side; grasslands; coral reefs

Special features:

Vurolevu

(82 m), wooded

Yabu (Yambu)

Area sq. km Altitude 52 m

Island type:

Natural threats: cyclones

Human impact:

Ecosystems: lowland rain forest

Special features: seabird rookery

Proposed protected area: recommended for protection by 1980 Parks Plan

Bulia (Mbulia)

(1.7 sq. km; 22 m), grass with scattered trees; inhabited

Yaukuvelailai

(64 m), joined by reef with Yaukuvelevu

Yaukuvelevu

Volcanic (122 m), sublittoral fringe has rich and diverse corals

Namara

(70 m), grassy summit

Dravuni (Ndravuni)

Ridge (80 ha; 40 m), inhabited

*OSP listing of 11 marine reserves
Field Station*

Taqua Rocks (Tanggua Rocks)

Recommended for protection in 1980 Parks Plan

Vanuakula

Circular island (76 m)

Great Astrolabe Reef

Barrier Reef, recommended for protection in 1980 Parks Plan (CRD)

North Astrolabe Reef

Circular barrier reef or atoll, with volcanic rock (Solo) in middle of lagoon; recommended for protection in 1980 Parks Plan (CRD).

*Dravuni
Ins. Mar. Res.
Field Station*

Solo

Volcanic rock (3 m), within North Astrolabe Reef; lighthouse

LAU GROUP**Wailagi Lala (Wailangi Lala)**

Area sq. km Altitude m

Island type: atoll with 2 sandy islets

Natural threats: cyclones

Human impact: lighthouse; *Tridacna gigas* overfished to extinction

Ecosystems: windward and leeward atoll reefs, lagoon; scrub and coconuts on islets.

Special features: many pigeons in season; important seabird rookery

Proposed protected area: recommended for protection in 1980 Parks Plan

Ratings

Natural conservation status 1

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 0

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

Human Impact 0

Conservation Importance 12

Kibobo (Kimbombo)

Coral reef with 3 islets in lagoon: volcanic islet (30m) densely wooded, and two raised limestone islets (30-37 m) with scrub and coconuts; visited for turtles and fishing.

Naitaba (Naitumba)

Circular volcanic and raised limestone island (7.7 sq. km; 186 m), fertile and well wooded, fringing reef; copra plantation.

Malima

Coral reef with 3 islets in lagoon: south (40 m); middle low coral sand islet with coconuts; north steep rock with scrub and coconuts; recommended for protection in 1980 Parks Plan.

Nuku Cikobia Reef (Nuku Thikombia Reef)

Seabird rookery

Exploring Isles

Extensive reef system encircling the following islands:

Qilaqila (Ngqilanggila)

Bay of islands, or 100 island area, with scenic undercut raised coral islets, recommended for protection in 1980 Parks Plan

Avea

Raised coral (183 m), densely wooded

Sovu

Area sq. km Altitude 70 m

Island type: 3 steep-sided raised coral masses

Natural threats: cyclones

Human impact: uninhabited

Ecosystems:

Special features: seabird rookery

Species of conservation interest

Plants

← *Pritchardia thurstonii* (palm) rare

Insects

Other invertebrates

Reptiles-amphibians

Birds

Mammals

Marine life

Proposed protected area: recommended for protection in 1980 Parks Plan

Ratings

Natural conservation status 2

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 0

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 1

Human Impact 0

Conservation Importance 13

Cikobia-i-Lau (Thikombia-i-Lau)

Raised coral (168 m) deeply eroded karst topography, dense vegetation

Munia

Volcanic ridge (290 m) with steep sides, fertile with rich vegetation, fringing reef; copra plantation.

Susui

Raised coral (131 m) sloping to east, dense scrub and coconuts

Namalata

Raised coral ridge (128 m)

Vanua Balavu (Vanua Mbalavu)

Area 53 sq. km Altitude 283 m

Island type: rugged raised coral with steep undercut cliffs, and volcanic with fertile soil

Natural threats: cyclones

Human impact: inhabited; airfield; overfishing for giant clams

Ecosystems: dense limestone forest and scrub; grasslands and reeds on volcanic soils; mangroves; coral reefs

Special features: good fresh water; hot springs; 100 island area in bay to north (see Qilaqila); Masomo Lake with sacred fish "yawa".

Proposed protected area: Masomo Bay and Lake recommended for protection in 1980 Parks Plan.

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 2

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 1

Human Impact 2

Conservation Importance 16

Kanacea (Kanathea)

Volcanic (13 sq. km; 259 m) with 7 peaks, forest on summits and higher slopes, extensive coral reef and lagoon; copra plantation.

Kiabu (Kiambu)

Narrow raised coral ridge (46 m), rugged with dense scrub; fringing reef shared with Yacata.

Yacata (Yathata)

Raised coral and volcanic, with 5 terraces (256 m), densely wooded; coconuts, fringing reef.

Nukutolu

2 low coral sand islets with coral reefs, scrub and coconuts; important seabird rookery; turtle nesting area; recommended for protection in 1980 Parks Plan

Vatu Vara

Raised coral, flat-topped pyramid (320 m) above low terrace, cliff bound, dense vegetation, fringing reef

Mago (Mango)

Raised coral overlain by lava (21 sq. km; 34 (213) m), hills around central basin with well-watered karst areas; scrub, fringing reefs; plantation.

Katafaga (Katafanga)

Volcanic and raised coral (55 m), twin summits; coconuts, turtles

Vekai

Low coral islet on inner edge of reef; scrub, coconuts, turtles

Tuvuca (Tuvutha)

Raised coral (13 sq. km; 244 m) ridge with steep coastal cliffs, central hollow with 4-5 lakes, little fresh water, densely wooded; barrier reef with narrow lagoon.

Cicia (Thithia)

Raised coral and volcanic (34 sq. km; 165 m) central ridge, jagged limestone cliffs; dry scrub on volcanic areas; adequate fresh water; extensive coconut plantations; fringing reef.

Nayau

Raised coral rim (18 sq. km; 183 m) with undercut coastal cliffs, central basin; little water; dense scrub; fringing reef.

Reid Reef

Large coral reef around rocks:

Late-i-Toga (Late-i-Tonga) (18 m)

Late-i-Viti

Bukatatanoe Reefs**Vanuamasi**

Barrier reef complex; poaching of giant clams by foreign fishing boats

Lakeba (Lakemba)

Area 57 (44) sq. km Altitude 219 m

Island type: volcanic centre surrounded by raised coral with 76 m cliffs, fertile and well-watered.

Natural threats: cyclones

Human impact: pop. 2,100; agriculture; reforestation with exotic pines; jetty and airfield; commercial fishing; overfishing for giant clams.

Ecosystems: limestone scrub; Casuarina and Pandanus; grassland on volcanic soils; mangroves; fringing reef, windward barrier reef and extensive lagoon (CRD).

Special features: Tubou Cave of geological interest; studied by MAB project; 65 hard corals, 218 molluscs, 145 fish.

Proposed protected area: Tubou Cave proposed for protection in 1980 Parks Plan.

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 1

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

Human Impact 2

Conservation Importance 13

Aiwa

2 narrow raised coral islets (61 m) on extensive coral reef, honeycombed low bluffs and cliffs; feral goats.

Oneata

Low raised coral ridge (49 m) in lagoon of large coral reef, swampy central depression, dense scrub with few sandalwoods; also Loa islet and mushroom rocks.

Cakau Lekaleka (Thakau Lekaleka)

Barrier reef and closed lagoon; recommended for protection in 1980 Parks Plan.

Moce (Mothe)

Volcanic cone (10 sq. km; 180 m), rain forest, fringing reef; cultivated

Karoni

Raised coral (37 m), dense limestone scrub; coral reef; uninhabited.

Komo

Narrow volcanic ridge (82 m) within lagoon, dry grassland with Casuarina, Pandanus and coconuts; offshore volcanic islet.

Olorua

Small steep remains of volcanic cone (76 m), desolate.

Vanua Vatu

Circular raised coral (9 m), karst surface with dense scrub; small village, "sacred" red prawns.

Tavu Na Sici (Tavu Na Sithi)

Vuaqava (Vuanggava)

Raised coral atoll (7.7 sq. km; 107 m), coastal cliffs, fringing reef, central basin with tidal saltwater used as turtle pen by Kabara islanders; recommended for protection in 1980 Parks Plan.

Kabara (Kambara)

Area 31 sq. km Altitude 143 m

Island type: raised coral platform with 100 m cliffs and 30 m karstic central basin, plus 143 m volcanic hill.

Natural threats: cyclones

Human impact: inhabited; trees used for wood carving

Ecosystems: forest, fringing reef

Special features: Intsia bijuga and Burckella sp. used for canoe building and wood carving; MAB study site.

Marabo (Marambo)

Oval raised coral with karst surface, steep undercut cliffs and dense vegetation; uninhabited.

Namuka-i-Lau

Raised coral ridge (13 sq. km; 79 m), densely wooded interior with Intsia bijuga used for canoe building.

Yagasa Cluster (Yangasa Cluster)

Barrier reef enclosing 4 raised coral islets with undercut cliffs; recommended for protection in 1980 Parks Plan.

Yagasalevu (Yangasa Levu)

Raised coral (122 m) rising in terraces

Navutu-i-Loma

Rugged karst surface, many mushroom islets

Navutu-i-Ra

(82 m) low cliffs and mushroom islets

Yavuca (Yavutha)

Very rugged

Nayabo (Nayambu)

Atoll with small sand cay, dense atoll forest

Fulaga (Fulanga)

Area sq. km Altitude 82 m

Island type: raised coral in crescent surrounding lagoon

Natural threats: cyclones, drought

Human impact: inhabited; commercial fishing

Ecosystems: dense limestone forest with Pritchardia, fringing and atoll reefs, seagrass beds with Halodule.

Special features: scenic lagoon with many mushroom islets

Species of conservation interest

Plants

✓ Pritchardia thurstonii (palm) rare, Fulaga and Sovu

Insects

Other invertebrates

Reptiles-amphibians

Birds

Mammals

Marine life

Proposed protected area: Fulaga Bay of Islands proposed for protection in 1980 Parks Plan.

Ratings

Natural conservation status 0

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 1

Human impact 2

Conservation importance 11

Ogea Levu (Ogea Levu)

Area sq. km Altitude 82 m

Island type: raised coral, within barrier reef shared with Ogea Driki

Natural threats: cyclones

Human impact: inhabited

Ecosystems: dense limestone forest, fringing reef

Special features: permanent stream; fringed with mushroom islets.

Endemism: Total sp. No. endemic % endemic E VRI

Plants

Insects

Other invert.

Rept-Amph.

Birds

1

Mammals

Marine life

Species of conservation interest

Plants

Insects

Other invertebrates

Reptiles-amphibians

Birds

- ✓ Mayrornis versicolor (Ogea or Versicolour Flycatcher) endemic, little known, indeterminate.

Mammals

Marine life

Ratings

Natural conservation status 0

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 1

Human Impact 2

Conservation Importance 12

Ogea Driki (Ogea Ndriki)

Raised coral (91 m) with perpendicular cliffs topped by deeply weathered karstic limestone, some phosphate present; dense limestone forest, mangroves; important seabird rookery; uninhabited.

Vatoo

Raised coral (64 m) with caves, barrier reef.

Vuata Vatoo

Circular reef with deep lagoon; moderate population of giant clams

Mana

Island with fringing reef suitable for protection

Ono-i-Lau

Area sq. km Altitude 91 m

Island type: 3 volcanic islands remaining from breached crater, and 3 low coral sand islets, within barrier reef; volcanic islands fertile, wet and swampy.

Natural threats: cyclones

Human impact: gardens on volcanic islands, coconuts on reef islets; airfield.

Ecosystems: barrier reef

Special features: plenty of water

Vuata Ono

Circular reef, no land; high density of giant clams

Tuvana-i-Ra

Low coral sand islet, dense atoll forest

Tuvana-i-Colo (Tuvana-i-Tholo)

Atoll with small sand cay, dense atoll forest and coconuts

Conway Reef (Ceva-i-Ra, Theva-i-Ra)

Atoll with coral sand cay (2 m)

Province VIII
TONGA - NIUE

Tonga and Niue are grouped together in one biogeographic province because of their proximity and their similarity in island types: raised coral with or without overlying volcanic ash soil, and volcanic islands.

✓ KINGDOM OF TONGA (independent)

Land area 699 km² Sea area 700,000 km²
Population 98,400 (1981) Density 141 persons/km² Growth rate (est.) 2.0%/yr

Species of conservation interest

Plants

- ca. 770 species of vascular plants
- 70 species of ferns, with 3 endemics:
- Dryopteris macroptera (fern) endemic
- Cyathea rugosula (Ponga, tree fern) endemic to Tonga
- 3 species of gymnosperms, with 1 endemic:
- Podocarpus pallidus (Uhiuhi) endemic to Tonga
- 698 species of angiosperms, including 9 endemics
- Freycinetia urvilleana (Kahikahi, liana) endemic to Tonga
- Aglia heterotrucha (Langakali) endemic to Tonga
- Wickstroemia rotundifolia (Lala Vau) endemic to Tonga, widespread

Insects

- 24 species of butterflies, all shared with other island groups

Other invertebrates

- 2 species of Partulidae (land snails)

Reptiles-amphibians

- 6 species of lizards including:
- Brachylophus fasciatus [brevicephalus] (Banded Iguana) genus endemic to Tonga and Fiji, Vulnerable

Birds

- Pachycephala melanops (Tonga Whistler) endemic to Tonga

Mammals

- Pteropus tonganus (Flying Fox)

Marine life

279
260

✓ Niuafo'ou 52.3
49.9 Area 35 sq. km Altitude 205
266 26.8
26.9

Island type: volcanic crater with central lake, 20-30 m coastal cliffs.

Natural threats: volcanic eruptions (last in 1929 and 1946), cyclones

Human impact: pop. 566 (1960s); subsistence agriculture

Ecosystems: reed swamp with Cyperus in lake; rocky coast

Special features: active volcano; crater lake with hot springs

Endemism: Total sp. No. endemic % endemic E VR1

Plants

Insects

Other invert.

Rept-Amph.

Birds

Mammals

Marine life

1

✓ 16.9% 174,372

Species of conservation interest

Plants

Insects

Other invertebrates

Reptiles-amphibians

Birds

Megapodius pritchardii (Pritchard's Megapode or Malau) endemic, vulnerable, 200-400 (1976).

✓ Vini australis (Lorikeet) Tonga and Samoa, last remaining Tongan population.

Mammals

Marine life

Ratings

Natural conservation status 3

Ecosystem richness 1

Species richness 2

Economic pressure 0

Human threat 1

Natural vulnerability 3

Practicality of conservation action 1

Reliability of data 1

Human Impact 1

Conservation Importance 19

Niutoputapu Group266 ✓ Tafahi

Area 3.4 sq. km Altitude ⁵⁰⁶ 610 m

Island type: extinct volcanic coneNatural threats: cyclones, earthquakesHuman impact: pop. 60 (1960s)Ecosystems: lowland rain forest; cloud forest on summitSpecial features:Ratings

Natural conservation status 2

Ecosystem richness 1

Species richness 2

Economic pressure 0

Human threat 1

Natural vulnerability 2

Practicality of conservation action 1

Reliability of data 1

Human Impact 2

Conservation Importance 14

267 ✓ Niutoputapu

Area 16 sq. km Altitude ¹⁴⁶ 107 m

Island type: volcanicNatural threats: cyclones, earthquakesHuman impact: pop. 1,389 (1960s), most land cleared for cultivationEcosystems: fringing reefs, barrier reefsSpecial features:268 ✓ Fonualei

Active volcano ^{4.3 3.12 195} (2 sq. km; 183 m) with breached crater, forest on south ridge, barren lava to west, fringing reef; erupted in 1846; formerly inhabited; seabird rookery.

- 264 Toku 0.4 sq. km Altitude 16 m
Low flat-topped active volcano, forest, fringing reef; formerly inhabited.
~~Ala~~
- Vava'u Group
- 2971 Vava'u 103.6
Area 86 sq. km Altitude 204 m
Island type: raised coral platform with coastal cliffs 150 m
Natural threats: cyclones, earthquakes
Human impact: pop. 9,400 (1960s); mainly cultivated; serious reef damage
Ecosystems: grasslands, swamp; extensive coral reefs
Special features: .
Species of conservation interest
Plants
Insects
Other invertebrates
Reptiles-amphibians
Birds
- Pachycephala melanops (Tongan Whistler) endemic to Tonga
Mammals
Marine life
- Koloa
Raised coral (1.8 sq. km)
- 2972 Pangaimotu 9.2
Raised coral (9 sq. km; 88 m), cultivated
- 'Utungake
Raised coral (1.9 sq. km; 88 m)
- 2970 Kapa 6.4
Raised coral (6 sq. km; 96 m), coastal cliffs
- 2965 Nuapapu 3.2
Raised coral platform (2.7 sq. km; 64 m), coastal cliffs, limestone forest; shallow reefs, mangroves and lagoons.
- 2969 Hunga 5.6
Raised coral (4.8 sq. km; 75 m), coastal cliffs; lagoon to south
- Ovaka
Raised coral (1.4 sq. km), coastal cliffs, fringing reef
- 2977 Late 12.4 sq. km Altitude 519 m
Area 16 sq. km Altitude 518 m
Island type: high volcanic with coastal cliffs
Natural threats: cyclones, earthquakes
Human impact: occasional human use
Ecosystems: forest to west, scrub elsewhere; corals in pools
Special features: pigeons, wild pigs
- 2974 Kao 11.6 sq. km Altitude 1,096 m
Area 12 sq. km Altitude 1,030 m
Island type: high volcanic, 2 craters
Natural threats: volcanic eruptions, cyclones, earthquakes
Human impact: small population
Ecosystems: forest on lower slopes; cloud forest on summit; rocky shore with shallow coral patches.
Special features: active volcano; freshwater crater lake
Ratings
Natural conservation status 2
Ecosystem richness 1
Species richness 2

Economic pressure 0

Human threat 1

Natural vulnerability 3

Practicality of conservation action 1

Reliability of data 1

Human Impact 1

Conservation Importance 17

278 Tofua

Area ^{49.9}55 sq. km Altitude ⁵⁰⁵488 mIsland type: high volcanicNatural threats: volcanic eruptions, cyclones, earthquakesHuman impact: population left in 1854 due to risk of eruption, some returned.Ecosystems: forest to south and southwestSpecial features: active volcano; feral pigsHa'apai GroupOfolanga ^{2.9}sq. km

Low coral, sandy coast, barrier reef and lagoon

Mo'unga'one

Raised coral platform (1.3 sq. km), rocky coast, fringing reef only southeast

Luahoko

Turtle nesting area

291 Ha'ano

Raised coral (^{6.7}6.3 sq. km; ⁸27 m), population density over 200 persons/km²Nukunamo ^{0.2}sq. km

275 Foa

Raised coral (^{13.4}13 sq. km; ¹⁴30 m), low cliffs; dense population

273 Lifuka

Raised coral (^{11.3}11 sq. km; ¹⁴30 m), low cliffs to east; population density about 300 persons/km², most of island cultivated.

267 Uoleva

Raised coral (^{3.5}2.6 sq. km), forest; formerly inhabited.

Tatafa

'Uiha

Raised coral (5.4 sq. km; 30 m); burial ground for chiefs.

Lofanga

Raised coral platform (1.5 sq. km; 46 m), coastal cliffs and fringing reef; forest; turtle nesting area

Nukupule

(3 ha)

Meama

(2 ha)

Niniva

Raised coral platform (48 ha), forest, turtle nesting area

Fotuha'a

Raised coral platform (1/sq. km; 27 m)

Kotu Group

Kotu

Raised coral platform (41 ha; 15 m), coastal cliffs, forest, turtle nesting area

Matuku

Low coral platform (34 ha), forest

Ha'afeva

Coral platform (2 sq. km), sandy shore with barrier reef; dense population

Tungua

Circular low coral platform (1.6 sq. km), dense population

'O'ua

(1 sq. km) low cliffs and extensive reefs, dense population

Lekeleka

Small low island

Fonuaika

Small low island, turtle nesting area

Nomuka Group

• **Nomuka**

Raised coral (5.3 sq. km; 51 m), narrow fringing reef, (7.0 ha) salt water lagoon 1.5 m deep with some Cyperus; cultivated, coconuts.

Nomuka Iki

Volcanic and raised coral islet (45 m) with extensive coral reefs

Nukufaeiau

Turtle nesting area

Mango

Volcanic and raised coral (80 ha; 43 m) fringing reef

Tanoa

(17 m)

Fonoifua

(44 ha; 20 m) fringing reef

Tonumea

(12 ha; 42 m), dense forest - volcanic and raised coral - turtle nesting area

Kelelesia

Raised coral and volcanic (12 ha; 37 m), forest - volcanic, turtle nesting

Otu Tolu Group

Fetokopunga

Telekivava'u

Low, flat, wooded

Lalona

Low, flat, wooded

Telekitonga

Low, flat, wooded

• **Fonuafo'ou (Falcon)**

Active volcano forming submerged shoal and temporary pumice islands (1885, 1896, 1927, 1955), altitude up to 110 m (1927).

• **Hunga Tonga**

Low volcanic (39 ha; 149 m), coastal cliffs; possibly some phosphate; seabird rookery.

• **Hunga Ha'apai**

Low volcanic ridge (65 ha; 122 m), grasslands on west side, some bushes and a few coconuts; possibly some phosphate; seabird rookery.

Tongatapu Group

2722 Tongatapu 259.3

Area 257 sq. km Altitude 82 m

Island type: Raised coral platform, sloping gently from cliffbound south with wave-cut platform, to low-lying north with many offshore islets and reefs.Natural threats: cyclones, earthquakesHuman impact: population over 50,000, density about 200 persons/km²; almost entirely cleared for cultivation; Nuku'alofa urban area (capital); overfishing.Ecosystems: coastal forest and scrub along cliffs; one remaining patch of lowland forest; secondary regrowth and grasslands; mangroves; fringing, patch and barrier reefs; sea grass beds; lagoons.Special features: nearly-enclosed Faga'uta lagoon complex important for fish breeding.Species of conservation interest

Plants

Pittosporum yunckeri (Lauteau) endemic, Tongatapu and 'Eua

Insects

Other invertebrates

Reptiles-amphibians

Birds

1 extinct bird Pomaria nigra tabuensis

Mammals

Pteropus tonganus (Flying fox)

Marine life 20 coral genera

Protected areas

Ha'atafu Beach Reserve (CRD)

(8 ha)

Fanga'uta and Fanga'akakau Lagoons (VIII)

(2830 ha)

Ha'amonga Trilithon (cultural site)

23 ha

Mui Hopohoponga (protected landscape)

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 2

Economic pressure 1

Human threat 2

Natural vulnerability 2

Practicality of conservation action 1

Reliability of data 2

Human Impact 10

Conservation Importance 14

Atata

(52 ha) wooded, extensive reefs contiguous with Tongatapu; inhabited.

Hakaumama'o Reef

Isolated exposed reef without land area, relatively undisturbed.

Protected area

Hakaumama'o Reef Reserve (CRD)

267 ha
(126 ha)

Malinoa

Raised coral islet on isolated reef; historical interest, fish reef

Protected area

Malinoa Island Park and Reef Reserve (CRD)

(73 ha)

Fafa

Monuafa

(2 ha)
Low coral sand islet with scrub on extensive coral reef

Protected area

Monuafa Island Park and Reef Reserve (CRD)

(33 ha)

Pangaimotu

Islet on extension of Tongatapu reef, scrub and coconuts; coral reef somewhat degraded; tourism.

Protected area

Pangaimotu Reef Reserve (CRD)

(49 ha)

Onevai 16 ha**Motutapu 13 ha****Fukave 17 ha****Nuku 4 ha**

Important seabird rookery

Ata

All islets on reefs north of Tongatapu

'Euaiki

Raised coral (1 sq. km; 55 m); inhabited.

280 ✓ 'Eua

Area 88 sq. km Altitude 329 m

Island type: volcanic, two parallel ridges with cliffs and terraces on east coast.

Natural threats: cyclones, earthquakes

Human impact: agricultural development, forest cutting

Ecosystems: Lowland rain forest (best examples in Tonga) with

Celophyllum vitense and Filatostachys falcata, higher forest with

Alphitonia ziziphoides and Rhus taitensis; grasslands; scrub in central

valley; fringing reef; steep eastern coast with terraced pools rising to central ridge.

Special features: deep ravine with tree ferns and lianas

Endemism: Total sp. No. endemic % endemic E VRI

Plants 4

Insects

Other invert.

Rept-Amph.

Birds

Mammals

Marine life

Species of conservation interestPlants

Dryopteris euanensis (fern) endemic

Dryopteris macroptera (fern) endemic

Ixora yunckeri (Hunivau, flowering shrub) endemic

Dysoxylum tongense (Mo'ota, kula) endemic

Pittosporum yunckeri (Lauteau) endemic to 'Eua and Tongatapu

Maniltou amoxium (Tamanu) endemic to 'Eua and Vava'u

Insects

Other invertebrates

Reptiles-amphibians

Birds

Prosopelia tabuensis (Red-breasted Musk Parrot) possibly introduced from Fiji.

Mammals

Marine life

Proposed protected area: 'Eua National Park along eastern coast, ridge and summit.

Hydnangium conopsea (fungus) endemic.

Ratings

Natural conservation status 0
Ecosystem richness 2
Species richness 2
Economic pressure 0
Human threat 2
Natural vulnerability 2
Practicality of conservation action 2
Reliability of data 2
Human Impact 6
Conservation Importance 18

Kalau 2044

✓ 'Ata

Area 2.3 sq. km Altitude 355 m
Island type: high volcanic, with 2 peaks, coastal cliffs, plateau at 180 m
Natural threats: cyclones, earthquakes
Human impact: inhabited until 1860's; no feral animals
Ecosystems: rain forest; coconuts
Special features: important seabird rookery; few land birds
Proposed protected area: proposed as bird sanctuary or Biosphere reserve
Ratings

Natural conservation status 4
Ecosystem richness 1
Species richness 2
Economic pressure 0
Human threat 0
Natural vulnerability 2
Practicality of conservation action 2
Reliability of data 1
Human Impact 0
Conservation Importance 18

NIUE (Self-governing in free association with New Zealand)

Land area 259 km² Sea area 390,000 km²

Population 3,200 (1981) Density 13 persons/km² Growth rate (est.) -3.3%/yr

21. Niue

263.7

73

Area 259 sq. km Altitude 67 m

Island type: Raised coral platform with terraced cliffs, higher rim and karst topography, thin soil partly of volcanic ash origin

Natural threats: cyclones; high natural radioactivity

Human impact: agricultural development; some timber cutting; much degraded land from past agricultural use.

Ecosystems: limestone rain forest; coastal forest on terraces; secondary forest; scrub and fern barrens; fringing reef.

Special features: numerous caves and scenic coastal areas; rapid increase in degraded land over last 40 years from development and shifting cultivation.

Species of conservation interest

Plants

629 vascular plant taxa, including 175 indigenous species and varieties

Insects

no butterflies recorded

Other invertebrates

Reptiles-amphibians

Birds

(Polynesian Triller) endemic subspecies

Mammals

Marine life

Protected area

Huvalu Tapu Forest (traditional protected area since pre-European times)

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 1

Economic pressure 0

Human threat 0

Natural vulnerability 1

Practicality of conservation action 2

Reliability of data 2

Human Impact 0

Conservation Importance 12

Province IX
SAMOA - WALLIS AND FUTUNA

The central Polynesian islands of Wallis and Futuna and the two Samoas are relatively near each other and all at the same latitude, so they share many biogeographic features.

WALLIS AND FUTUNA (Overseas Territory of France)

Land area ^{176.7}211 (255) km² Sea area 300,000 km²
Population 12,408 (1983) Density 59 persons/km² Growth rate (est.) 4.0%/yr

Species of conservation interest

Plants

over 400 vascular plants (250 indigenous), 5 endemic species

Insects

2 species of butterflies

Other invertebrates

Reptiles-amphibians

Birds

Mammals

Marine life

Wallis Islands (Iles Wallis)

129 ✓ Uvea

Area ^{82.4}96 (60) sq. km Altitude ¹⁴⁵149 m

Island type: volcanic, relatively flat, within lagoon and barrier reef with 18 low coral or small volcanic islets.

Natural threats: cyclones

Human impact: pop. 8,084 (1983); most land cleared for subsistence agriculture; administrative centre and airport.

Ecosystems: pockets of lowland rain forest (15% of island in 1983); some secondary forest and scrub, grasslands, fernlands, Casuarina and Pandanus; fringing reef, lagoon rich in algae; barrier reef.

Special features: lake in crater; great pressure on land and resources from rapid population growth and returning migrants.

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 1

Economic pressure 1

Human threat 3

Natural vulnerability 1

Practicality of conservation action 0

Reliability of data 2

Human Impact 8

Conservation Importance 10

Horne Islands (Iles de Horne)

124 ✓ Futuna

Area ^{62.3}80 (65) sq. km Altitude ⁷⁶⁵762 m

Island type: high volcanic, deeply dissected with many streams

Natural threats: cyclones

Human impact: pop. 4,324 (1983); growing population pressure on limited resources, overfishing, soil erosion.

Ecosystems: wooded valleys, fernland and *Casuarina* on ridges, grasslands at 450-600 m; montane rain forest above 400 m; about 30% of the island is forested; fringing reefs up to 100 m wide (CRD).

Special features:

<u>Endemism:</u>	Total sp.	No. endemic	% endemic	E	VRI
Plants		3			1
Insects					
Other invert.					
Rept-Amph.					
Birds		5			
Mammals					
Marine life					

Species of conservation interest

Plants

3 endemic species

Acronychia retusa endemic to Futuna and Samoa, threatened

Insects

Other invertebrates

1 Partulidae (land snail)

Reptiles-amphibians

Birds

5 endemic subspecies, 2 shared with Alofi

(White-collared Kingfisher) endemic subspecies

(Polynesian Triller) endemic subspecies

(Fiji Shrikebill) endemic subspecies

Mammals

Marine life

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 2

Economic pressure 0

Human threat 3

Natural vulnerability 1

Practicality of conservation action 0

Reliability of data 1

Human Impact 6

Conservation Importance 12

113 Alofi

Area 32 sq. km Altitude 366 m

Island type: high volcanic with some raised coral

Natural threats: cyclones

Human impact: uninhabited?; timber cutting; extensive recent land clearing by returning migrants (1986).

Ecosystems: lowland rain forest; fringing reef

Special features: one of least disturbed high islands in western Polynesia, now subject to increasing clearing and burning.

Species of conservation interest

Plants

Insects

Other invertebrates

Reptiles-amphibians

Birds

(Blue-crowned Lory)

Mammals
Marine life
Ratings
Natural conservation status 1
Ecosystem richness 1
Species richness 1
Economic pressure 0
Human threat 3
Natural vulnerability 1
Practicality of conservation action 0
Reliability of data 2
Human Impact 3
Conservation Importance 12

SAMOA ISLANDS

Species of conservation interest

Plants

Insects

Papilio godeffroyi (butterfly) group endemic, rare or indeterminate

Hypolimnas thompsoni (butterfly) group endemic

Other invertebrates

many extinctions of ground-dwelling but not arboreal land snails

Reptiles-amphibians

Birds

Halcyon recurvirostris (Flat-billed Kingfisher)* group endemic

Lalage sharpei (Samoan Triller) group endemic

Rhipidura nebulosa (Samoan Fantail)

Myiagra albiventris (White-vented Flycatcher) group endemic

Pachycephala flavifrons (Yellow-fronted Whistler) group endemic

Gymnomyza samoensis (Black-breasted Honeyeater) group endemic,

Rare

Aplonis atrifusca (Samoan Starling) group endemic

Mammals

Marine life

WESTERN SAMOA (independent state since 1962)

Land area 2,935 (2,841) km² Sea area 120,000 km²

Population 156,000 (1981) Density 54 persons/km² Growth rate (est.) 0.7%/yr

<u>Endemism:</u>	<u>Total sp.</u>	<u>No. endemic</u>	<u>% endemic</u>	<u>E</u>	<u>VRI</u>
<u>Plants</u>			25%		
<u>Insects</u>					
<u>Other invert.</u>					
<u>Rept-Amph.</u>					
<u>Birds</u>	33	10	30%		
<u>Mammals</u>					
<u>Marine life</u>					

Species of conservation interest

Plants

ca. 200 species of ferns

plant species endemism for Samoa estimated at 25%

Insects

21 species of butterflies, all shared with other island groups

Other invertebrates

8 Partulidae (land snails)

some possible land snail extinctions

Reptiles-amphibians

7 species of lizards, 1 snake

Birds

33 land birds, 10 endemic species

Didunculus strigirostris (Tooth-billed Pigeon, Manume'a) unique species
of ancient origin, endemic to Savai'i and Upolu, Vulnerable (RDB),
requires large forest areas

Gallicolumba stairii stairii (Samoan Friendly Ground Dove)

Mammals

Marine life

Savai'i

1776

1858

Area 1,821 sq. km Altitude 1,857 m

Island type: high volcanic shield

Natural threats: volcanic eruptions, cyclones

Human impact: subsistence agriculture and plantations in most coastal
areas; extensive timber cutting.

Ecosystems: lowland and montane rain forests of different types
depending on age of volcanic substrate; cloud forest with many
endemics; scrub and grasslands on recent lava flows and uplands;
crater marshes and swamp forest; mangroves; fringing reefs along
some of coast.

Special features: active volcano last erupted in 1905-1911, lava flows
with different stages of colonization.

<u>Endemism:</u>	Total sp.	No. endemic	% endemic	E	VRI
Plants		?			
Insects					
Other invert.					
Rept-Amph.					
Birds		1			
Mammals					
Marine life					

Species of conservation interest

Plants

rich endemic flora at higher elevations

Insects

Other invertebrates

Reptiles-amphibians

Birds

Zosterops samoensis (Savaii White-eye) endemic

Pareudiastes pacificus (Samoan Wood Rail) probably extinct, but may
persist in upland Savai'i

Erythrura cyaneovirens (Red-headed Parrot-finch) declining

Didunculus strigirostris (Tooth-billed Pigeon) endemic to Savai'i and
Upolu, Vulnerable (RDB)

Gymnomyza samoensis (Black-breasted Honeyeater) group endemic,

Rare

Mammals

Marine life

Proposed protected areas in the 1975 National Parks System report:

Mount Silisili National Park
Tafua National Park
Lata Forest Strict Nature Reserve
Cape Puava Forest Nature Reserve
Maugaloa Nature Reserve
Taupou's Grave Lava Nature Reserve
Lake Mafane Nature Reserve
Lake Mautalano Strict Nature Reserve
Tufutafoe Nature Reserve
Vailoa Strict Nature Reserve
Sato'alepai Nature Reserve
Leanamoea Nature Reserve
A'opo Cave Strict Nature Reserve
Satufia Coral Sanctuary

Ratings

Natural conservation status 0
Ecosystem richness 2
Species richness 2
Economic pressure 0
Human threat 2
Natural vulnerability 2
Practicality of conservation action 2
Reliability of data 2
Human Impact 3
Conservation Importance 22

Apolima

Volcanic cone (5 sq. km; 166 m)

Manono

Volcanic and low coral sand (60 m) with fringing reef; densely populated and cultivated.

0902 **Upolu** ('Upolu)
Area 1,114 sq. km Altitude 1,113 m

Island type: high volcanic shield, with cones along E-W ridge

Natural threats: cyclones

Human impact: lower slopes largely cultivated; coconut plantations; increasing agricultural clearing at high elevations; some logging; capital and urban centre of Apia.

Ecosystems: several lowland and montane rain forest types; swamp forest; scrub and fernland; grasslands; crater lakes, streams and other freshwater habitats; mangroves; extensive fringing reefs and shallow lagoons with seagrasses along most of coast.

Special features:

Species of conservation interest

Plants

Insects

Other invertebrates

Thaumatodon hystrellicoides (land snail) only at high altitudes, threatened by ants.

Reptiles-amphibians

Birds

33 species including:

Didunculus strigirostris (Tooth-billed Pigeon) endemic to Savai'i and Upolu, Vulnerable (RDB)

Mammals

Marine life

Protected areas

O Le Pupu - Pu'e National Park (II)	2,857 ha
Palolo Deep Marine Reserve (IV) (CRD)	(22 ha)
Tusitala Historic and Nature Reserve	64 ha
Togitogiga Recreation Reserve	3 ha

Proposed protected areas in the 1975 National Parks System report

Lake Lanoto'o National Park
 Lake Olomaga National Park
 Mount Vaea Nature Reserve (expansion)
 Apolima'fou Nature Reserve
 Vaipu Nature Reserve
 Tiavi Nature Reserve
 Fui'pisia/Sopo'aga Nature Reserve
 Matautu Nature Reserve
 Pata Nature Reserve
 Fusi/Tafitoala Nature Reserve
 Sa'anapu Strict Nature Reserve
 Aqanqa Nature Reserve
 Nu'usafe'e Island Nature Reserve
 Salamumu Nature Reserve
 Satuimalufilufi/Fuailolo'o Coral Sanctuary
 Fusi/Tafitoala Coral Sanctuary
 Nu'usafe'e Island/Tafatafa Coral Sanctuary

Ratings

Natural conservation status 0
 Ecosystem richness 2
 Species richness 2
 Economic pressure 1
 Human threat 2
 Natural vulnerability 1
 Practicality of conservation action 2
 Reliability of data 2
 Human impact 6
 Conservation Importance 18

Aleipata Islands

Nu'utele, Nu'ulua, Namua, Fanuatapu

Area 1.75 sq. km Altitude m

Island type: volcanic tuff cones within Upolu reef system

Natural threats: cyclones

Human impact: accessible and easily visited, some former habitation, coconuts.

Ecosystems: lowland rain forest with Dysoxylum; coastal forest with Diospyros; beach scrub; fringing reefs and lagoon with seagrasses.

Special features: distinctive flora; seabirds on Nu'ulua; green turtle nesting area.

Species of conservation interest

Plants

Insects

Other invertebrates

Reptiles-amphibians

Birds

Gallicolumba stairii stairii (Samoan Friendly Ground Dove) on Nu'ulua

Mammals

Marine life

Proposed protected areas in the 1975 National Parks System report:

Aleipata Islands (Nu'utele Island Group) National Park
Namu'a/Fanuatapu Islands Coral Sanctuary

Ratings

Natural conservation status 2
Ecosystem richness 1
Species richness 2
Economic pressure 0
Human threat 1
Natural vulnerability 1
Practicality of conservation action 2
Reliability of data 2
Human Impact 1
Conservation Importance 20

Nu'usafu'e and ...

AMERICAN SAMOA (unincorporated territory of the United States)

Land area 197 km² Sea area 390,000 km²
Population 33,200 (1981) Density 169 persons/km² Growth rate (est.) 1.8%/yr

Species of conservation interest

Plants

489 vascular plant species (including introductions), 11 endemic species
140 fern species, including 16 endemic species
plant species endemism for all of Samoa 25%

Insects

22 species of butterflies

Other invertebrates

9 endemic land snails recently extinct or endangered

Reptiles-amphibians

Birds

Mammals

Marine life *... ..*

Tutuila

377 *...* Area 135 sq. km Altitude 653 m

Island type: high volcanic, with eroded mountain chain, steep slopes, and a more recent, relatively flat volcanic platform.

Natural threats: cyclones

Human impact: coastal urban development, particularly around Pago Pago Harbour; fish canneries; airport; subsistence agriculture and other disturbance have affected two thirds of the island and many coastal and reef areas.

Ecosystems: fragments of lowland rain forest (to 300 m) with Diospyros, Dysoxylum, Pometia and Syzygium; montane rain forest (remaining mostly on slopes 300-700 m) with Dysoxylum; montane scrub; swamps; mangroves; fringing reefs; submerged coral bank.

Special features: coral reefs well documented since 1917; upper part of Mt. Matafao of interest for land snails; introduced Bufo marinus (Cane Toad), Achatina fulica (Giant African Snail) 1975, Euclidina rosa (Carniverous Snail) 1979.

Endemism*	Total sp.	No. endemic	% endemic	E	VRI
Plants		2			
Insects					
Other invert.	19	11	58%	4	
Rept-Amph.					
Birds					
Mammals					
Marine life					
<u>Species of conservation interest</u>					

Plants

Drypetes sp. (Euphorbiaceae) endemic, localized

Elatostema tutuilense (Urticaceae) endemic, collected once

Insects

Other invertebrates

19 land snails, 11 endemics, 4 presumed extinct or nearly extinct, including:

Diastole matafaoi endemic, on Mt. Matafao, indeterminate, possibly extinct.

Samoa abbreviata (Short Samoan Tree Snail, Partulidae) endemic, indeterminate, possibly extinct

Reptiles-amphibians

Birds

Mammals

Marine life

174 species of hard corals in 48 genera and subgenera

Protected area

Fagatele Bay National Marine Sanctuary (IV) (CRD)

(66 ha)

Ratings

Natural conservation status 0

Ecosystem richness 2

Species richness 2

Economic pressure 2

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 3

Human Impact 11

Conservation Importance 22

667 Aunuu ('Aunuy)

Area 2.6 sq. km Altitude 61 m

Island type: volcanic islet with cone

Natural threats: cyclones

Human impact: village, some cultivation

Ecosystems: Diospyros coastal forest; mangroves; Pandanus littoral scrub; freshwater marsh; fringing reef.

Special features: crater lake, and mud lake "quicksand"; introduced Bufo marinus (Cane Toad).

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 1

Economic pressure 1

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

1) Diastole matafaoi proposed
(1985) - 1985
Diastole matafaoi
proposed (1985)

Human Impact 4
Conservation Importance 14

Manua Islands (Manu'a Islands)

4s70 Ofu 257.9 (1967) 494 (1971)

Area 8 sq. km Altitude 488 m

Island type: volcanic ridge with rich soil

Natural threats: cyclones

Human impact: coastal areas cultivated

Ecosystems: Dysoxylum forest on slopes; scrub; fringing reef

Special features: seabird rookery on Nu'utele Islet

Species of conservation interest

Plants

Insects

Other invertebrates

6 land snails, 2 endemics, 1 apparently extinct endodontid

Reptiles-amphibians

Birds

Mammals

Marine life

Proposed protected area: fringing reef at Papalola Point recommended as
Marine Sanctuary (CRD).

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 1

Economic pressure 2

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

Human Impact 5

Conservation Importance 17

4s69 Olosega 3.4 (1967) 494 (1971)

Area 5 sq. km Altitude 639 m

Island type: volcanic, with pyramidal peak

Natural threats: cyclones

Human impact: coastal areas cultivated

Ecosystems: forested slopes; fringing reef

Special features:

5s7022 Tau (Ta'u) 45.7 (1967) 965 (1971)

Area 44 sq. km Altitude 931 m

Island type: volcanic peak with crater

Natural threats: cyclones

Human impact: coconuts and other cultivation along coast

Ecosystems: lowland and montane rain forest; montane scrub; cloud forest
with Cyathea; fringing reef.

Special features: important bird habitat, especially petrels and
shearwaters; intermittent lake in crater.

Species of conservation interest

Plants

Insects

Other invertebrates

9 land snails, including 5 endemic or restricted species, 4 not found in
1975 and probably extinct: 1 endodontid, 3 charopids

Reptiles-amphibians

Olosega

National Park prop.

1975

CRD

approved (1988)

Birds

Mammals

Marine life

Ratings

Natural conservation status 0

Ecosystem richness 1

Species richness 1

Economic pressure 2

Human threat 1

Natural vulnerability 1

Practicality of conservation action 1

Reliability of data 2

Human Impact 4

Conservation Importance 22

Sooty rail eggs -
seen on Taa

Rose Atoll

Area 8 ha (650 ha including reef and lagoon) Altitude 3 m

Island type: low coral islet and sand bank on small atoll, lagoon with 1 small pass.

Natural threats: cyclones

Human impact: uninhabited; landing prohibited without permit

Ecosystems: atoll forest of Pisonia grandis; sand strand vegetation with Boerhavia and Portulaca (total 7 species); coralline algal reef with abundant corals on vertical surfaces; lagoon with sandy bottom and algae (CRD).

Special features: seabird rookery (11 breeding species) and turtle nesting area; one of the world's smallest, most isolated and least disturbed atolls.

Species of conservation interest

Plants

7 plant species

Insects

Other invertebrates

Reptiles-amphibians

4 species

Eretmochelys imbricata (Hawksbill Turtle) nestingChelonia mydas (Green Turtle) nesting

Birds

20 species of birds

Mammals

Marine life

over 200 species of fish

Protected area

Rose Atoll National Wildlife Refuge (CRD)
(656 ha including reef and lagoon)

8 ha

Ratings

Natural conservation status 3

Ecosystem richness 0

Species richness 0

Economic pressure 0

Human threat 0

Natural vulnerability 1

Practicality of conservation action 4

Reliability of data 3

Human Impact 0

Conservation Importance 14

Pisonia grandis
Boerhavia
Portulaca
C. mydas
E. imbricata
Rookery

Province X
TUVALU - TOKELAU

[AMERICAN SAMOA, continued]

✓ Swains Island (Olosenga)

Area 2.1 (2.6) sq. km Altitude 6 (8) m

Island type: atoll with closed brackish or freshwater lagoon

Natural threats: cyclones (first documented in 1927)

Human impact: pop. 50 (1980); cultivated 20 (1980)

Ecosystems: some Hernandia atoll forest and scrub; atoll reefs (CRU)

Special features: brackish lagoon

TOKELAU (Territory associated with New Zealand)

Land area 10 km² Sea area 290,000 km²

Population 1,600 (1981) Density 160 persons/km² Growth rate (est.) 0.0%/yr

Species of conservation interest

Plants

35 indigenous plant species and 16 introduced plants

Insects

1 species of butterfly

Other invertebrates

Reptiles-amphibians

Birds

Mammals

Marine life

Atafu

✓ Atoll with 42 islets (2.2 sq. km; 4 m) on triangular reef; beach scrub and coconuts.

Nukunono (erroneously spelled Nukunono)

Area 5.4 sq. km Altitude 4 m

Island type: atoll with 24 islets around large lagoon

Natural threats: cyclones

Human impact: cultivated, coconuts

Ecosystems: some atoll forest, scrub; atoll reefs and lagoon

Special features: remnant atoll forest on Tokelau and Long islets

Ratings

Natural conservation status 1

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 0

Reliability of data 1

Human Impact 3

Conservation Importance 6

Fakaofu

- ✓ Atoll with 61 islets (2.6 sq. km; 4 m) around rectangular reef, beach scrub and coconuts.

TUVALU (independent state)

Land area 26 km² Sea area 900,000 km²

Population 7,600 (1981) Density 292 persons/km² Growth rate (est.) 1.7%/yr

Species of conservation interest

Plants

Insects

3 species of butterflies

Other invertebrates

Reptiles-amphibians

Birds

Mammals

Marine life

284 **Nanumea**

- ✓ Narrow elongate atoll with 2 main islets (^{2.7}3.9 sq. km); 2 villages

285 **Niutao**

- ✓ Low coral island (^{2.8}2.6 sq. km) with small totally enclosed saltwater lagoon and mangrove swamp in centre; fringing reef; dense coconuts; highest population density in Tuvalu.

286 **Nanumanga**

- ✓ Low coral island (^{3.1}2.8 sq. km) with small totally enclosed saltwater lagoons and mangroves; one village.

281 **Nui**

- ✓ Elongate atoll with 8 large and several smaller islets (^{1.0}2 sq. km) at the two ends and along the eastern reef; one village.

287 **Vaitupu**

- ✓ Area 5.6 sq. km Altitude m
Island Type: low coral island with two small internal lagoons connected to the sea by small passes.

Natural threats: cyclonesHuman impact: subsistence cultivation, coconuts; some overfishingEcosystems: some mangrove and swamp, lagoons, broad fringing reefsSpecial features:Ratings

Natural conservation status 1

Ecosystem richness 0

Species richness 1

Economic pressure 0

Human threat 1

Natural vulnerability 1

Practicality of conservation action 0

Reliability of data 1

Human Impact 6

Conservation Importance 5

282 Lakema = ? m. 282

283 Fana'atapu = ? m. 283

Nukufetau

- ✓ Rectangular atoll with islets in corners, along southeast reef, and scattered elsewhere (2.8 sq. km) around large sheltered lagoon, one village.

Funafuti

- ✓ Area 2.8 sq. km Altitude m
- Island type: large atoll with about 30 islets
- Natural threats: cyclones (1891, 1958, 1972); 1972 cyclone caused extensive reef damage and built storm ridge of coral rubble.
- Human impact: capital of Tuvalu and major population centre; airstrip; borrow pits from airport construction; some overfishing.
- Ecosystems: coconuts; atoll scrub; small mangrove swamp inside main islet; atoll reefs and lagoon (CRD).
- Special features: 55 vascular plants recorded in 1904
- Ratings
- Natural conservation status 0
- Ecosystem richness 0
- Species richness 1
- Economic pressure 1
- Human threat 1
- Natural vulnerability 1
- Practicality of conservation action 0
- Reliability of data 2
- Human Impact 23
- Conservation Importance 5

Nukulaelae (Nukulailai)

- Elongate oval atoll with 3 large and 16 small islets (1.8 sq. km) on all but the central southwestern reef; one village.

✓ **Niulakita (Nurakita)**

- Small coral island (0.4 sq. km) with small fully enclosed lagoon areas in center, fringing reef; small village.

Kosciusko Bank

- Possible reef reserve