

**SIGNIFICANT COASTAL HABITATS,  
WILDLIFE AND WATER RESOURCES  
IN LAMPUNG**

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by

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## I. Introduction

Lampung Province has been developing very rapidly (27% growth of GDP for 1993 to 1996), and inevitably this produces a range of negative impacts to the environment which might detract from the overall benefits of development. Over the past three decades, Lampung has seen the most rapid clearance of lowland forest of any province in Sumatra. Even West and East Java, which are notorious on their loss of natural habitats, have a greater proportion of their lowlands set aside under conservation status than Lampung.

Of primary concern is the loss of lowland biodiversity as Lampung's natural habitats disappear. This is generally the irreversible result of development, as in the case of mangroves and freshwater swamp forests. Uncontrolled transmigration in recent decades has also resulted in serious degradation of the watersheds. Some 38,000 families living in the critical watersheds were scheduled for resettlement in the lowlands under the Translok program (Binnie and Partners, 1994). Within the basin of Lampung's largest river, the Tulang Bawang, forests occupied 46% of the plains and wetlands in 1969, but by 1987 only 23% remained. Only the foothills and mountains of the Bukit Barisan range in the upper river catchment do still contain closed forests. The remainder is lost or in a very critical condition, with open secondary growth at best.

The second cause for concern is the widespread impact of industries on environmental quality along the coast. More than 28,000 small and large industries are now registered with the provincial government. Decisions on land allocations for agro-industries and brackishwater shrimp farming (tambak) have resulted in sub-optimal development in a number of places, and have led to pollution, coastal erosion, loss of valuable coastal habitats (e.g. mangroves), and conflicts between sectors such as tourism and industry. Processing of crops such as tapioca and sugar cane causes severe river pollution with resultant fish mortality. Road construction, environmental management, and institutional support invariably lag behind the agricultural industry and services, making it important to invest in infrastructure facilities to sustain balanced development.

Very little, if any, of Lampung's natural habitats along the coast have escaped the impact of development, in most of cases uncontrolled, or the ignorance of proper spatial planning of resources and exploitation. A good example of this development scenario is the establishment of about 27,000 ha of brackishwater fish and shrimp ponds in an area of 17,000<sup>1</sup> - 56,500<sup>2</sup> ha of partly protected mangroves. However, little of the coastal habitat degradation is caused directly by poverty of traditional coastal communities. Large-scale, government-sponsored transmigration programs, uncontrolled population influx, and urban expansion have brought a rising demand for land and basic products such as water, food and fuel (including mangrove fuelwood and charcoal), and supporting infrastructure.

The high market prices fetched for shrimp grown in tambak aquaculture operations, and government policies and officials proclaiming the importance of shrimp as a national export product (e.g. Repelita V), have vigorously supported the unbridled expansion of this land-use along the coasts of Lampung, with the loss of nearly 90% of the area's mangroves as a result. The possession of tambak generally indicates a higher social status even if the fishpond appears to be non-productive, and this also contributed to the uncontrolled growth of this land use. Contrary to common reports, most coastal communities in Lampung have little regard for the importance of mangroves in sustaining their lives, and consider these forest to be of no value other than for occasional exploitation for firewood and poles. The conversion to tambak is considered doubly attractive because mangrove

<sup>1</sup>Bina Program, Ministry of Forestry (1982)

<sup>2</sup>Based on RePPProT (1988)

Paspalum spp., and with alang alang (*Imperata cylindrica*) in the dryer areas. In the wettest parts close to river banks, various sedges grow with *Heleocharis* spp., *Eleocharis* spp., *Scleria* spp. and *Scirpis* spp. and *Cyperus* spp. The margins of these swamps are bordered with remains of swampy shrubland where *Pandanus* spp., *Melaleuca cajuputih*, *Nauclea* spp., *Melastoma* spp., *Oncosperma tigilaria*, *Cyrtostachys lakka*, and the occasional *Gluta renghas* grow.

The sawah all covers former freshwater swamps, which due to the available water resources and their typical heavy and compact gley-soils, are very suitable for growing wetland rice. Part of the coastal paddy fields have recently been converted into brackishwater shrimp farms, reportedly covering at least 2,000 ha to date (Zainal, et al., 1998).

**Fauna:** Outside the protected area of Way Kambas few mammal species survive, though historically these sites were known to be as rich as many of the famous wildlife areas elsewhere in Sumatra (e.g. with Sumatran Rhino, Tapir, Sumatran Tiger, Elephant, etc.). Small populations of monkeys survive in the riparian forest and probably in the gelam and other swamp forests of Tulang Bawang, with populations of silvered leaf monkey (*Presbytis cristata*) and long-tailed macaque (*Macaca fascicularis*), and possibly pig-tailed macaque (*Macaca nemestrina*), sambar deer (*Cervus unicolor*), and wild pig (*Sus scrofa* or *Sus barbatus*). It is, however, only a matter of time before these species disappear as well, due to habitat loss and hunting, with the possible exceptions of the wild pig and long-tailed macaque.

Way Kambas was established as game reserve by the Dutch administration in 1937 and upgraded to National Park in 1989 by the Ministry of Forestry. However, the area fell victim to commercial logging between 1968 and 1974. This was followed by eight years of illegal logging by local people. The effects of these two periods of timber exploitation combined with the invasion of agricultural settlements and repeated forest fires have completely altered the natural forest vegetation. Despite this, the area is still surprisingly rich in wildlife, and contains all key wildlife species characteristic of lowland Sumatra, with at least 37 mammals, including elephant, tapir, Sumatran rhino, Sumatran tiger, sun bear, sambar and barking deer, two otter species and eight species of primates. Both the rhino and tiger are closely monitored by the internationally-sponsored Proyek Tiger and Proyek Rhino. Recent inventories using infrared cameras proved that the population of Sumatran tiger is much larger than previously thought. At least six tigers are resident in the area and, more importantly, 15 tigers frequently use or pass through the area from neighboring lands, which indicates the importance of wisely managing the surrounding forest areas. Tigers, tapirs and rhinos prefer the swampy habitats along the coast.

The natural swamps along the coast have been heavily impacted by economic development, impoverishing both flora and fauna. But this does not entirely apply for the diversity of birds and fish, as proven by the rich array of species found in both the Way Kambas and Tulang Bawang swamps. Way Kambas N.P. is a real birders' paradise with at least 300 species of birds (Jepson, 1997; Himbio, 1995). Famous water birds using the coastal swamps include the endangered white-winged wood duck (*Cairina scutulata*), the rare Storm's stork (*Ciconia stormi*), the vulnerable milky stork (*Mycteria cinerea*), the vulnerable lesser adjutant (*Leptoptilus javanicus*), and the Pacific Reef Egret (*Egretta sacra*). All these species are protected under Indonesian law. The area is one of the last strongholds of the white-winged wood duck, with between 24 and 38 birds, the largest population left of this treeduck in Sumatra. Unfortunately, Way Kambas is not safe from negative impacts to habitat and fauna. Regular forest fires, intensive illegal poaching of fish in the coastal swamps, hunting of duck, and infrastructure development in support of tourism are taking their toll on the white-winged wood duck.