Boat Washdown Trial

Reducing the impact of anti-fouling biocides

Hamble Point Marina

Hamble Point Marina is one of the largest boatyards in the country. At over 16 acres, it has storage capacity for 600 boats on the hard, and over 1,000 boats come ashore each year for work over the winter months. Boat movements average around 3,500 per year. Of these, around 1,500 boats receive a pressure wash to remove weed and barnacles from the boat's hull.

Owned by leading marina operator MDL, Hamble Point Marina is keen to display the best possible marine stewardship of the local environment. After involvement in the BMF/RYA Environmental Code of Practice, MDL's team decided to implement a trial filtration system at Hamble Point Marina to explore whether anti-fouling discharges to the River Hamble could be minimised.

Whilst no hard evidence exists to indicate that the boat washdown process is damaging to aquatic life, it is known that the biocidal qualities of copper-based antifouling can be toxic to fish. Biocides are an essential component of anti-fouling, but not enough is known about the long-term effects in the marine environment.

In designing the system, the primary consideration was to maximise the quality of the water discharged at the end of the process. However, there are other factors to consider.

- Ease of operation by yard staff
- Must not introduce manual handling dangers
- Must not slow boat lifting schedule significantly
- Installation and running costs must not be prohibitive
- Plant must be reliable over long periods in harsh conditions

The System

A sump was installed under the boat wash-down area into which a pump was fitted. The run-off from the boat wash-down was collected and pumped to a series of two filtration sacks. Made of tough fibres with 10 µm mesh, water drains through the sacks under gravity before draining into the river. In time, it is hoped that water can be captured and recycled to the pressure washer.

Yard staff needed to be trained on when to switch on and off the pump to preserve its life and reduce energy costs. After an evaluation of manual handling, a special trolley is being used to remove sacks when full and dispose of the content. Sacks can be reused after emptying, but must be handled carefully.

Making the environment second nature

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The Results

Once the system has been optimised, water samples will be taken and sent for analysis. The solid residue produced also needs evaluation by Hamble Point Marina's waste contractor. Strict new rules on hazardous waste could add prohibitive costs to the removal of the contents of the sacks.

Furthermore, it is not guaranteed that this trial will produce results of sufficient quality. Unexpected challenges have been thrown up, in such as how to prevent bags from blocking up and managing the flow at peak times. Different mesh sizes are being tried to find which work best. MDL recognises that it may have to try out several processes before it finds the one that works, and that this is the first step. Despite this, MDL is keen to press ahead.

'MDL recognises that the enjoyment of boating largely depends on clean water and a high quality environment.' says Marina Director Jon Eads. 'That is why MDL is making this investment. But there are long-term benefits for the sector. If this process works, it could provide a template which can be rolled-out to all marinas.'

The Facts

Anti-fouling paints contain copper-based biocides to prevent growth on the hull. The majority are designed to dissolve according to water conditions to prevent the build-up of weed.

Copper compounds are very toxic to fish when combined with zinc sulphates, and have long-term toxicity to marine plants and animals. Compounds can accumulate in sediments and marine life where they can persist for many years. Copper also enters water courses from a variety of other sources, particularly sewage works and storm drains from roads. More research is needed to find out the long-term impact of anti-fouling entering the water from pressure washing, use of scrubbing piles or simply washed into storm drains following shore side activities.

A lot of anti-fouling is thought to enter the water from boatyards and marinas where owners and tenants/contractors working on site do not collect and properly dispose of shavings, wash-down and particles created when anti-fouling paint is removed and replaced, often on an annual basis. If we can find ways to prevent this stream of anti-fouling waste from entering the aquatic environment, we can significantly reduce the environmental impact of anti-fouling in our coastal areas.

About MDL

Marina Developments Limited is Europe's largest marina operator. It owns and operate 18 major marinas and boatyards, managing over 6,000 berths. MDL has played a central role in the development of the modern-day marina, with easy-to-access pontoon berths and high-quality onshore facilities. Visit www.mdlmarinas.co.uk for more information.

MDL Marinas

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