

Waigeo

NGUTIPA005

Country: **New Guinea**

Administrative region: **Papua (Province)**

Central co-ordinates: **-0.20147 N, 130.94927 E**

Area: **3155km²**

Qualifying IPA criteria

A(i), A(iii)

IPA assessment rationale

Criterion A(i): globally threatened species *Boea urvillei* (VU), *Dimorphanthera ovatifolia* (VU), *Rhodamnia waigeoensis* (VU), *Guioa waigeoensis* (VU), *Nepenthes danseri* (VU), *Wallaceodoxa raja-ampat* (CR).

Criterion A(iii): there are 13 highly restricted endemic plant species found only on Waigeo island. unique ultrabasic shrubbery vegetation type, also limestone karst. Steep and isolated mountains with a compressed set of ecosystem types (cline?).

Site description

Waigeo is the largest island in the Raja Ampat archipelago, located off the north-west coast of New Guinea. The island is almost divided into two by Mayalibit Bay, with the eastern and western sides joined by a narrow isthmus in the north. The coastline is steep and the interior is rugged, although not high elevation apart from several isolated mountains on the eastern side, the best surveyed of which is Mount Nok. The marine environment is famous for being the most biologically diverse in the world for coral reef species.

Botanical significance

There are 13 plant species which current data indicates are endemic to Waigeo. Of those that have Red List assessments, *Boea urvillei*, *Dimorphanthera ovatifolia*, *Rhodamnia waigeoensis* and *Guioa waigeoensis* are assessed as Vulnerable and *Alstonia beatricis* is assessed as Data Deficient. The pitcher plant *Nepenthes danseri* occurs on Waigeo and Halmahera islands and is assessed as Vulnerable. The near-endemic palm *Wallaceodoxa raja-ampat* has a preliminary assessment of Critically Endangered. There are three plants species only known from the small area of mossy montane forest on Mount Nok above 800 metres asl: *Dimorphanthera ovatifolia*, *Rhododendron cornu-bovis* and *Dendrobium azureum*.

Habitat and geology

Waigeo has at least nine vegetation types (Hamidi et al. 2017), of which the uncommon ones are the forests on ultrabasic and limestone substrates. Mayalibit Bay is a lagoon and mangrove ecosystem.

The higher elevation areas of Waigeo have compressed vegetation zones due to the Massenerhebung effect, with pseudomontane vegetation forming as low as 100 metres asl on hill tops (Widyatmoko 2010). The steep and isolated Mount Nok and Mount Danai has stunted mossy submontane forests above 800 metres asl, which is the only known habitat for several endemic species. Ultrabasic shrubbery.

Conservation issues

Extensive NGO and community involvement in ecosystem management (White et al. 2022). There was low impact logging over most of the lowland forests, targeting *Intsia* spp. but Waigeo forests are otherwise little disturbed. Waigeo is a popular tourist destination, particularly for divers and birders, so there is demand for infrastructure development, notably a ring road (Hamidi et al. 2017). The surrounding marine environment is one of the most biodiverse in the world, and any disruption to the terrestrial ecosystems causing increased erosion or sediment flow would impact these ecosystems (Waigeo modelled as a case study by Rude et al. 2016). Lagoon and mangrove ecosystem of Mayalibit Bay is an important crustacean and fish breeding area. Endemic Waigeo brush turkey. Wilson's bird of paradise (NT), Red Bird of Paradise (NT) found on Waigeo. Traditional management of marine and terrestrial ecosystems.

Site assessor(s)

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Charlie Heatubun, The Provincial Government of West Papua and Universitas Papua

Jimmy Wanma, State University of Papua

IPA criterion A species

SPECIES	QUALIFYING SUB-CRITERION	≥ 1% OF GLOBAL POPULATION	≥ 5% OF NATIONAL POPULATION	1 OF 5 BEST SITES NATIONALLY	ENTIRE GLOBAL POPULATION	SOCIO-ECONOMICALLY IMPORTANT	ABUNDANCE AT SITE
<i>Rungia heterophylla</i> <i>Bremek.</i>	A(iv)	—	—	—	—	—	Unknown
<i>Alstonia beatricis</i> <i>Sidiy.</i>	A(iii)	—	—	—	—	—	Common
<i>Alyxia laurina</i> <i>Gaudich.</i>	A(iii)	—	—	—	—	—	Unknown
<i>Dimorphanthera ovatifolia</i> <i>Sleumer</i>	A(i)	—	—	—	—	—	Unknown
<i>Rhododendron cornu-bovis</i> <i>Sleumer</i>	A(iii)	—	—	—	—	—	Unknown
<i>Boea urvillei</i> <i>C.B. Clarke</i>	A(i)	—	—	—	—	—	Unknown
<i>Rhodamnia waigeoensis</i> <i>N.Snow</i>	A(i)	—	—	—	—	—	Unknown
<i>Dendrobium azureum</i> <i>Schuit.</i>	A(iii)	—	—	—	—	—	Unknown
<i>Spathoglottis latifolia</i> (Gaudich.) <i>Garay & Ormerod</i>	A(iii)	—	—	—	—	—	Unknown
<i>Hydnophytum multituberosum</i> <i>Jebb & C.R.Huxley</i>	A(iv)	—	—	—	—	—	Unknown
<i>Guioa waigeoensis</i> <i>Welzen</i>	A(i)	—	—	—	—	—	Frequent
<i>Plesioneuron royenii</i> <i>Holtum</i>	A(iv)	—	—	—	—	—	Unknown

IPA criterion C qualifying habitats

HABITAT	QUALIFYING SUB-CRITERION	≥ 5% OF NATIONAL RESOURCE	≥ 10% OF NATIONAL RESOURCE	1 OF 5 BEST SITES NATIONALLY	AREAL COVERAGE AT SITE
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General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Moist Lowland Forest	—	Major
Forest - Subtropical/Tropical Moist Montane Forest	—	Minor

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Marine Coastal/Supratidal - Coastal Brackish/Saline Lagoons/Marine Lakes	–	

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	50	Major

Threats

THREAT	SEVERITY	TIMING
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Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Waigeo Barat	National Nature Reserve	IPA encompasses protected/conservation area	–
Waigeo Timur	National Nature Reserve	IPA encompasses protected/conservation area	–

Conservation designation

DESIGNATION NAME	PROTECTED AREA	RELATIONSHIP WITH IPA	AREAL OVERLAP
Waigeo Barat	Key Biodiversity Area	IPA encompasses protected/conservation area	–
Waigeo Timur	Key Biodiversity Area	IPA encompasses protected/conservation area	–

Bibliography

Widyatmoko, D. 2017. **Plant Diversity and Composition in Mount Nok and the Waifoi Forest of the Waigeo Raja Ampat Islands: with Special Reference to The Threatened Species.** Jurnal Biologi Indonesia, Vol 6(2), page(s) 195-209

Hamidi, A., Tibalia, J., Shomat, F. and Lunga, S. 2017. **Tree species composition of lowland hill forest on volcanic rock in Waigeo Island, Raja Ampat district, West Papua.** Proceedings of the International Conference on Tropical Plant Conservation and Utilization, page(s) 14-24

White, C.M., Mangubhai, S., Rumentna, L. and Brooks, C.M. 2022. **The**

bridging role of non-governmental organizations in the planning, adoption, and management of the marine protected area network in Raja Ampat, Indonesia. Marine Policy, Vol 14, page(s) 105095