

A Case Study in Sustainable Drainage Systems: **Briery Hill Wetland** **Dumfries & Galloway, Scotland**

Briery Hill Wetland, near Lockerbie in south west Scotland, is an innovative drainage scheme which serves an industrial timber park, utilising an existing wetland area. This sustainable drainage system has been designed to help conserve bio-diversity, in particular birds of conservation concern. The Royal Society for the Protection of Birds were consulted in this regard.

The timber park has on site swales which connect to a pipe that diverts drainage beneath the motorway and discharges to the pond-cum-wetland system.

A treatment train approach is used comprising: a concrete-lined settlement lagoon, two consecutive ponds and a wetland.



Concrete Lined
Settlement Lagoon



- ◆ Provides flow control.
- ◆ Can be isolated in case of major spillage.
- ◆ Provides easy access for cleaning/maintenance.

Two Consecutive Ponds



- ◆ Ponds provide settlement and pollution control, most occurring in the first pond.
- ◆ Water can discharge from the second pond to the local watercourse or flood onto the wetland.

Wetland



- ◆ Provides flood control with additional pollution control.

Chemical monitoring of total suspended solids, biological oxygen demand, phosphate, ammonia, zinc and copper has shown significant reduction in these parameters along the treatment train. (refer figure overleaf: **Chemical Monitoring**).

Monitoring of rainfall events against pond levels and discharges, indicates a dampened response at the outlet to the local water course, showing the effectiveness of flood control. (refer figure overleaf: **Rainfall Events**).

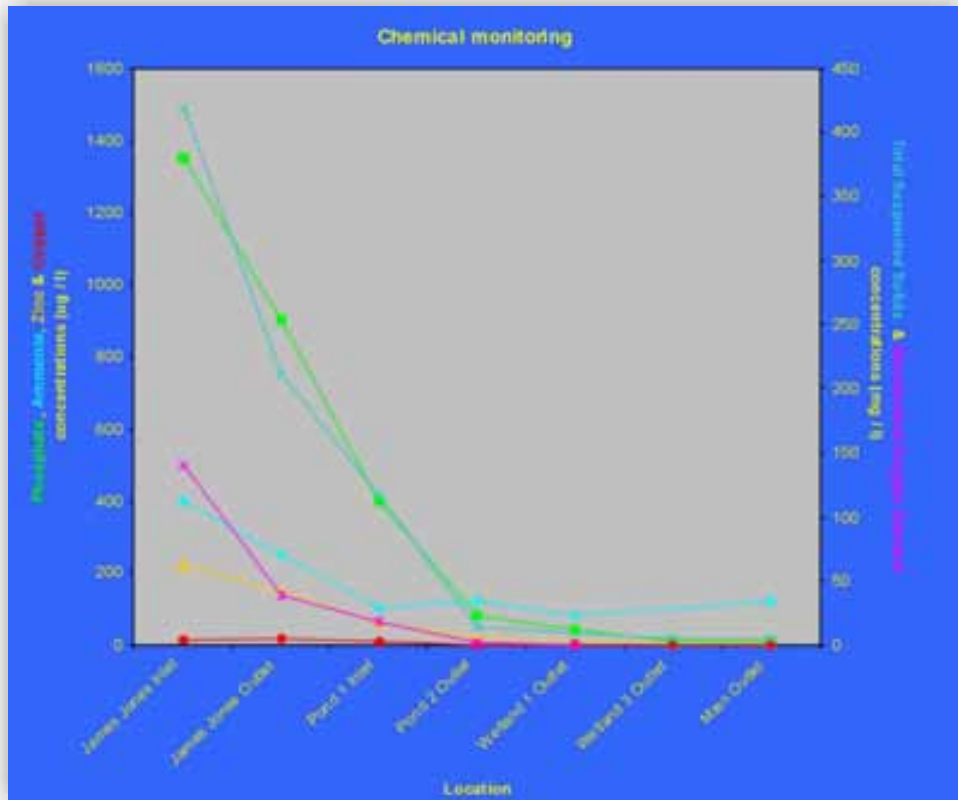
Briery Hill was shortlisted for the 2002 Habitat Enhancement Initiative Awards organised by the Scottish Environment Protection Agency (SEPA) which recognizes the efforts of its sponsors as having protected or improved wildlife habitats.



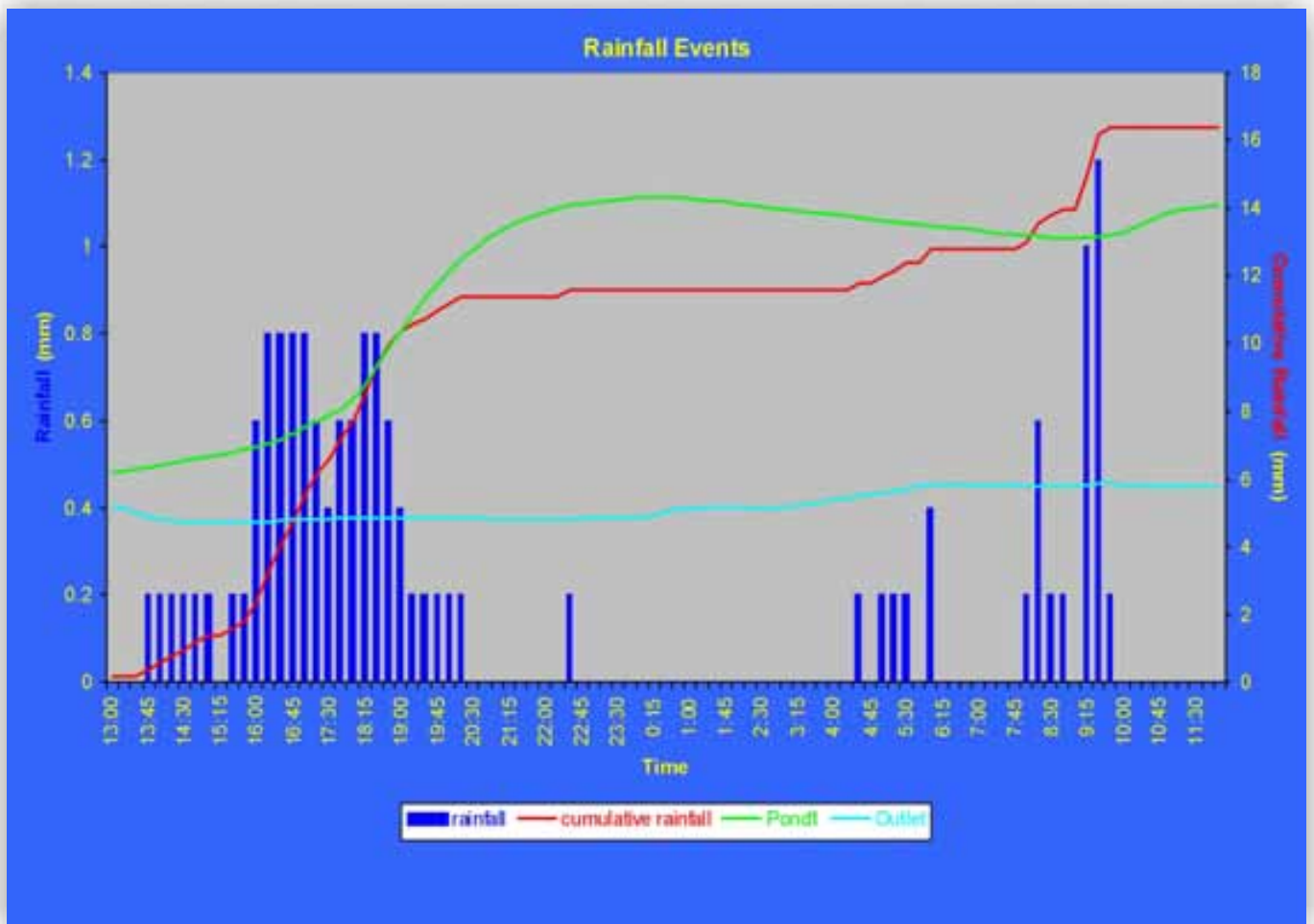
Visual evidence of improved water quality along the Briery Hills Treatment Train.

MORE OVERLEAF - 1 of 2





Briery Hill Wetland Chemical Monitoring Results



Briery Hill Wetland Rainfall Monitoring Results

