

Quantifying Habitat and Resource Use Changes in the Segara Anakan Lagoon (Cilacap, Indonesia) over the Past 25 Years (1978-2004)

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Abstract	<p>This study assesses the changes in habitat and resource use of the Segara Anakan lagoon (SAL) located in Cilacap, Indonesia in relation to coastal development over a period of 25 years. The SAL was chosen for this study due to its social importance and its ecological significance, as it is one of the few mangrove areas left in Java, and the lagoon area is rapidly decreasing. The SAL ecosystem was mapped from 1978 through 2004 using satellite images and a GIS package to determine coastal habitat area changes. The main changes in land cover and land use involved the conversion of a large part of the estuary to new land (2966.8 ha) and mangrove area (3497.2 ha), and the subsequent conversion of these areas, and of older sections of the mangrove forest, to rice agriculture, semiintensive fishponds, new settlements and other land uses (11,315.6 ha). Over the whole period the largest portion of mangroves was converted into rice fields (8886 ha or 43.2% from the total mangrove area). The mangrove decrease amounted to 1.4% per year since the last decade. Land use resulted from increased urbanization, and the expansion of agriculture and aquaculture, which lead to problems of settlement encroachment on agricultural land, land reclamation from swamps, silt deposition in the lagoon, and a decrease in fishery catches. This research provides an account of the coastal habitat and resource use changes in Segara Anakan, and their implications for coastal resource management and provides the ground work for a forthcoming ecosystem-based assessment of the Segara Anakan natural resources via the application of a trophic modelling approach.</p>
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