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## Malaysia: The environmental impacts of draining peat swamps

Southeast Asian countries --particularly Indonesia and Malaysia--, have over 20 million hectares or 60 percent of the world's tropical peatlands. Peat swamps occur inland just beyond coastal mangroves and often spread over some 3km to 5km on the floodplain of rivers. They are characterised by an 8m to 20m thick layer of peat, which is mainly semi-decayed plant material accumulated over some 8,000 years. As long as the peaty soil is saturated with water, the swamp ecosystem is in balance. Peat swamps are like sponges that absorb and soak up excessive rain and river water, thus controlling floods during the rainy season and releasing much needed water supplies during the dry season.

Draining peat swamps for oil palm, rubber, logging, aquaculture, industrial and residential development, or to mine tin and peat, spells trouble. Canals dug into the peat bleed the swamp of its water content. When the water level recedes, the upper layer of plant material dries up, thus becoming combustible fuel especially during the dry season.

Lowering water tables and opening up the forest canopy promotes the risk of fire in peat soils. In October 1995, 16 hectares of the Bukit Tinggi Forest Reserve, adjacent to the North Selangor Peat Swamp Forest in Batang Berjuntai, went up in smoke. In early 1989, a fire at Batang Berjuntai raged for three months. In 1997, Wetlands International noted four blazes in Malaysia in Southeast Pahang Peat Swamp Forest, Raja Musa and Sungai Karang Forest Reserves, which make up the North Selangor Peat Swamp Forest in Sabak Bernam, Selangor, and parts of the Kuala Langat North Peat Swamp, also in Selangor. The most publicized peat fire was the Kampung Penadah in Pekan, Pahang, where 160 hectares of forest were razed. It took two weeks for fire fighters to douse the flames. Peat fires produce many times more smoke per hectare than other forest fires, and they are almost impossible to extinguish without restoring the water levels in the swamps.

Drained peat swamps will lose their ecological functions of soaking and storing water to mitigate floods and as a water catchment; buffering coastal lands from the intrusion of salty marine water; filtering pollutants which will otherwise degrade lakes, rivers and groundwater; providing timber and non-timber products; and providing critical wildlife habitat, particularly for the endangered Sumatran rhinoceros. Once dried, the peat will oxidise and break down, causing the soil to collapse. Peat swamp also functions as a carbon store. The semi-decayed vegetation locks up large amounts of carbon, preventing it from escaping into the atmosphere as carbon dioxide, the main contributor to global warming. If peat swamps in Malaysia continue to be drained, the peat fires here coupled with the Indonesian peat fires, would worsen the haze situation. Prolonged peat fires release massive amounts of carbon dioxide, contributing to global warming and long-term climate disruption.

Nearly all state-owned peat forests are earmarked for farms, plantations, residential estates or industrial sites, all of which require the peat forest to be drained. Of the 800,000ha of peat swamp in the peninsula, only 340,000ha remain today. Of this only about 200,000ha are protected as forest and game reserves. The largest remaining peat swamps are found in Pahang and Selangor.

In Perak, the Melintang and Teluk Intan Swamp Forests have been almost totally converted to oil

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palm plantations.

Article extracted from Sahabat Alam Malaysia's web page: "Peat Swamps."  
<http://surforever.com/sam/a2z/content4.html>