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PUBLISHED BY THE MERSEY BASIN CAMPAIGN

source NW

WATERS | REGENERATION | ENVIRONMENT | SUSTAINABILITY

SPECIAL RESEARCH ISSUE

SEA SENSE

The Proudman Oceanographic Laboratory has more fancy gadgets than Q. What are they telling us about the sea off the Northwest coast?

THIS LAND IS OUR LAND

With the pressure growing to involve the public in the expensive regeneration schemes designed to help them, what lessons have the residents of north Manchester got for the planners?

CHEMICAL SOLUTIONS

It's easy to see the chemical industry as the bad guys of pollution. What makes the industry think it can reverse that perception now?

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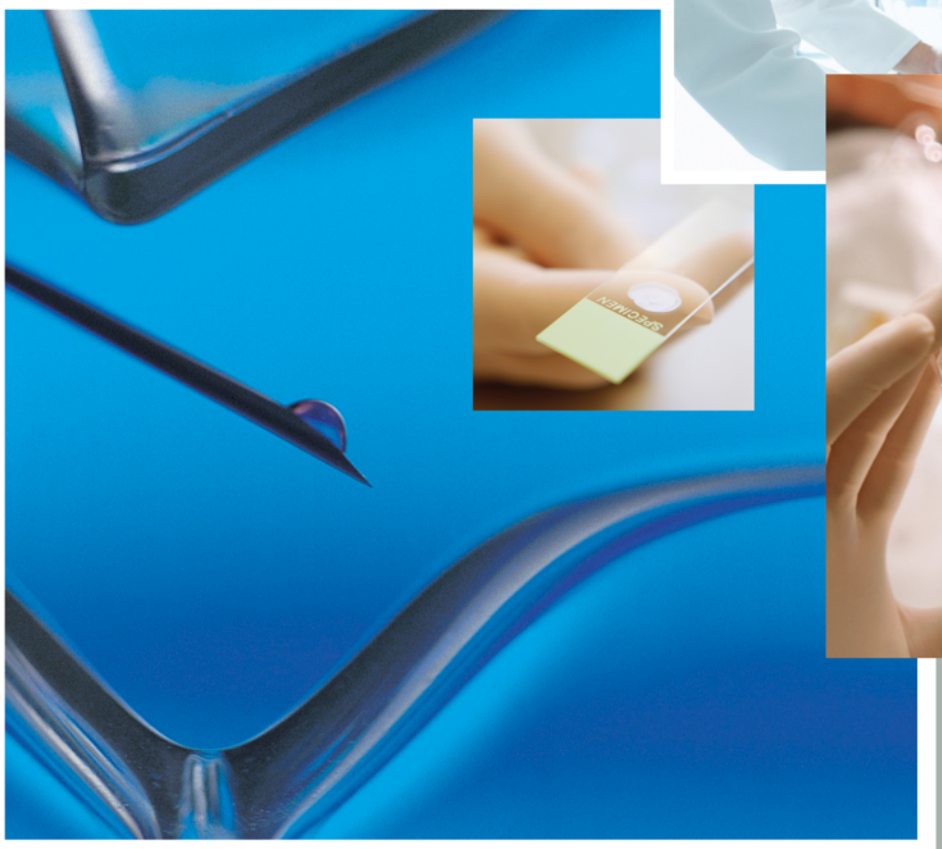

ENGLAND'S NORTHWEST
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Our multi-million pound commitment to major Northwest science projects is part of a potent formula for creating a whole region of scientific excellence.

The Northwest Development Agency is investing £130 million in ground-breaking projects such as the National BioManufacturing Facility, NW Genetics Knowledge Park, InfoLab21 and National Microsystems Packaging Centre. Funding will also champion excellence in scientific education, aerospace and environmental science.

We are a key partner in the country's first Science Council, based in England's Northwest, which is extending the boundaries of scientific advancement.

To find out more visit **www.northwestscience.co.uk**

NORTHWEST science

INVESTING IN englandsnorthwest

The current issue of Source NW takes science and technology as its theme - the Northwest boasts a proud scientific and technological tradition. Apart from being the birthplace of the industrial revolution, it's the place where the first atom was split and the home of the first computer worth the name. Nicknamed the Baby, it was built at Manchester University in 1948.

Next year the university will merge with the UMIST to create a 'super university' with over 30,000 students. Competition is reshaping the academic landscape, encouraging closer cooperation between universities as they try to protect their financial position and bid for research money.

The Northwest Development Agency, meanwhile, has fixed on the idea of building on the region's technological and academic strengths to create clusters of technological excellence that will drive the future economy.

What better time then, for the BA Festival of Science to arrive in town, bringing around 400 top scientists to the University of Salford in September.

Although science and technology drove the industrial revolution and so helped sully the Northwest's environment in the first place, science and technology is now helping repair the damage. This issue's feature stories show that the region is leading the way in several important if unexpected fields.

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Website www.merseybasin.org.uk

The Artery for regeneration

Two major land reclamation projects, one at either end of the River Mersey, are bringing home the value of working with the EU.

LIVERPOOL SAILING CLUB HAS BEEN THE VICTIM OF A SERIES OF ARSON ATTACKS

Anyone who has flown in or out of Liverpool John Lennon airport will be familiar with its distinctive location alongside the Mersey estuary, and with the 65 hectares of dilapidated land that lies between the two. At the other end of the river, where it rises in Stockport, a series of similarly under-utilised sites are a reminder of its industrial past.

Now, however, the transformation of both locations into nature reserves and waterside parks has taken an important step forward, with the announcement of over £1.2 million of EU funding. The cash is part of an international scheme of riverside regeneration worth up to £8.7 million (E12.5 million) across Europe.

The Artery project rests on the cooperation of five international partners, all experts in riverside redevelopment, led in the UK by the Mersey Basin Campaign. It aims to regenerate formerly industrial riverside land in Germany, Holland and the UK. In each country, specific projects rely on the support of additional local partners.

According to Iain Taylor, development manager at the Mersey Basin Campaign, "Funding of this scale provides a tremendous boost and brings together the best practice in community participation, public-private working and post-industrial redevelopment from across Europe. It signifies the move to the fast lane for the Mersey Basin Campaign, the Northwest and Europe in terms of waterside land reclamation."

Artery has secured £3.75 million (E5.4 million) of INTERREG IIIB funding, forming the nucleus of the funding for the various projects. In the Northwest, a combined total of £3.3 million will be invested. That consists of a £1.2 million share of the EU pot, plus additional funds including a planned £580,000 from the Northwest Development Agency. On the Mersey estuary, the money will help regenerate land that is currently subject to fly-tipping and arson attacks, and which is often the final resting place of burned out cars. Located between the communities of Speke and Garston, a two phase plan due to start in late summer will see the land reinvented as the Speke Garston Coastal Reserve. Key local partners include landowner Peel Holdings, the Northwest Development Agency, Liverpool City Council, the National Trust and Liverpool Sailing Club.

In Stockport, a former railway siding, the site of a demolished bleach works and some disused sewage sludge beds will become riverside parks and nature reserves, linked by a proposed new footbridge across the Mersey. The plans have built upon the cooperation of a number of local partners including Stockport Metropolitan Borough Council. They form part of the council's River Mersey Development Programme and its M60 Gateway Corridor Strategy.

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Government policy on the environment is in the dock, according to Maria Adebowale. Matching her customary eloquence with hard facts, the director of Capacity Global noted that 66% of the most polluting factories are in the 10% poorest areas. Speaking at an event examining issues of environmental and social injustice held at Manchester's Urbis, she added that along with poverty, research in the US has shown race to be a factor. The event was chaired by Walter Menzies, chief executive of the Mersey Basin Campaign. www.capacity.org.uk

A recently released study into the impact of climate change in the Northwest warns of higher sea levels, massively increased risk of flooding and major disruption to the regional economy. **Spatial Implications of Climate Change for the Northwest** has been produced by the Centre for Urban and Regional Ecology at Manchester University and UMIST's Tyndall Centre North. According to the report, the Northwest is a leader in the study of climate change. The report is newly available to download from the internet at http://rpg.nwra.gov.uk/sustainable_energy/research.php

The largest ever study into the environmental behaviour of smaller businesses in the Northwest has revealed that many are failing to take action to protect the environment. The **SME-nvironment 2003** survey of more than 700 small and medium-sized enterprises was commissioned for the NetRegs website. The website was developed by the UK's environmental regulators, including the Environment Agency, to help small businesses understand their green obligations. But the survey found that few were aware of either their statutory obligations or the business benefits of going green. Only 23% had taken measures to limit their environmental impact. www.netregs.gov.uk

The threat of expensive and environmentally devastating **flooding** at a Northwest oil refinery has been vastly reduced thanks to a unique partnership between Shell UK, Cheshire Wildlife Trust and the Environment Agency. At the same time that the scheme protects Shell's Stanlow oil refinery from flooding by the River Gowy and Thornton Brook, it has also led to the creation of a new wetland nature reserve. Completed at a cost of over £1.7 million, the scheme was formerly opened this summer by Environment Minister Eliot Morley.

Water charges should be "as high as they must be, but no higher than they need to be." That's according to Philip Fletcher, the director general of Ofwat. Mr Fletcher was attempting to clarify his idea of a "satisfactory outcome" to PR04, which is the process by which new water charges will come into effect in April 2005. Speaking to a parliamentary committee, he said it was important to minimise uncertainty during the process.

Ownership of 11 of **Liverpool's historic South Docks** has been transferred to British Waterways from English Heritage. British Waterways promises a new lease of life as a top leisure destination for the 30 hectare site, which includes two miles of riverside walkway and a 350 berth yacht marina. www.britishwaterways.co.uk

Cleaner rivers help dilute North-South divide

Tony Blair has called the North-South divide a myth. So how do the government's own figures rate the Northwest compared to the rest of the country?

MORE INFORMATION:
www.sustainable-development.gov.uk/indicators/regional/2002/index.htm

Gross domestic product is highest in the Southeast of England and lowest in the Northeast, according to the government's annual round-up of quality of life indicators. Life expectancy for both men and women is over two years lower in the Northwest than in the Southwest.

The findings are published in this year's Quality of Life Counts survey. It is the third time the government has drawn together 15 key indicators into an annual report in an attempt to look beyond traditional measures of quality of life such as wealth and health. A closer look at the figures shows that while the South of the country is ahead on most traditional criteria, the North, including the Northwest, has strengths of its own.

Among the good news for the Northwest is that it scores well in the improvement in its rivers. Between 1990-2000 the percentage of the region's rivers ranked good or fair for chemical quality improved by 19%, more than any other area of the country. At the same time, the improvement in biological quality stood at 20%, the second highest improvement in the country.

In terms of manufacturing investment, the Northwest also does very well, coming in second only to the Northeast. It also ranks highest in terms of manufacturing output. In terms of employment too, the region is strong. The figures show a 6.9% increase in employment since 1992, the biggest in the country.

What the research in fact reveals is a complicated and sometimes contradictory pattern across the country. All nine English regions have areas of deprivation, often alongside areas of wealth. Even so, overall the South still comes out top in terms of wealth, health, education and crime.

The point the government is keen to make, however, is that these traditional categories are a crude way to measure quality of life. Nor do traditional measures take into account the pace of improvements. Not long ago it seemed impossible that Liverpool would be crowned European Capital of Culture 2008, or that the influential Demos think tank could name Manchester the UK's most bohemian city.

QUALITY OF LIFE IMPROVEMENTS, INCLUDING BETTER WATER QUALITY, ARE HELPING UNDERMINE THE OLD NORTH-SOUTH DIVIDE. picturesofmanchester.com

But not all the news is good. For instance, 18.5% of working age people have no qualifications in the Northwest. Only the East Midlands has a higher percentage.

Overall, however, the results do indeed go some way to undermining the North-South divide. For example, London has over three times the national average of robberies. And the busiest roads by far are still in the Southeast.

What is clear from the research is that the quality of life in the Northwest is moving in the right direction, even if, like all the regions, problems do remain. The improvement in the quality of our rivers and canals, for one, is benefiting the region and helping to encourage continued regeneration. That in turn is making the old perception of the North-South divide look increasingly out moded.

European Green Week 2003 took water as one of its major themes this summer. The event, timed to coincide with the United Nations Environment Day, drew around 4000 representatives of government, business and NGO's to Brussels to discuss sustainable development, renewable energy and climate change, as well as water. The Mersey Basin Campaign accepted an invitation from the European water suppliers association, Eureau, to speak on partnership working at what has become a major fixture in the EU calendar.

A draft strategy may one day become an "exemplar for other urban areas in the UK." So says Manchester City Council's **Manchester Waterways Strategy**, which argues that there exists an "outstanding opportunity to develop a new holistic approach to the rivers and canals of Manchester." The strategy comes at a time when existing projects are already generating "exciting proposals" for both the environmental and tourism potential of what in the past has been an under utilised asset. It suggests that the time is ripe for such a strategy, with the evolution of waterside development company ISIS and a closer working relationship between the city council, Environment Agency and the Mersey Basin Campaign.

The government has issued the second round of licences to build **offshore wind farms**, effectively raising wind power from a tiny niche market to the frontrunner for renewable energy in the UK. The Northwest is one of the country's prime locations and organisations including Renewables Northwest and the Northwest Development Agency are keen to see the region become a major player in the industry. The expansion plans could see wind power account for around 5% of UK energy, creating 20,000 jobs across the country along the way.
www.renewablesnorthwest.co.uk

The **Water Bill** is courting controversy even as it takes a major step forward on its path through parliament. After a marathon session the Lords passed the government's fluoridation amendment by a surprisingly high margin. The amendment shifts the responsibility for deciding whether or not to add fluoride to drinking water from water companies to local health authorities. Despite strong evidence that fluoridation cuts tooth decay in children, campaigners criticise what they see as indiscriminate mass medication.

The value of **waterside locations** continues to be recognised, this time with the launch of the Widnes Waterfront Vision, which aims to create one of the Northwest's main economic development zones. The vision sets out a master plan for the regeneration of 80 hectares of low quality industrial land on the banks of the River Mersey and Sankey Canal to the south of Widnes town centre. A raft of environmental improvements are proposed, such as a new waterfront park, setting the scene for new offices and hi-tech businesses.
www.halton.gov.uk/edz/index.asp

Sydney, New York, Madrid and Salford

40,000 spectators converge on Salford to watch the UK's first ever triathlon world cup event.

Salford has joined the ranks of major cities around the world as the host for the UK's first ever triathlon world cup. Held on July 27, the event saw 150 of the world's elite male and female triathletes compete alongside 1000 non-professional participants. A crowd of around 40,000 spectators watched the event, which included a 3 km swim in Salford Quays. The vastly improved water quality in the quays first came to prominence in the Commonwealth Games, when the triathlon was also successfully held in Salford. The Northwest Development Agency sponsored the event with £150,000, which included the eye-catching images used in the promotional campaign.

MORE INFORMATION:
www.trisalford.info

Best ever tap water

The quality of tap water in England and Wales reached an all time high last year, according to research from the Drinking Water Inspectorate. The latest annual report from the water quality watchdog shows that 99.87% of the more than 2.9 million tests carried out in 2002 met all the national and EU standards.

The DWI's new chief inspector, Jeni Colbourne, said, "We have one of the strictest drinking water safety regimes in the world, and the tens of millions of people who drink tap water every day are reaping the benefits."

Tests on water produced by United Utilities, which supplies the Northwest, showed a pass rate of 99.81%.

MORE INFORMATION:
www.dwi.gov.uk

Urban sediment research

Dr Kevin Taylor, head of the Urban Sediment Research Group at Manchester Metropolitan University, is to speak at the BA Festival of Science in Salford in September. Dr Taylor argues that the environment, biodiversity and regeneration are all underpinned by water and sediment quality. He says that understanding the composition, pollution-loading and movement of sediments is critical for effective management of the urban aquatic environment, even though urban sediments have so far received only limited attention.

The group is researching sediments in a wide range of urban environments in the Mersey basin, partly funded by the Mersey Basin Campaign. This research has already highlighted the pollution associated with urban sediments, as well as how pollution levels vary. Now it is modelling the interaction of sediments with water in storm runoff, rivers and canals, with a view to managing the quality of urban water.

MORE INFORMATION:
www.urbansediments.net

Review: Environment Agency website
http://www.environment-agency.gov.uk

The Environment Agency (EA) has added a guide to bathing waters across the UK to its impressively detailed website. The site wins points for its well designed interface and easy navigability, but its stand-out feature is the unique interactive mapping system used on the bathing water guide.

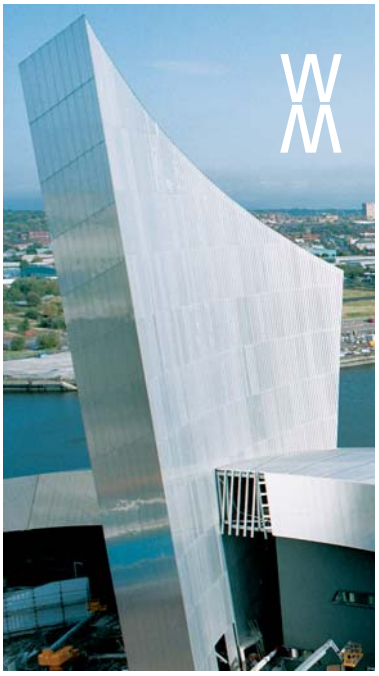
As well as bathing waters, the site also provides detailed information on floodplains, flood warning areas, sea discharge and river quality. Users simply select the kind of information they require and click on a region of the map for up-to-date details. The best maps provide records on quality stretching back as far as 1988.

Along with such specialised pages, the site also covers the usual ground, but does it well. Organised into regions, the news section is regularly updated with the latest environmental news and information. There's also a dedicated business section, with clear links to all relevant environmental regulations and tips on money saving green business practices.
A research section gives information on the latest EA funded projects and how to get full reports.
And a kids' section features educational games, while a vacancies section lists job opportunities.

Users can choose to read an overview, or dive into a detailed analysis, but throughout the site everything is clear, well presented and provides a wealth of information.

Excellence and opportunity

Lowry event to focus on waterside development opportunities.



An event at Salford's Lowry arts centre on September 24 will focus attention on the opportunities afforded by waterside locations to create buildings of architectural excellence. Acknowledging the resurgence in enthusiasm for waterside locations, the event aims to offer practical guidance for planners, developers, architects and engineers.

In few places has the rediscovery of waterside locations been more evident than Manchester, Salford and Trafford. What the city centre lacks in terms of parks and open spaces it makes up for with around five mile of canals and rivers.

Most famously, the Lowry arts centre and the Imperial War Museum North sit alongside the Manchester Ship Canal at Salford Quays. Shining examples of architecture and a force for regeneration they may be, but they are certainly not the city's only outstanding pieces of recent architecture. No less than eight Manchester based projects received prestigious awards from the Royal Institute of British Architects (RIBA) in 2003.

Speakers at the event will include Jerry Spencer, senior physical regeneration manager at the Northwest Development Agency, Nick Johnson of CABE, Joanne Kwan of CIRIA, David Roberts of the Igloo Regeneration Fund and representatives of Salford, Trafford and Manchester councils. It also affords an insight into how local plans and strategies, including the Manchester Waterways Strategy, will drive and shape future developments.

An optional boat trip follows the event, taking participants from Salford Quays to Manchester city centre and affording a unique perspective on some key waterside locations along the way.

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Mersey River Festival

This year's Mersey River Festival attracted record numbers of visitors. The festival's photo competition has run for 23 years and attracted over 400 entries of the highest calibre. One of the winners in the special Water Revival section, sponsored by the Mersey Basin Campaign, was Alex Anderson's Chung Ku Sunset.

MORE INFORMATION:
Ann Gilmore 0151 428 4929

Conference all-star line up

Environment Minister Elliott Morley will be delivering the keynote address at this year's Mersey Basin Campaign conference on November 24. He will be joined by an all-star line up including Sir John Harman, chairman of the Environment Agency, Keith Budinger of United Utilities, Sir Howard Bernstein of Manchester City Council, Sara Wilde, chair of the Mersey Waterfront Park, and others. Ben Chapman MP will again act as conference chair and Joe Dwek will have something to say at this, his last conference as Campaign chair.

"This is a very big year for the Campaign," said chief executive Walter Menzies. "It is a new start in many ways. We have a new governing council, new international partnerships, a greatly strengthened network of River Valley Initiatives and some real challenges ahead. Some of these, such as re-branding the Campaign will, to put it mildly, be a challenge. But we have to be ready for the future. The European Water Framework Directive has changed the goal posts and we need to aim very much higher."

AGENDA

September 8-12 2003
The BA Festival of Science 2003
The BA Festival of Science, sponsored by the Northwest Development Agency, is one of the UK's biggest science festivals. Featuring a discussion on sustainable development, the festival attracts 400 of the world's best scientists.
Venue: University of Salford, Manchester
More information: www.the-ba.net/festivalofscience

September 19 2003
Northwest Development Agency AGM and Annual Conference
Venue: Manchester International Conference Centre, Manchester
More information: www.nwda.co.uk

September 24 2003
Excellence and Opportunity (see article to the left)
Event promoting quality regeneration of Manchester's watersides, bringing together key figures in the city. Speakers offer practical guidance to inspire excellence in design. Includes an insight into the Manchester Waterways Strategy.
Venue: Lowry Centre, Salford Quays, Salford
More information: Louise Williams 0161 242 8200

October 3-12 2003
MWH Mersey Basin Week
The 12th annual Mersey Basin Week, a week of fun and activities involving thousands of children and volunteers in water themed activities across the Northwest.
More information: Bev Mitchell 0161 242 8212
b.mitchell@merseybasin.org.uk

October 7 2003
"Sustainable Development - who cares?"
A lecture by Jonathon Porritt, chairman of the UK Sustainable Development Commission, organised as part of the MWH Mersey Basin Week.
Venue: Lowry Centre, Salford Quays, Salford
More information: Bev Mitchell 0161 242 8212

October 13-17 2003
Regen Week Northwest
A week of workshops and training programmes to promote cross sector learning and raise the profile of regeneration, concluding with the first Northern Regen Fair.
Venue: The Investment Centre, Wigan
More information: j.greenall@wiganmbc.gov.uk

October 21 2003
ICREW international bathing waters conference
Launch conference for the ICREW bathing waters project, bringing together bathing water experts from Spain, Portugal, France and the UK to discuss projects in each country.
Venue: Blackpool Hilton
More information: Kate Oats 01772 339 882

October 28-29 2003
Environment 2003
Leading event in the environmental calendar featuring debating sessions, major speeches and a comprehensive exhibition hall. Peter Sissons confirmed as facilitator and Margaret Beckett as keynote speaker.
Venue: Novotel London West Hotel and Convention Centre
More information: 0117 906 1339 www.environment-agency.gov.uk

November 24 2003
Mersey Basin Campaign Conference
Speakers include Environment Minister Elliot Morley MP and Sir John Harman, chairman of the Environment Agency.
Venue: The Investment Centre, Wigan
More information: Mersey Basin Campaign 0161 242 8200
campaign@merseybasin.org.uk

November 28 2003
Evolution or revolution?
Conference examining the implementation of the Water Framework Directive. Includes an update, a forum on outstanding critical matters, and details of the draft guidance.
Venue: Church House Conference Centre, London
More information: Erica Hammond 01787 249290

License to thrill at Mersey Estuary Forum

Walter Menzies is chief executive of the Mersey Basin Campaign and sits on the UK Sustainable Development Commission. In his regular Campaign round-up he reports from this year's Mersey Estuary Forum.

"Licence to thrill" was Louise Hopkin's description of the 120 km Mersey Waterfront Regional Park. "Moving up a gear" was how professor Peter Batey summarised the growing momentum focused on the estuary and its waterfront. "Changing the face of the Northwest" was how Louise Ellman, MP for Liverpool Riverside, spoke about the transformation stimulated by the many partners who make up the Mersey Basin Campaign.

All three were speaking at the annual Mersey Estuary Forum, held at Liverpool's Maritime Museum on June 13. The forum brings together a lively gathering of a wide cross section of people, each with a commitment to the continuing improvement of the Mersey estuary as one of the Northwest region's priceless assets.

Louise Ellman MP went on to make a point of congratulating Joe Dwek, the Campaign's outgoing chairman, for his drive and leadership. She emphasised the importance of water as a force for regeneration and encouraged thinking big, thinking regionally and recognising Europe's importance.

Continuing improvements to water quality was the theme of Clive Gaskell from the Environment Agency, who also chairs the Campaign's research advisory group. While salmon and even seals are no longer aberrations in the Mersey, he did point out that there are unresolved scientific questions and a great deal remains to be done. Dr Keith Hendry of environmental consultants APEM reviewed his work as part of the team developing proposals for the new Mersey Crossing at Halton and its environmental impact. The upper estuary is proving to be particularly important for fish species and the crossing proposals are being carefully considered to ensure environmental benefits. Depending on the outcome of a likely planning enquiry, the crossing could be completed as soon as 2008.

Two thousand and eight has become a milestone year for the estuary. Speaker after speaker referred to the huge importance of the Liverpool Capital of Culture designation as a driver and stimulus for accelerated action in relation to the estuary and the waterfront. However, "This is only the beginning," Dr Amanda Wright, the Campaign's research manager, reminded the delegates. She pointed out that the European Water Framework Directive sets ambitious ecological targets for 2015 and these present immense challenges.

There was wide agreement that long range vision needs to be balanced by short term action. A current example was presented by Iain Taylor, the Campaign's development manager, who is working with partners including the EA, Peel Holdings, The National Trust, Northwest Development Agency, Liverpool City Council and the Liverpool Sailing Club to develop a major project at Speke Garston to open up, for community benefit, a large area of underused land.

The forum's innovative 'soapbox' sessions flushed out a wide range of insights and issues. These ranged from a fascinating account of the Liverpool Bay Coastal Observatory's hi-tech monitoring systems to Sean Welsh from Ellesmere Port's plea to be included in the Waterfront Park, capped off by Stewart Lever's spirited rendering of his Mersey Miracle Rag.

MORE INFORMATION:
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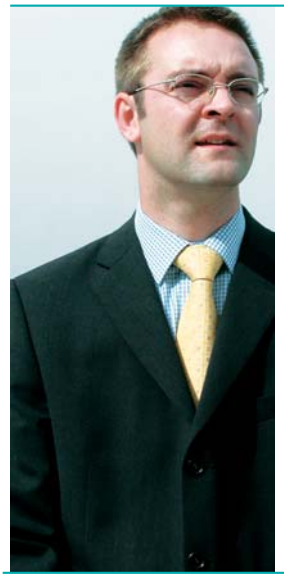

Campaign appoints development co-ordinator

Richard Burton has joined the Mersey Basin Campaign following a period as a freelance environmental consultant. Richard joins in the new position of Mersey estuary development co-ordinator and is based in the Mersey Waterfront Regional Park team in Liverpool. He will be responsible for taking forward the Mersey estuary management plan and delivering a number of projects that are part of the Mersey waterfront programme. Richard is an associate member of the Institute of Environmental Management and Assessment and holds an MSc in environmental impact assessment.

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Service receives recognition

The Mersey Basin Campaign's community support co-ordinator, Bev Mitchell, has joined the Northwest Regional Environmental Protection Advisory Committee. The committee advises the Environment Agency on its range of environmental protection functions. Members serve on a voluntary basis and are expected to develop an understanding of the agency's policies and priorities both regionally and nationally. Bev has worked for the Campaign for 11 years and has been a Justice of the Peace for four years. In July, her sterling work for the community was recognised with an invitation to attend a garden party at Buckingham Palace.

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High hopes for annual volunteer extravaganza

Preparations are under way for the MWH Mersey Basin Week, due to take place between October 3-12.

This year's MWH Mersey Basin Week will be the biggest and most ambitious yet, says the event's co-ordinator, Bev Mitchell. The event is billed as a week of fun and activities to improve local waterways in the Northwest and raise awareness of environmental issues. It will be launched by Louise Ellman, MP for Liverpool Riverside, and Northwest MEPs Chris Davies and Arlene McCarthy.

The week is now in its twelfth year and has grown steadily. Last year was the most successful ever, attracting more than 2000 volunteers to take part in over 160 events throughout the Mersey river system. It is sponsored by environmental engineering and construction specialists MWH.

The week provides the opportunity for local voluntary and community groups, schools, private companies, local authorities and individuals to get involved in the care of their local watercourse. Groups are encouraged to organise or take part in activities including tree planting, arts events, fishing matches, clean-ups and guided walks.

All the activities are locally organised with the help of the Campaign's River Valley Initiative co-ordinators, who play a key role in providing support and advice to volunteers. Grants of up to £100 are also available to help pay for skip hire, tools, materials or anything else needed for a successful event.

"I want people to have fun, but to learn and make a difference to their environment at the same time. I'm also keen to expand the range of events and make them more inclusive," said Bev Mitchell.

A good example is the plan for five boat trips on the River Irwell and Manchester Ship Canal, organised by local co-ordinator Louise Williams. The trips will allow children from local schools, who might not otherwise get the chance, to enjoy the sights from a waterborne perspective.

MWH PROCESS ENGINEER PAUL FLETCHER HELPS CLEAN THE SANKEY CANAL

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Stockport's Wind in the Willows

Primary school pupils from Offerton will get the chance to discover their very own 'toad' and 'ratty' at their local river, Poise Brook, with the help of a new education pack being launched by the Etherow Goyt Partnership and Stockport Metropolitan Borough Council's Education Services.

"Schools often travel to other parts of the country to carry out river studies without realising the great sites we have right here in Stockport. We have welcomed the input of teachers from local Offerton Primary Schools in the production of this pack and hope they will use the brook in their studies for years to come," said John Draper, Education Advisor for Stockport.

Mary Lee, Etherow Goyt Partnership co-ordinator, added, "Poise Brook is a site rich in wildlife and I hope that by learning more about the creatures living there, the children will think about how they can protect this, and other areas like it."

The pack will help children to learn all about the mini-beasts living in and around their local stream. They will also find out about the part the stream played in the lives of local people, in bygone days.

MORE INFORMATION:
Copies of the 'Poise Brook Education Pack' will be distributed to Offerton Primary Schools. Further enquiriers: John Draper, Education Services, Stockport MBC, Stopford House, Piccadilly, Stockport SK1 3XE.

A taste of the countryside

Five hundred children and adults with disabilities enjoyed a day of specially arranged activities over the summer when the Bollin Valley Partnership arranged its fourteenth annual Countryside Taster Day.

Around 90% of the people taking part were children with physical special needs or learning disabilities. A full age range of pupils from 23 schools in Cheshire were at the event, including schools in Macclesfield, Heaton Mersey, Knutsford, Widnes, Warrington and further afield. The day out was held at Macclesfield Riverside Park in Tytherington. The River Bollin forms one of the park's boundaries.

"The aim," says one of the day's organisers, Emma Houghton, "is to provide something fun for people with disabilities and to introduce them to the countryside in a safe and supportive way."

Among the most popular attractions were the animals including shire horses, sheep, cattle and ferrets, as well as a falconry display. Opportunities to join in with wood turning, paper crafts and making a wood sculpture also caught the imagination. As in previous years, Punch and Judy proved a crowd pleaser.

The Countryside Taster Day is now reaching its limits, however. Around 30 volunteers are drawn in from a number of organisations including Countryside Rangers, Macclesfield Borough Council and the Bollin Valley Partnership to help with the day. For the second year running the Wilmslow Moat House hotel also provided a free barbeque. But the need for additional volunteers, plus a lack of adequate parking, places limits on how big the event can get.

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New hi-tech instruments are revealing a detailed picture of the sea off the Northwest coast.

Words Edwin Colyer

Photograph Guy Woodland

SENSORS OF THE SEA

Andy Lane leans over the side of the RV Prince Madog and hauls back his sampling bottles. The sea spray hits his face as the boat turns across the swell and heads back for Anglesey after a two-day research cruise in Liverpool Bay.

The ship is scheduled to go out only every six weeks or so. Thanks to wireless technology and the internet, day to day monitoring is automated. Tens of thousands of data readings are taken each day by the Coastal Observatory group of the Proudman Oceanographic Laboratory (POL).

The coastal observatory monitors conditions in Liverpool Bay (the region of sea between Anglesey and the Mersey and Ribble estuaries out towards the Isle of Man) using a range of hi-tech gadgetry. The data, covering everything from tides, water temperature and salinity, plug into several mathematical models that help to forecast sea conditions in the bay.

On Hilbre Island at the mouth of the River Dee, an X-band radar measures the height and direction of waves and water depths, with a range of about 5 km. The innovation here is not only the radar, but also the webcam mounted on the radar tower. “The webcam basically lets us observe what the sea state is like around the island in real time,” says Phil Knight, a colleague of Andy’s at the observatory. “We can then compare the images with what the radar tells us about wave heights and the movement of sandbanks. You can also pan and zoom with the webcam so people have used it for all sorts of things - including looking at the wildlife.”

The images and radar data are sent digitally via a wireless network receiving station at Hoylake, where they are made available to the lab over a broadband internet link.

The observatory is about to install a high frequency radar in two sites on the North Wales coast and at Formby Point. These will have a range of about 100 km and should provide more accurate data for the lab, with information on

Tens of thousands of data readings are taken each day by the Coastal Observatory group of the Proudman Oceanographic Laboratory.

the size and direction of waves and sea surface currents.

The researchers control all these instruments from the warm comforts of the new POL headquarters, right next to the University of Liverpool's Department of Earth Sciences. They hope that similar technical wizardry will soon let them collect readings from the sea bed in real time too.

The problem with sea-bottom analysis is that it is extremely difficult to send readings to the surface using radio waves because water absorbs the signal. However, the observatory uses devices that incorporate an acoustic modem. This apparatus codes the data into pulses of sound that travel through the water and are detected by a hydrophone (like an underwater microphone). "In the past our underwater devices had to store all the data on board," says Andy, "and we'd have to go and pull them up every so often. Today they relay the data to a surface buoy and we can access the information during our research cruises. But we haven't stopped there. We're also working with a system that simply uses the buoy as a relay station: the surface buoy uses satellite communication to get the data back to land."

So what happens to all this data when it reaches its destination at the British Oceanographic Data Centre, hosted by POL? "We're interested in the processes in coastal seas," says Phil, "trying to understand water behaviour and its effects on - and also how it is affected by - our weather, climate and human activity."

"The pilot project will provide information for our routine forecasting models. The observatory is an operational oceanography facility that constantly gathers information so we can interpret them to see changes in the ocean as they happen. Real time data collection and interpretation is important to check that what is actually happening on the sea is what our models have predicted."

"Setting up the models has been a large part of our work since we began in 2001," explains Andy. "We have been working out how to run them in real time and include meteorological information and river data. New sampling equipment and collaborations with other laboratories will eventually enable us to test models that predict concentrations of nutrients and plankton, which support the ocean's food chain."

The main partners of the coastal observatory are the Met Office and the Environment Agency. Each day the Met Office runs POL modelling software to provide forecasts up to 48 hours in advance. The resolution of the model is usually about 12 km, but this will increase to about 1.5 km in the Irish Sea and as fine as 100 m in Liverpool Bay.

The Environment Agency, meanwhile, uses POL model results for flood alerts along the Northwest coast and North Wales. Longer-term analysis of the results will help them assess future requirements of coastal flood defences.

While the observatory's activities make an essential contribution to flood forecasting and longer-term environmental planning, the project was founded with the public in mind too. All the data, forecasts and model results are openly available on the observatory's website. You can find out the surface salinity at Southport, the direction of sea currents around the Isle of Man and the height of the tide at Larne in Northern Ireland.

So even if no-one goes out to sea for another two months, at least the public can log on to see if it's a perfect day to be out on the waves.

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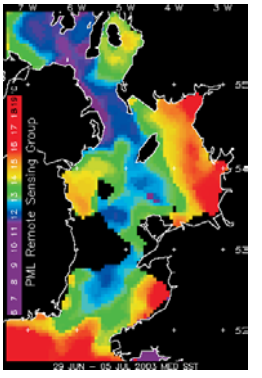

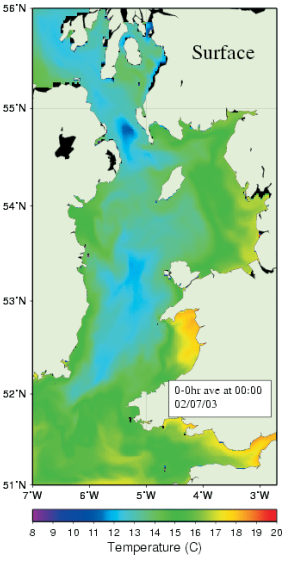

Decision makers are going to have to learn how to listen.

Words Ben Willis

Photographs Len Grant

THIS LAND IS OUR LAND

A small tributary of Manchester's River Irwell is an unlikely place to look for a glimpse of a waterway renaissance. Winding its way down through Oldham and Rochdale, right into the heart of central Manchester, the Irk valley is more a picture of post-industrial neglect than a vision of nature's resurgence.

But come the end of the year its abandoned cars and choked waters will fade into the background as expectant eyes turn their gaze on the valley. In December 2003 the UK government is due to adopt a new directive issued by the European Commission that could herald a new future for the nation's rivers, and the Irk valley could find itself in the limelight.

Although the very name of this latest initiative - the Water Framework Directive - is enough to send any right minded members of the public scuttling for cover, it's exactly us, the public, that it has in mind. The directive is one of the first of Europe's new environmental policies to adopt the terms of the Aarheus Convention, another piece of bureaucracy that attempts to empower the public to participate in decisions taken about the environment.

It's a noble enough goal, but the problem with it is this: no-one really knows how to 'do' public participation. Public consultation on big environmental regeneration projects is nothing new, but 'participation'? That's a whole new ball game, and one that not many people know how to play. All eyes to the Irk.

AN ABANDONED CAR IN THE IRK VALLEY, WITH CITY CENTRE MANCHESTER IN THE BACKGROUND

60-second expert

- as of the end of this year, the European Commission's Water Framework Directive comes into effect requiring all river basins to have a proper management plan in place
- members of the public will be asked to participate in producing these plans, but regeneration agencies are unfamiliar with how to actively involve members of the public in this way
- over the past few months, plans to regenerate Manchester's Irk valley have been used as the testing ground for a new form of public participation in which residents have produced their own vision for the area
- developed by Manchester University PhD student Joanne Tippett, the process has resulted in a series of proposals that are now being considered by local funders for financial support
- academics and consultation experts believe that because of its emphasis on developing a 'home-grown' vision this could be one way in which regeneration agencies involve members of the public in producing river basin management plans
- the scheme also has wider implications for the way in which local environmental projects are handled generally

Since the spring, residents and stakeholders in the Irk valley have been taking part in a pioneering experiment in community engagement that could be the trailblazer policy-makers are looking for. For three and a half hours a week for eight weeks, a dedicated group of them have met in a local community centre to pour out their ideas for an Irk renaissance.

It was a process instigated by the Irk Valley Project, a partnership between Manchester City Council, environmental charity Groundwork, and regeneration agency North Manchester Partnership. According to project manager Dave Barlow, although tentative steps towards regenerating the heavily degraded valley had been taken in the late 1990s, the steering group realised that there was an opportunity to try something more ambitious.

"Being involved in a full scale river regeneration project from year zero, we have the opportunity to look at the broader social and economic revival of the area," Barlow says. "We believe environmental improvement can hit all the buttons - crime and disorder, health, employment. If you've got good quality green space, you are going to attract more people to live there, and more companies want to invest in the area."

Against this backdrop, the steering group realised that public consultation was the only way of establishing how the project should take shape. And it decided to try something a bit different.

It opted to trial a new form of public participation being developed by Joanne Tippett, an ecological designer and PhD researcher with the Mersey Basin Campaign based at the University of Manchester. Known as SUNstainable DesignWays, Tippett's method was originally pioneered in southern Africa, where complex environmental problems and a shortage of skills among local people to deal with those problems demanded an entirely new way of doing things.

Unlike traditional forms of consultation, Tippett says, where "an expert", or team of experts, develops ideas that are offered to the community for comment, DesignWays works with community members, stakeholders and project officers involved in the community to develop their ideas, starting from what the community members think is important. DesignWays includes a series of practical tools that guide participants to think about their area from many different perspectives whilst learning skills of creative thinking and design.

"One of the important things about this is that people put their ideas on the table, and they quickly become part of an evolving group picture. This helps to encourage dialogue and reduce confrontation," she says. Basing the process on local input, according to Tippett, creates a sense of shared ownership of the project. It also means that the emerging vision is rooted firmly in local knowledge, a crucial factor when considering its long-term sustainability. Rather than beginning by addressing problems, Tippett's process launches straight into brainstorming ideas and identifying what assets already exist in an area. "If you start by looking at the problems, it sets the wrong tone for the whole exercise," she explains.

Early on in the process, participants are also given a grounding in basic principles of sustainability to ensure that an understanding of it underpins the whole exercise. "When you ask people what sustainability actually is, and give them some tools to think about it, they start to develop an understanding of what it really means, rather than some vague fluffy notion," Tippett says.

After these crucial early stages the group's ideas are refined into goals and placed within the context of any problems in the area that might later prove to be limitations. They are then tested against scientific principles of sustainability to ensure they are environmentally sound. Any that pass through this stage and are identified as advancing the goals of the group are then refined into working ideas, designed, Tippett says, "like an ecosystem", so that their impact on the environment will be minimal.

The net product of the Irk valley public participation process was twofold: a vision and map for the overall area, and proposals for Moston Vale, an area of the Irk where the natural landscape has been damaged by landfilling and Moston Brook buried in concrete piping (see www.holocene.net/irk.htm for the maps and plans).

According to Brenda Collingwood, outgoing secretary of the Moston Vale Residents' Association, when residents were initially told about the participation process, their reaction was one of suspicion.

"It was a little awe-inspiring at first, and we felt it might be over our heads," she says. "But we kept at it, and really enjoyed it. There was an old lady from round the corner who kept saying she couldn't do it, but eventually she came up with the most wonderful ideas."

THIS PAGE
BRENDA COLLINGWOOD AT MOSTON VALE RESIDENTS' ASSOCIATION

FACING PAGE
MEMBERS OF THE IRK VALLEY PROJECT

In the end residents agreed on a series of proposals for the area ranging from a community pavilion and farmers market, to improved walkways and enhanced wetland features echoing the route of the river hidden beneath layers of rubble and household waste. Some of these are now being considered by local agencies for possible funding. “It’s not black and white yet, but we’re hopeful,” says Collingwood.

Although very little concrete action has yet emerged from the Irk valley vision, in the light of the Water Framework Directive, there is every possibility the project could become a national benchmark for waterway regeneration. The framework states: “[EU] Member states shall encourage the active participation of all parties concerned in implementation of this directive, and particularly in the production, revision and updating of river basin management plans.”

All well and good. But for most environmental regeneration agencies, ‘participation’ is an unfamiliar term. Consultation, yes; exhibitions at the local community centre, fine; surveys and tick boxes, no problem. But all of these are the preserve of “experts” that Joanne Tippett warns can be the antithesis to a sustainable, locally inspired vision of long-term renewal.

According to John Handley, professor of land restoration and management at the University of Manchester, as environmental policies such as the Water Framework Directive put more and more emphasis on public participation, methods that genuinely understand how this should be done will become increasingly important. In this context, he believes Tippett’s work in the Irk valley could prove invaluable.

“Usually public participation in the design process has really been fairly tokenistic,” he says. “People are often consulted at a late stage in the process, and are often not well equipped to engage. What Joanne has been doing is bringing them in much earlier and involving them much more thoroughly, and giving them a set of new skills and new understanding in the process.”

The next challenge, Handley says, will be to start trying to bring techniques developed by the likes of Tippett to a wider audience. “We need to start codifying processes like these,” he says. “Joanne’s is a very active, heavily engaged process with well trained people taking it through. But also, sitting behind that, we could develop a number of internet sites providing back up.”

But while the good work to be found in the Irk valley might seem to promise a rosy future for the Water Framework Directive, this optimism is not universally felt. Simon Danczuk is managing director of Vision 21, a Manchester based social research firm specialising in consultation. Having attended some of the early meetings about the Water Framework Directive, he is worried that the agencies responsible for implementing it will only ever pay lip service to the concept of public participation.

“I went to a workshop run by the Mersey Basin Campaign around the directive,” he explains. “I was in one group with people from the Environment Agency, from United Utilities, academics, and so on. What I gleaned from that experience as an outsider was that a good proportion of them said, ‘Well of course we can’t have that degree of public participation because the public won’t understand it - it’s too complex’.” From the workshop the Campaign produced a paper detailing the kinds of research that will be needed if the Directive is to be implemented successfully.

But for Danczuk, the kind of old school thinking he encountered is unacceptable. “These are old arguments that I thought had died a death,” he says. “I’ve worked in regeneration, housing, local politics, and I've heard all these arguments in years gone by. But on that day, I found they’re still being rehearsed, which is worrying. As Joanne’s work shows, you can involve people and enable them to understand how to tackle their problems.”

Whether Danczuk’s fears are ever confirmed remains to be seen. For Tippett, though, the need to find new practices of public participation is not an option, it’s an imperative - not just because failure to do so will risk rubbishing the terms of the Water Framework Directive, but because it is the only way that will guarantee any kind of future for our waterways.

“If you go beyond the letter of the law, and start to ask what it’s really going to take to make this happen, to clean up our rivers, the answer is a huge collective effort on the part of every actor in the river basin,” she says. “What a process like this does is help people to see their own part in that, and start coming up with realistic but often quite far reaching measures to achieving it.”

“If we’re to clean up our rivers, we have to come up with something that’s different and creative from what we’re doing now - this can be a very positive opportunity for change, but we’re far from realising such changes at the moment.”

“There was an old lady from round the corner who kept saying she couldn’t do it, but eventually she came up with the most wonderful ideas.”

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To download the WFD research paper mentioned in this article visit www.merseybasin.org.uk

PETER BATEY
LEVER PROFESSOR OF TOWN AND REGIONAL PLANNING
LIVERPOOL UNIVERSITY

A MAN WITH A PLAN

TURNING POINTS

1969
After graduating in geography from Sheffield University, arrived at the Department of Civic Design at Liverpool University to study for a master's degree in planning.
1975
Returned to Liverpool University as a lecturer.
1989
Appointed as Lever Professor of Town and Regional Planning at Liverpool University, the oldest chair in urban planning in the world.
1992
Took on a commission to direct the Mersey Estuary Management Plan, the first strategy to be prepared for a heavily industrialised river estuary in Western Europe.
1997
Began a six year stint as Dean of the Faculty of Social and Environmental Studies at Liverpool University.
2003
Joined the board of the Mersey Waterfront Park.

"For a professor of planning, Liverpool in 2003 is an exciting place to be." So says Peter Batey, Lever Professor of Town and Regional Planning at Liverpool University and, until recently, Dean of the Faculty of Social and Environmental Studies.

It's summer and the students have all gone home. Sitting in his quiet office at the university not much more than a month after Liverpool was named Capital of Culture 2008, Professor Batey reels off the list of major events that will propel Liverpool and Merseyside into the headlines over the coming years: a nomination for parts of the city centre and Pier Head to be designated a World Heritage site, the Open Golf Championship in 2006 and the 800th anniversary of the city charter in 2007, among others.

Professor Batey is himself involved in one of the most ambitious regeneration projects on Merseyside, and indeed in the whole Northwest. He is on the board of the Mersey Waterfront Park, the organisation based in Liverpool's famous Cunard building that aims to make the most of the assets on the Mersey's waterfront.

Explains Professor Batey, "It's not a park in the sense of some grass across the road. It's actually a huge network of linked features that stretches 70 km from Southport to Runcorn on the Mersey estuary and takes in most of the Wirral coast."

Professor Batey is a distinguished planner and regional scientist whose academic career began when he took up a lectureship at Liverpool in 1975. This followed a brief career in local government that saw him working in Lancashire and Greater Manchester during the administrative shake up of the early 1970s. In the 1990s he led the research project that produced the Mersey Estuary Management Plan. A decade later the plan would help inspire the waterfront park.

"The need for a plan for the estuary was quite important at that time because we had all these big development proposals coming through, like building a barrage across the river."

What the researchers encountered on the estuary was a complex web of issues covering shipping, economic regeneration, physical regeneration, recreation, tourism and nature conservation. Says Professor Batey, "Our job was to use our skills as planners to see the picture as a whole and how the individual elements fitted together."

Batey acknowledges that he was lucky to work in a department in which people were prepared to work on the project not just for what they could get out of it but also for what they could put into it. It's an attitude he's tried to encourage in other departments in the faculty during his six years as Dean.

In 1996, after four years of research, the plan became the Mersey Estuary Strategy and was launched by the then Minister for Merseyside, Robin Squires. When, several years later, the Northwest Development Agency (NWDA) was searching for headline projects for the region, the idea to create a regional park based on the Mersey estuary bubbled to the surface. Postgraduate students in Professor Batey's department carried out an implementation study and ultimately the Mersey Waterfront Regional Park was born, quickly becoming a key element of plans to regenerate the region with a budget of over £8 million from the NWDA in the first three years.

"We weren't seen as rabid environmentalists or as being in the pocket of people only concerned with development."

Nowadays Professor Batey is an influential figure on Merseyside and in the Northwest. He chairs the annual Mersey Estuary Forum, which grew out of meetings to develop the management plan. It's a role he enjoys. "You can be provocative if you want to be, as long as you maintain a constructive dialogue. Occasionally you need to jolt people out of some pretty silly attitudes." He also chairs the Mersey Strategy Steering Group, which oversees the implementation of the Mersey Strategy. He sits on the Council of the Mersey Basin Campaign, the organisation that provided the overarching structure behind the original plan and subsequent strategy. And since 1995 he has chaired Alt 2000+, the first of the Campaign's 19 local River Valley Initiatives to be established.

Despite his links to the Mersey and its tributaries, Professor Batey insists, "If I'm an expert on anything it's got nothing to do with rivers." That, he says, is actually an advantage. "If I was an expert on one aspect, the chances are I'd be obsessed with it, whereas what actually appeals to me is the connections between things, and making partnerships work."

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WORDS: BERNADETTE REDFERN
PICTURE: COURTESY OF MWH

THE CHALLENGES OF A DIFFERENT KIND OF FIVE YEAR PLAN

Business is booming for the water industry in the Northwest as United Utilities (UU) races to provide £3 billion worth of improvements and maintenance work to assets across the region. Providing programme support and engineering services is consultant MWH, which is working with UU alongside three primary contractors to carry out over 1000 projects, over a five year period known as AMP 3.

"This programme is delivering improved water and wastewater services in the Northwest. This is one of the biggest most complex programmes of its kind in Europe and it is delivering best value environmental benefit ahead of time and on budget" stated Phil Bland, Asset Creation Manager at United Utilities

AMPs - asset management plans - are drawn up by water companies and set out all infrastructure spending requirements for approval by industry regulator Ofwat. The current five year programme of work, AMP 3, will finish at the end of March 2005 and then the next spending cycle, AMP 4, will start.

Improved water quality "The UU programme is split into four main parts," explains John Holmes, manager of water at MWH: "Water supply and treatment improvements, wastewater treatment, storm water overflow improvements and maintaining the existing assets."

New legislation from the European Union called the Drinking Water Directive has made enforcing higher quality standards on clean water a priority for UU. Despite the purity of the water supplies from the Lake District and North Wales, further reduction of turbidity (cloudiness) and organic matter present in the water supply is required before delivery into homes and businesses. "We are using enhanced levels of coagulation and sophisticated filtration techniques to improve water quality," says Holmes. One the most challenging parts of the AMP 3 work is the Unsatisfactory Intermittent Discharge (UID) Programme. These stormwater overflow improvements are a massive undertaking and UU/MWH is using the best technology available to upgrade the existing sewer systems and dramatically reduce the overflows that occur during times of heavy rainfall and flooding. This type of work is welcomed by organisations such as the Mersey Basin Campaign, which are striving to improve water quality and encourage investment in the region.

Cutting edge technology To improve the sewer infrastructure the UIDs project has involved MWH in extensive flow monitoring and computer modelling. "We have the world's largest team of network modellers using specialist software so powerful that 10 PCs had to be linked together to run the models," says Ian Roebuck, manager for wastewater at MWH. The 100 strong modelling team had to create the entire sewer network in the computer programme and then use this model to ascertain where any weaknesses may occur, during a variety of simulated storm events.

Treatment works in the Northwest are being upgraded or replaced with more advanced technologies, providing a higher standard of treatment. Just one of these schemes is Bury

MWH AND UU ARE MANAGING A MASSIVE PROGRAMME OF INVESTMENT IN THE NORTHWEST WATER INFRASTRUCTURE

treatment works, handling wastewater from a population of 330,000. This huge facility had to be upgraded and an additional biological aerated filter was added, using the latest and most sophisticated technology.

In another project the main wastewater treatment works serving the city of Liverpool was fitted with sophisticated air collection and gas scrubbing equipment to control odours from the plant and improve air quality.

Integrated systems and shared data Over 5,000 people are employed across all aspects of the programme and integrated business practices are vital for the team to work efficiently. UU has allocated offices for the MWH team at their headquarters in Lingley Mere but the joined up thinking goes much further. "We use a web based management system, which allows electronic data sharing," says Holmes. Staff members can access information electronically and considering that there are 80,000 drawings alone, the time and cost savings are enormous. "We couldn't manage it any other way," says Roebuck.

With offices in Preston, Leigh and Warrington remote access to the data system is invaluable. Framework agreements have been drawn up between sub-contractors, who go out and do the work, and suppliers who provide and fit specialist equipment. Programme management software systems allow managers to rearrange programmes and priorities and will automatically work out the effect on resources and cost. "If United Utilities wants us to accelerate a programme we can reassess all the effects of this in a very short time," says Holmes.

Ahead of delivery targets With just over a year to go on AMP 3, United Utilities is 16% ahead on the delivery of outputs against the targets set for them by the regulators, and are achieving some serious environmental improvements as well as delivering best value to their customers. MWH hopes that this will put them in a favourable position for participating in the next environmental spending cycle in AMP 4. "But we can't afford to be complacent," says Holmes, "our focus at the moment is the delivery of the improvements of AMP 3."

MORE INFORMATION:
www.mwhglobal.com
www.unitedutilities.com
www.defra.gov.uk/environment/water/index.htm
www.dwi.gov.uk

An industry that once poisoned our rivers is changing its ways.

Words Paul Unger Photograph Jan Chlebik

CHEMICAL SOLUTIONS

To many it may sound like a contradiction in terms - the chemicals industry and water quality. Since the murky days of the industrial revolution and the damage it did to our rivers, the chemicals industry has been forced by the combined weight of the law and public perception to undergo a drastic makeover.

And it seems to have worked.

Nowadays the fight between commercial motivation and environmental responsibility is just as likely to be won by the green corner.

Take the decision in November 2002 by Croda Chemicals Europe, formerly Croda Colloids, to cease production of gelatine at its Ditton, Widnes, plant following difficulties sparked by the BSE crisis.

When British beef was banned due to the BSE scare, Croda lost one of its main raw materials, degreased cattle bone chips produced as waste from abattoirs. It was forced to rely on imports from a limited number of European countries.

However, the excessive cost of imports and a separate ban by the European Commission on the use of shredded leather off-cuts, also part of the gelatine process, forced the firm to examine alternative ingredients.

Lengthy trials eventually found that fish skins were a viable option, so the firm switched from beef and maintained production of its best-selling product, used in the food and photographic industries among others.

Meanwhile, Croda had been forced to put the price of gelatine up and consequently lost a valuable contract with Kodak that had been in place for decades.

Complications treating the wastes from the new fish-based process led to repeated loss of control of discharges. A court case last year for smell and water discharge violations resulted in fines payable to Halton Borough Council and the Environment Agency (EA) totalling nearly £30,000 and invaluable damage to the firm's reputation.

North Cheshire Magistrates Court found six occasions of unacceptable discharges over a five month period. On one occasion the discharge was found to be about twice as polluting as raw sewage. The discharge also contained unacceptable amounts of chromium and ammonia, both of which are toxic to aquatic life.

Croda decided to stop production of gelatine and write off millions of pounds, five years of wasted time and effort and make 70 staff redundant.

Martin Harrison, group safety health and environmental manager of Croda, says: "We were aware we had commercial pressures on us and faced prosecution each time we lost control of the manufacturing process. In hindsight it would have been better to get out of gelatine five years ago when the BSE crisis first hit."

Clearly, laws and standards protecting the water quality of our rivers and wider environment are nowadays a powerful force even in the face of a multi-million pound business.

Governed by the legislation of the Environmental Protection Act (EPA) 1990, currently being updated by the Integrated Pollution Prevention and Control Act 1999, the chemicals industry has been forced to take greater responsibility for its actions in the past ten years.

In doing so, it has helped turn the River Mersey from arguably the dirtiest river in Europe to a home for salmon and carp and the cleanest it has been since the industrial revolution.

Scientists this year recorded oxygen levels of well over 60% compared to the late 1970s when tests found none at all in many areas.

Alastair Waite, PIR/RSR team leader for the Environment Agency in Cheshire and Merseyside, comments: "Over the past ten years there has been a lot of improvements on all processes and significant reductions in pollution. As technology improves there is always room for improvements and that is something companies have got to look at by law." Once a company has gained a licence from the EA to discharge into the river, maximum discharge consent levels are set and monitored. The EA has the power to enforce improvements in a set timetable if it doesn't like what it finds or ultimately prosecute companies for breach of consent.

Mr Waite continues: "EPA '90 has been very successful in trying to get the environment in the centre of plans for companies whenever they are looking to upgrade plants or address deficiencies and getting it into the centre of decision making and keeping it there."

There are around 150 chemical processes in Cheshire and Merseyside, a heavily industrial area, and sometimes one company has several processes on its plant, for instance around 12 at Ineos Chlor in Runcorn.

Mr Waite says there have been no major incidents of water pollution on the Mersey in recent times and the industry is more responsible than ever.

The need for continuous improvement at the heart of the EA's work is guided by BATEEC, an acronym for Best Available Technology Not Entailing Excessive Cost. This means that the environmental technology encouraged by the EA must be available and affordable to companies.

Mac Thorpe, corporate health safety and environmental manager at Brunner Mond, one of the chemicals operators on the River Weaver in mid-Cheshire, says: "We appointed our first environmental manager in 1975 and have taken our environment responsibilities seriously for over 25 years. The first steps during that 25 years to where we are today were things like energy efficiency savings and elimination of 'out of sight out of mind' practices.

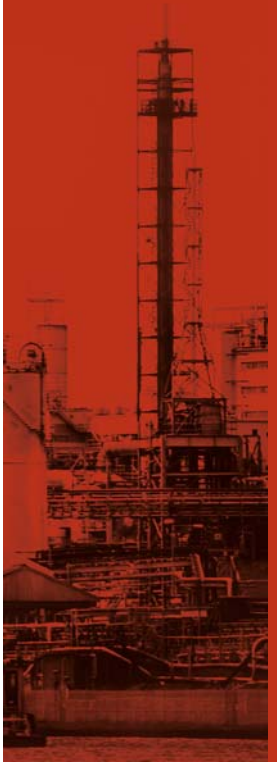
"We encouraged our people to see our discharges not as the way out of a problem but as the front door to the river. Also containment control has meant we contain pollution within the plant. Constructing bunds, sealing drains and re-grading slopes means that any spillages are contained inside the operation. If you have to walk through a spillage you very quickly find ways not to spill it in the first place and to invest in improved plant control."

Brunner Mond makes sodium carbonate, or soda ash, for use primarily in the glass and detergent industries and

MORE INFORMATION:

www.cia.org.uk
www.brunnermond.com
www.croda.com
www.environment-agency.gov.uk
www.nwci.org.uk

NORTHWEST CHEMICAL INITIATIVE



One of the ways the chemical industry is looking to the future is through the Northwest Chemical Initiative (NWCI), which is part funded by the Northwest Development Agency (NWDA). The idea is to forge links between the initiative's members so they can develop best practice and use their expertise to create cluster networking, something the NWDA is especially keen on.

The NWCI has five overlapping priorities, and noteworthy among them is the goal of sustainable development:

1. **Innovation** Help academia to be more accessible to industry; focus academic resources into specialist areas and emergent markets.
2. **Develop specialist skills** Identify, nurture and supply the specialist skills required for growing and innovative companies.
3. **Sustainable development** Drive more industrial symbiosis, waste elimination and brownfield development.
4. **Encourage high growth areas** Strengthen both new companies and sub-clusters by supporting finance, incubation facilities and targeted inward investment.
5. **Improve industry image** Focus and align existing resources to influence stakeholders as diverse as schoolchildren, NGO's and opinion formers.

Overall, the stated aim is to re-establish England's Northwest as a world class hub for innovation and specialist skills for the chemical industry.

sodium bicarbonate for pharmaceuticals and baking.
Mr Thorpe continues: “We decided we needed a better management system, along the lines of our established quality assurance registration, so we went for and achieved ISO14001 [the industry standard] for environmental management systems.

“At the end of the day if we fail to meet our consents we have to answer to the EA and we upset our neighbours.”
In its quest to become more environmentally efficient Brunner Mond has spent £120 million replacing three outdated power stations on site with a combined gas-fired heat and power station and Thorpe estimates another £20 million has been spent on other environmental improvements over the past 20 years.

The next generation of chemicals and environmental policy is currently being drawn up by the European Commission under the name REACH, standing for the Registration Evaluation and Authorisation of Chemicals. As with many business directives born in Europe, REACH is not popular and has been criticised for generating excessive bureaucracy.

The chemicals industry prefers to see the future in its own hands and has devised several pro-active and systematic programmes for managing responsible production (see separate panels).

Whatever the outcome of consultations over REACH, the industry has come a long way since the industrial revolution and can be proud of its part in making the River Mersey the cleanest it has been in over 100 years.

Scientists this year recorded oxygen levels of over 60% in the River Mersey. In the late 1970s tests found none at all in many areas.

60-second expert

- the Environment Agency is the regulator that works to clean up polluted waters and to reduce the risk of further pollution. It aims to ensure that aquatic and wetland wildlife has the amount of clean, healthy water it requires and that abstractions and discharges will neither damage the environment nor threaten human health.
- there has been a substantial improvement in the biological and chemical quality of rivers since 1990. This is due to a number of factors including a major clean-up of discharges from sewage-treatment works and industry. There has been tighter enforcement of discharge consents and more focus on pollution prevention. But there are still many rivers with high levels of nutrients and frequent examples of poor and bad aesthetic quality.
- in 2000, the EA found 94% of rivers were of good or fair quality, compared with 87% in 1990. A survey the following year found that the percentage had inched up again, to 95%.
- in November 2002, an EA survey into salmon in the River Mersey revealed the species is now returning to what was once one of the UK’s most polluted rivers.

CIA

As part of the drive to sweep away the defensive attitude of the chemicals industry, responding to issues as they come to public concern, the Chemical Industries Association has drawn up its own pro-active programme called Confidence in Chemicals.

The CIA states that the “aim of the programme is to reassert the industry’s control over its own future by earning public confidence and showing in a highly visible way that it is willing and able to manage its products responsibly.”
The Confidence in Chemicals programme has four main principles behind it:

1. **A new regulatory climate** The CIA is concerned that some European countries are urging the adoption of new and stricter policies based on precautionary action. New rules are likely to mean a product can only stay on the market if its supplier could demonstrate the product was harmless. The CIA says this is equal to ‘guilt until proven innocent’ and is opposed to “illogical and unreasonable regulatory action of this kind.”
2. **Responsible Care for Products** This updates Responsible Care, a programme that has been around since the 1980s. The CIA has drawn up new guidelines for chemical companies around assessment, management, product stewardship, long-range research and stakeholder engagement and communication.
3. **Implication for products and markets** This aims to provide a “timely and appropriate” response to the results of risk assessments and long-range research. The CIA says: “Where a chemical was agreed to involve an unacceptable risk it would be withdrawn from an application where it was shown to involve an unacceptable level of risk to human health or the environment.”

An international programme - The Confidence in Chemicals initiative is backed by the European Chemical Industry Council and International Council of Chemical Associations, because it is “ambitious but necessary”.

SURF's up for intermediaries research

As new gaps emerge between consumers and utilities, intermediary organisations are emerging to fill them. Professor Simon Marvin and Dr Will Medd are heading a research programme examining the situation in the Northwest.

Across Europe far reaching changes are currently transforming the infrastructure for water supply and wastewater treatment. Regulatory, environmental, social and commercial pressures have conspired to change the way utility services are organised and provided, making utility markets more differentiated and services increasingly diverse. The result has been a fundamental challenge to the established build-and-supply logic that has traditionally governed the management of the water infrastructure. Out of that challenge are emerging opportunities for new services.

These new intermediary services are the subject of a recently established three year EU research project: "New Intermediary services and the transformation of urban water supply and wastewater disposal systems in Europe". The project involves a partnership between research institutions in Newcastle, Germany, Denmark, Bulgaria, Greece and Hungary and the Centre for Sustainable Urban and Regional Futures (SURF) at Salford University.

The study is looking at a range of services, known as intermediary services because they fill the space between consumers and water utilities opened up by the increasingly complex market. They might include, for example, savings packages for installing sustainable technologies, third party maintenance of water and rainwater treatment facilities, and customised programmes to upgrade technology. Information campaigns on how to cut water bills by using less water, environmental training programmes for consumers and promotional campaigns which link a range of interests to sustainable water management are also all on the list.

SURF was established in 1999 to carry out inter-disciplinary research in a broad range of fields covering regeneration and neighbourhood renewal, city and regional thinking, science and technology. Supporting SURF as partner on the project is Sustainability Northwest, the organisation dedicated to promoting sustainable development in the region. SURF's work will be focused on mapping the emerging new intermediaries in the Northwest.

The growth of intermediary services has drawn in a number of organisations, some of which are new to the field. As well as the usual suspects of utility companies, consumer representatives and regulators, there are increasing numbers of organisations that work actively to link issues of sustainable water management to other issues, such as low income households and urban regeneration. Commercial businesses such as service contractors or environmental consultants are involved, but so are public or non-profit-making organisations such as consumer associations, environmental NGOs, technology innovation agencies and local authorities. Water utilities are themselves developing intermediary services as a way of reducing network stress, strengthening ties to their customers and exploring new market opportunities.

The EU's water policy is embodied most fully in the Water Framework Directive, which entered European law in December 2000 and has since had a major impact on the water industry. Existing research suggests that intermediaries may hold the key to sustainable and cost-effective ways to manage urban water supplies. If that turns out to be true, they will have contributed significantly to achieving the Directive's goals.

MORE INFORMATION:
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www.surf.salford.ac.uk/intermediaries
www.snw.org.uk

Workshop tackles Water Framework Directive

The EU Water Framework Directive, due to enter UK law this year, will guide water management in the EU until at least 2027. The Directive has huge implications for the Northwest, especially for the artificial and heavily modified water bodies such as the Manchester Ship Canal. Not least, the Directive also has major implications for the amount of money to be spent on water quality improvements, which in turn bears powerfully on how much consumers will be charged for their water. What research therefore needs to be done to make sure that the Directive is successfully implemented?

To answer that question, the Mersey Basin Campaign held a workshop in April 2003, sponsored by United Utilities. A strong message from the day was the consideration of the outcome of the Directive - what are we hoping to achieve? The need to engage the Northwest population and determine what they want was high on the agenda, in particular - what will society be willing to pay? The output from the day has now been compiled and a report produced which highlights the need for an interdisciplinary approach to research given the broad extent of the Directive and its vision.

The subject areas discussed on the day include:

- Governance
- Information and data issues
- Public participation and education
- Biodiversity
- Surface water quality
- Surface water quantity
- Physical characteristics
- Sustainable Urban Drainage Systems
- Groundwater
- Flooding
- Land-use planning and management.

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to download a copy of the report

A BARRAGE OF QUESTIONS

Words: Jim McClelland

Jim McClelland is editor of Sustain magazine.

Riddle me this: from the following description, how many readers can identify the landmark Northwest renewables project (that doesn't actually exist)? Likely costs were estimated at £897 million - and that's in decade-old money! It was to be 2 km long, with a life expectancy of 120 years. Construction would have created some 4,000 jobs, with completion due at a pinch in time for the Millennium.

What was it? Answer: the Mersey barrage. To be fair, the scheme was not without its critics: reservations had been expressed over the potential for negative impacts on both shipping and the local environment and ecology.

Still, the numbers involved were substantial and the scale of the scheme talked it up into the category of being a catalyst for regional regeneration.

Additional possible effects included: a modest benefit in terms of security of power supply; likely uplift in tourism; creation of 30 hectares of development land through reclamation; potential property blight and/or value enhancement - depending greatly on whether or not a crossing was incorporated into the design; problematic issues of amenity and impacts on water-related leisure activities; plus, obvious flood control advantages.

In conclusion, the official 1992 Economic Assessment report supported its development as an environmentally beneficial, long term nationally important and strategic alternative energy supplier. That notwithstanding, the scheme was finally scuppered the following year, when the government withdrew its support and offer to match private funding.

Tidal barrage? For those unfamiliar with the potted history above, here's the science bit. The natural rise and fall of tidal waters, determined by the actions upon planet earth of the gravitational fields of the sun and moon, provide the kinetic basis for electricity generation similar in essence to hydroelectric power.

Tidal power is clean, green, reliable and predictable - in a word, sustainable.

To harness tidal power, a dam-like structure is best constructed across an estuary where the tidal range is large - the west coast of England and Wales offers a number of excellent site prospects, best of which are to be found on the Severn and the Mersey. Energy generation operates most typically on the ebb, trapping a high tide of water and then releasing it back towards the sea via a set of turbines. Tidal power is clean, green, reliable and predictable - in a word, sustainable.

One thing it is not, though, is particularly new. Tidal power boasts an existing track record. In France, a barrage across the estuary of the river Rance in northern Brittany has been generating electricity since 1966, with output capacity of 240MW - around a third of the figure for the Mersey scheme. Smaller tidal schemes have also been built in Russia, China and Canada. Nearer home, whilst Britain may have no large-scale barrages, there are tidal projects under development in Wales at Swansea Bay, Fifoots Point and Rhyl, and an onshore wave-power station operational on Islay, off the west coast of Scotland. In terms of the engineering challenge, suffice to say we're paddling in fairly shallow waters here.

So, why re-open the debate in the region now? Six good reasons:-

1) Climate Change - awareness and funding;
2) UK targets for CO2 reduction - urgency;
3) Severn barrage scheme back under review - timing;
4) Liverpool, Capital of Culture 2008 - focus;
5) Government commitment to increase renewable energy, signalled in the recent Energy White Paper - ambition;
6) Why not?

Well... is it now time for the tide to turn?

ENVIRONMENT AGENCY

Working towards a healthy, rich and diverse environment in the North West, for present and future generations.

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24 Hour emergency hotline. Report environmental incidents:

0800 80 70 60

For general enquiries in your area: (9am - 5pm weekdays)

0845 9 333 111

24 Hour Floodline Service including recorded information on flood warnings:

0845 988 1188

www.environment-agency.gov.uk