

# SOME CHARACTERISTICS OF PEAT IN LOAGAN BUNUT NATIONAL PARK, SARAWAK, MALAYSIA

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## SUMMARY

Peat swamp forests (PSF) in Malaysia, which once occupied 2.4 million hectares have been decreasing rapidly as they are transformed into other uses. The understanding of PSF is vital in order to conserve the remaining stand and its associated ecosystems as well as to enable sustainable use of its resources. The Peat Swamp Forest Project (MAL/99/G31) is an initiative of the Government of Malaysia with the assistance of United Nations Development Programme/Global Environment Facility (UNDP/GEF) in three sites in Malaysia. Started in June 2002, this Project aims to promote conservation and sustainable use of PSF and associated wetland ecosystems in Malaysia. Peat assessment forms one of the many studies undertaken by the Project and is carried out in two parts. The first part is the baseline study of peat while the second deals with gaseous emissions from peat. Reported here is the first part of the study conducted in one of the project sites (Loagan Bunut National Park (LBNP) Sarawak), which specifically aims to assess the peat depth, topography of the peat swamp basin, peat profile morphology, and physical and chemical properties of the peat in relation to the forest type growing on it. Information obtained from the study will be used for formulating effective management prescriptions for the peat resource of the LBNP to ensure its protection and conservation. More than 30 km of traverse lines consisting of 15 transects across the PSF were cut during the study.

**Keywords:** tropical peat, ombrogenous peat, hydraulic conductivity

## INTRODUCTION

Peat swamp forests (PSF) are unique habitats for flora and fauna, containing a high proportion of endemic species (Page et al., 1999). They play an important role in stabilizing the ecosystem, particularly in regulating drainage, microclimate, water quality and soil formation. They also serve as gene banks of potentially useful plant species. Malaysia originally had 2.4 million hectares (ha) of PSF. However, the area has markedly decreased over the years as it had been converted to other land uses. Conversion of PSF for land development necessitates clear felling of the forest, followed by draining of water out of the surface of the system, which inevitably causes drastic and irreversible changes to ecological functions and ecosystem integrity (Boelter, 1969).

The Peat Swamp Forest Project is an initiative of the Government of Malaysia supported by United Nations Development Programme/Global Environment Facility (UNDP/GEF) to promote the conservation and sustainable use of the highly significant and fragile ecosystem of tropical peat swamp forest. As part of this project, a peat soil study was carried out to describe and evaluate the characteristics of the peat swamp at the LBNP for a more prudent management of the resource (Melling et al., 2006a).