



Survival of the Fittest

Reeds That Are Worth their Salt

A reeds trial at a pioneering project in the Blyth estuary, developed to treat minewater with a higher than normal saline content, suggests that two types of reed may be best suited to the salty environment.

More than 20 different types of reeds known to grow naturally in a saline environment, are being monitored to determine the optimum species to be used in wetlands built to treat polluted minewater pumped out of the former Bates colliery on the Northumberland coast.

As the trial continues, two species of maritime reeds that are known to thrive in salt marshes are faring best in the study run by the Authority in partnership with the Hydrogeochemical Engineering and Outreach Unit of the Institute for Research on the Environment and Sustainability at Newcastle University.

Two in One

Lamesley Goes Live

The pioneering Lamesley Wetlands scheme, which offers a solution to treating minewater and sewage effluent at the same time, has now gone live.

Hailed as a breakthrough in the treatment of polluted waters, the project has been designed to bring environmental benefits to wildlife and the local community.



Located within sight of the Angel of the North, the five hectares of man-made reedbeds planted by the Authority at Lamesley, in County Durham, provide an important habitat for a wide range of species.

Featuring two types of reeds, the reedbeds are designed to support a wealth of wildlife. In addition, stretches of open water around the perimeter of the reedbeds, and areas of marginal planting, are helping flowering plants to become established, including the Yellow Flag Iris, Marsh Marigold, Water Forget-Me-Not and the impressive Purple Lostrife.

This visually attractive scheme, with a serious purpose, was created when Northumbrian Water and the Authority worked together to provide a sustainable solution to this water treatment problem, to clean up the River Team and provide wider landscape and biodiversity benefits for the local community to enjoy.

The history of Kibblesworth Colliery, and the story of how the joint approach is providing a sustainable solution to a dual water problem, is highlighted on information boards which can be viewed at the site.

Public access is encouraged and viewing platforms have been placed at intervals along a new footpath, established along an old railway line, so that local residents, environmental groups and other stakeholders can observe the flora and fauna as this visionary scheme matures.

The project was supported by Interreg North Sea region, PURE and the River Team Revival Group. The River Team Revival Group is a partnership initiative set up in conjunction with the Environment Agency in order to redress the worst effects on environmental degradation within the River

Team catchment. It is supported by the European Regional Development Fund (ERDF).

Its main aim is environmental improvements to the whole of the River Team catchments through partnerships with stakeholders, such as the Environment Agency, local authorities, the Authority and Northumbrian Water.

Kibblesworth has been the site of coal-mining activity from medieval times, with the main pit opening in 1842. Although the pit closed in 1974, the site is now used by the Authority to control minewater from abandoned mine-workings in the Durham coalfields. Pumped to the surface at Kibblesworth, the minewater flows into the Team via a gravity main along the course of the old Bowes railway line.

There has been a sewage treatment facility at Birtley since 1894. The current works provide secondary treatment to domestic effluent flows from Lamesley, Kibblesworth, Beamish, Pelton, Ouston and Birtley as well as industrial estates in the Birtley conurbation. Treated effluent discharges directly to the River Team. This is now being redirected and mixed with minewater, before being treated in the reedbed.

Says Alex Norton, Development Manager in the Authority's Environment Department: "Although the scheme to treat the water has only just gone live, the project has completely opened up the area to the public, and we will be monitoring both the quality of the water and the environmental benefits to wildlife."

Acid Rock Drainage:

Meet Me in St Louis

Schemes carried out by the Authority were highlighted in several of the papers presented at the 7th International Conference on Acid Rock Drainage (ICARD) held in St Louis, Missouri, in conjunction with the Society of Mining Metallurgy and Exploration (SME) annual meeting and exhibition.



Presentations by speakers from around the world covered a myriad of acid rock drainage related topics. The diversity of subjects was immense, ranging from recent European legislative developments to research into identifying the DNA from sulphidic eating bacteria.

"It was interesting to listen to and meet many of the leading authorities in this field," says Steve Hill, Development Manager, who attended the conference on behalf of the Authority with Project Manager Tracey Davies.

"Whilst there is a great deal of research ongoing and some emerging technologies which may be beneficial in the future, it was comforting to know that nothing yet appears to surpass the practicality and cost effectiveness of the remediation schemes implemented by the Authority," says Steve.

