Case Study

Hydro International

Hydro's Downstream Defender® Saved Threatened Wetland

Product profile

Objective

Runoff from nearby highways was threatening the precarious wetland habitat of Shortwood Pond - home to endangered species such as the Brown Galingale plant and the Little Whirlpool Ramshorn snail.

Solution

Supply of a Downstream Defender®, the most advanced vortex separator available for the removal of sediment, oil and floatables from stormwater runoff.

Product profile

- Removes fine particles, oils and other floatable debris from surface water runoff.
- No risk of pollutant wash out.
- Easy to install and maintain.
- Repeatable, reliable performance.
- High efficiency over a wide range of flows.
- Adaptable.

A precious part of London's remaining medieval common land has been saved from the threat of pollution from nearby highways with a simple solution using Hydro's Downstream Defender®.

Mouchel Parkman, on behalf of the Highways Agency, contacted Hydro about the innovative hydrodynamic vortex separation device that saved Shortwood Pond, a Site of Special Scientific Interest, from serious pollution damage.

The precarious wetland habitat at Shortwood Pond off the A308 by the Crooked Billet Roundabout is home to endangered species such as the Brown Galingale plant and the Little Whirlpool Ramshorn snail. It is part of Staines Moor, located at the eastern end of Colne Valley Park, which contains many Sites of Special Scientific Interest.

Project engineer David Funchal, of Mouchel Parkman, explains: "The Victorian-dug Shortwood Pond is a chalk spring-fed water with no outlet. Road drainage work in the 1970s directed stormwater runoff into the pond and, in recent years, water quality has been declining, with an increase in black globular sediment smelling strongly of hydrocarbons.

"Increasing traffic contributes to this pollution, and there was also no protection from a major spillage event. Working with Hydro, we have found the Downstream Defender® is ideally suited to protecting the pond, because it separates out and retains the sediments. The entrapped solids and sediments are not washed out by high storm flows as they would be in conventional gully pots. The hydrocarbons and floatable portions are also retained.

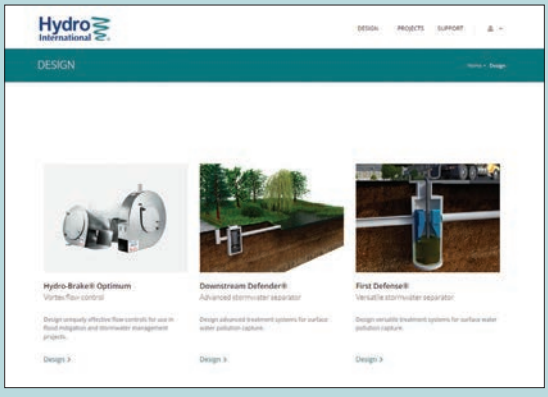
"The project was completed within a tight budget and kept to a small footprint. Apart from chamber emptying, maintenance is minimal. In fact we were able to oversize it to allow for up to 50 l/s and help protect the site against future large storm events".

The increase in the fine black globular sediment was causing particular concern. A pond without outlets acts like a sump, and can accumulate sediment which blankets the plants and algae, leading to very poor, oxygen depleted water conditions. The Downstream Defender® and the more recently introduced Up-Flo™ Filter from Hydro International, which targets other micro pollutants, nutrients and heavy metals assist with high rate treatment of stormwater runoff from highways.

Staines Moor is one of the remaining pastures of the manor of Staines, having been unploughed for at least 1000 years and common land since 1065. Given its precarious location between Staines and other conurbations, preservation of the quality of the habitats in this river valley is of high importance to the Spelthorne Borough Council, Plantlife UK, Colne Valley Park, Groundwork Thames Valley and the Environment Agency.

Shortwood Pond, close to the River Ash, was dug in the 1850s to provide water from the chalk aquifer for cattle. In fact, there are many unique SSSIs located within the Staines area, thanks to the rich Thames Valley floodplain and the high water table with good quality water.

Balanced management policies with close collaboration between all interested parties are key to the survival of these unique legacies.



Design a Downstream Defender® with our Online Design Tool

Our online design tool now enables you to design your own Downstream Defender® or First Defense® stormwater treatment separators as well as Hydro-Brake® Optimum.

The tool also allows you to save project designs and submit them to our expert technical team for a free design review.

hydro-int.design

Learn more

To learn more about how the Downstream Defender® can help you to manage water more effectively, visit **hydro-int.com**, search **Downstream Defender** online or contact us:

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