Marine Litter Issues Overview

WFO tracks the latest news and developments on marine litter to bring you its monthly overview on the issue. Working on solutions? Send us your story to be in next month's edition!

Why do we celebrate World Oceans Day?

- To remind everyone of the major role the oceans have in everyday life. They are the lungs of our planet, providing most of the oxygen we breathe.
- To inform the public of the impact of human actions on the ocean.
- To develop a worldwide movement of citizens for the ocean.
- To mobilize and unite the world's population on a project for the sustainable management of the world's oceans. They are a major source of food and medicines and a critical part of the biosphere.
- To celebrate together the beauty, the wealth and the promise of the ocean.

Sources: World Oceans Day & United Nations

WorldOceansDay.org

Facts and figures underlined by the United Nations to mark World Oceans Day

- As much as 40 per cent of the world oceans are heavily affected by human activities, including pollution, depleted fisheries, and loss of coastal habitats.
- Over three billion people depend on marine and coastal biodiversity for their livelihoods.
- Oceans serve as the world's largest source of protein, with more than 2.6 billion people depending on the oceans as their primary source of protein.
- Marine fisheries directly or indirectly employ over 200 million people.
- Oceans absorb about 30 per cent of carbon dioxide produced by humans, buffering the impacts of global warming.

Marine Litter Assessment in the Mediterranean

Marine litter reaches critical levels in the Mediterranean

Late May, the United Nations Environment Programme (UNEP) published a new updated Marine Litter Assessment in the Mediterranean. Compared to its previous 2008 assessment report, the update provides data on sources, inputs, composition and travel patterns of waste in the Mediterranean Sea from each surrounding country as well as on micro-plastics and ghost fishing gear.

UNEP confirms the marine litter issue in the Mediterranean to have reached critical levels.

The report highlights the Mediterranean's densely populated coasts, highly developed tourism industries and the heavy maritime traffic as causes of the sea's pollution. More than 20 countries share a coastline with the Mediterranean Sea – a source of food, work and leisure for 480 million people across three continents.

The assessment concludes that marine litter management and reduction measures in the Mediterranean need to be further developed, implemented and coordinated. The assessment reports on the most promising measures which include but are not limited to: deposit schemes, collection at sea by fishermen, the optimization of waste collection systems and national public awareness plans.

UNEP declares that although knowledge gaps remain on the issue, there is more than enough existing evidence to justify immediate action.

Sources: UNEP and IPS News

Read the full report here.

Saint Brandon (also known as Cargados Carajos Shoals)

11 000 flip-flops found on remote tropical island

Professor Henrik Kylin from Linköping University in Sweden has analyzed the impact of marine litter on the beaches of Saint Brandon, an isolated tropical atoll in the Indian Ocean. The results of the study were published in the journal Marine Environmental Research "The flip-or-flop boutique: Marine debris on the shores of St Brandon's rock, an isolated tropical atoll in the Indian Ocean". Professor Kylin joined researchers from Mauritius, South Africa and the Channel Islands to document the atoll's littered beaches, classifying any debris of over five millimeters. The most common objects found were flip-flops, energy drinks and compact fluorescent lamps.

Saint Brandon is an outer island of Mauritius comprising of sand banks, shoals and islets. Its only economic activities are small-scale fishing and tourism. In 2014, no more than 41 people were temporarily stationed on the atoll and although it has no permanent population, its beaches are covered in litter.

"We found nearly 30 000 objects on the islands, mostly made of plastic. That is equivalent to 76 objects along a 100-metre stretch of beach, which is quite a lot. For the animals, this litter is disastrous," says Professor Kylin. According to him, the brand names on the 11 000 collected flip-flops and on the energy drinks indicate the debris could not have come from the few island visitors.

Sources: ScienceDirect and ScienceDaily

Photo taken during University of Colombo (Sri Lanka) cleanup

Walawe River (Sri Lanka) polluted by Sevanagala Sugar Factory disposing waste in the river

Marine litter threatens Sri Lanka's tourism business

According to the National Aquatic Resources Research and Development Agency (NARA), Sri Lanka's intensifying marine litter problem is threatening the country's tourism business. Seyed Azmy, head of environmental studies division at NARA, stated: "The problem is actually inland where waste being dumped in water ways flow down to the sea and get stuck in corals and on the sea bottom or brought to the beach with waves and currents." Coral reefs, a top tourist attraction in Sri Lanka, are being smothered. He added that new settlements were concentrating along the coast, causing an increase inmarine litter. Based on a study conducted by NARA, "the Kelani River flowing north of the capital Colombo and the Wellawatte canal on a southern suburb bring in about 6,000 pieces of plastic per day."

Source: economynext

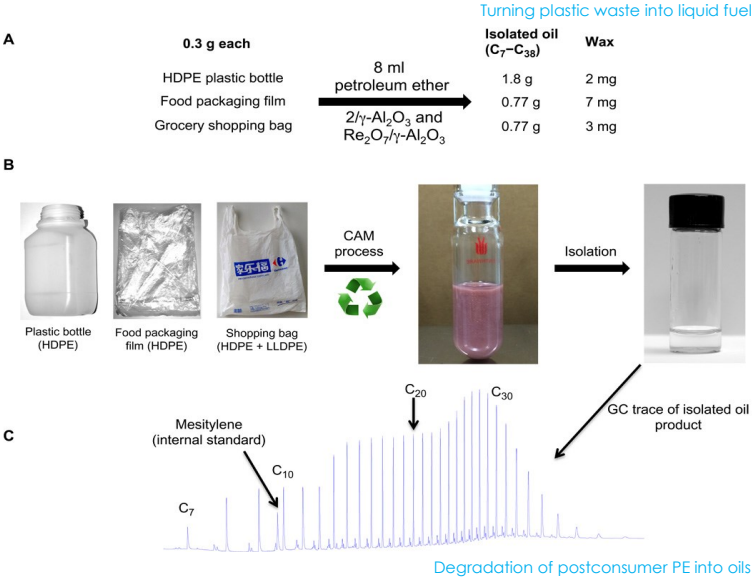
Turning plastic waste into liquid fuel

A joint US-China team of scientists has come up with a new way to turn plastic waste into liquid fuel. The process requires less energy and creates a purer end product than other methods previously developed. The technique breaks down polyethylene, the most common polymer used in plastic film and food packaging, water bottles and shopping bags. "[I]f you try to heat them at more than 400 degrees Celsius (which some methods do), they collapse into all kinds of combinations, resulting in a messy mix of gas, oil, wax and char that's not especially useful" explains Zhiin Guan, a synthetic polymer chemist at the University of California. However, using a two-catalyst process, the structure of the polymer can be gradually changed into either a diesel fuel or a wax that can be used for industrial purposes. Because the process requires heating at around 175 degrees Celsius - rather than 400 degrees - to break down the plastic, it uses far less energy than similar techniques.

The report can be read here.

Sources: Science and Sci-Tech Today

Turning plastic waste into liquid fuel



Degradation of postconsumer PE into oils

Art marks World Oceans Day across the globe

A 12 meter long breastfeeding Madonna made from 3D printed plastic waste is unveiled on a beach in Rio de Janeiro. View the story

Artist Angela Haseltine Pozzi creates sculptures out of debris from beach cleanups. View the story and more artists.