

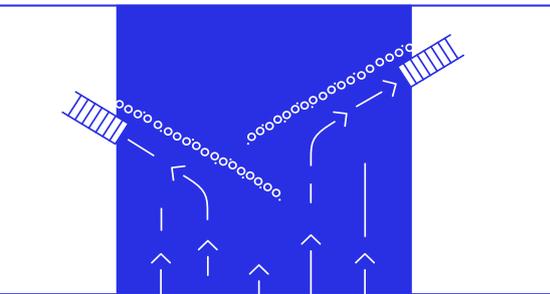
# THE GREAT BUBBLE BARRIER



Too much of the waste that our society produces ends up in the water, where it damages marine and human life. Sea turtles and fish get caught up in plastic, ships are obstructed in their paths, and microplastics form a health hazard for the smallest to the largest organisms. This problem is recognised more and more, by both the general public, municipalities, government and the European Union.

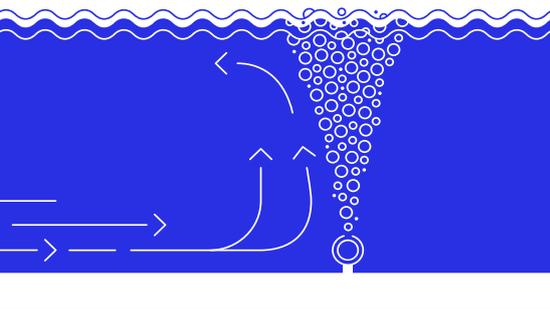
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FIGURE 1



Here you see a schematic top view of the river, where two Bubble Barriers block waste by smart use of the current (white arrows).

FIGURE 2



This is a schematic side view of the Great Bubble Barrier. The upward current pushes waste in the water column to the surface, while the turbulence blocks the waste from moving downstream.

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We believe plastic waste can be caught before it reaches the oceans. The current solutions that stop waste in the rivers have two major drawbacks unfortunately; they block ship traffic and/or hinder fish movement. We found an elegant solution that blocks waste in the river, but also allows the passage of fish and ships: a barrier of bubbles.

By placing two bubble barriers diagonally in the waterway, we block plastics from moving downstream and make clever use of the current of the river to direct the waste to the banks (Figure 1). We create a bubble barrier by pumping air through a tube with holes, placed on the bottom of the river. The upward current that the bubbles generate brings the waste to the surface, and the turbulence stops the waste from flowing downstream (Figure 2).

The waste gathers on the side of the river, where it can easily be collected with for example a conveyor belt. Fish can pass unobstructed through the bubbles, underneath the Bubble Tubing or through the fish slalom. Our system also brings aeration to the water, increasing oxygen levels and improving the health of the ecosystem. With these aspects the Great Bubble Barrier meets all the important conditions: it barely hinders ship traffic, fish movement and the natural working of the delta.

The Great Bubble Barrier offers a solution for different problem-owners: we can help governments meet changing regulation on waste management in waterways, but also help cities fight plastic problems in their waters, and help waterboards to save on their cleanups after high water.

The Great Bubble Barrier is based on existing technology, which makes it easily applicable. And the best thing is: The Great Bubble Barrier can be applied from the largest rivers to the smallest canals. The visual attractiveness of the bubble barrier makes it easy to attract spectators and increase awareness about the problems posed by the plastic soup.

The Great Bubble Barrier is founded in early 2017. Quickly the TGBB team grew international with the addition of Philip Ehrhorn who had previously realised a Bubble Barrier in Berlin. After finding out we were working towards the same goal we joined forces to fight plastic pollution together.

In May 2017 The Great Bubble Barrier was extensively tested at the international testing facilities of Deltares. Based on these results we realised a full-scale pilot of 200m in the river IJssel in November 2017, supported by Rijkswaterstaat, Deltares and BAM/vdHerik.

Our goal is to realise the Great Bubble Barrier at smart locations, to stop as much plastic as possible in its way to the oceans.

The first two pilots were a great success, and we are ready for the next step: a permanent Bubble Barrier. For this purpose we are [crowdfunding](#) right now. For support and more info please visit our Facebook, LinkedIn or website: [www.thegreatbubblebarrier.com](http://www.thegreatbubblebarrier.com).