

ABSTRACT**Biological Sensitivity Of Coastal Environments In
Trinidad To Oil Spills.**

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The coastline of Trinidad is considered a high risk zone to accidental oil spills. The extent of potential damage is in part related to the biological composition of the intertidal region of coastal habitats. This information can be quantified into an oil spill biological sensitivity index to coastal habitats.

The intertidal zones of fifteen representative coastal sites, were sampled quantitatively for macrofauna. Sampling was done once during a dry season and a wet season. On soft substrate sites, macrofauna were obtained from six replicate 0.1m² quadrats. On hard substrate sites, macrofauna were obtained from five replicate 0.1m² quadrats. In the mangrove swamp, macrofauna from six mangrove roots were sampled at each station.

Faunal parameters (density, biomass, species diversity and a species list), together with existing physical data at each site, were used to develop the oil spill biological sensitivity index.

The index is based on a scale of 1 to 10. Sheltered

habitats with high productivity are the most sensitive to spilt oil, and are given an index value of 10. Exposed habitats with low productivity are the least sensitive to spilt oil, and are given a value of 1. The index applied to coastal habitats in Trinidad is as follows : mangrove swamps (10), coral- algal reefs (9), sheltered rocky coasts (8), sheltered tidal flats (7), mixed sand and gravel beaches (6), sheltered fine to medium grained sand beaches (5), exposed rocky shores (4), exposed tidal flats (3), exposed medium to coarse grained sand beaches (2), and eroding wavecut platforms (1).

This oil spill biological sensitivity index can be used in contingency planning for potential oil spills and in preparing resource maps of the coastline of Trinidad.

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