



*Mr Trash Wheel collects river plastic in Baltimore*

## Four technologies tackling the problem of plastic pollution in rivers



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Most ocean plastic starts off in rivers. From bubble curtains to googly-eyed trash wheels, here are four technologies designed to intercept river plastic before it gets to the sea.

Last month The Ocean Cleanup turned its attention to river plastic and launched the *Interceptor*, a floating device it claims can harvest up to 100,000 kilograms of plastic waste per day.

"To truly rid the oceans of plastic, we need to both clean up the legacy and close the tap, preventing more plastic from reaching the oceans in the first place," said Boyan Slat, founder of the organisation that has until now focused on trying to remove plastic already in the oceans.

However many experts believe that extracting plastic from the ocean is the wrong approach. "To be very honest, I don't believe that we're going to clean up the oceans," said Cyrill Gutsch, founder of Parley for the Oceans, in an interview with Dezeen earlier this year.



An estimated 4.8 to 12.7 million tonnes of plastic end up in the oceans each year. Circular-economy charity the [Ellen MacArthur Foundation](#) estimates that by 2050 there will be more plastic than fish in the oceans.

Here are four projects attempting to stop plastic from reaching the ocean:

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**"I don't believe we're going to clean up the oceans" says Parley for the Oceans founder Cyrill Gutsch**

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### Interceptor, by The Ocean Cleanup

The Ocean Cleanup's attempt at cleaning up ocean plastic has gotten off to a rocky start. The floating barrier designed to catch plastic from the sea has suffered setbacks with damage from wind and waves. While the project is still going ahead, the organisation has also turned its attention to river plastic.

"Combining our ocean cleanup technology with the Interceptor, the solutions now exist to address both sides of the equation," said Slat, the organisation's founder.

The Interceptor is an autonomous solar-powered device that uses a barrier stretching across a river to collect plastic. Rubbish is funnelled towards a floating processing plant that resembles a barge. The





[Read more about the Interceptor >](#)

### **The Bubble Barrier, by The Great Bubble Barrier and Waternet**

Waternet, which manages Amsterdam's waterways, deploys five garbage boats that fish out 42,000 kilograms of plastic every year. Earlier this year Waternet also deployed a barrier of bubbles to tackle plastic waste in the city's canals.



through it. It runs 24 hours a day, seven days a week, forming a screen that catches floating debris.

Plastic pieces are caught by the bubbles and pushed to the surface, where they are carried by the current to a catchment pool.

Waste collected by the Bubble Barrier will be tested by the [Plastic Soup Foundation](#) to measure how much plastic is caught, what kind of objects they are, and what the most common brands are.

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In 2016 he was joined by the female-gendered Professor Trash Wheel, with the gender neutral Captain Trash Wheel launched in 2018. The fleet of trash-collecting vessels has collected a total 907 tonnes of rubbish.

The vessels are powered by waterwheels and the river's current, with solar panels for backup on slower days. Debris is collected by floating barriers and the wheels power a conveyor belt that transfers the rubbish out of the water and into a bin.

As well as stopping plastic reaching the ocean, the wheels are contributing to the goal of making the harbour swimmable by 2020.

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(CLAIM) projects run by the EU, a floating boom has been installed at the mouth of the Kifissos River in Athens, Greece.

The floating boom is called the Tactical Recovery System Hellas, or TRASH, and was manufactured by New Naval.

Using technology New Naval developed for responding to oil spills, the mesh barriers collect river plastic and channels it towards a floating cage. This is used to lift the plastic up to the level of the harbour wall so it can be removed.

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