ACROSS THE WATER

Sustainable water management beyond our shores
Introduction

For many years, the UK had a proud record of innovation in the way it managed one of its most precious resources – water. Our great great grandparents’ generation were the men and women who invested in sewer systems and drinking water supplies that dramatically improved public health and, in many places, still stand us in good stead.

However, there are worrying signs that we lag behind other developed countries in the way we manage our water environment. Many parts of our river and wetland heritage are being parched and poisoned, or subject to vicious floods. As we face growing challenges posed by diffuse pollution, climate change and urbanisation, the solutions the Victorians bequeathed us are becoming increasingly over-stretched and costly to maintain.
A time for change

We have lost control of our water systems, and wildlife is struggling.

Our traditional ways of doing things, it seems, are not working. And more than that, they are taking a terrible toll on our water and wetland wildlife. A potent symbol of the continuing decline of our wetlands is the dwindling number of breeding wading birds such as lapwings, snipe and curlews in large parts of England. In 2005, only two pairs of snipe were found in the whole of central England – the heart of our countryside is dying of thirst.

But there are alternatives. There are tried and tested methods that can protect and restore our water supply, and also benefit our landscapes and wildlife. Beyond our shores, there are plenty of examples of water management practice that are sustainable, cost effective, energy efficient and great for the local environment. The examples that follow in this leaflet are designed to show what can be done – and to spur Government, industry, regulators, customers and wildlife groups to work together and put the UK back where it belongs, at the forefront of innovation, managing our water environment in a way that is sustainable long into the future.
Saving water and wildlife

Barrie, Ontario, is one of Canada’s fastest growing communities with a population of 90,000 that is expected to double by 2021. Faced with a bill of $68m to meet new demands for water and sewage treatment, planners looked for a different, cheaper approach. The scheme they turned to involved reducing demand by offering householders a rebate to fit ultra low flush toilets and water efficient showerheads.

From early 1995 to February 1999, average daily water consumption was reduced by 62 litres per person, (saving 1,782,500 litres per day). Wastewater entering sewage works was reduced by 55 litres per day per household. At a cost of $4.7 million, the programme allowed Barrie to delay investment of $21.8m, a net saving of $17.1m.

Reducing demand makes sense for wildlife as well as people. By working within our limits, we avoid the need to take more water from the environment, or build reservoirs. This is an urgent message for water resource planners in the UK as Government pushes ahead with its plans for hundreds of thousands of new homes in the south and east of England where water shortages and low flows are already impacting on wetland wildlife.

Wetlands face desiccation as water demand rises and summers become hotter and drier.
Flooding

Breda is an historic town in the south of the Netherlands that, like many towns in the UK, is becoming increasingly vulnerable to flooding. Options for engineering new defences in Breda are limited and so the focus shifted to managing the landscape to reduce flooding.

Weirs have been installed to hold water back on farmland, and meanders in minor tributaries have been restored. Just upstream of Breda, large-scale floodplain restoration has re-connected the river to the land around it and, in the process, removed barriers to fish movement.

Taking a landscape approach to tackling flood risk requires significant commitment from the landowners, developers and citizens, all of whom need to take action. Public participation proved an essential tool for identifying problems, developing solutions and getting them implemented. Difficult decisions were made involving the reversal of agricultural drainage, allocating land for flood storage and planning the relocation of houses and industry.

The results have not just benefited people. The river, and its banks, now form one of a network of linked nature reserves with wet meadows that attract breeding wading birds and ducks, geese and swans over winter.
Diffuse pollution is a symptom of intensive agricultural practices common to many developed nations. In Bear Creek (Iowa, USA), a 10-year study has investigated the effectiveness of river buffer strips and constructed wetlands in mitigating agricultural pollution. Results show that a 20-metre wide buffer reduces silt in run-off by more than 95% and nitrogen and phosphorus levels by 80%. The pollution control results are mirrored by a dramatic increase in biodiversity – five times more bird species are found where buffers and wetlands are present.

In the Platte-Republican Resource Area of Nebraska up to 34,000 hectares of native grassland will be created, increasing the population of ground-nesting birds by 25%, and creating 6,000 hectares of conservation buffers and wetlands. It is estimated that buffer strips and habitat creation will annually reduce leaching of nitrates into streams and groundwater by 2.5m kg and reduce the application of phosphates by 1.1m kg. By tackling diffuse pollution and increasing water retention by 105m cubic metres the project will save $158m of investment in public water supplies.
Urban drainage

Traditional urban drains wash filth into our rivers and can flood our homes.

Malmo, Sweden, is an example of a modern city that has placed the concept of Sustainable Urban Drainage (SUDS) at the heart of its urban design. Run-off is no longer a dirty secret, hidden in pipes away from its population. Instead, water has become a central feature in the design of recreational areas, industrial estates and housing areas.

Green roofs are used to trap water, slow run-off and insulate buildings, while on the ground, water passes through permeable pavements and off roads into ponds and wetlands. These wetland features reduce flood risk, improve water quality and support wildlife.

The lessons from Malmo suggest that the biggest barriers to implementing SUDS are not technical but institutional. This is certainly the case in England and Wales where, despite strong planning guidance, uncertainty about ownership, financing and long-term maintenance of SUDS ponds, swales and wetlands still hinder progress.

As a result, although there is a widespread recognition that SUDS have an important part to play in improving river quality and tackling the threat of urban flooding, developments with SUDS remain very much exceptions rather than the rule.
The RSPB is already working closely with United Utilities to protect and enhance their uplands for the benefit of nature conservation and water quality through the Sustainable Catchment Management Project (SCAMP).

There are new, fresh and exciting ways to manage water – and we need them now. Climate change is a reality, bringing the urgent need for low-carbon technologies, and for adaptive responses that will protect and conserve drinking water supplies, lessen the impact of storms and floods and provide secure wetland habitats.

The RSPB is leading on this new approach, working closely with United Utilities on their Sustainable Catchment Management Project (SCAMP). Although the solutions in this booklet are feasible, proven and cost effective, integrated projects like SCAMP are rare.

Our challenge is to transfer the best practice from other parts of the world to our own water management system. To do this will need action from all parts of the water sector. In particular, we will need to:

- alter water industry regulation to incentivise innovative and low-energy water management
- insist on building standards for new homes that save water and minimise waste
- embark on large-scale projects to fit water efficient devices into our homes
- introduce tighter rules to control farm pollution, and allow water companies to help farmers adapt their businesses to make them water-friendly
- allocate the funding and responsibility for the creation of urban drainage systems to one public body, and put in place a mechanism to fund their maintenance
- promote flood risk management that works with nature and brings benefits to local communities and the environment
What you can do

We can all play a part. The RSPB pledges to work with Government, companies, regulators and farmers to promote these messages. You can help by:

• improving water efficiency in your home. More details are available at www.rspb.org.uk/green, from www.environment-agency.gov.uk/savewater or from your local water company

• talking to your water company about the kinds of projects you would like them to invest in – contact the RSPB for more details

• slowing run-off from your own home by avoiding hard surfacing and encouraging wildlife in your garden – see www.rspb.org.uk/hfw for tips and advice

• installing water butts and soakaways for surface water – find out more at www.waterwise.org.uk/reducing_water_wastage_in_the_uk/house_and_garden

• asking your MP to support the Blueprint for Water, which calls for more sustainable water use in the wider environment – see www.blueprintforwater.org.uk

• having your say in how your local community should develop better protection from flooding – contact your MP or the Environment Agency at enquiries@environment-agency.gov.uk