

Falmouth Harbour Wash Down

Falmouth Harbour changed the methodology of our lift out and wash down on the boat park to ensure the wash water from pressure washing the boats down was captured in 2019. This prevents the paint coming off the boats from getting into the water causing pollution and increasing the risk of spreading invasive non-native species.



The water from washing the boats was collected on these orange mats.

We were surprised at the colour of the water coming off the boats (there is obviously a lot of paint coming off in the washing process).

Antifoul paints contain heavy metals such as copper and zinc. These metals are toxic to marine species. In crabs copper binds to the surface of their gills and prevents them from excreting ammonia, as a result ammonia builds up in their tissues impacting on them negatively.

Once caught, the water was pumped from the mats to a storage tank. As the water was pumped it was dosed with the coagulant polyaluminium chloride to start the process of removing the solid particles from the water. The water stayed in the first tank for a while to allow the particles to settle to the bottom. Once this had happened it was pumped into a second tank and dosed with a pH adjuster Sodium carbonate to increase the pH. This causes an acid base reaction resulting in the heavy metals forming a salt which falls to the bottom of the tank.



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So did all of this work?



Yes, it did! The liquids in the glass show the visible difference in solids in solution. The first glass is water taken from the mats that has not been treated. The second glass is water that has been treated with the coagulant. The third glass is water that has completed treatment with both the coagulant and pH adjuster.

To check whether it was alright to dispose of the water to the sewer South West Water tested it and allowed us to dispose of the treated water to the sewer.

All in all, we collected 8m³ of water which would have otherwise polluted the water and potentially allowed the spread of invasive non native species.