



## Marine Litter Issues Overview

WFO presents the second edition of its new marine litter issues overview, tracking the latest news and developments pertaining to the issue. We'd be delighted to receive your feedback as well as any input for next month's issue!



Oysters

### Microplastics are harming oyster reproduction

A new study published in the *Proceedings of the National Academy of Sciences* has shown the negative impact of plastics on filter feeding aquatic life. A lab experiment exposed adult oysters to microplastics during their reproductive cycle to analyze the role of plastics on the oysters' eating and reproductive behavior. Due to a disrupted digestion and energy uptake, those oysters exposed to microplastics ate more microalgae and spent less of their energy uptake on reproductive development and structural growth. Indeed, female oysters produced 38% fewer eggs and male oyster sperm velocity declined by 23% when exposed to microplastics. The offspring themselves grew more slowly. The study shows the potential long-term effects of microplastics on oysters, who are a vital food source for many other animals. It is still unclear, however, whether the microplastics that accumulate in oysters could be harmful to humans that ultimately eat them.

Read the study [here](#)

Sources: [Earthsky](#) and [Nature](#)



Gooseneck barnacles

### Barnacles on marine litter wreak havoc on ecosystems

Research shows that plastic waste populated by barnacles become artificial 'ocean rafts', allowing foreign species to be transported across oceans and essentially invading new environments. Leading the study, Mike Gil and his colleagues from the University of Florida surveyed organisms on plastic debris found between the coasts of Hawaii and California. Although plastic debris tends to have rather smooth and rigid surfaces which is uninviting to marine life, those with a higher abundance of barnacles were also sheltering a greater number of varying species. Such findings suggest that barnacles – who are able to cling to hard, smooth surfaces – provide the foundation and shelter for other organisms to settle. Before the rise in marine litter, such dispersals were infrequent, provided only by natural rafts. Today, floating marine debris has increased rafting dispersal at an alarming rate. In this way, marine litter can transport species from one coast to another where they could potentially wreak havoc on ecosystems.

Read the report [here](#)

Source: [University of Florida News](#)



Mike Hudson in the classroom



Greater Farallones National Marine Sanctuary

## Fishermen in the Classroom

NOAA's Fisherman in the Classroom Program offers students a glimpse into the life of fishermen and a real-life example of how oceans and people are connected. Meet Mike Hudson, a commercial salmon troller of the Greater Farallones National Marine Sanctuary, who also goes to classrooms to teach students not only about fishing, but also about how fishermen work to protect fish and the oceans. The program is part of NOAA's awareness campaign 'Earth is Blue' which highlights special marine protected areas in America and offers students the unique opportunity to meet real fishermen and learn from first-hand accounts. The students leave class understanding how they are connected to the oceans – a strong message for the future generation.

View the promotional video [here](#)

Source: [NOAA](#)

## Hamburg bans coffee capsules

The German port city of Hamburg just became the first city to ban disposable packaging from its public services which is just one of the regulations from a 150-page document on eco-friendly measures for public service providers, "The Guide to Green Procurement". The ban includes commonly-used items such as coffee capsules, bottled water and beer, plastic plates and cutlery in an attempt to be more environmentally friendly. Other measures are also defined in the document, ranging from strict regulations on lighting to the use of public transportation by the employees. The Foodservice Packaging Association (FPA) has called Hamburg's ban 'misguided', highlighting the fact that, for instance, it fails to take into account the carbon footprint in the high volume of water and chemicals to wash non-plastic tableware. A spokesperson from Nespresso, which has put in place a capsule recycling program, stated: "We are frequently asked whether individual portions and the use of aluminum contradict sustainability - in our opinion, the opposite is the case."

Sources: [ESM](#), [Packaging News](#) and [Nespresso](#)



Coffee capsules



Hamburg



S/Y Christianshavn



Plastic Change Team

## Plastic Change in the Galapagos Islands

The Danish environmental organization called Plastic Change sent out a research ship to study plastic pollution around the Galapagos Islands over the next two months. The researchers aboard the ship S/Y Christianshavn come from several Danish universities. "We expect there to be quite a bit of plastic off the coast where large rivers deposit into the ocean," said Henrik Beha Pedersen, the head of Plastic Change. Plastic Change contributes to raising awareness on marine litter by mapping the extent of plastic pollution. The research scientists will also be collecting samples from the most polluted areas to be later analyzed by a number of universities.

Follow the S/Y Christianshavn [here](#)

Source: [CPH Post](#)

## A Plastic Ocean

*A Plastic Ocean* is a new adventure documentary that captures never-before-seen images of marine life and the consequences of plastic pollution. The documentary was filmed in 20 locations over a period of four years by an international team of adventurers and researchers, including free diver Tanya Streeter and ocean researcher Dr. Sylvia Earle as a consultant. The film details the global effects of plastic pollution but also presents potential solutions. The trailer was released this month setting up for worldwide distribution of the film. Dr. Earle states: "A Plastic Ocean documentary is a way to inspire people—first of all, to understand; to know what's happening. With knowing comes caring. You might not care, even if you know. But you can't care if you don't know."

Watch the trailer [here](#)



A Plastic Ocean Trailer



Filming A Plastic Ocean