

Dark jewels of nature

Peat swamps don't get that much love, but they can offer natural sights like no other. Here, the **Global Environment Centre** brings you seven sites worth getting wet and swampy for.



DESPITE HAVING large areas of tropical peatland in Southeast Asia, many of us are not familiar with these swamps with their organic soils and dark, tea-like waters. And that's a shame, as these wetlands host a plethora of natural treasures rarely found elsewhere.

Peatlands are characterised by the percentage of organic matter in the soil. Peat soils contain at least 65% organic matter in its makeup. Most of these are undecomposed or partly decomposed plant parts – roots, leaves, twigs that accumulate over thousands of years in the swampy ground – thanks to the lack of oxygen and acidity of the water.

Over the years, large areas of peatlands have been logged, drained and converted to plantations. We think this is quite tragic, as while dry peatlands can burn and create the dreaded haze, well-managed peatlands are beautiful; which is why they are sometimes

referred to as “black water jewels”. To pique your interest, we offer a summary of seven peatland sites near you in Malaysia and Brunei Darussalam that are very much worth a visit. Do note that many of them are within forest reserves, so please get in touch with the relevant departments managing these forests before you venture into them.

North Selangor Peat Swamp Forest, Selangor

This is the largest expanse of peat swamp forest in Selangor, and second-largest on Peninsular Malaysia. Covering 81,000ha, it is even larger than Singapore!

The forests were once logged, but a moratorium on logging has been in place since 2008. Several degraded areas are being rehabilitated through a joint effort involving the Selangor Forestry Department, Kuala Selangor Municipal Council, Global Environment Centre (GEC), corporate donors and local communities.

Peat swamps, sometimes called black water jewels, can be beautiful areas offering natural treasures. The Maludam National Park in Sarawak, for example, is a stronghold for the rare red-banded langur endemic to Borneo

For those looking for a village experience, head to Kampung Sungai Sireh in Tanjung Karang to join the Peatland Discovery trip. This ecotourism package will bring visitors by boat along Sungai Tenggi, to the Sungai Karang Forest Reserve where they can learn about and explore the peatlands, and see some of the products found in it. Visitors will be plied with delicious *kampung* food before they depart for home.

The North Selangor Peat Swamp Forest is an amalgamation of five forest reserves and managed by two forest district offices. Visitors will need permits from the Selangor Forestry Department before entering the forest reserve. Groups interested in learning more about peat swamp forests can request the department for a guided visit to the Centre of Excellence in Compartment 73 of the Raja Musa Forest Reserve.

Gunung Brinchang Mossy Forest, Cameron Highlands, Pahang

Located atop Gunung Brinchang in the highlands within the Central Forest Spine, this unique forest is one of the few montane peat areas found in Malaysia. Several other sites have been suggested, but have yet to be confirmed. Unlike lowland peatlands, smaller pockets of montane peat are found in areas where rainwater and moisture keep the soil waterlogged.

To get to this forest reserve from Brinchang town, a four-wheel-drive vehicle is highly recommended due to the steep and uneven roads. A boardwalk over the ridge that separates the states of Perak and Pahang offers breath-taking views of the forests below.

As the name suggests, the trees in this area are covered with many types of moss; from wispy ones that hang off branches to



thick ones that cover rocks and roots on the ground. Dotted among the moss are gems such as beautiful, large pitcher plants, orchids and colourful herbs. An edible berry can also be found growing in this area.

Top:
Pitcher plant found in Kayangeran, Sarawak

Bottom:
The view over the highlands within the Central Forest Spine

The ridge connects to other mountains on the Titiwangsa Range, the nearest being Gunung Irau. While there will be many hikers plying the route, do note that entry into the forest trail requires a permit from the District Forest Office of Raub and Cameron Highlands. This was enforced to protect the undergrowth from being trampled by overzealous visitors vying for the perfect selfie in the “fairy garden”.



Maludam National Park, Sarawak

Over in East Malaysia, this beautiful dark water gem is located to the east of Kuching city, in Betong Division between the Batang Lupar and Batang Saribas rivers. The journey takes four hours by land, including two ferry rides across Batang Sadong and Batang Lupar, before arriving at Maludam village.

The national park covers 53,568ha and is managed by the Sarawak Forestry Corporation, with an entry fee payable at park headquarters. There is no accommodation inside the park, but nearby villages offer homestay facilities which include room and board.

A river safari on community-run boats takes you into the park, encompassing a tour running up to three hours, with one or two stops along the way. Inside, you can enjoy dark and pristine peat waters, with vegetation covering the banks right to the middle of the river, in a stronghold for the rare red-banded langur (*Presbytis chrysomelas cruciger*) endemic to Borneo. There are also proboscis monkeys (*Nasalis larvatus*) as well as various varieties of amphibians, reptiles and insects living in the undisturbed forest.

With threats from encroaching plantations, illegal loggers and poachers, protection of the park is challenging, and a trip by naturalists would be beneficial to highlight what a good peat swamp forest looks like.

Kayangeran Forest Reserve, Sarawak

Situated in Lawas District, Limbang Division, between the borders of Brunei and Sabah, the speciality of the Kayangeran Forest Reserve is the stands of *Dacrydium* trees, the only conifer species found growing on peat in lowland.

Previously listed as Least Concern, *Dacrydiums* are now classified at Endangered in the IUCN Red List of Threatened Species. Though managed by the Sarawak Forest Department as a reserve, the area is facing threat of encroachment by settlers for agriculture and illegal logging.

As you trek through the dense forest, you will come across many pitcher plants, red palms, rattan palms and many other species. Bordering the peatlands, there is an unusual stand of mangroves. The relationship between peatlands and mangroves are not evidently clear, but both are often found close together.



Klias Peat Swamp Field Centre, Sabah

By the border from Sarawak, this field centre is located on 3,620ha of protected forest on the Klias Peninsula, just 20 minutes by car from Beaufort. Opened in 2006, the centre receives over 5,000 visitors per year and is equipped with a large hall, dormitories, prayer rooms and camping grounds, making it ideal for camping, team building sessions and other activities.

A boardwalk extends 2.7km around the buildings to the river beyond, while two watch towers enable visitors to see for miles around. The dominant tree around the centre is the swamp kapur (*kapur paya* or *Dryobalanops rappa*), while also found there are pitcher plants (*Nepenthes* sp.) and a large number of birds, including the rare hook-billed bulbul (*Setornis criniger*). Lucky visitors may see proboscis monkeys in the trees and fireflies at night.

The centre is surrounded by more than 20 villages where pineapple, oil palm and other crops are cultivated. There is a mix of land types within the Klias Peninsula, including peatlands, mineral soil and mangrove areas towards the coast.

Belait peat swamp forest, Brunei Darussalam

Within the borders of Brunei, accessible by boat from Belait town, are the rich banks of the Belait River as it flows 32km from its source to the sea. In a village called Kuala Balai, some floating houses can be seen along the river banks. Some are built on land, but right up to the river's edge. The river banks are covered in thick vegetation, peatland forests that are thousands of years old. In some areas, you can find large, pure stands of *Shorea albida*, known locally as *alan batu*, which are endemic to northwest Borneo and mainly occur in peat swamp forests.

A boat trip can yield sighting of various primates, hornbills, water birds and other species. But, do choose an operator with well-maintained boats equipped with emergency gear and satellite phones, as the dense jungle can cut off communication lines, making search and rescue more difficult in an emergency. You can enquire



with the Brunei Forestry Department for recommendations.

In Brunei, the banks of the Belait River house rich peatlands forests thousands of years old

Badas Peat Dome and Forest Reserve, Brunei Darussalam

Forty minutes from Kuala Belait, this is the largest peat dome in Brunei and a protected site, so do seek permission for entry. The access road has an oil pipeline running alongside it, cutting through the dome. This makes the area prone to fires during the dry season.

Visitors entering the forest reserve will find a *kerangas* forest, characterised by sandy soil with shallow organic layer where the endangered Borneo kauri (*damar minyak* or *Agathis borneensis*) can be found. There are also large stands of *Shorea albida*, which interestingly produces two timber types – *alan bunga*, a lighter wood produced from juvenile trees, and the heavier *alan batu* produced from mature trees. They form remarkably pure stands of taller trees at the edge and shorter ones towards the centre of the dome.

In the undisturbed canopy cover, the peat is as thick as 8m or more. Rattan palms and pitcher plants (*Nepenthes* sp.) can be found in the undergrowth. Pitcher plants are able to survive the acidic and low nutrient environment by obtaining nutrients from insects caught in their traps.

The Global Environment Centre is a non-profit organisation working on environmental issues of global importance. Its projects include monthly tree-planting activities within the North Selangor Peat Swamp Forest. To find out more, visit www.gec.org.my