



IMarEST Emerging Marine Trends

Issue 1 – Plastics

Fighting the tide of an ever-growing plastic ocean

Marine plastic pollution has devastating effects on marine life throughout the oceans, smothering coral reefs, starving whales and seabirds as it fills up their stomachs and even managing to find its way into the seafood that we eat. Events such as our recent [marine plastics roundtable discussion](#) held in Singapore, seek to discuss and implement strategies to combat the plastic crisis.

A potential solution that was discussed at this roundtable was the possibility of utilising bioplastics, which are plastic materials produced from plant matter, that have biodegradable properties – being decomposed in the environment by bacteria or other living organisms. Their wider use could slash the hundreds of years that it would take everyday plastics to biodegrade in the environment. However, by how much is very dependent on the type of environment they are in, as environmental conditions play a crucial role in the rate of biodegradation that also varies between different bioplastics.

Should bioplastics be utilised more widely, vast areas of land will be required to cultivate the plants needed to create them. The wider application of this solution could lead to potential food security difficulties in some parts of the world, as conflict might arise over whether land should be used for growing food or bioplastics.

High demand on agriculture would also increase the use of fertilisers and pesticides, which naturally run off into marine environments through the water cycle. This interplay between the land and oceans introduces further complexities as, once the chemicals enter the oceans, algal blooms can establish themselves, devastating fish populations and other marine life, as well as releasing toxins into the water that are poisonous to humans.

Furthermore, there are several unresolved issues surrounding the biodegradable nature of bioplastics. It is unclear as to their suitability for degradation within the marine environment as many are meant for high temperatures or UV exposure that may not necessarily be found in the marine environment. Until more research can be done, bioplastics remain a contentious issue.



While there are many new alternatives to single-use plastics at our disposal many of them still leave an environmental footprint such as continued littering, greenhouse gas emissions arising from their creation and they potential they present for invasive species and microbial communities to establish themselves on 'alternative single-use plastics'. Arguably, drawing attention away from the issue of reducing our overall consumption of plastic could be seen as the biggest threat of all.

If you would like to read more on the issue of marine plastic pollution, the IMarEST will imminently be publishing its [marine plastics roundtable discussion report](#), in which you can find out more on the issue of bioplastics and other potential solutions to reducing our marine plastic littering.

How can you help?

If you would like to get involved and help with the issues raised in this article, we have compiled a list of useful tips and resources on how you can help to protect the marine environment:

- **Reduce your single-use plastics use** - the easiest and most direct way that you can help is by minimising your own use of single-use plastics. These include items such as straws, take-away containers, plastic bags and water bottles. Try changing to these [alternatives to single-use items](#).
- **Organise or participate in ocean clean-ups** – you can help reduce the amount of plastic entering the oceans by engaging in beach, coastal or waterway clean-ups. You can do this on your own by going to your local area and collecting plastic waste, or by searching online and joining an event such as the [International Coastal Cleanup](#).
- **Proper recycling** – currently only 9% of all plastic is recycled worldwide, so it is crucial that you recycle all single-use plastics (and others) whenever you can. Check with your local recycling centre on what types of plastic they will collect. You can also use [search Earth911's recycling directory](#) to find somewhere to recycle plastic waste near you.
- **Avoid products that contain microbeads** – tiny plastic particles called microbeads are used in health products such as facewash, toothpaste and body wash. These easily enter the ocean and cause a host of problems for marine life. You can avoid using products that contain microbeads by looking for polypropylene and polythelene on the ingredients label of cosmetic products before you buy them. You can find a list of products to avoid in your country [here](#).
- **Support organisations that address plastic pollution** – there are many non-profit organisations that work tirelessly to help fight the war against plastic pollution in a variety of different ways. Some examples are [Oceanic Society](#), [4ocean](#), [Surfrider Foundation](#), [Plastic Soup Foundation](#), [Plastic Pollution Coalition](#), [The Blu](#) and [Take 3](#), all of whom rely on donations to carry on their work. Even small donations can make a huge difference.
- **Spread the word!** – by staying up to date on issues that are related to plastic pollution and helping to make others aware of the problem, you can help drive wider behavioural changes. Follow the news in dedicated ocean news platforms such as [the IMarEST's newsroom](#) or the [Marine Conservation Society](#) and tell your friends, family and work colleagues about what they can do to help.

