Case Study

Hydro International

Downstream Defender® saves threatened London wetland from stormwater pollution

Project profile

Objective

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

Solution

Engineers used a Downstream Defender® advanced vortex separator to capture sediment, oil and floatables from stormwater runoff, pretecting the pond from damaging runoff pollution.

Product profile

The Downstream Defender® 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
- Flexible and adaptable

Shortwood Pond is a wetland habitat situated by the A308 just south of Heathrow Airport in London, UK. It 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, an area that contains many Sites of Special Scientific Interest (SSSIs).

Staines Moor is one of the remaining pastures of the manor of Staines, having been unploughed for at least a thousand 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.

An increase in fine black globular sediment in the pond was causing 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.

Infrastructure and business services firm Mouchel, on behalf of the Highways Agency, contacted Hydro International looking for a way to protect the pond from the damaging pollutants that were being washed into it in stormwater runoff.

"Road drainage work in the 1970s directed stormwater runoff into Shortwood Pond and, in recent years, water quality has been declining. Increasing traffic contributes to this pollution, and there was also no protection from a major spillage event.

The Downstream Defender® is ideally suited to protecting the pond, because it separates out and retains the sediments - entrapped materials 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 (790 GPM) and help protect the site against future large storm events."

- David Funchal, Project Engineer, Mouchel