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Sea Spill Oil Collection

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Abstract: ***The goal of this project to understand the ocean spill oil pollution problem. And how does this pollution affect our Marine animals life and how we stop this pollution. This project particularly focuses on collection of Spill / Leakage Oil from Sea. Sea spill oil contains crude oils like Petrol, Diesel, Kerosine and petroleum's jails. This technology is very efficient and easy to use for sea ships without any more difficulties. Recently used sea spill oil collection technology is more critical and very hard to implement. Oil spills are a very dangerous occurrence, for the marine ecosystem is affected and the marine life-forms' existence gets unnecessarily threatened. Since exploration of oil from oceanic resources has become a must and oil spills end up occurring accidentally, as a result, it becomes important to employ various oil spill cleanup methods.***

Keywords: Sea, Oil, pollution

1. Introduction

This project used the running technology of sea leakage oil collection, leakage oils like crude petrol, diesel, kerosine and petroleum's jails. In export / import trading, sometimes oil tanks are leakages due to sea activities or expoligen of tanks. This leakage oil spill on the water surface, due to this spill oil water culture animals have breathing problems. In total, we found that the **oil** spill has likely harmed or **killed** approximately 82,000 birds of 102 **species**, approximately 6,165 sea turtles, and up to 25,900 marine mammals, including bottlenose dolphins, spinner dolphins, melon-headed whales and sperm whales.

2. How it Works?

Oil Spills can caused by

- Equipment breaking down.
- Natural disasters such as hurricanes, storm surge or high winds.
- Deliberate acts by terrorists, acts of war, vandals or illegal dumping.
- People making mistakes or being careless.

Most oils float on the oceans' saltwater or freshwater from rivers and lakes. Oil usually spreads out rapidly across the water's surface to form a thin oil slick. As the oil continues spreading, the slick becomes thinner and thinner, finally becoming a very thin sheen, which often looks like a rainbow.

Depending on the circumstances, spill oil can be very harmful to marine birds, sea turtles and mammals, and also can harm fish and shellfish. Oil destroys the insulating ability of fur-bearing mammals, such as sea otters, and the water repelling abilities of a bird's feathers, exposing them to the harsh elements. Many sea birds and animals also swallow oil and are poisoned when they try to clean themselves or when eating oiled prey.

But irrespective of these, oil spills are a serious concern as they can inflict a lot of damage to the ecosystem. The effects are experienced not only in the area of the spill, but can also expand over vast regions to negatively impact shorelines and terrestrial wildlife thousands of metres away from the site of the spill.

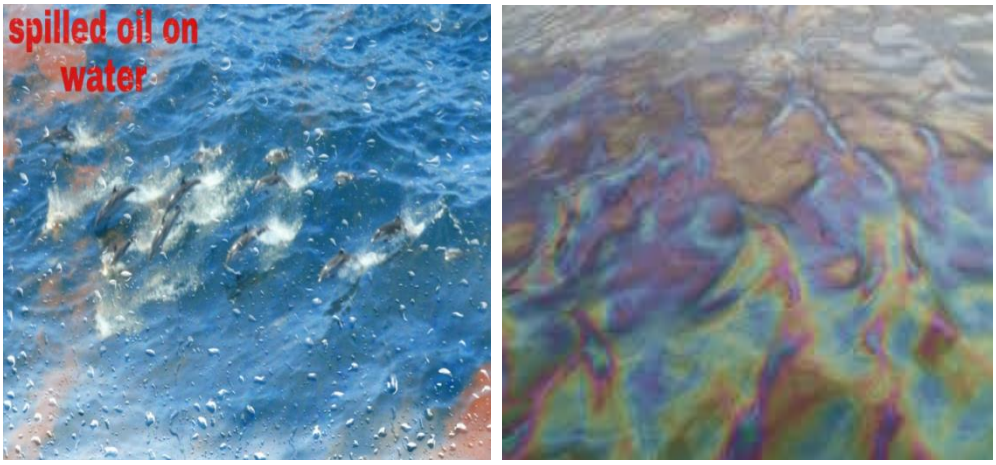

Figure A & B: Spill Oil on Sea Water Surface

Fish and shellfish can also digest oil, which could cause changes in reproduction, growth rates or even death. Commercially important species such as oysters, shrimp, mahi-mahi, grouper, swordfish and tuna also could suffer population declines or become too contaminated to be safely caught and eaten. Depending on just where and when a spill happens, from a few up to hundreds or thousands of birds, fish, mammals, reptiles, corals and other animals and plants can be killed or injured.

Oil is one of the most abundant pollutants in the oceans. About 3 million metric tons of oil contaminates the oceans annually. Oil spills vary in their severity and the extent of damage they cause. This can be attributed to variations in the oil type, the location of the spill, and the weather conditions present. The spread and behaviour of spilt oil in the seas is governed by a variety of chemical, physical and biological processes.

Using Technology

Recently marine engineers mostly used technology for finishing sea spill oils are burning of floating sea oils, due to this burning of oils may cause air as well as water pollution. Also due to this burning of oils some marine animals are also burned. Due to this daily sea spill oil burning process many species of marine animals are coming to an end.

This all problems are solved by using our project / marine technology. This project is very simple and easy to use and implement on any ships.

Mainly we use Polypropylene thinnet for collection of sea spill oil. This technology is very efficient to use and very cheap and easy to implement.

Figure C: Sea Spill Oil Collection using our technology

Currently using technology in sea spill oil collection

a) Using Skimmers :

- Skimmers can be used to effectively recover most of the spilt oil, so it is economically viable.
- The presence of debris poses a major roadblock to this technique, as skimmers can get clogged easily.

b) Using Sorbents :

- Sorbents after absorption become heavier (3 to 15 times their weight), and as a result, may sink, making them difficult to retrieve and also pose a risk to aquatic life in the sea bottom.
- They are most effective in small spills or to manage the leftover traces of a larger spill.

c) Using Dispersants:

- The toxicity of dispersants can affect marine organisms, especially the non-mobile ones such as corals and seagrass.

d) Hot Water and High-Pressure Washing

- The released oil must be immediately and adequately recovered to prevent any further contamination.
- Organisms falling in the direct spray zone have a high chance of being adversely affected by the hot water.

e) Natural Recovery

- It is one of the most cost-effective methods.
- It is a highly time consuming and unreliable process and thus needs constant and close monitoring. It should not be confused with ‘sitting down and doing nothing’.

f) Chemical Stabilisation of oil by Elastomers

- It is a quick action method, with typical reaction times of 15-40 minutes.
- While PIB is non-toxic and commonly found in foodstuffs, the gelatin may pose a risk of entangling or suffocating the aquatic animals.

But this technique has not proved to be so effective. Overcum of this technology we have a better solution to solve above all problems and issues. We are sustaining to implement this technology and more efficiently to give a better solution over recent problems of sea spill / sea leakage oil collection.

3. Conclusion

In this project we conclude that recently using sea spill oil collecting technology is not more efficient for implementation and not for future use. If we continue to use this technology then we are not sustainable to stop sea pollution and we are way towards losing endangered species of marine culture. Although it is the largest to date, the Gulf oil spill was simply the latest in a string of ongoing and inevitable spills produced in the Gulf. More than 320 known spills involving offshore drilling have occurred there since 1964. Spills massively degrade ecosystems and all of the wildlife dependent on those ecosystems in the Gulf. Clean-up efforts only remove a fraction of the persistent oil and gas spilled. The remainder of the oil, including millions of gallons remaining in the Gulf, will continue to poison wildlife for generations. Besides the direct harm to wildlife, the spill impoverishes the people of the Gulf and the nation, who depend on this rich body of water for food, culture, environmental enrichment and recreation.

This all issue / sea pollution and loosing of endangered marine species are easily be solved by this technology.

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