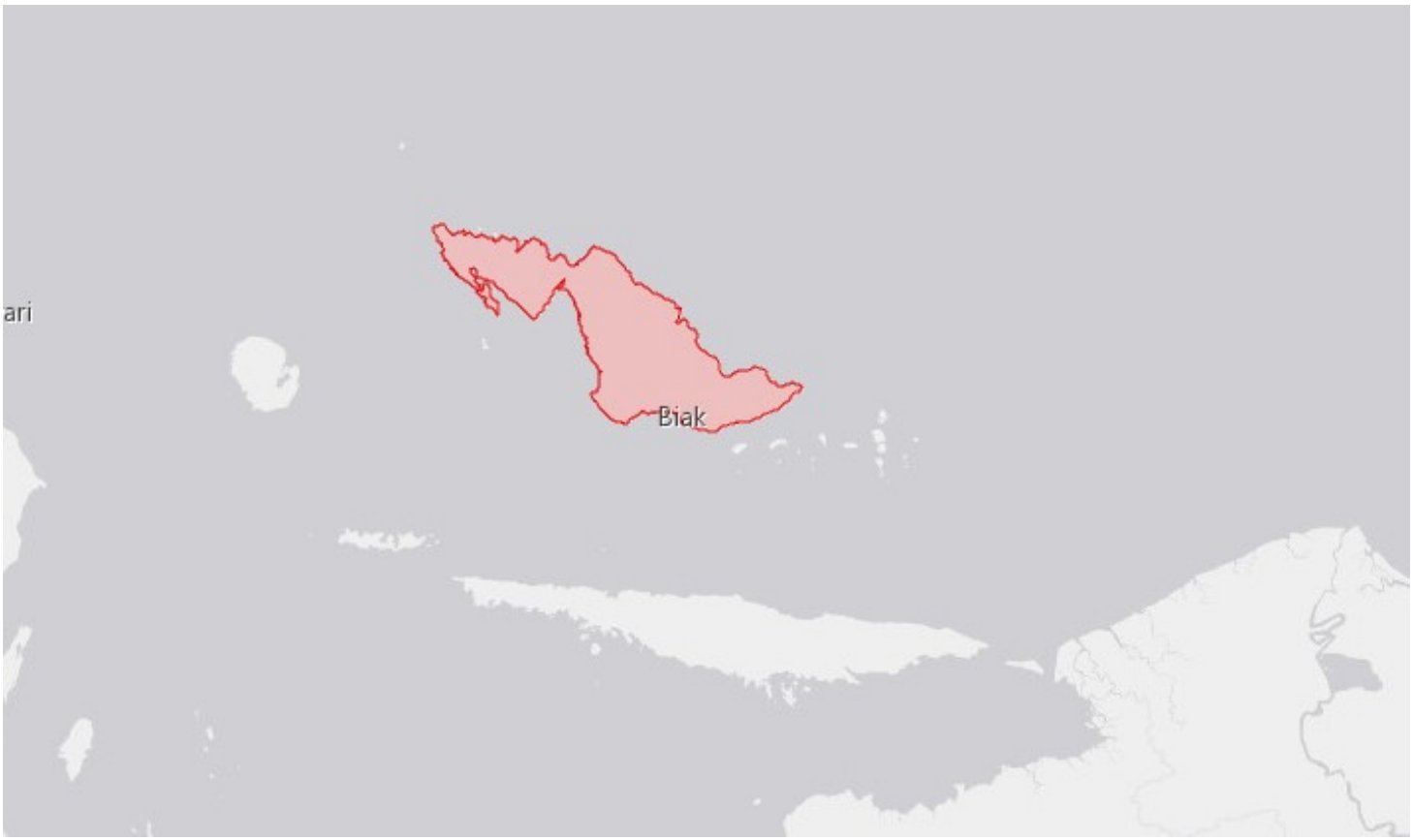
Available from https://tipas.kew.org/site/biak-supiori-island-2/
[Accessed 16 June 2026]

Biak-Supiori Island

NGUTIPA001



Country: **New Guinea**
Administrative region: **Papua (Province)**
Central co-ordinates: **-0.89334 N, 135.88111 E**
Area: **2654km²**

Qualifying IPA criteria

A(i), B(ii), B(iii)

IPA assessment rationale

Biak-Supiori Island is important for its unique biodiversity. It has seven threatened species and eleven species endemic to the island. It is the only site for the Critically Endangered Nepenthes biak. The flora of New Guinea has not been well studied, but groups that have been studied e.g. palms and orchids suggest a high level of endemism. The majority of the data available is from Biak and little is known about Supiori, which is largely covered by a protected area. The lowland forest is part of the Biak-Numfoor rainforest biogeographic unit and was extensively logged suring the colonial period and some areas have been highly degraded due to clearing for cultivation by the c.100,000 people who inhabit the island. The forest is highly valued as a source of medicines, fruits, animal fodder, building materials and cultural significance. Populations of Nepenthes biak are also threatened from wild collection to sell to tourists on passing cruise ships.

Site description

Biak-Supiori Island is situated approx. 150 km east of West Papua at the edge of the Sarera Basin. The island is made up of two islands (Biak and Supiori) separated by a channel. The island is forested and has a population of c. 100,000 people, predominantly in coastal settlements. Supiori is mostly covered by protected area status. It has a small hill range with the highest point at 880 m.
It is important for its unique biodiversity. Beehler (2007: 200) recognises 13 biogeographic units for Papua. The forest is part of the Biak-Numfoor rainforest. It is reported to have been logged extensively during the colonial period and some areas have been highly degraded due to clearing for cultivation and logging by the local population.

Botanical significance

Biak-Supiori Island is known to have a high biodiversity and is home to seven threatened species and eleven species endemic to the site and several New Guinea endemic species including Critically Endangered species Nepenthes biak and Madhuca boerlageana. Knowledge of plant species in Papua was so incomplete that Beehler was not able to draw upon any data for his paper.
One of the best studied plant groups in New Guinea are the palms (Palmae or Arecaceae). Although there is no overview of palm biogeography for Papua, the palm flora of Biak has been studied by Baker & Heatubun (2012). Among the 19 species that are recorded, four are endemic to Biak-Supiori. Five endemic orchid species and the carnivorous pitcher plant Nepenthes biak Jebb & Cheek (Cheek et al. 2018) are also restricted to this TIPA. Almost nothing is know about the flora of the higher parts of Supiori Island. Undoubtedly additional Biak-Supiori endemic plant species will be discovered as the botanical knowledge of Papua increases.
Most of the endemic species have been recorded in the settled SE part of Biak, suggested here as a buffer zone, and it is not known if the only protected area on Biak, the Biak Utar Nature Reserve, close to the bridge with Supiori Island, contains these species, nor in fact whether indeed the species extend to Supiori Island, or the other islands in the Kepulauan Biak (also known as the Schouten, formerly Geelvink) group, which include Numfoor.
In addition, the local population highly value the plant species for medicines, animal fodder and fruits. A total of 84 species have been recorded as having a socio-economic value.

Habitat and geology

Most of the islands, and certainly the SE portion of Biak, are comprised of soils over coral rag (limestone). The limestone is exposed as low coastal cliffs in some areas. Endemic species such as Nepenthes biak are considered to be possible limestone endemics (Cheek et al. 2018). The vegetation consists of lowland evergreen forest which in the settled part contains smallholder agriculture. The altitude of Biak does not exceed 300 m. Supiori Island has intact vegetation and rises to 900 m alt. likely containing cloud forest.

Conservation issues

Biak is relatively densely populated. It is reported as having been extensively logged in colonial times. Forest has also been cut down to clear land for planting (Wikramanayake 2002: 551). Nepenthes biak (Cheek et al. 2018) is threatened by collection from the wild for sales to passengers on cruise ships which call in at Biak, observed firsthand by McPherson (2009: 1061). Manjekia, the monotypic endemic palm, is traditionally used for floorboards and pillars in house construction on Biak, but is now Endangered (Heatubun et al. 2014).

Site assessor(s)

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Date of first assessment:
1st Oct 2019

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
Nepenthes biak Jebb & Cheek	A(i)	✓	✓	✓	–	–	Scarce
Hydriastele biakensis W.J.Baker & Heatubun	A(i)	✓	✓	✓	–	✓	
Guioa venusta Radlk.	A(i)	✓	✓	✓	–	–	
Madhuca boerlageana (Burck) Baehni	A(i)	✓	✓	✓	–	✓	
Flindersia pimenteliana F.Muell.	A(i)	✓	✓	✓	–	–	
Manjekia maturbongsii (W.J.Baker & Heatubun) W.J.Baker & Heatubun	A(i)	✓	✓	✓	–	–	

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

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Moist Lowland Forest	–	Major

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	–	Minor

Threats

THREAT	SEVERITY	TIMING
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	Medium	Ongoing - increasing
Residential & commercial development - Housing & urban areas	Low	Ongoing - trend unknown
Agriculture & aquaculture - Livestock farming & ranching - Scale Unknown/Unrecorded	Unknown	Ongoing - trend unknown
Biological resource use - Logging & wood harvesting	Unknown	Past, likely to return
Biological resource use - Gathering terrestrial plants - Intentional use (species being assessed is the target)	Medium	Ongoing - increasing

Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Pulau Supiori Strict Nature Reserve	National Nature Reserve	IPA encompasses protected/conservation area	420
Biak Utara Strict Nature Reserve	National Nature Reserve	IPA encompasses protected/conservation area	61

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