

**Assessment of Damage to Mangroves in Taklong Island National
Marine Reserve, Guimaras, Philippines:
10 years after the 2006 Oil Spill**

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ABSTRACT

Approximately 2 million liters of bunker C was spilled by M/T Solar I off the coast of southern Guimaras on August 11, 2006. This is the worst oil spill in the country to date that affected the mangroves within Taklong Island National Marine Reserve, Nueva Valencia, Guimaras. Rapid assessment of impacts on the mangroves was done one month after the spill and long-term monitoring done from 2007-2014. This study was conducted to determine the mangrove status 10 years after the spill in terms of community structure. Specifically, it determined a) species composition, b) stand basal area, c) stand height, d) relative density, e) relative dominance, e) relative frequency, f) importance value, g) index of diversity, h) species evenness, i) density of seedling, saplings and trees. In addition, leaf area was also determined as an indicator of health conditions of species present. The same five stations in earlier studies were used, namely Bagatnan, Pototan, Taklong island (oiled), Tandog and Taklong island (unoiled), Nueva Valencia, Guimaras. Results showed that the community structure showed an improvement especially in stand, basal area, wilding and tree density while no change in terms of species diversity due to the absence of new species. The leaf areas of mangroves in Bagatnan indicated some signs of stress but showed an improvement since 2006. In general, the oil-affected mangroves in TINMR has shown signs of recovery. However, it is recommended that additional monitoring activities be conducted.

Keywords: mangroves, community structure, guimaras oil spill, bunker c, recovery.