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## BLUEPRINT FOR WATER BRIEFINGS FOR DEFRA WATER STRATEGY

JULY 2007



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In 2006, a coalition of organisations concerned with the health of our water environment came together to set out ten steps needed by the Government and its agencies in order to restore the health of our waters by 2015 – the ‘Blueprint for Water’.

**The vision of the Blueprint for Water is to secure water supplies, enhance biodiversity, maximise social and economic benefit and improve resilience to climate change by:**

- Protecting and restoring the ecosystem function of catchments, wetlands and water bodies;
- Managing demand to meet environmental limits;
- Making those who damage the water environment bear the costs.

We welcome the Government’s commitment to a new Water Strategy. We have been actively involved in the recent series of round table events and are keen to provide further input.

Wildlife and Countryside Link (Link) currently provides the secretariat for the Blueprint for Water campaign. Link brings together 39 voluntary organisations concerned with the conservation and protection of wildlife and the countryside. Our members practice and advocate environmentally sensitive land management, and encourage respect for and enjoyment of natural landscapes and features, the historic environment and biodiversity. Taken together, our members have the support of over 8 million people in the UK.

This document expands upon the original Blueprint for Water document, setting out our ambition for the new Strategy. We hope it will provide the direction needed to achieve our vision, giving the water of England and Wales a sustainable future. It is supported by the following organisations;

- Anglers’ Conservation Association
- Association of Rivers’ Trusts
- Buglife – The Invertebrate Conservation Trust
- Herpetological Conservation Trust
- Marine Conservation Society
- The National Trust
- Pond Conservation: The Water Habitats Trust
- Royal Society for the Protection of Birds (RSPB)
- Salmon & Trout Association
- Waterwise
- The Wildlife Trusts
- Wildfowl & Wetlands Trust (WWT)
- WWF
- Zoological Society of London (ZSL)



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"Bringing voluntary organisations in the UK together to protect and enhance wildlife and landscape, and to further the quiet enjoyment and appreciation of the countryside"

Chair: Hilary Allison, Director: Alexia Wellbelove

Vice Presidents: Peter Ainsworth MP, David Kidney MP and Baroness Miller of Chilthorne Domer

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## WASTE LESS WATER

**Every year we use more and more water in our homes. Today, each person uses on average 150-180 litres per day, with much of that wasted. Climate change is likely to result in drier summers and, if we don't start wasting less, there may not be enough water for us or for our environment.**

**Reduce water consumption by at least 20% through more efficient use in homes, buildings and businesses**

- By 2007, the Department for Environment, Food and Rural Affairs (Defra) and the Department for Communities and Local Government (DCLG) must introduce a mandatory Code for Sustainable Homes, with a target maximum use of 125 litres of water per person per day in most areas, and 100 litres per person per day where water is scarce.
- By 2008, Ofwat should introduce tougher leakage targets to reflect environmental impacts and public concern.
- By 2008, Defra and DCLG should introduce mandatory high standards for water efficiency in existing homes and buildings.
- In the 2009 price review, Ofwat must approve water company investment in fitting water-efficient devices and appliances into existing homes, and in conducting free water audits for businesses.
- By 2012, all new housing in areas where water is scarce should be 'water neutral'. Developers will have to ensure water use in new housing is offset by efficiencies elsewhere.

### **New homes and buildings**

The Code for Sustainable Homes has now been published, with three levels of water efficiency (in litres per person per day) - 80, 105, 120 - with 105 required for publicly-funded homes. There is no differentiation between water-stressed and non water-stressed areas, but we welcome the three levels and the focus on Level 3 (i.e. 105 litres per person per day), which could mean significant water savings across all new homes. The caveat, and our current focus, now rests on a) the fact that the Code isn't mandatory for all new homes and b) links between the Code and work on bringing water efficiency into Building Regulations.

We support mandatory Code ratings from April 2008. However, this is not the same as all new homes being required to meet a particular level of efficiency, and we propose that all new homes in water stressed areas should meet Code Level 3 from April 2008. Areas of water stress should also be reflected in Building Regulations, and Code Level 3 standards of water efficiency should be adopted.

We would also like to see this required level (105 litres per person per day, as a whole building standard) reviewed every few years – as well as the technical guidance, to keep up with research and technological progress, and consumer trends in water use. In terms of new buildings, we propose a long-term goal of all new buildings being

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required to meet Code Level 3. We would like to see the Code given a higher profile and promoted widely among planners, home builders, estate agents, and the wider public.

It is essential that the Building Regulations on water efficiency are based on a whole house standard which is supported by minimum standards on key fittings. We welcome the recent Government announcement to this end, based on a whole house standard of 125 litres per person per day (equivalent to Code Level 1 plus a 4% allowance for outdoor water use), and would like to see this tightened in future years, as technologies, behaviour (and climate change) develop: as we have asked for Code levels to be tightened in subsequent years. We welcome Government plans to review the Water Fitting Regulations to set standards for specific fittings with this: how tight these levels are set at will be very important. We would also like to see these transposed into the new buildings sector as standards on toilets, taps, urinals and showers – and also perhaps washing machines and dishwashers. We would like to see all these measures in force, operating in the marketplace to ensure water savings as well as market transformation, in 2008.

Furthermore, we welcome the Government's commitment to build five new Eco Towns. We support the reference to high standards for water efficiency in the criteria. However, we believe the Eco Towns should be in the vanguard of the development of sustainable communities, and as such should aim to be water neutral.

## ***Existing homes and buildings***

We look forward to seeing the Government's proposals for water efficiency in existing homes and buildings shortly. These should include:

- Whole building and/or key fittings standards to be enforced on retrofit or refurbishment
- Reduced availability of non water efficient products
- Fiscal incentives, such as a reduction in VAT for water efficient products and stamp duty reductions for water efficient homes. In March, the Chancellor announced his intention to pursue VAT reductions for energy efficient products in the EU – similar measures are needed for water, e.g. low-flush toilets, water efficient dishwashers, and low-flow taps. To not take this forward in tandem with low-carbon reductions would be a wasted opportunity to significantly transform the market.
- Large scale programmes to install water efficient devices into existing homes, accompanying metering strategies.
- Promotion of water saving devices, for example water butts, flushing devices etc.

We would like these measures confirmed in 2008, and working in the marketplace by the end of 2009. In addition, it is extremely important to mainstream water efficiency alongside the low carbon measures being taken forward; for example, the Government's recent announcement to make all homes low carbon in the next 10 years must be accompanied by water efficiency measures, or this would represent a huge wasted opportunity. Domestic hot water use emits approximately 30 million tonnes of carbon dioxide per year, over 5% of the UK's total annual greenhouse gas emissions. Through greater water efficiency a reduction of hot water use in households by just 15% would save the equivalent of taking 800,000 cars off the road.

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## ***Water neutrality***

We are pleased that the Government and the Environment Agency are looking at this in the Thames Gateway. This should be taken forward as soon as possible – the Strategy could announce neutrality pilot programmes within the Thames Gateway to take place during 2008. This should be rolled out across all housing growth in water stressed areas, according to the Environment Agency/Water Saving Group map, and in the long-term (within the timescale covered by the Water Strategy) for it to develop into a standard policy tool in land use planning.

## ***Price Review/water companies***

The evidence base for large-scale water efficiency is being built, and will provide the basis for cost benefit analysis of applications for PR09. We believe it is important that the Strategy includes a clear Government statement that it expects water company water resource plans and subsequent PR09 business plans to include applications for large-scale water efficiency, quantified and cost-benefit analysed, against the evidence base.

We would also like the Government to state in the Strategy that it expects applications in the future for new resources, and for measures such as large scale retrofits for water efficiency, to be judged on a level playing field, with economic, social and environmental costs rigorously assessed, including the carbon costs of each.

These messages are both important and necessary signals to encourage water companies to submit applications, and for Ofwat to be able to award them. We would like to see output-based targets for water efficiency in place for PR09, and for these to be included in the Strategy.

## ***Other measures***

Procurement is a powerful and important tool for driving the market in water efficiency, which the Government is not currently using. Current Office of Government Commerce (OGC) “Quick Wins” standards, for example, don’t match the average performers on the market for dishwashers and washing machines, and should be setting the standard for highly water efficiency fixtures and fittings. We wish to see the Strategy commit to reviewing and updating the current Quick Wins standards on dishwashers, washing machines and toilets, to match the best available technologies on the market.

As the recent SDC report showed, Government departments aren’t following their own procurement rules when it comes to water efficiency. We would like the Strategy to address this across the public sector, including for schools and hospitals where big savings can be made.

We welcome the Bathroom Manufacturers Association new water efficiency label. We would like the Strategy to contain proposals for improving the situation on labelling for water efficiency of white goods. We would also like to see standards/guidance for rainwater and greywater, and would like water efficiency assessments to appear alongside energy efficiency assessments in Home Information Packs.

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We would also like the Strategy to confirm new policies outlined in recent consultations on accelerating metering in water-stressed areas, the mapping of water-stressed areas, updating hosepipe restrictions, and infrastructure charge rebates.

## ***Examples and evidence***

- The 21 large-scale water efficiency programmes currently being carried out by the water companies will be starting to report over the next few months. Preliminary results indicate strongly that savings of 8% can be made in homes from toilet retrofit alone. This supports work two years ago by the Environment Agency and ten water companies that showed 8.5% savings on average through toilet retrofits, on a sample of 300 to 400 homes.
- All dishwashers and washing machines need to be water efficient as well as energy efficient. At present not all energy efficient machines are water efficient: a machine rated 'A' for energy has only a 50/50 chance of being a water efficient model. (Further details available from Waterwise)
- Birmingham Hospital, which has 1150 toilets, and has just specified a new toilet design by Twyford Bathrooms that will save at least 78 million litres of water per year
- A recent Waterwise water efficiency campaign with B&Q saw sales of water butts increase by 300%

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## PRICE WATER FAIRLY

**Over 70% of households in England are charged for water regardless of how much they use. This system cannot deter waste or reward people for using water wisely.**

### **Make household water bills reflect the amount of water people use**

- By 2008, Defra should publish a plan for installing a water meter in every home, accompanied by tariff schemes that protect vulnerable customers and deter waste.
- By 2015, all homes in areas where water is scarce should be fitted with a water meter.
- By 2020, every home in England should have a water meter.

In addition to confirming the way forward on accelerating metering in water-stressed areas (which we welcome), and the map of water-stressed areas, we would like the Strategy to set out the way forward for metering the whole of England and Wales.

The current situation is the worst possible option for large, low-income families, as they are subsidising households that opt for meters. Ministers have publicly indicated that the direction of travel for the next 20 to 25 years would be to move from rateable value to metering. In this context we would like the Strategy to set out a road map towards full metering, as far as is practically possible.

## STOP POLLUTANTS CONTAMINATING OUR WATER

Our groundwater and rivers are being polluted by contaminants from industry, agriculture and homes, and current regulation is not doing enough to prevent it. As a result, the costs of treating water are increasing and some sources of drinking water can no longer be used.

### Introduce targeted regulations to reduce harmful pollutants in water

- By 2007, the Veterinary Medicines Directorate and the Environment Agency, in partnership with the sheep industry, fisheries and conservation organisations, must publish a timetable for the withdrawal of all sheep dips.
- By 2009, Defra should ban the use of phosphates in detergents, soaps and shampoos.
- By 2012, Defra must introduce a single programme of regulations covering agricultural nutrients, pesticides and soil erosion.
- By 2012, the Government must introduce a package of measures to address the damaging effects of endocrine disruptors on fish.

### Overview

Point source pollution has been markedly reduced over the past 20 years, but continues to have a significant impact on water quality both through occasional incidents and ongoing chronic pollution. Neither the detection of polluters, nor the level of fines for environmental crimes, are sufficient to deter further incidents or impact meaningfully on the bottom line of companies.

Diffuse pollution has a greater collective impact on water quality and is much more difficult to detect. The principal impacts are from sediment, phosphorus and nitrogen. We believe that addressing this issue will be critical to achieving good ecological status under the Water Framework Directive. We also believe that it would save significant treatment costs for water companies (and their customers), while providing a multitude of benefits from more environmentally sensitive land management, boosting biodiversity and enhancing landscapes.

### ***Detection and prosecutions of point source pollution***

In 2005 there were 661 pollution incidents that had a serious impact on water quality. The sewage and water industry caused almost a quarter of serious (category 1 and 2) water pollution incidents. Farming and other industry caused 17% and 13% respectively. The Environment Agency was unable to find the source of pollution for a quarter of these incidents.

Of the 13,000 substantiated pollution incidents in England, Wales and Northern Ireland which had an impact on water quality, there were just 284 prosecutions. In 2004, the Agency prosecuted 233 limited or public limited companies. Fines totalled £2.3 million and 153 businesses were fined over £5000. Average fines against companies were £8,524, less than in 2003 or 2002.

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We believe that significantly greater resources are needed for environmental regulation by the Agency so that they can investigate all pollution incidents and that fines should be much higher to reflect the costs of pollution to society and deter repeat offences. We also support a move to hypothecate fines as a contribution to catchment restoration funds.

## ***Deemed consents***

There are currently 3,476 discharges in England and Wales which are not regulated because they are 'deemed consents', granted as a temporary measure at the time of privatisation of the water industry. Some of these consents have a significant impact on water quality locally and the Anglers' Conservation Association is currently claiming compensation in the civil courts for damage to its members fisheries from two deemed consents. However, there is little information about their total impact as they are not being monitored. We do not believe it was Parliament's intention that such consents should remain unregulated 18 years after privatisation.

## ***Agricultural diffuse pollution***

Agricultural diffuse pollution is estimated to account for approximately 70% of nitrogen and 50% of phosphorus entering water<sup>1</sup>, and despite land management solutions to tackle the problem being well known, there are limited mechanisms in place and little funding available. There needs to be much wider implementation of catchment-sensitive farming initiatives and better regulation of farms which cause the most problems (e.g. intensive strawberry growers, "open-cast" pig units and arable farmers tilling soil on steep slopes). Cleaning up diffuse water pollution caused by agriculture is estimated to cost water companies (and therefore water consumers) £211 million a year.

Sediment pollution exacerbates flood risk, increases the need for expensive and environmentally-damaging dredging from estuaries and the use of landfill (and associated transport impacts) for disposing of sediment removed from drinking water supplies. It is also the principal route for phosphorus pollution: In 2005, 51% of rivers had high concentrations of phosphate (greater than 0.1mg/l), little change from a total of 50% in 1995. Rivers are the main supply of nitrates and phosphates causing nutrient enrichment in coastal waters.

Nitrate concentrations fluctuate from year to year and there is no clear overall trend. In 1995, 30% of rivers had high nitrate concentrations (greater than 30mg/l), rising slightly to 32% in 2000, and decreasing to 28%, in 2005. Supportive measures for farmers, such as agri-environment and catchment-sensitive farming initiatives, need to be backed up with strong but fair regulation to limit loss of nutrients and sediment from farmland. Strengthened and enforced Nitrate Vulnerable Zones Action Plans are needed in the four UK countries as are new powers to similarly limit and control phosphorus applications to land. Rapid improvements will be required, rather than simply maintaining the status quo, if we are to achieve good ecological status in eight years time. Furthermore, to ensure compliance, scientifically credible assessment of the effect on biodiversity, at catchment level, of the many different diffuse pollution mitigation techniques currently in development is required, such as that proposed in the multi-partner Water Friendly Farming Landscapes programme.

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<sup>1</sup> Defra, 2004. Mapping the problem. Risks of diffuse water pollution from agriculture.

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## **Pesticides**

Cypermethrin sheep dip was found in the majority of sites for which it was properly monitored by the Agency. There is currently a temporary suspension of cypermethrin, sheep dips but there are still stocks being used. A permanent ban and ideally a product recall, in agreement with the sheep industry programme for the permanent eradication of sheep scab, would send a clear signal to farmers that dipping with synthetic pyrethroids is over for good. Any decision to re-licence cypermethrin will be judicially-reviewable.

In 2003, 60% of Great Britain's cereal area was treated with pesticides four or more times and we spend about £120 million each year on removing pesticides from drinking water supply. A number of the herbicides commonly found in water have recently been withdrawn from the list of approved pesticides in the UK, including the herbicide Isoproturon. No doubt, other herbicides will be used by pesticide sprayers to take their place. It is, therefore, highly important that these chemicals are used according to the law and best application practice, and their use and impacts are monitored by the Agency and the Pesticides Safety Directorate.

## ***Urban diffuse pollution***

Fewer than half of our urban rivers are of good quality because of pollution from road surfaces and sewers. It is well established that urban runoff contains heavy metals – primarily copper, iron, and zinc – in toxic concentrations. Diffuse pollution results from release of a variety of substances in many different situations. It includes: organic wastes (slurries, silage liquor, surplus crops, sewage sludge and industrial wastes) that are poorly stored or disposed of and spread to land; oil and hydrocarbons from car maintenance, disposal of waste oils, spills from storage and handling, road and industrial run-off; chlorinated solvents from industrial areas where the use of solvents is ubiquitous; metals, including iron, acidifying pollutants and chemicals from atmospheric deposition, abandoned mines, and industrial processes etc.

Sustainable Urban Drainage Systems (SUDS) have been installed at many locations in the USA and northern Europe. Experience has shown that if the first 6–15 mm of rain is captured then more than 80 per cent of the pollutants are also retained (please see the briefing on drainage below, for more information).

Incorrect plumbing in the home means that waste water from dishwashers, washing machines, sinks, baths and even toilets is flushed directly into watercourses. Misconnected pipes are a common cause of pollution to rivers and streams, especially in urban areas. Thames Water estimates that 1 in 20 houses in London have misconnected drains, resulting in waste water polluting local rivers. A further problem arises because many people are unaware that most surface water drains discharge directly to a watercourse or a soakaway. As a result, used oil, garden chemicals, car washing water and other liquid wastes are often poured into these drains contributing to the polluting load.

We have set out in the Blueprint for Water a strategy for dealing with urban diffuse pollution, which involves construction of SUDS, banning the use of phosphates in detergents, soaps and shampoos and investing in treatment of the remaining intermittent sewage discharges that cause environmental damage, health risks and sewage flooding to homes. We are also calling for further research into removal of endocrine disruptors from effluent and a programme to be developed to stop these chemicals entering the water environment.

## CLEAN UP DRAINAGE FROM ROADS AND BUILDINGS

During heavy rainfall, water pouring off roofs and roads washes pollution from our towns straight into natural waterways. There are cheap and effective measures to hold this water back, reduce flood risk, and treat it before it contaminates rivers and wetlands.

### Construct modern drainage systems that prevent pollution entering rivers from buildings and roads

- By 2007, DCLG must reform Planning Guidance and Building Regulations to make Sustainable Urban Drainage Systems (SUDS) the standard method of disposing of surface water.
- By 2009, DCLG and Defra must decide who is legally responsible for the construction and maintenance of SUDS.
- In the 2009 price review, Ofwat should encourage water companies to provide grants and educational material to help remove sources of diffuse urban pollutants like heavy metals, solvents and fats.
- By 2012, local authorities, the Highways Agency and water companies should launch a major programme installing SUDS in built-up areas where surface run-off causes pollution.

England's drainage infrastructure is struggling to cope with the demands placed upon it from new development and increased rainfall intensity resulting from climate change.

The current and predicted rate and scale of new built development, in particular new housing in both rural and urban areas will exert even greater pressures on foul and surface water drainage system. This situation is exacerbated by the amount of hard landscaping and loss of gardens and green space associated with new development. By covering the land with impermeable surfaces, we are increasing the flow and velocity of rainwater draining into out-dated sewers.

It is time that sustainability was placed at the heart of drainage design via planning and building regulations. The philosophy behind SUDS encompasses a wide range of techniques including wetlands, permeable paving, ponds and green roofs. That is not to say that traditional piped solutions are ruled out, but rather that they are only approved where they are shown to be the most sustainable solution. Adopting a more imaginative and flexible approach to treating and disposing of surface water run-off has been shown to be cheaper and more environmentally and ecologically friendly than traditional alternatives.

For example, surface water from roads and car parking areas has traditionally been drained via gully pots and oil interceptors. These simply hold pollutants until they are cleaned or, as is often the case, until they are overwhelmed by a combination of excessive load and poor maintenance or bypassed by soluble pollutants. By contrast, systems that use permeable paving, ponds, swales and wetlands actually break down organic pollution (insoluble and soluble) and have a massive capacity for trapping pollution bound to sediments. They also provide a very visible and public indication of

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pollution that would otherwise be hidden until it reaches a watercourse. Furthermore, SUDS also have the potential to create habitats in urban areas, improving local freshwater networks for species and habitats.

Although, like any system, SUDS will fail when their design capacity is exceeded keeping water out of sewers, and on the land surface, will reduce the threat of sewer flooding and allow safe failure to be designed into a scheme at its outset (e.g. flooding of playing fields or car parks). Such an approach will become increasingly important with the threat of climate change promising increased storm intensity that will overwhelm traditional drainage systems causing intra-urban and sewer flooding.

The Code for Sustainable Homes should become mandatory and be reviewed to require high levels of water efficiency and sustainable drainage in all new buildings, not just homes. Building Regulations urgently need to be strengthened to reflect the Code requirements. In particular, SUDS should become the required standard for disposal of surface water run-off, and methods to store and re-use rainwater should be incorporated into new developments.

The new Defra Water Strategy should stress the importance and relevance of sustainable drainage in new developments and promote the benefits of retro-fitting SUDS into the existing urban and suburban landscape. It should also influence the construction of modern drainage systems that prevent pollution entering wetlands from buildings and roads.

## CATCHMENT RESTORATION: A COMMUNITY BASED APPROACH

We have critically damaged our watery landscapes. We have straightened, dammed and constrained rivers within flood defences; destroyed lakes, back channels, ditch networks, ponds, wetlands, river banks and floodplains; and over-grazed, drained and damaged our uplands with plantations of non-native conifers. It has been widely acknowledged that in order to restore river systems whole catchment processes need to be taken into account and a holistic approach developed to solve often very diverse problems. A successful river restoration project cannot be delivered by a single sector alone. Regeneration of rivers, lakes and wetlands needs to be done in partnership with local communities.

A number of novel solutions to delivering restoration programmes have been developed in recent years based around community led partnerships. These have encompassed a wide variety of stakeholders, including various local and regional partnerships between agencies, authorities and private interests. These special kinds of solutions have a number of distinct advantages that have made their approach particularly powerful. Below, we review each aspect of this type of approach and conclude with a brief summary of two examples: the Mersey Basin Campaign, and one of the Trusts within the growing River Trusts movement.

### ***Community led***

The need for restoration and conservation work should come from the community itself. This would allow for very precise targeting of measures to local conditions, and all organisations with an interest in the project can still play a full part in both its planning and operations.

### ***Geared funding and charitable status***

Community led partnerships can be extremely successful in gearing-up funds: small amounts of money can be 'geared up' through the use of a variety of funding mechanisms to raise the significant funds needed to carry out a catchment scale restoration. These contributions can include donations from local beneficiaries and businesses, including both financial and in-kind donations of time and resources. Many of these organisations also have charitable status, allowing them to claim tax breaks and access funds unavailable to other organisations.

### ***Cost effectiveness***

Small organisations have much lower overheads. The result is a higher percentage of money being spent on the river itself. There is strong evidence from across the country of community-led partnerships being able to deliver measures at lower cost than some more conventional statutory approaches.

### ***Permanence***

Projects are, by their nature, limited to the period over which they operate. However, community partnerships and Trusts are formed with the intention that they will act to protect their local river catchment for the foreseeable future. This can allow for individual projects to be built up into coherent restoration programmes, and can also encourage longer-term behaviour change.

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## EXAMPLES

### Case Study 1 – Mersey Basin Campaign

The Campaign has its origins in the early 1980s when conditions in the River Mersey had become so poor that urgent action was required. In recognition of the scale of the task, the Campaign was given a nominal 25 year lifespan. Significant water quality improvements have been made in the Mersey Basin catchment area over recent years across a range of indicators. These have been largely due to the massive investment delivered through Asset Management Programmes and the effects of the regulatory work undertaken by the Environment Agency. There are still significant improvements to be made in the area driven by the EU's Water Framework Directive. In addition, waterside regeneration continues to provide the focus for significant development investment across the North West.

The Campaign's original core objectives continue to guide its work, namely:

1. Improving water quality across the Mersey River Basin;
  2. Encouraging and stimulating sustainable waterside regeneration; and
  3. Engaging public, private, community and voluntary sector involvement in the process of water quality and waterside improvements.
- At a local level, the main focus of activity has been around facilitating local Action Partnerships, of which 14 are currently active. Each Partnership involves a mix of public, private and community sector representatives with central support from the Campaign team. Mini action plans are prepared for local activities which link in to the Campaign's overall Corporate Plan.
  - At a sub-regional level, the Campaign plays a number of roles. Examples include: a key involvement in Salford Quays Oxygenation project; overseeing research into water quality in the Manchester Ship Canal; and the organisation of various sub-regional fora and other events.
  - At a regional level, the Campaign is engaged with the Regional Park agenda, particularly the Mersey Waterfront Regional Park, and is also, in partnership with others, delivering ICREW projects, a European Union funded project aimed at improving coastal and recreation waters.
  - At a European level, the Campaign is the UK lead partner for the Artery Interreg project, which is aimed at transforming post-industrial riversides, with specific involvement in the Speke Garston Coastal Reserve and the Stockport Riverside Park.

### ***Financial Performance***

The Campaign receives £0.5 million Government funding per year towards core staffing costs and overheads, enabling the Campaign to draw in expenditure from other public and private funding for projects and activity. In 2004/5 this direct leverage totalled approximately £1.25 million. The Campaign also receives significant in-kind contributions from a range of sources. In 2004/5 the contributions were estimated to have a financial value of £3.2m. When in-kind contributions are included, the leverage ratio achieved is 1:9, greater than that achieved by many comparable organisations. The Campaign's ability to utilise its core funding to draw in substantial contributions from other public, private and voluntary sources is one of its key strengths.

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## **Case Study 2 – Eden Rivers Trust**

The Eden Rivers Trust was started by a group of volunteers as a small charity with the aims of restoring the River Eden in Cumbria. This all changed when a significant pollution incident poisoned over 14km of the river. A large proportion of the following civil damages settlement was directed to the Trust, which reformed with new Trustees from all over the river catchment.

After spending some time using existing knowledge to improve the habitat of the river, which led to two awards from English Nature for work to improve the SSSI, it was realised that the problems in the catchment were complex and that funds were spread too thinly across such a large area. This resulted in a partnership with the statutory authorities, volunteers and a Durham University to gather data on the health of the catchment on a much more detailed scale than for normal national monitoring.

This data is now being used to take action in prioritised target locations. This includes working with farmers over diffuse pollution, habitat improvements, and fish passes. Without the level of information gathered by the Trust, the level of funding currently attracted to this rural catchment would not be possible. Importantly, data now exists against which monitoring can prove that the work completed is having an effect.

## INTEGRATED CATCHMENT MANAGEMENT

Unsustainable land management across broad swathes of England causes water management problems, damages important nature conservation sites, impacts on biodiversity, and is increasingly a problem for the water industry. The problems of upland drainage, over grazing and over burning are equally damaging for biodiversity conservation, for water supply and for flood risk management. They have also helped turn upland blanket bogs from carbon sinks to sources - damage to the surface plants and mosses exposes the peat to erosion and to drying out, leading directly to the loss of carbon into the atmosphere as the peat oxidises. Climate change will make the decline even worse, further drying out existing peat bogs and increasing the intensity of the rainfall that is eroding the peat away. In the lowlands, problems of rapid runoff, sediment loss and diffuse pollution are prompting complete reappraisal of the way water is managed on farmland.

Water companies that source their water from upland catchments are facing a number of growing issues:

- Increased levels of dissolved organic carbon in rivers and reservoirs that gives rise to highly coloured water requiring expensive and energy intensive treatment. For example, dissolved organic carbon in one of Northumbrian Water's catchment has risen from 75 hazen in 1970 to 140 hazen.
- Increased levels of sediment from upland catchments reducing the yield of reservoirs, shortening filter life and giving rise to much increased sludge volumes for disposal.
- Increased livestock densities and inadequate housing and control of grazing have increased the risk of Cryptosporidium infection.
- Increased likelihood of supply failure at times when demand is often at its highest.

The traditional approach to these problems has been to build more treatment plants, apply more chemicals and upgrade treatment works. These systems are energy and carbon intensive with high operational costs and are not guaranteed solutions.

Integrated Catchment Management (ICM) is the viable, sustainable and potentially cheaper solution. ICM tackles the causes of the problems at source, proposing solutions that provide a multitude of benefits. In the uplands, ICM techniques could include blocking drainage channels, re-vegetating areas of bare peat, reducing sheep numbers, fencing off water courses and tree planting/woodland regeneration. The net result of these measures will boost biodiversity, reduce loss of carbon, and control peak discharges thereby reducing downstream flood risk and drinking water contamination. The UK has about 15% of the world's peatlands – storing the equivalent of over 20 years of UK industrial carbon dioxide emissions – so this vital resource should play a central role in the nation's strategy to tackle climate change.

In the lowlands, ICM will be necessary to tackle the effects of diffuse pollution, changing rainfall patterns and soil erosion, all of which are likely to make achievement of WFD targets difficult. Novel approaches such as taking a micro-catchment approach, systematic installation of treatment ponds and wetlands, modification of land management techniques and physical habitat restoration, are all likely to be needed to achieve good ecological status under WFD, and to protect vulnerable freshwater sites. Such approaches are particularly critical if the long term decline in the status of the

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highest quality habitats is to be halted (see, for example, recent data on the continued decline of Welsh rivers).

Taking action in the catchment is also likely to boost the local rural economy through a combination of greater access to agri-environment support and the creation of a more attractive landscape.

## **Case Study 1 – United Utilities Sustainable Catchment Management Programme (SCaMP)**

United Utilities owns 57,000 hectares of land in the North West, which they hold to protect the quality of water entering reservoirs. Much of this land is home to nationally significant habitats for wildlife, with around 30% designated as Sites of Special Scientific Interest (SSSI).

The Sustainable Catchment Management Programme (SCaMP) aims to develop an integrated approach to catchment management within two key areas of United Utilities land; Bowland and the Peak District area. This will help to deliver Government targets for SSSIs, enhance biodiversity, ensure a sustainable future for the company's agricultural tenants and protect and improve water quality.

Work being undertaken includes:

- restoring blanket bogs by blocking drainage ditches
- restoring areas of eroded and exposed peat
- restoring hay meadows
- establishing clough woodland
- restoring heather moorland
- providing new farm buildings for indoor wintering of livestock and for lambing
- providing new waste management facilities to reduce run-off pollution of water courses
- fencing to keep livestock away from areas such as rivers and streams and from special habitats

## **Case Study 2 – The High Peak Catchment: public, private, and voluntary partnership**

The Ashop catchment in the Southern Pennines of Derbyshire covers about 125km<sup>2</sup> of blanket peat bog of national and European importance, owned mainly by the National Trust. It supplies drinking water to the communities of Leicester, Sheffield, Derby and Nottingham, through the Ladybower reservoir system of Severn Trent Water.

Much of the peat, especially at high altitude, has been subject to erosion and degradation from the combined effects of drought, drainage, fire, overgrazing and atmospheric pollution. This has serious environmental, economic and social consequences:

- The designated SSSI and cSAC blanket peat is in unfavourable condition.
- The drinking water is discoloured (the reason for 50% of customer complaints) and needs expensive treatment. The problem has been getting worse since the mid nineties.

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- Peat erosion leads to sedimentation of the reservoirs, with 1-10 tonnes of peat slurry removed every day from Ladybower Reservoir and disposed of in landfill. Similar sedimentation into other river catchments could be a significant contributor to flood risk.
- Oxidation of a significant carbon store.

Dealing with these issues at 'end of pipe', and in isolation is proving expensive and ineffective, with a growing financial burden on the water company, its customers, the National Trust and the public purse. It also fails to restore the health of the blanket peat and the quality of the hugely valuable water resource.

A proactive approach was needed at a much larger spatial and temporal scale. A voluntary, public and private partnership facilitated by Moors for the Future brings together the National Trust, Natural England, Peak District National Park Authority, United Utilities, Severn Trent Water, Environment Agency, Derbyshire County Council, Sheffield City Council and several universities, has bought together financial, intellectual and logistical resources to identify and tackle the root causes of poor water condition.

Through research and experimentation with moorland management techniques, the partnership aims to move towards sustainable land management of the whole catchment. This case study demonstrates the importance of and greater sustainability gained by tackling problems at source in an integrated and working-with-the-environment way.

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