



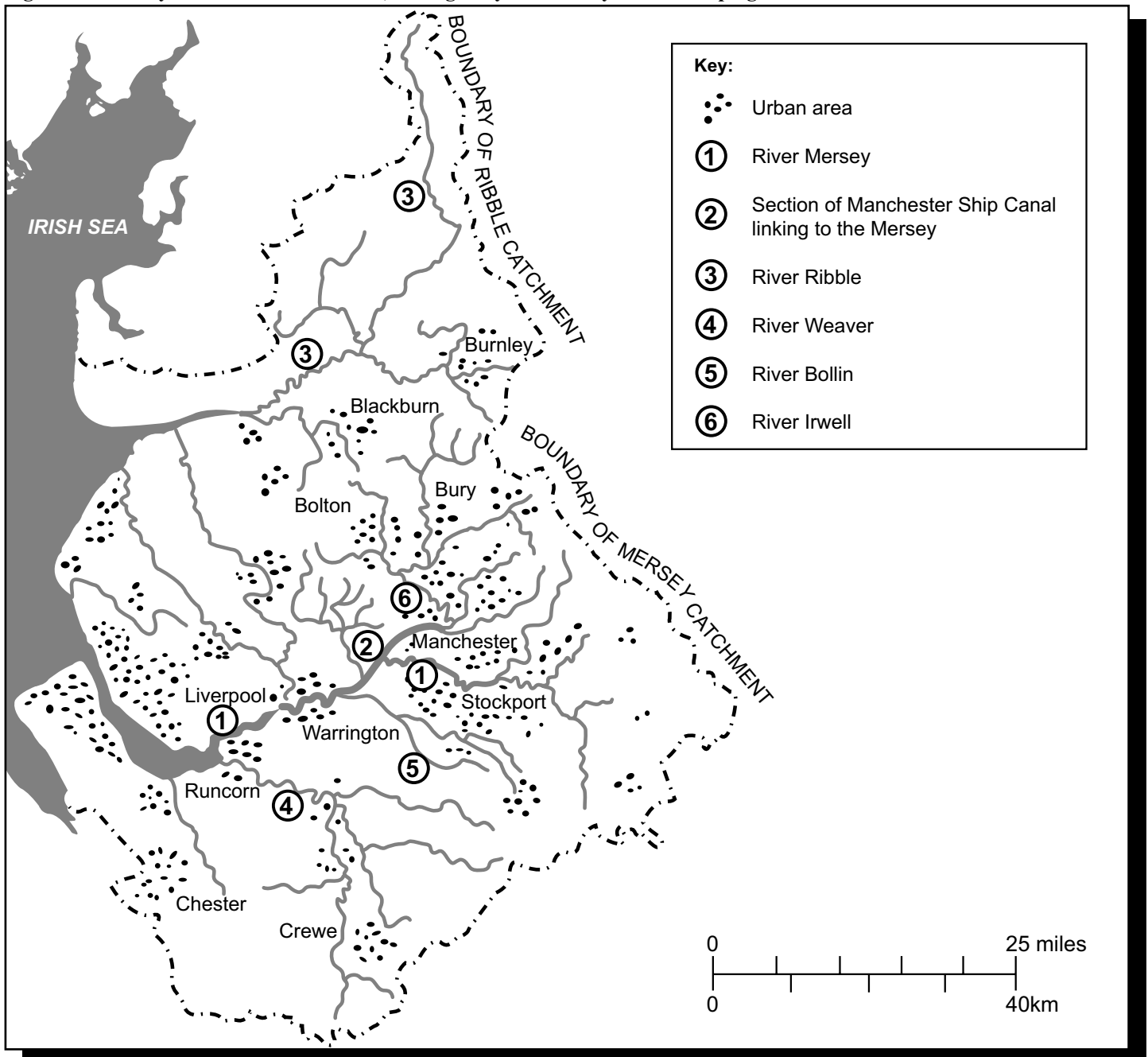
## MERSEY MATTERS!

*Cleaner rivers are the key to urban re-branding in Liverpool and Manchester*

### Introducing the challenge

The restoration of the River Mersey has its origins in the early 1980s, when water quality and riverside conditions along the River Mersey had become so poor that urgent action needed to be taken. Funded by Central Government, the **Mersey Basin Campaign** (MBC) was set up as an organisation with the task of bringing environmental improvements to the tributaries of the River Mersey, the Manchester Ship Canal and several neighbouring rivers, including the Ribble (Fig. 1). Since 1985, the MBC has worked to improve water quality, restore river ecosystems and encourage waterfront regeneration throughout northwest England.

Fig. 1 The Mersey and Ribble catchments, managed by the Mersey Basin Campaign.



### Why the clean-up was needed

- The rivers and canals of the Northwest were subjected to **centuries of industrial pollution** resulting from activities such as tanning and alkali manufacture (using the hugely polluting Leblanc process). Add to this the raw sewage generated by over 5 million people and it is easy to see why the Mersey and its tributaries used to be counted amongst Europe's most polluted rivers. Very few aquatic species could survive and highly unpleasant smells were a huge disincentive to recreational use of the riverside in Liverpool and Manchester. Beaches and sandbanks were often heavily fouled by crude sewage, fat (from oil manufacturing) and tar. Local folklore insisted that it was impossible to drown in the Mersey as one would be poisoned first!
- Declining environmental quality along river banks had resulted in **wasted opportunities** for new **housing, retailing and leisure developments** and the resultant employment in tertiary jobs. This was a very serious problem because of the scale of job losses experienced in the Northwest during the 1970s and 1980s in traditional industries such as textiles, engineering, electrics and car manufacture (*deindustrialisation*). For both Manchester and Liverpool to fully **re-brand** themselves as **post-industrial** cities, an entirely new urban economy needed to be built around the delivery and consumption of services and creative industries such as culture, arts, sports and heritage. New growth could be focused upon the city's waterways, if their appearance were improved. In contrast, smelly polluted waters would be certain to deter potential investors, shoppers and visitors.
- **Social problems** in urban areas of the Northwest were made worse by **poor environmental quality** during the 1980s. This became particularly evident in 1981, when the problems of the region were suddenly brought into sharp political focus by public disorder and riots in the Toxteth area of Liverpool. Urban decline in Merseyside was suddenly in a media spotlight which highlighted the terrible state of the physical environment in central Liverpool and neighbouring Manchester.

### Introducing the key players

No single organisation possessed the money or expertise needed to work alone to restore all of Merseyside's rivers and canals. Instead, a series of **partnerships** have been formed over time, with different organisations sharing the financial burden of conducting remedial works. The pooling of their expertise has made problem-solving and decision-making easier. The organisations that have become involved belong both to the private sector (local industries) and to the public sector (different branches of government, government agencies and charities). Some of the key players are described in *Table 1*.

Vital to the overall success of the project has been the special role played by the Mersey Basin Campaign (MBC). With around 25 employees and based in Manchester, the MBC is actually an organisation, despite its name. Its purpose is to act like a coach bringing a team of players together. The MBC is not expected to directly fund and manage individual projects without the assistance of the other players.

#### The 3 key goals of the Mersey Basin Campaign

1. *Improving water quality across the rivers and canals of the Mersey and Ribble River Basins.*
2. *Encouraging and stimulating sustainable urban regeneration by removing riverside dereliction and encouraging attractive new waterside developments as a stimulus for economic regeneration.*
3. *Encouraging public, private, community and voluntary sector players to get involved in bringing improvements to water quality and to waterside environments.*

**Table 1 Key Players.**

Name	Why they want to help	How they can help
Mersey Basin Campaign (MBC)	The MBC co-ordinates the individual efforts of Local Authorities, private investors and voluntary organisations as they act to help revitalise riverside environments (both physically and economically).	The MBC was set up with the express goal of bringing other groups, agencies and businesses together to work towards improving water and riverside quality for the region's waterways.
United Utilities	They manage and operate commercial and household water and wastewater supplies in the Northwest and can raise money to improve water quality in the region through billing of customers.	They are a responsible company with legal obligations to make certain improvements in line with national and European legislation enforced by OFWAT (the water industry regulator) and the Environment Agency.
Environment Agency (EA)	The EA is a government agency entrusted with protecting and improving the environment. They therefore have the legal powers needed to stop others polluting local waterways.	The very reason for the existence of the EA is to help improve environmental quality. One aspect of its work is ensuring that national and European water quality standards are being met
Local Authorities	They have limited direct responsibility for waterways but have the power to make it easier for other agencies to help deal with polluted water.	Local government seeks to improve quality of life for residents. Smelly waterways and a lack of recreational space have been a major concern in the cities of the Northwest.
Peel Holdings and other firms investing in property development	Property developers may choose to become funding partners for river restoration schemes that aim to improve environmental quality in those specific postcodes where they are planning to invest and hope to gain profit from.	There is good money to be made from riverside redevelopment due to current housing shortages and record price rises in recent years. For such schemes to succeed, high water quality is essential: dirty waterways may deter buyers and investors.
Northwest Development Agency	They are responsible for improving the image of the Northwest and will consider assisting and funding projects that help the local environment.	This agency is entrusted with the economic regeneration of the Northwest. Improving the environment is essential for new tertiary leisure activities to grow.
RSPB	The RSPB has over one million members and can play a key role in getting local people to support river restoration work that improves habitats for birds and animals.	Many rare species of bird live in coastal wetlands within the Mersey estuary. The RSPB welcomes improvements in river quality that reduce pollution (e.g. of mudflats where birds feed).

**Success Stories**

**(1) Riverside Regeneration at Salford Quays**

One of the Campaign's core objectives has been to regenerate waterside sites, both for the day-to-day benefit of local people but also as part of a wider strategy of "re-branding" the North-west's major urban economies. When water quality is good, urban water courses can act as a catalyst for significant urban regeneration in post-industrial cities. There have been several notable successes of this kind along the Northwest's waterways, including major redevelopment schemes at Castlefield in Manchester, the Albert Docks in Liverpool, Wigan Pier and the Mersey Waterfront Regional Park. However, perhaps the greatest turnaround for the region has been witnessed at Manchester's docks in Salford Quays.

Salford is an area on the southwest edge of Manchester where a series of very large docks join the Manchester Ship Canal which, in turn, links with the River Mersey. By the time the old docks industries were closing down in the 1970s, the filthy water had become a major disincentive for anyone seeking to invest in dockside redevelopment (it was then estimated that some £500 million of potential regeneration was threatened by poor water quality). The worst effected area was the Turning Basin at Salford Quays - 28 hectares of foul-smelling and frequently bubbling open water (the bubbles were caused by escaping methane and hydrogen sulphide). Oxygen levels in the water were completely depleted by rafts of decomposing sewage-derived sediment.

During the 1990s, the MBC, consultancy firm APEM Ltd, the Environment Agency and United Utilities collectively researched the problem as a matter of urgency and a solution was finally found. Identifying the lack of oxygen in the waters as the key issue, they embarked on a plan to elevate oxygen levels above a critical 4mg/litre level - at which point bubbles and smells will usually disappear. A uniquely designed oxygenation system was installed in 2001 at a cost of £4.5 million. Via a pipeline and five oxygenation units, 15 tonnes a day of liquid oxygen can, under high pressure, be pumped into the waters of the Manchester Ship Canal, bringing back life to the water. Beyond resolving the aesthetic problems (removing bad smells), it has also transformed the freshwater ecosystem. Where once there were less than five species of invertebrate (snails and insects), there are now over forty.

As a result of markedly cleaner water, Salford Quays has benefited economically in numerous ways:

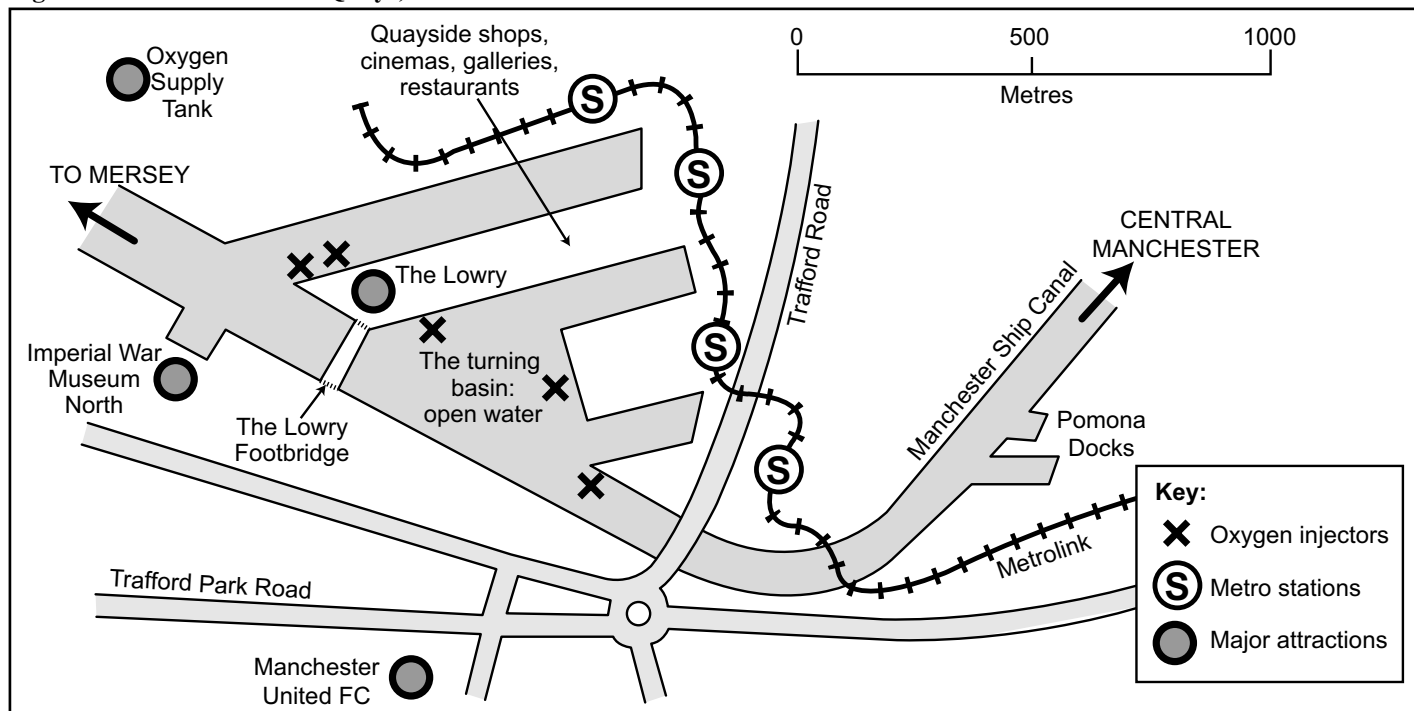
- Land values have rocketed, with new housing developments springing up at the water's edges (help has also come from the Northwest Development Agency).
- The district now supports 13,000 jobs.
- 3.7 million visitors arrive each year, finding themselves in a clean attractive setting where they can enjoy recently-funded cultural attractions such as The Lowry and the Imperial War Museum North (Fig. 2).
- Salford is the BBC's new production site, rather than central Manchester.
- Salford Quays hosted the UK's first ever Triathlon World Cup in 2003. A 3km swim in the docks was included as part of the sporting challenge (Fig. 3) – an act which would have been quite unthinkable in the 1980s!

**Fig. 3 Triathlon World Cup 2003.**



Source: Mersey Basin Campaign

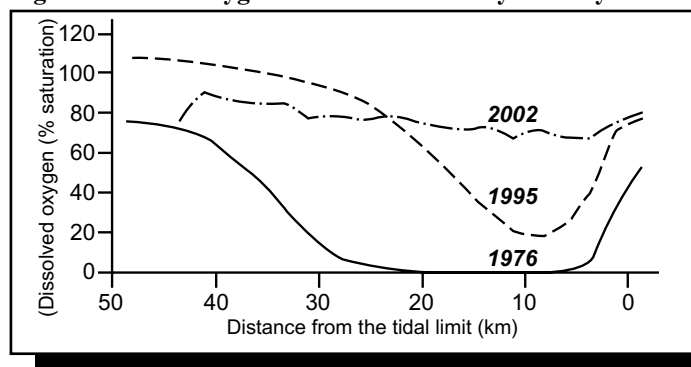
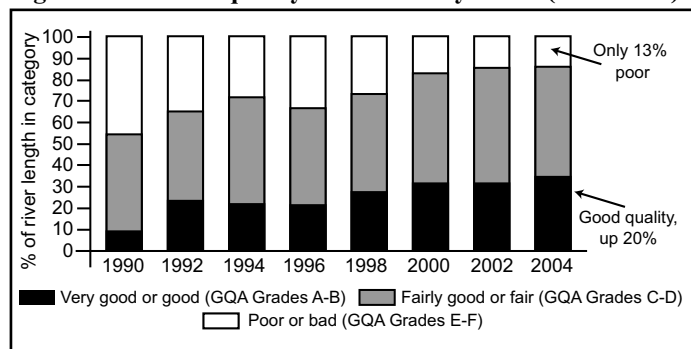
**Fig. 2 The docks at Salford Quays, Manchester.**



**(2): River Water Quality**

Water quality has improved dramatically throughout the region, and not just in Salford Quays, during the years since the MBC was established. By the 1970s there was effectively no dissolved oxygen left in many stretches of the Mersey. However, a dramatic reduction in oxygen-depleting pollution has now allowed levels to recover over time (Fig. 4). This has aided the return of native salmon to the Mersey Basin. Three salmon were caught in the Mersey in 2001 and a further milestone was reached in 2005 when juvenile salmon were caught on a stretch of the River Goyt near Stockport, confirming that successful breeding had occurred. In total, 30 species of fish are now thriving where there used to be just four, all thanks to greater pollution control. In addition to boosted oxygen levels, massive improvements have also been registered in nitrate and phosphate quality right across the Mersey Basin.

All of these positive changes are primarily due to around £10 billion of investment made since 1990 by United Utilities as well as tighter pollution regulations enforced by the Environment Agency. Most importantly, the quality of wastewater entering rivers from United Utilities' inland sewage treatment works has improved tremendously. For instance, at the Lancaster sewage works, a new form of ultra violet plant treatment kills bacteria before water is discharged. The Environment Agency undertakes regular water quality monitoring at around 600 sites across stretches of water measuring 2760km. They use the data to produce a grading system ranked from A to F (very good to bad). Fig. 5 describes the changes in the quality of rivers in the Mersey Basin over the period 1990-2004 using this indicator.

**Fig. 4 Dissolved oxygen levels in the Mersey Estuary.****Fig. 5 River water quality in the Mersey Basin (1990-2004).**

Would these improvements have happened anyway without the creation of the MBC? Some positive changes would have occurred without any intervention: Liverpool and Manchester are now post-industrial cities, and so have less polluting heavy industry in any case. Changes in the law have meant that United Utilities now have a greater responsibility to keep local waters clean than in the past. However, without the MBC setting goals and helping to guide action in the region, it is highly unlikely that so much of the region's waterways would have been restored quite so quickly.

**Further Challenges Ahead**

The Mersey Basin Campaign has already achieved a great deal. However, new challenges lie ahead and there are fresh objectives for years to come:

1. More needs to be done about **pollution from local farms**. Since the Northwest's traditional manufacturing and heavy industries declined, run-off from agricultural land has become the most significant cause of new water pollution. Known as "diffuse pollution", inputs into tributary headwaters come from farms in Lancashire and Cheshire. The MBC and EA currently find this problem hard to monitor.
2. New European rules known as the **Water Framework Directive** are being introduced to the Mersey Basin (along with the rest of the UK's rivers – see Box below). This will be the key policy driver in years to come, as it rewrites existing laws to create a new comprehensive programme to guarantee long-term protection of water resources, including groundwater, surface flows and wetlands. The MBC have valuable management experience that can help other river agencies adapt to the new laws.
3. Research is continuing into the best way to restore sections of the **Manchester Ship Canal** where water quality is still poor, following the huge success at Salford Quays. The MBC is currently involved in a £1 million research project looking at water quality in the canal and they will continue to work with United Utilities, the EA and British Waterways.
4. With the government's 2005 **Sustainable Development Strategy** focusing upon a need to engage local communities to contribute to environmental improvements in their neighbourhood, the MBC is well-placed to continue leading in this area by building on the success of the annual Mersey Basin Week.
5. A completely new area for the MBC to become involved in could be the **promotion of tidal power**. With the government now encouraging greater use of non-carbon emitting energy, the River Mersey is potentially one of the best sites for tidal energy anywhere in the world. In 2006, MBC announced the start of a study to look at new initiatives using underwater turbines.

**How can the Mersey Basin Campaign help the UK prepare for the new European Water Framework Directive?**

Since the European Water Framework Directive (WFD) recently became law, there is now a requirement for drainage basins in Britain to be managed in a unified way. The WFD requires that all European countries prepare "river basin management plans" with the aim of achieving good ecological quality of waters. It is being managed by the EA under the direction of DEFRA (Department of the Environment, Farming and Rural Affairs).

The WFD is concerned with the long-term **sustainability** of water use. It recognises that river drainage basins are dynamic **open systems** in which there are three sets of flows occurring:

- **water** (surface run-off, groundwater flow and river discharge)
- **sediment** (transport of solid load and solutes)
- **pollutants** (both solid and solute).

Different land and water user groups (such as farmers, house-builders and industrialists) modify all of these flows in ways that can sometimes adversely impact upon other users in a basin. *Any single action by one user group is likely to have consequences both up and downstream and on other functional uses.*

River Basin Management Plans are now being established for all the major river districts in the UK. They must satisfy the needs of all different parties, covering a wide range of interests, including the environment, the water industry, agriculture, the countryside, and industry.

**The Mersey Basin Campaign: Timeline.**

1982	Department of the Environment publishes a consultation paper aimed at “tackling the water pollution in the rivers and canals of the Mersey catchment and improving the appearance of their banks”.
1983	“Mersey Conference” is held. Michael Heseltine, Secretary of State, declares “the river is an affront to the standards of a civilised society”.
1984	The national press associates Liverpool and Manchester with drug abuse and violence. The two cities’ middle-classes continue to migrate away into neighbouring Lancashire and Cheshire.
1985	Mersey Basin Campaign is set up. The MBC is funded by a half-million pound direct annual grant from central government which is then boosted to nearly £5 million by sponsors and donations.
Late 1980s	Water quality begins to improve throughout the region. Waterside regeneration is a success at Castlefield in Manchester, the Albert Docks in Liverpool, Wigan Pier and the Mersey Waterfront Regional Park.
1992	Mersey Basin Week established. This now-annual event raises local community awareness (each year, more than 4,500 local volunteers, including schools, take part in waterside clean-ups and conservation work in riverside nature reserves).
Late 1990s	Water quality continues to improve with massive investment from United Utilities (working alongside OFWAT and the EA). MBC build a series of Action Partnerships around individual stretches of water. Serious problems at Salford Quays are investigated.
2001	Oxygenation begins at Salford Quays.
2003	Triathlon World Cup held at Salford Quays and swimmers dive into the Manchester Ship Canal.
2003	First salmon is caught in the Mersey in living memory.
2004	New website launched. Magazine, Source, continues to be published four times a year.
2007+	Mersey Basin Campaign continues to be a success. 22 Action Plans now exist for different tributaries or canals. Current initiatives include the Speke Garston Coastal Reserve and the Mersey Vale Nature Park in Stockport (part of the Europe-wide Artery Project).
2008	Liverpool becomes “European City of Culture”.

**Conclusion**

To what extent has the Mersey Basin Campaign achieved its original objectives?

- *Water quality has markedly improved along the Mersey, its estuaries and parts of the Manchester Ship Canal, restoring fresh water and bringing back aquatic life.*
- *The knock-on effect for sustainable urban regeneration has been considerable and new waterside developments have replaced riverside dereliction.*
- *Rivers have subsequently become foci for a model of economic renewal which re-brands Liverpool and Manchester as cities of art, culture and leisure – work which will gain even more momentum in 2008 when Liverpool enjoys its year as “European City of Culture”.*

All of this work has been achieved through the willing participation of a host of public and private sector players, along with local people. It all seems a far cry from the early Eighties, when the Secretary of State described the Mersey as “a disgrace to civilised society”. Success cannot be solely attributed to the MBC, not least because the billions of pounds of investment required to make these changes have come mostly from United Utilities and Central Government. However, without the MBC working to build partnerships between different players, the same level of success would not have been reached in such a short time-scale. By acting as a catalyst to bring other partners together under the water quality improvement banner, and by generating activity and promoting the benefits of water quality improvements to local people, the Mersey Basin Campaign has had genuine success in restoring the Northwest’s rivers and canals.

**Useful websites**

- A full review of the work of the MBC, undertaken by ECOS consulting (and from which some of the facts in this article are drawn) can be downloaded from: [www.go-nw.gov.uk/gonw/docs/276882/436751](http://www.go-nw.gov.uk/gonw/docs/276882/436751)
- The Mersey Basin Campaign website hosts a number of reports and information including reviews of activity: [www.merseybasin.org.uk/](http://www.merseybasin.org.uk/)
- The Channel 4 website includes a short film that is relevant to the work of the MBC: [www.channel4.com/fourdocs/film/film-detail.jsp?id=1549](http://www.channel4.com/fourdocs/film/film-detail.jsp?id=1549)
- The European Commission’s Water Framework Directive can be researched at: [www.defra.gov.uk/environment/water/wfd/](http://www.defra.gov.uk/environment/water/wfd/)
- The North West Regional Development Agency’s Economic Strategy 2006 can be read at: [www.nwda.co.uk/RelatedContent.aspx?&area=100&subarea=476&item=20063274801819097](http://www.nwda.co.uk/RelatedContent.aspx?&area=100&subarea=476&item=20063274801819097)
- The UK Government’s Sustainable Development Strategy website: [www.sustainable-development.gov.uk/publications/uk-strategy/index.htm](http://www.sustainable-development.gov.uk/publications/uk-strategy/index.htm)
- European Artery Website can be visited at: [www.artery.eu.com](http://www.artery.eu.com)
- The Environment Agency website contains plenty of information about the Mersey and water quality in UK rivers: [www.environment-agency.gov.uk/regions/northwest/346910/347005/440418/441073/?version=1&lang=\\_e&textonly=on&format=](http://www.environment-agency.gov.uk/regions/northwest/346910/347005/440418/441073/?version=1&lang=_e&textonly=on&format=)
- A virtual tour of The Lowry at Salford Quays can be taken at: [www.thelowry.com/aboutthelowry/aboutsalfordquays.html](http://www.thelowry.com/aboutthelowry/aboutsalfordquays.html)
- United Utilities’ own account of their wastewater treatment can be read at: <http://uucsr.lfdev.net/waste-water.asp>

**Acknowledgements**

The Factsheet was researched by Dr Simon Oakes who teaches at Banstead’s School and is a Principal Examiner and geography consultant.

Curriculum Press, Bank House, 105 King Street, Wellington, TF1 1NU. Tel. 01952 271318. Geopress Factsheets may be copied free of charge by teaching staff or students, provided that their school is a registered subscriber: No part of these Factsheets may be reproduced, stored in a retrieval system, or transmitted, in any other form or by any other means, without the prior permission of the publisher. ISSN 1351-5136