

Site Nomination for Peat Site Profiles in Southeast Asia	
Category:	Protected Area
Name of Site:	Rawa Aopa Watumohai National Park (TNRAW)
Country:	Indonesia
GPS Point:	Latitude: 4°00' - 4°36'S Longitude: 121°46' - 122°09'E
Location & Access:	<p>Administratively, Rawa Aopa Watumohai National Park is located in four municipalities, i.e. Konawe, South Konawe, Bombana and Kolaka, in the Province of South East Sulawesi. The national park's size is 105,194 ha or 2.75% of the Province of South East Sulawesi land (3,814,000 ha). The area can be reached easily from Kendari City (the capital city of South East Sulawesi Province) by 80 km road-trip to the Aopa swamp or 120 km to Lanowulu mangrove.</p> <p>How to reach the Park: Kendari-Lambuya-Aopa-Lanowulu by car, 4 hours (" 145 km); or Kendari-Punggaluku-Tinanggea-Lanowulu by car, 2.5 hours (" 120 km); or Kendari-Motaha-Tinanggea-Lanowulu by car, 3 hours (" 130 km).</p>
Total Area:	105194.00 hectare(s)
Background of Site:	<p>Aopa Swamp is the largest peat swamp in Sulawesi. The source of water in the swamp is rain water captured in the Makaleleo Mountain, which then flows to the Aopa Swamp. This water flows out of the national park through the Konaweha River and Aopa River. The swamp functions as a water reservoir and water flow controller. It provides run-off habitat and acts as a natural reservoir to preserve freshwater. Aopa Swamp also serves as a good example of a peat swamp habitat, mainly dominated by Cyperaceae family, such as wild sugarcane (<i>Hypolytrum nemorum</i>) and <i>Scleria scrobiculata</i>. This swamp is the sole representative of peat swamps in Sulawesi, and it is inhabited by some very endemic fauna species.</p> <p>Altitude: 0 - 981 m asl.</p> <p>Physical: The site is an area that extends and stretches from the southeast side of Sulawesi Island to the north. The area comprises of mangrove, savanna, lowland to sub-montane tropical rain forest and swamp area. Aopa Swamp is the largest peat swamp in Sulawesi Island. Geological formation of this area includes 7 (seven) formations, i.e. alluvium; alangga; boeapinang; langkowala; pampangeo complex; ultramafik complex and mangan.</p> <p>The landscape is generally flat, undulating and hilly in the south part, while in the middle and the north part are heavily undulating, this changes to mountainous steep slopes in the north with a gradient of 30o - 40o. The mountainous part includes Makaleleo Mountain (798 m above sea level) in the north, Watumohai Mountain (550 m above sea level) and Mendoke Mountain (981 m above sea level).</p> <p>Generally, the Sulawesi area is influenced by southwest monsoon wind that blows between September-March, and the southeast monsoon wind that blows between April-June. In reference to the climate zone division, the area comprises of 3 (three) climate zones, i.e. C2 zone in the north, C3 in the middle and D3 in the south, according to Scmidth & Ferguson (1951), with various annual rainfall range from 1,500 - 2,000 mm and the air temperature ranges from 20°C - 33°C. Highest rainfall in the south occurs between January and May until October, while in the north between January and March until June.</p> <p>Climatic conditions: Temperature 23° - 30° C</p> <p>Rainfall 1,500 - 2,000 mm/year</p> <p>Soil: The soil is dominated by podsollic soil type (35%). Other soil types are alluvial, cambisol, mediterranean and organosol.</p> <p>Ecology: This area is one of the most important conservation areas in Wallacea zone, located in the south eastern parts of Sulawesi Island. Ecologically, the national park has one of the most diverse ecosystem types, including mangroves, savannah, peat swamps and lowland tropical rain forests to sub-montane forests.</p> <p>There are 2 (two) wetland types that have very important values, a) Aopa Swamp and the</p>

catchment area of Makaleleo comprises of peat swamp and mangrove and the catchment area of Watumohai – Mendoke. Mangrove is important as the spawning ground and nursery area for fishes and shrimps. The mangrove also ecologically function to hold back the sea water intrusion and waves, and also to reduce down the wind.

Physical Vegetation: Rawa Aopa Watumohai National Park consists of swamp (13,236 ha), of mangroves (6,711 ha), and also of sub-montane forest to lowland tropical rain forest and savannah (85,247 ha).

Others: In the northern part of the area, Rawa Aopa region has been designated as Nature Reserve which was characterized by the presence of unique peat swamp and various water birds in it. This area has a strategic role as the representative of peat swamp in Sulawesi as well as conservation area for water birds and migrant fauna. There are more than 200 birds with vulnerable status of Aroweli (*Mycteria cinerea*) species that live in this area especially during dry season.

Significant Value of Site:

- Biodiversity
- Hydrology
- Cultural & Historical Value
- Socio-economic

Notes:

The savanna vegetation of this Park is unique, being a combination of grassy plains with fan palms, thorny bamboo, bushes and other plants growing along the rivers that flow through the savanna.

There is a remarkable variety of plants in this Park. It has been recorded that there are at least 89 families, 257 genera, and 323 species of plant such as lara (*Metrosideros petiolata*), sisio (*Cratogeomys formosum*), kalapi (*Callicarpa celebica*), tongke (*Bruguiera gimnorrhiza*), fan palm (*Borassus flabellifer*), and lotus (*Victoria sp.*).

Various species of bird also inhabit the Park: 155 species have been recorded, of which 32 are endangered and 37 are endemic. Those 155 bird species include the maleo fowl (*Macrocephalon maleo*), lesser adjutant stork (*Leptoptilos javanicus*), woolly-necked stork (*Ciconia episcopus episcopus*), collared kingfisher (*Halcyon chloris chloris*), sulphur-crested cockatoo (*Cacatua galerita triton*), vinous-breasted sparrowhawk (*Accipiter rhodogaster rhodogaster*), Sulawesi black pigeon (*Turacoena manadensis*), and Nicobar pigeon (*Caloenas nicobarica*).

The eastern tarsier (*Tarsius spectrum spectrum*) and black-crested macaque (*Macaca nigra nigra*) are among the primate species to be found here. Endangered and protected animals in the Park include lowland anoa (*Bubalus depressicornis*), mountain anoa (*B. quarlesi*), water-hagedis dragon (*Hydrosaurus amboinensis*), small cuscus (*Strigocuscus celebensis celebensis*), Timor deer (*Cervus timorensis djonga*), Sulawesi palm civets (*Macrogalidia musschenbroekii musschenbroekii*), and babirusa (*Babyrousa babyrousa celebensis*).

Hydrology:

Hydrologically, the site is a significant area for watershed protection. It comprises of Konawehea, Poleang and Roraya Watersheds. Water from this site is a source of water in many rivers (e.g Lambandia, Roraya, Langkowala, Aopa and Poleang rivers). The area is important for water supply for households, farms, and agricultural areas.

- Water from the catchment area flows to Aopa Swamp, the outflow unites with Konawehea River, this then discharges into Sampara River (Sampara River is the water source of Kendari City Drink Water Territory Company).
- Aopa Swamp works as a water reservoir and water controller, from the catchment area to the runoff;

in this regard, the site is a good example of run-off and freshwater reservoir.

- When river flow is high, water of Konawehea River (the unification of Aopa and Lahumbuti Rver) increases the amount of water in Aopa Swamp. So the function of the swamp is to control the water flow in the river systems downward the swamp (Anon, 1981 in Mustafa, M & Henderson, Gregory).

- Water from the catchment area of Watumohai – Mendoke Mountains eventually makes its way to the coastal area. The water used by surrounding communities is important for farming irrigation (among other, dams of Langkowala and Mokupa), fresh water (Drink Water Company of Atari and Pinanggotu).

- Mangrove is important as the spawning ground and nursery area for fish and shrimps. The mangrove also ecologically function to prevent wave and sea water intrusion.

- This national park is important for groundwater recharge and is a source of fresh water for local communities.

Soil: Peat ; mineral soil

Cultural & Historical Value :
Pulau Harapan II: located in the centre of Rawa Aopa, a good place for viewing the natural panorama of the swamp and watching water fowl, fish, and boating.

Lanuwulu Beach: travelling downriver by boat to the beach, mangrove forest, swimming and marine tours.

Mt. Watumohai: climbing and camping. On the slopes of the mountain, there is a savanna plain where hundreds of deer can be seen grazing, along with other animals and birds.

A cultural attraction outside the Park is the Tolaki Festival, held in Kendari in December.

Best time of year to visit: June to October.

Socio economic:
Aopa Swamp is important for local communities because there are fish is a source of livelihood.

The Totole (*Hypolytrum nemorum*) leaves provide raw materials for handicrafts, such as plaited mats and hats.

The coastal area (mangrove) is the main area that produces the best shrimps and fish more than other coastal areas in south east Sulawesi. The total economic value of mangrove forest resource (direct use value) of Rawa Aopa National Park area (south Konawe) in 1 year is equal to Rp 1,224,147,750 (Prasetyo; 2008).

Designated use (status/legal classification):	- National Park/State Park International recognition (e.g RAMSAR Man & Biosphere Reserve (MBR) etc.)
Major Issues:	Land encroachment, illegal logging and illegal hunting.
Site Jurisdiction & Administration:	Decree of Minister of Forestry Number 756/ Kpts-II/1990; TN Rawa Aopa Watumohai as the fourth Ramsar sites in Indonesia
Peatland Type:	Lowland
Management activities:	<p>a) Past Illegal logging and encroachment can be found all around the peat swamp. Draining the swamp, by using channels to discharge water in order to open agriculture farms, occurred in south Konawe and Kolaka regencies. This activity is a concern because it ruined the swamp's functions as a water regulator and destroys wild species habitat. Hunting and poaching of waterfowl eggs by local hunter's occurred in Aopa Swamp. In mangrove, problems are dominated by illegal logging.</p> <p>b) Current</p> <p>c) Potential Recreation, research, and fisheries of swamp and mangrove.</p>

	<p>The current management efforts are focused on protecting and preserving the area. This decision is made in order to maintain the area's ecosystems, especially the ones still intact. Socialization and outreach programs to local communities focusing on issues of protection and security (laws and regulations), law enforcement, and strengthening cooperation with public attorney offices of southeast Sulawesi, etc. Other activities being conducted are local community economic improvement programs.</p> <p>The greatest number of visitors to the site come for the purpose of education and research activities. The visitors rarely come for recreation activities. Recreation activities in wetland include traveling along the river, canoeing, bird watching, while traditional fishers still conduct their activities at the site.</p>
<p>Facilities & Activities Available on Site:</p>	<p>The site has a permanent research location for university students and researchers from domestic and foreign education and research institutions. The site is visited by students from elementary schools, junior high schools, senior high schools and universities.</p> <p>Management has prepared the forest of Tatangge as an Environment Education Center. The available facilities in the site comprise of: gate, interpretation trail, shelters, public toilets, information sign boards, guest houses, information center and camping ground.</p>
<p>Institution Responsible for the Site:</p>	<p>Name of Organization: Ministry of Forestry Balai Taman Nasional Rawa Aopa Watumohai</p> <p>Postal Address: Ministry of Forestry Balai Taman Nasional Rawa Aopa Watumohai</p> <p>Central office : Tatangge village, Subdistrict of Tinanggea, South Konawe Regency, Tel./Fax. : +62-408-21377</p> <p>Connecting office : Bunga Kana Street 6, Watu-Watu village, Subdistrict of West Kendari Kendari City, Province of South East Sulawesi</p> <p>Phone: +62 401 3128138</p> <p>Fax: 0</p> <p>Website: http://www.dephut.go.id/INFORMASI/TN%20INDO-ENGLISH/aopa_NP.htm</p>
<p>Nominated by:</p>	<p>Name: Lailan Syaufina</p> <p>Organization: Bogor Agricultural University (IPB)</p>