



Case Study 1

Improving water quality in the Red Burn



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A unique partnership between Scottish Water and the Scottish Wildlife Trust ensured that the maximum environmental benefit was delivered from a major project to improve water quality.

The challenge

Recent biological and water sampling carried out by SEPA identified water quality failures in the Red Burn. The large water catchment of industrial units and hard standing in Wardpark, Cumbernauld, was originally drained using underground pipes to remove surface water into the Red Burn. This prevented flooding locally but moved the problem by changing natural flows elsewhere in the catchment. These problems were compounded by pollutants washed into the drains, contaminating the natural watercourse and harming wildlife. Continuing to ignore these wider environmental issues was no longer an option and a sustainable solution was needed.

Scottish Water designed a system to take surface water runoff through a series of ponds and mimic a natural catchment. These ponds, known as a Sustainable Urban Drainage System (SUDS), reduce the speed of the runoff to prevent flooding. By filtering and treating the water pollutants are removed and the quality of water that reaches the burn is much improved.

Given the size of the catchment area, six ponds covering 14 hectares were needed to deal with the large volume of surface water. The challenge was to find suitable sites that would provide an environmental benefit. In such a built up area, there were many constraints and the final location of the ponds included a wildlife reserve managed by the Scottish Wildlife Trust. For the system to be truly sustainable, the design needed to manage the environmental risks and contribute to habitat enhancement.

Since the reserve was already managed to protect the environment, the bar was set very high. This woodland site was potentially home to a wide range of wildlife, including protected species such as bats, badgers and bluebells. For the project to be run successfully, on time and within budget local cooperation was required.

- Six new ponds needed to be created
- An area of 14 rugby pitches was needed
- Several of the ponds were on wildlife reserves

The solution

The solution was to form a partnership between Scottish Water and the Scottish Wildlife Trust that would work together to maximise the environmental enhancement of the development. This partnership was active from early in the design stage to the final commissioning of the site and brought benefits to all parties. The Reserves Manager attended design meetings and site visits, allowing them to impart their specialist local knowledge. Through the Scottish Wildlife Trust, a system of monitoring was set up to ensure that the works were carried out in an environmentally responsible manner and a series of long term monitoring sites have been created to look at the changes over time.



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Experienced staff from the Scottish Wildlife Trust made recommendations which helped the contractor save money

The benefits

Good working relationships created in the partnership benefited all parties. At the design stage, the Scottish Wildlife Trust was able to influence the shape and orientation of the ponds to create more naturally functioning features. In turn, the Trust benefited from the removal of non-native trees from the reserves whilst enhancing and expand the native woodland. The Trust's expertise in woodland management helped the main contractor limit the extent of clear felled trees, saving time and money. All parties benefited from site meetings at critical points of the project where issues were quickly resolved.

The Trust's engagement helped to manage public objections to woodland removal. This was possible as the partnership proved that the development of the SUDS would result in positive environmental enhancement. The creation of six ponds and the reinstatement of native woodland has created sites that will be of greater value to wildlife.

Once established, the ponds will encourage protected wildlife such as badgers, otter, bats and a variety of bird life and insects. The surrounding areas will provide habitats for many

other species. Four additional wildlife ponds have been created which vary in size, shape and depth. These will provide refuges for amphibians in the event of pollution in the main ponds. Natural woodland regeneration is being encouraged along with the planting of nearly 5,000 native trees and shrubs.

"This is a great example of multi-agency partnership working which is delivering real benefits to wildlife and the environment"

Scottish Water Project Manager, Brian Dalton

The partnership allowed knowledge sharing between all the stakeholders and each gained from this. It made what could have been a difficult, lengthy project run more smoothly with fewer objections. The positive environmental impacts of the project were enhanced by the partnership. The development of the SUDS will make a real difference, reducing flooding, improving water quality and enhancing the diversity of wildlife in the area.

Improved water quality and reduced flooding

14 ha of natural habitat created with four additional wildlife refuge ponds

Knowledge exchange between partners and positive public reception

5,000 native trees and shrubs planted to enhance the biodiversity



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Cumbernauld Living Landscape aims to enhance, restore and reconnect green areas of the town. Without them, neither wildlife nor people can flourish.

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The Cumbernauld Living Landscape is supported by many community organisations and partners, led by:

