

## **Marine Pollution**

### **The Problem**

Illegal oil discharge from commercial shipping that pump their bilges in the Malacca Straits is causing an environmental and economic disaster through loss of habitat, coastal erosion, species extinction and depletion of fish stocks. We estimate the cost of this issue to be around USD \$2.4 billion per annum to say nothing of the loss of habitat and species extinction.

Currently our Coastguard does not benefit from satellite data capable of identifying those responsible for illegal bilge discharge. Aircraft and drone systems deployed to observe the Malacca Straits do so primarily in anti-piracy operations although if they identify oil spillage then it is reported. This has led to our coastguard being reactive to the problem, attempting investigation after pollution arrives on the shoreline or by good fortune during routing patrols.

Our Coastguard and Law Enforcement assets need the most up to date information possible to enable early investigation, anti-pollution control deployment and interception of offenders. Our government and judiciary needs empirical evidence to support clean up levies, fines and prosecution of offenders.

Our government needs current data relating to the shape of coastal erosion that results from the loss of mangrove to intervene where coastal defence systems are required to replace lost habitat and apply a long term solution.

To this end the Government of Malaysia formally requests support from UKSA in provision of advice and possible solution that may embed into our existing capability by way of enhancement.

### **Context**

The Malacca straits shipping lane is one of the most important and the second busiest (600 ships per day of which 200 are considered 'large') behind The English Channel. Using the Malacca straits in preference to Indonesia's Lombok Straits, super-large tankers ferrying crude oil from the Middle East to the Far East can save up to 1,600 km on their journey. Cargo shipped via Malacca Straits includes crude oil, toxic chemicals and radioactive substances- Japan reprocesses 90% of its nuclear material in Europe, and those shipments travel through the Straits. An estimated USD \$1 Trillion in cargo value passes through the Malacca Straits per year.

The majority of oil pollution is caused by operational discharges from oil tank and cargo area cleaning. Commercial shipping operators are obliged under MARPOL to dispose of pollutants in a strictly environmentally friendly manner. In the Malacca Straits the Commercial Shipping Companies are disregarding MARPOL largely because of weaknesses in policing and prosecuting them.

Residue oil from a tanker after unloading is estimated to be 0.1% of its total original load. The residues are washed off with sea water and eventually discharged via bilge pumping which deliberately circumvents the MARPOL compliant management and cleanup systems. Consequently, an estimated 8 tons of heavy oil waste is discharged daily into the Straits destroying marine life and eventually washing up on the coastline decimating the shore habitats. Commercial shipping companies are saving enormous sums of money by disposing of bilge and cleanup waste doing this – estimates are that 10% of the running cost of a ship is the MARPOL compliant disposal of residue oil from storage tanks. MARPOL permits discharge of oil only when it amounts to 15 ppm and has been processed through the appropriate, licensed systems that are subject to audit by national coastguard authorities around the world.

### **Impact Statement**

#### **The impact on habitat**

Much of the coast of Malaysia adjacent to the Malacca Straits is categorized as mangrove. Mangrove refers to a non taxonomic grouping of woody, halophytic spermatophytes that occur along low energy coastlines, deltas, estuaries and embayment's throughout the tropics and subtropics. Mangrove is considered to be a biogenic habitat which means that the trees themselves create the habitat. Death of the mangrove through the inundation of oil destroys the habitat with cascading catastrophic effects on all life therein. Life in the Mangroves ranges from mammals through invertebrates, fish and birds to reptiles. Mangroves are teeming with life some of which is becoming endangered.

#### **The impact on Coastal Erosion**

For Millennia the mangrove has provided a natural barrier against the sea. Communities are now affected more than ever by coastal erosion and subsequent flooding through high tides and stormy weather. The entire coastal profile is gradually changing because of the loss of the mangrove.

## **The impact on aquaculture and fishing**

The fishing industry in the Malacca Straits consists of large scale and traditional indigenous operators. Typically, fish and crustaceans such as crab, mussels, oysters and cockles comprise the bulk of the catch. Oil from commercial shipping illegal bilge pumping has decimated fish stocks by depriving marine life their usual nursery habitat – the mangrove. The total value of the Malaysian aquaculture and fisheries sector is around USD \$1.4 Billion

## **The Action Plan – What action Malaysia will take with the information and advice provided**

The Environmental, Pollution Management and Coastguard agencies of Malaysia need information to achieve the following:

- Identify and track commercial ships that are conducting illegal bilge pumping so enable Malaysian Agencies to:
  - Identify offenders for follow up interception by Coastguard assets.
  - As evidence contribution to support Malaysian prosecution of MARPOL regulation 9.
  - As supporting evidence to allow the environmental agency to establish the cost of clean-up.
  - Deploy pollution control measures such as floating booms to protect the shoreline and mangrove
  - To identify areas that require clean-up for urgent action by Malaysian National Agencies.
- Detect the presence of oil in the mangrove areas to enable Malaysian Agencies to:
  - Direct clean – up operations
  - Apply human, animal and fishery protection measures
  - Assess the damage to affected mangrove and apply treatment
- Measure the potential for coastal erosion to
  - Assess the potential for flooding and apply coastal defence against tidal flooding

The Malaysian government will:

- Use the information/data/methodology outputs developed in the Program to work alongside our national initiatives in this area and measure the effect they have over existing performance.
- If proven more effective and within a cost effective solution the program outputs will be:
  - Used to inform government policy and national strategy in dealing with this criminal activity
  - Embedded into law enforcement responder working practice.

