The Preliminary Assessment of Mangrove Status at Payung Island in Musi Estuary, Indonesia#

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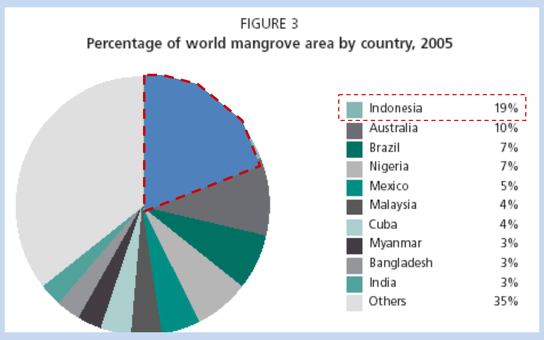
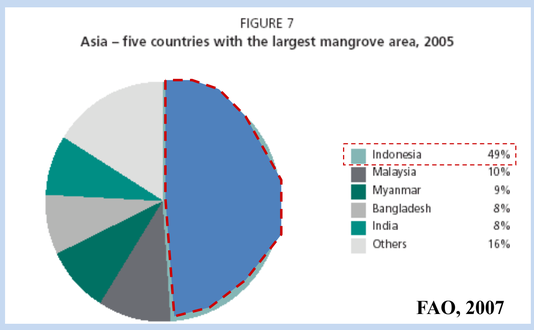
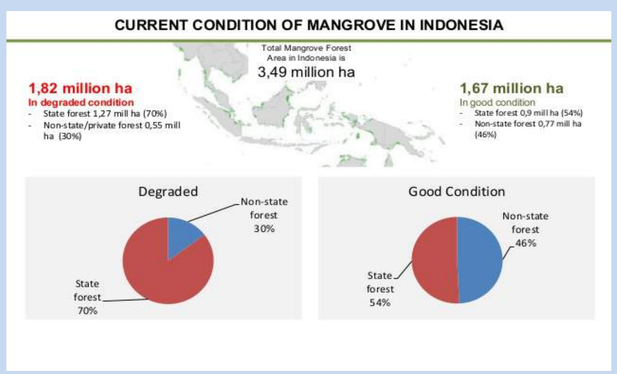
Abstract

Payung Island which located in Musi Estuary, the longest river in Sumatera, hosts a dense mangrove cover in South Sumatera, Indonesia. Mangrove is known to be a highly productive ecosystem and has many functions ecologically. However, human pressure around this area and increasing demand for land represent increasing threats to mangrove. The aims of this research were to investigate the changing of mangrove coverage in 2009 – 2019. In the present study, the mangrove coverage together with species composition was evaluated through remote sensing (Landsat-8) and ground-truth (Transect Quadrat Method) observations. The results showed that the major mangrove composition dominated by 4 genera, *Avicennia, Sonneratia, Rhizopora*, and *Nypa*. The mangrove coverage decreased slightly from 497.65 ha in 2009 became 488.49 ha in 2019.

- Indonesian's mangrove are the largest mangrove in the world with coverage about 19 % from world's mangrove area which equal with 49 % of Asian's mangrove (FAO, 2007).







Source: Ministry of Environment and Forestry, Directorate General of Watershed Management and Protected Forest, 2018

Mangrove of South Sumatera, one of the largest mangrove area in Indonesia, with high risk of degradation.

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Increasing the Mangrove Protected Area

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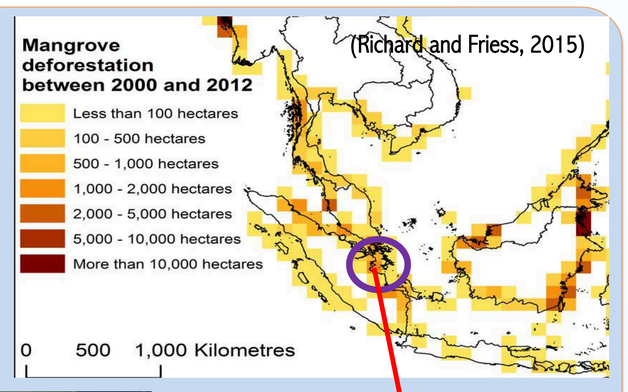
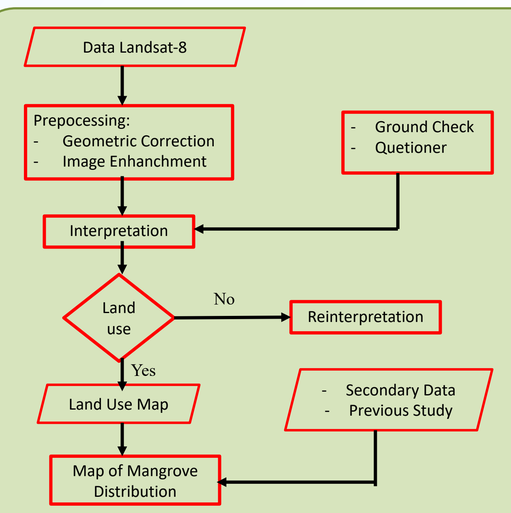
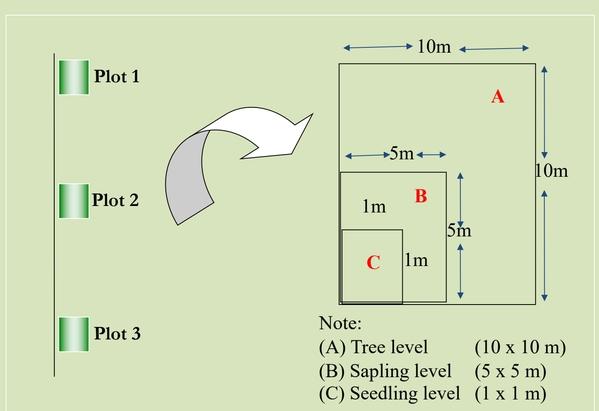
Payung Island which located in Musi Estuary, hosts a dense mangrove cover in South Sumatera, stated as Coastal Protected Area based on KEPMENLHK no. 866 in 2014.

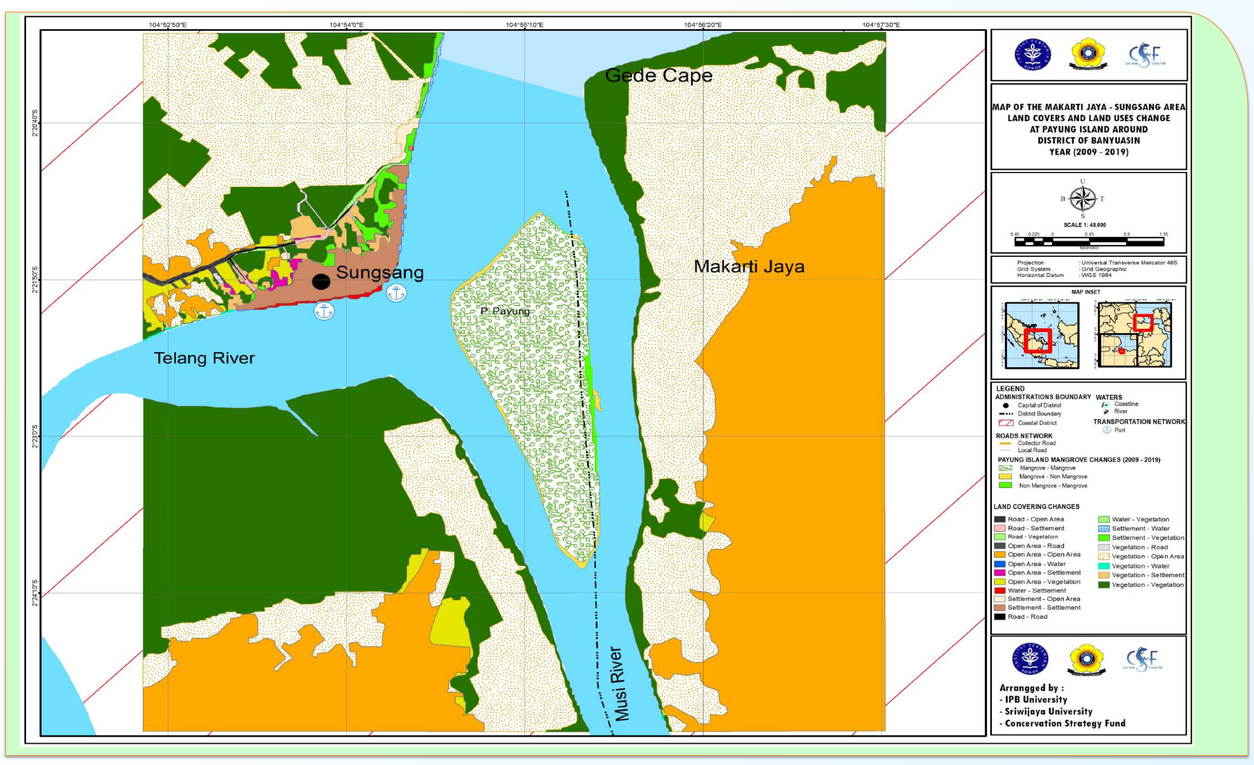


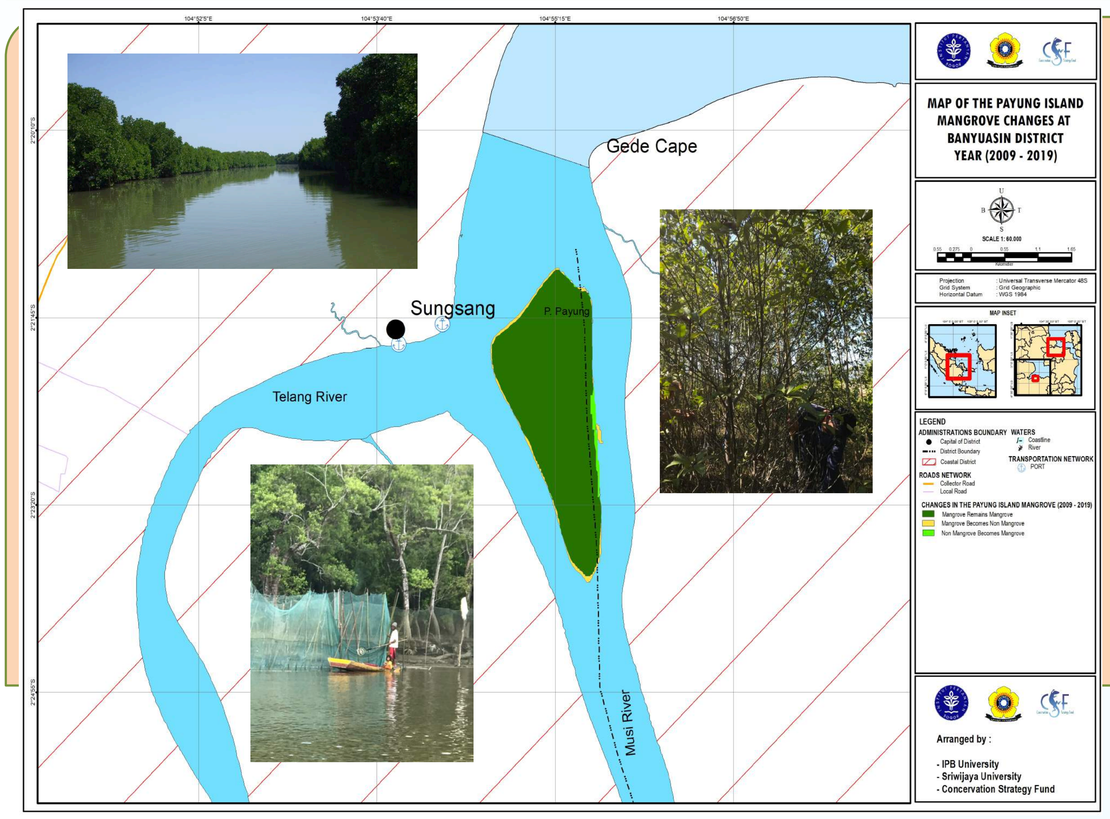
Source: Google Earth





The mangrove coverage together with species composition was evaluated through remote sensing (Landsat-8) and ground-truth (Transect Quadrat Method) observations.





Mangrove Condition of Payung Island between 2009-2019

No.	Category	Change of mangrove area from 2009 to 2019 (ha)
1	mangrove - mangrove	479,78
2	mangrove - non mangrove	17,86
3	non mangrove - mangrove	8,70

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- Richard, DR and Friess, DA. 2015. Rates and drivers of mangrove deforestation in Southeast Asia, 2000–2012. PNAS 113 (2): 344-349.

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