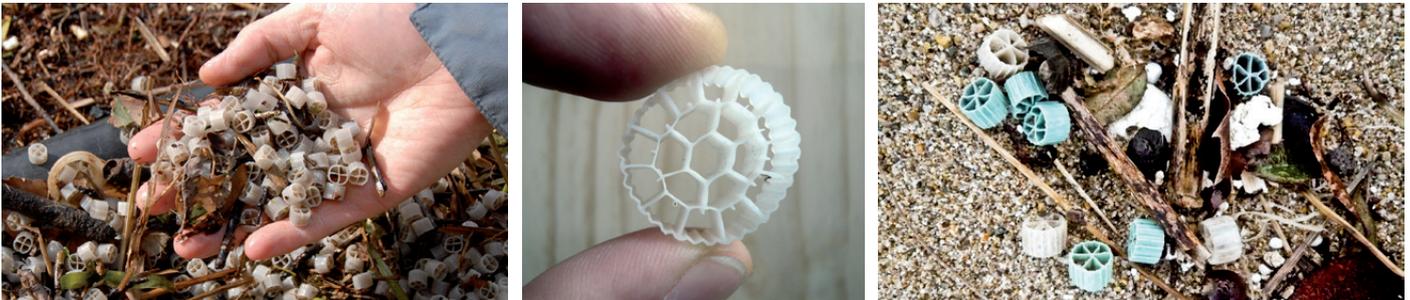


INVASION OF BIOCARRIERS



What is it?

Spotted on the beaches of the Basque-Landes coast since 2007, [these plastic wheels have since been an enigma](#). Finally identified by the Corsican section of Surfrider Foundation Europe, [we now know that these are “biocarriers” used in the treatment of used water in treatment plants](#), in the agri-food industry (wines and drinks, conserves, meat...), fish farming and on certain cruise ships.

How does this happen?

In the water purification plants, the used water goes through several purification treatments: Screening (passing through grills to catch the large residue), settling (let sit so that the heavy material falls to the bottom). In the final stage, waste-eating bacteria is added to the water. [At the start of the 2000s, researchers at a Norwegian university found that through introducing a support to the water, the bacteria settle on it, and become more efficient.](#)

[These biocarriers therefore support bacteria](#), bringing large quantities (50% of the volume of the water, perhaps hundreds of thousands, or even millions) in the basins of the water purification plants. With the flow of water or introduction of air, they move around in a disorderly manner and thus increase the efficiency of bacteria.

How do they end up on the beaches?

According to current knowledge, there are two possible sources of pollution:

1. Pollution accidents

Several have been referenced over the past few years in Europe and on the North American continent:

[In autumn 2009, in the Basque Country](#), millions of small pieces escaped from pulp and paper industry companies. They join the ocean in Orio, and are caught by local surfers and water management. The

press publishes several articles on the matter and the mayor of San Sebastian publicly deplores the pollution. Despite strong suspicions, the “offending companies” have not been officially identified.

[On 11th February 2010, in Corbeil-Essonnes \(Parisian region\)](#), several million biocarriers escaped from the water purification plant and joined the Seine. They are spotted by houseboat dwellers who alert the Paris River Police. Two months later, they are washed up on Honfleur beach. The Parisian biocarriers had joined the ocean once again!

[In February 2010, in Galicia \(Spain\)](#), eel fishers caught large quantities of biocarriers in their nets in the river Miño on the border between Spain and Portugal. The pollution lasts several days. The local police investigate but do not find the source.

[On 30th March 2010, in Connecticut \(USA\)](#), Groton plant lost a million biocarriers.

[On 6th March 2011, Hooksett](#) water purification plant in New Hampshire (USA) lost between 4 and 8 million wheels in the Merrimack river.

[At the start of March 2011, the Mamaroneck purification plant \(USA\)](#) in the region of New York lost a large quantity of biocarriers.

[In May 2011 in Canada](#), thousands of plastic wheels are collected by walkers on the banks of Saint-Laurent.

2. Regular leaks

[Overflow basins not enclosed](#) in heavy rain, or addition of bio-carriers in non-adapted reservoirs (no catchment grill on the surface or at overflow level, or clogging of grill...)

[DIY by people putting fish in ponds.](#)