

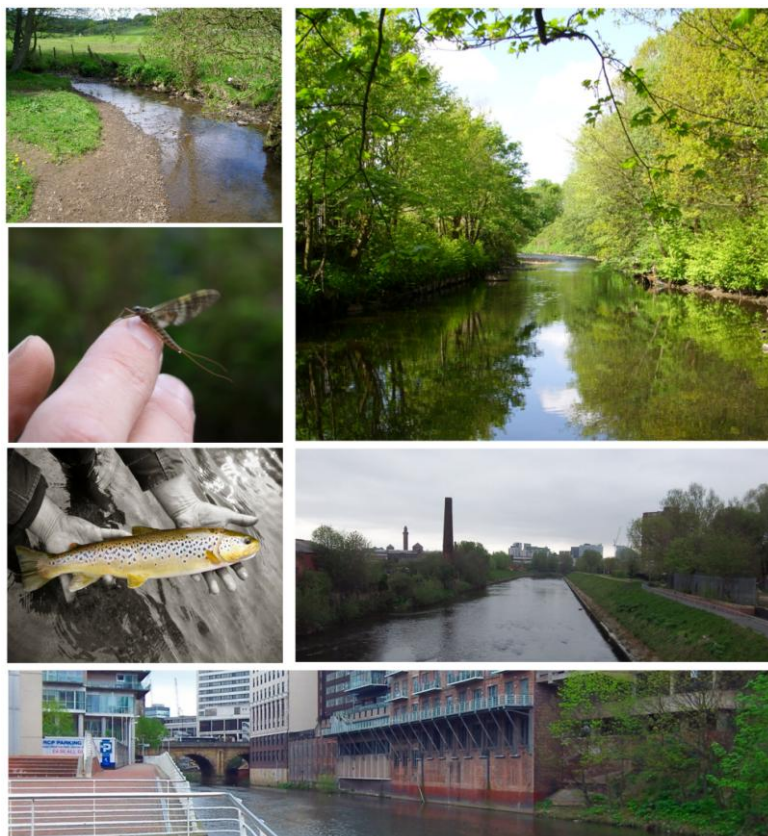
# **The Rivers Return**

## **Irwell Catchment Pilot:**

Making a healthy water environment a positive part of  
people's daily life

### **Summary Plan**

May 2013



## Forward

The Rivers Return is an exciting and innovative project that aims to regenerate the water environment in the Irwell river catchment with the integrated benefit of supporting economic growth and social enterprise. The Government has asked organisations to work in partnership to identify local actions to improve water quality within their Catchments and initiated a Catchment Approach Pilot in 2011. Ten Pilots were initially established with a further 15 in January 2012. The 25 pilot groups were asked to report back to Defra with their findings and progress in December 2012.

The Rivers Return Project (Irwell Catchment Pilot) is one of ten pilots hosted by the Environment Agency. The catchment incorporates the Rivers Irwell, Croal, Roch, Medlock and Irk which drain the western Pennines and flow through the Pennine Fringe and Greater Manchester conurbation before joining the Manchester Ship Canal at Salford Quays. Evidence suggests that diffuse urban pollution (e.g. dirty water coming from roads, badly connected sewers and old landfills) and physical modifications to rivers (e.g. weirs, culverts and artificial river banks) may be key reasons for many of the rivers and lakes in the Irwell Catchment not achieving legally required standards of water quality.

The Irwell Catchment Pilot is steered by a multi-sector group representing community groups, non-governmental organisations (NGOs), local authorities, the Environment Agency (a non-departmental public body), business, and academia. The primary aim of the Rivers Return is to protect and improve water environments which it proposes to achieve by testing new approaches to stakeholder engagement; information sharing; co-ordination of action at a Catchment and local level; and stimulating engagement from across society and business.

This summary report presents the key objectives of the Rivers Return Catchment Plan.

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# 1. The Vision

Our Vision is to make a healthy water environment a positive part of people's daily life

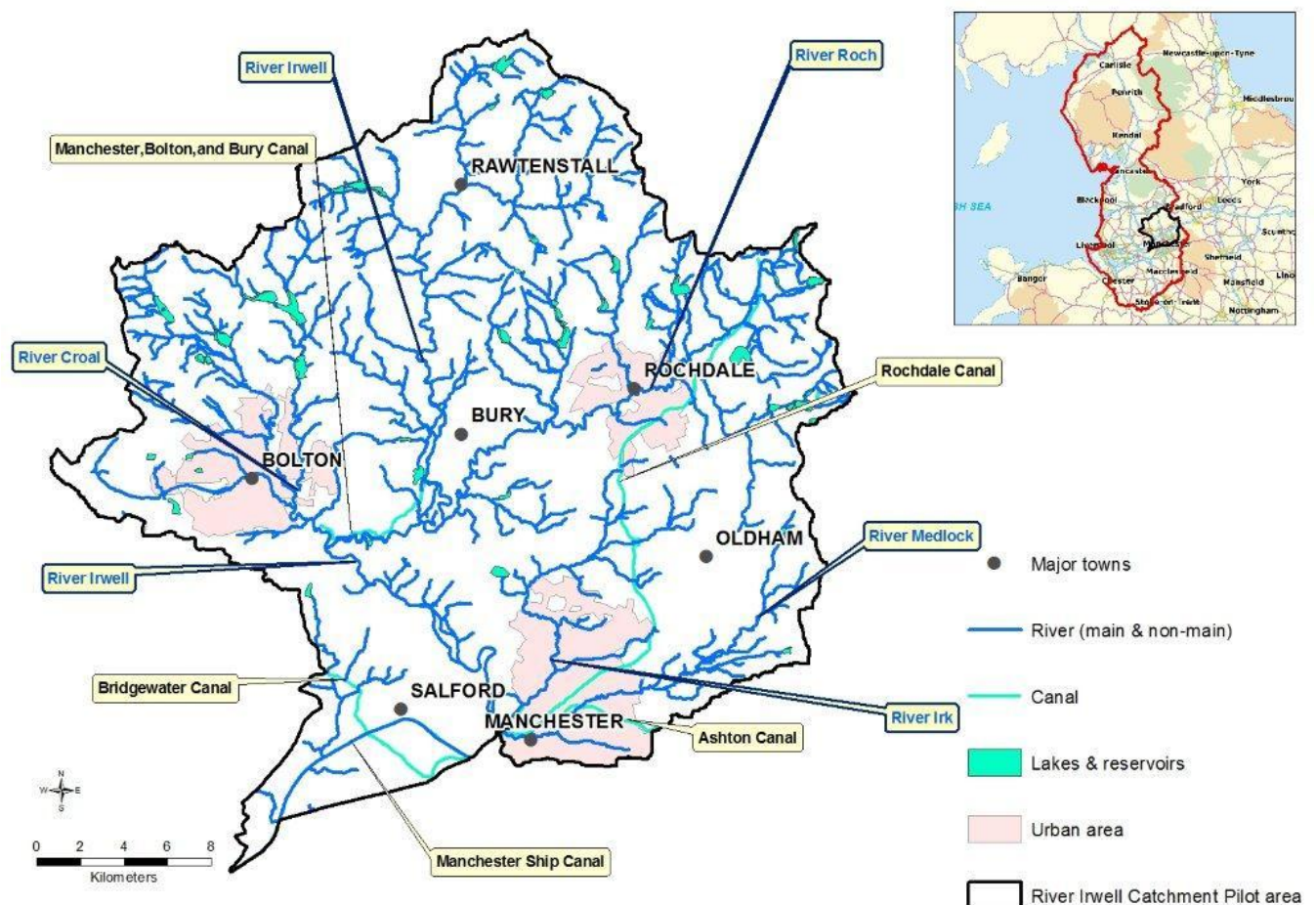
To achieve this vision we will endeavour to:-

- Ensure land is used and managed sustainably to benefit water environments;
- Ensure our water environments are healthy and rich in wildlife;
- Provide more attractive and accessible water environments for people to enjoy;
- Work collaboratively to share information and develop partnerships;
- Ensure relevant activities are coordinated and designed to deliver multiple benefits for the environment;
- Learn from others with similar experience and share our experiences.

## 2. The Irwell Catchment

The Irwell Catchment is in the southern part of the North West of England and covers 777 km<sup>2</sup>. These rivers and their tributaries have a cumulative length of nearly 400km. The catchment spans from the moors above Rawtenstall in the north to the Manchester Ship Canal in the south, and from Littleborough in the east to Bolton in the west. The towns and cities with the highest populations are Manchester, Bolton, Oldham, Salford and Rochdale. The main rivers are the Irwell, Roch, Croal, Medlock and Irk, all joining, via the Irwell, into Salford Quays and, from there, the Manchester Ship Canal. The Catchment also includes 5 canal systems. Once important for trade they are now mainly used for recreation, with the exception of the Manchester Ship Canal which links the port of Liverpool with Salford Quays. There are a large number of reservoirs, lakes and mill lodges predominantly located in upland areas at the head of the major river systems. Many of the reservoirs, like Wayoh and Clay Lane, contribute drinking water to more than a million people who live and work in, or visit the Catchment (Figure 1).

**Figure 1. The Irwell Catchment<sup>1</sup>**



In 2009 the Environment Agency published the Irwell Catchment Flood Management Plan. This estimated that 7,500 properties, five sites of special scientific interest and one scheduled ancient monument had a 1% chance of river flooding each year. In addition to river flooding there are also risks from surface and ground water flooding.

<sup>1</sup> Source – Environment Agency – The red line in the insert indicates the northwest region in which the Irwell Catchment is located.

A legacy of late 19th century industrial development and its subsequent decline is that many of the watercourses in the Irwell Catchment are heavily modified, with many kilometres of modified embankments and over 1300 culverts, weirs, locks and dams.

This industrial legacy does however mean the Catchment has a rich cultural heritage directly associated with the industries built up to utilise the rivers during the industrial revolution including mills, reservoirs, mill lodges and other structures some of which are Scheduled Ancient Monuments (SAMs) including Higher Mill on the river Ogden in Helmshore, and others are listed such as the Clifton Aqueduct, Thirteen Arches and Thirlmere Aqueduct where it crosses the Irwell at Agecroft. Heritage interest is not however restricted to the industrial revolution and include other SAMs such as the Medieval Hanging Bridge below Manchester Cathedral spanning the now culverted Hanging Ditch and Ringley Old Bridge built in 1677.

There are multiple nature conservation sites of national and international importance: These include 14 Sites of Special Scientific Interest including the Rochdale Canal Special Area of Conservation (SACs) and The South Pennine Moors Special Protection Area (SPA) which is also an SAC. To the north and east of the Catchment there is moorland, upland heath, blanket bog, and clough woodland. In the lower areas there is semi-improved neutral grassland, mossland, and ponds. In urban areas brownfield sites, which have been cleared for development, provide valuable ephemeral habitats for plants, insects and other wildlife. The rivers and canals provide important opportunities for wildlife to move into and through the urban areas, however, the natural history interest in the Catchment as a whole has been and continues to be affected by social and economic development.

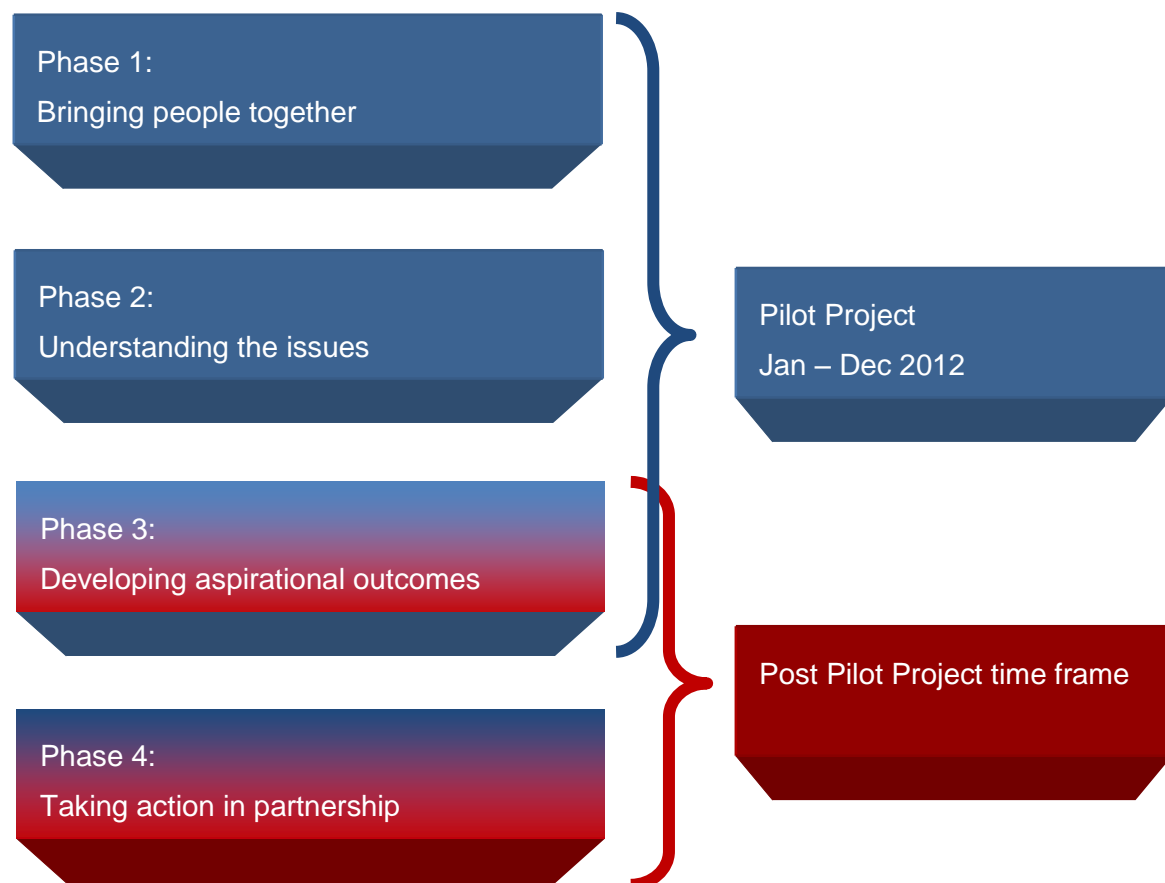
### **3. The Partnership**

The rivers, canals and other water bodies that lie within the Irwell Catchment are part of a socio-ecological network that connects the Pennines in the east with River Mersey and its estuary in the west. Its landscape has been and continues to be affected by the presence of people and the decisions they make. This is a region that once dominated world trade in cloth manufacture and contains the world's first industrialised cities. There is a view that sees cities as concentrations of industry and creativity making them hot spots for solutions as well as problems. Today a new partnership is being woven, one that brings together a group of people who live and work in the Irwell Catchment with those who own and manage the land and water that make up this diverse landscape. This is the Rivers Return project.

The partnership will develop strategies that allow for adaptation and even transformation in the face of future challenges such as climate change, flood risk, water availability, food security, and demand for quality recreational experiences. The emerging partnership is adopting a catchment based approach that sees the whole landscape and its people as an inseparable unit. It recognises the services provided by this landscape as vital to future economic and social prosperity, and is focused on ensuring their resilience and adaptability in the face of climate change expectations.

## 4. The approach

The approach the Rivers Return has taken is to develop a unified multi-sectoral group including business, non-governmental organisations (NGOs), community groups, local authorities, statutory agencies and academia committed to working together. This culminated in the development of this Plan. The approach comprised of four main phases



## 5. Phase 1 Bringing people together

The Rivers Return partnership was developed via 4 key steps:

- Taking a 'catchment based approach'
- Stakeholder mapping
- Engagement
- Steering Group Development

### 5.1 Taking a 'catchment based approach'

Water environments can be significantly impacted by the activities that are carried out on the land that surrounds them. Both the quality and quantity of the water can be affected by land cover and land use. Coordinated management of land and water at an appropriate scale can bring about environmental, economic and social benefits. This is the catchment based approach.



In order for a catchment based approach to be successful, local people and organisations must work together. Effective stakeholder engagement is the first step in achieving this. There has to be a common understanding and acknowledgement of the issues at a catchment scale using language that people understand. The involvement of local people in the decision making process is essential. Only by understanding what is important to them and making the connections to their local needs can you get ownership and a commitment to take the action.

## 5.2 Stakeholder mapping

Working with stakeholders early on to understand their concerns and needs was crucial to the development of the Rivers Return and the catchment based approach. As the Irwell Catchment covers a large geographical area it was important to identify and target key stakeholders early on in the process. Stakeholder mapping was used to initiate a programme of early engagement.

Sector	Funding	In the Irwell Catchment this includes:
<b>Public</b>	Organisations funded through government money.	Local Authorities; Gtr Manchester Combined Authority; Gtr Manchester Waste Disposal Authority; Natural England; The Forestry Commission; Environment Agency, Higher Education Institutions; Primary Care Trusts, Gtr Manchester Archaeological Advisory Service; Local Nature Partnerships; Local Enterprise Partnerships.
<b>Private</b>	Organisations funded through private enterprise.	The Peel Group; United Utilities; Viridor Laing; PZ Cussons; Manchester United FC; Manchester City FC; Network Rail, regulated industries.
<b>Voluntary</b> - also known as the Third Sector or Non Government Organisations (NGOs)	Funded through grants, charitable donations, membership subscriptions etc.	Irwell Rivers Trust; Lancashire, Manchester and Merseyside Wildlife Trust; Red Rose Forest (Community Forest Trust); Groundwork Trusts; National Trust; Canals and Rivers Trust; The Conservation Volunteers.
<b>Community</b>	Private individuals, residents, community groups, interest groups, local campaigning groups.	Salford Friendly Anglers Society; Friends of Groups, interest groups (fishing, cycling canoeing natural history); tenants & residents associations.

## 5.3 Engagement

The key to successful engagement is good planning.

Most of the initial engagement was carried out on a one-to-one, face-to-face basis by the Environment Agency's Rivers Return Catchment Coordinator. Two workshops were held to gain a better understanding of the Catchment, seek feedback on the Pilot process, and establish a collaborative approach to delivering agreed outcomes through the formation of a steering group.

It was recognised that, given the geographical scale of the pilot area and the complexity of issues, a **strategic and coordinated** approach to environmental improvement was required. However, it was accepted that local groups and communities would have a significant role to play in helping deliver improvements to the water environment

From the workshops a set of outcomes were developed and nine organisations expressed an interest in coming together to look at developing a partnership and agreed to form a Steering Group to take the Pilot forward.

## 5.4 Steering Group development

The first meeting of the newly formed Steering Group was in January 2012. Over the duration of the Pilot project (January to December 2012) the Steering Group have been meeting on a monthly basis to gather and share evidence, discuss and agree the key issues and agree on the types of outcomes they would like to achieve. A Governance structure has been developed along with Terms of Reference and partnership relationships have been forged.

The Steering Group became aware of another partnership existing in the Irwell Catchment with similar aspirations. The Irwell Catchment Nature Improvement Area Partnership was established in order to seek funding from the Nature Improvement Areas competitive grant scheme being administered by Natural England. The aims of the Irwell Catchment NIA proposal were to create a viable ecological network (a Nature Improvement Area) to enable both terrestrial and aquatic migration based on the water courses and canals of the Irwell catchment; to improve the ecological condition of these water courses and canals in line with Water Framework Directive objectives<sup>2</sup>; and to maximise the opportunities for additional ecosystem service benefits primarily relating to sustainable urban development and economic growth, recreational uses, flood alleviation and the 'blue-green' economy.

The Partnership were not successful in obtaining funding to develop the Irwell Catchment Nature Improvement Area , but continued to meet to discuss how they could take the initiative forward. Following a number of conversations the two groups agreed there was sufficient common ground between them to form one group in July 2012.

From December 2012 the Partnership comprises:

- Greater Manchester Combined Authority – (formerly Association of Greater Manchester Authorities (AGMA))
- Bury Council
- Environment Agency
- Greater Manchester Waste Disposal Authority
- Irk and Medlock Initiative, (Groundwork Manchester, Salford, Stockport, Tameside and Trafford and Manchester City Council)
- Irwell Rivers Trust
- Lancashire, Manchester and Merseyside Wildlife Trust
- Manchester City Council
- Manchester Metropolitan University
- Moston Brook Project (Oldham Council and Manchester City Council)
- Red Rose Forest (Community Forest Trust)
- Rochdale Metropolitan Borough Council
- Rossendale Borough Council
- Salford City Council
- Salford Friendly Anglers Society
- The Conservation Volunteers
- United Utilities
- University of Manchester
- University of Salford

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<sup>2</sup>Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy

The Steering Group have committed to take the Rivers Return forward beyond the pilot phase and will continue to meet on a monthly basis to develop a pathway to delivering their aspirations.

## 6. Phase 2 Understanding the issues

Throughout the engagement process, through discussions and workshops, a range of environmental and social and issues affecting the Irwell Catchment were raised. Nine key issues were identified:

1. Wildlife and natural habitats (Natural capital)
2. Cleaner Rivers
3. Planning & Development
4. Upland and Rural Land Management
5. Fish stocks
6. River Function
7. Access to Local Water Environments
8. Skills and Jobs for Environmental Improvements
9. Engaging Local People in Improving their Environment

Over the course of the Pilot the Steering Group brought together evidence based on the latest research and survey data together with observations and local knowledge to form a snapshot of the current situation.

### 6.1 Wildlife and natural environment (Natural capital)

As much of the catchment is densely populated and industrialised, its natural habitats and wildlife populations have been modified, reduced and fragmented. Despite this, there are several Sites of Special Scientific Interest (SSSIs) within the catchment and numerous Sites of Biological Importance (SBIs); designated for their local, district or regional importance. The fact that many of these are concentrated along the river valleys highlights the importance of watercourses for conservation.

A lack of management of non-agricultural open land has allowed non-native invasive species such as Himalayan balsam; giant hogweed and Japanese knotweed to become established which negatively affect our native flora and fauna.

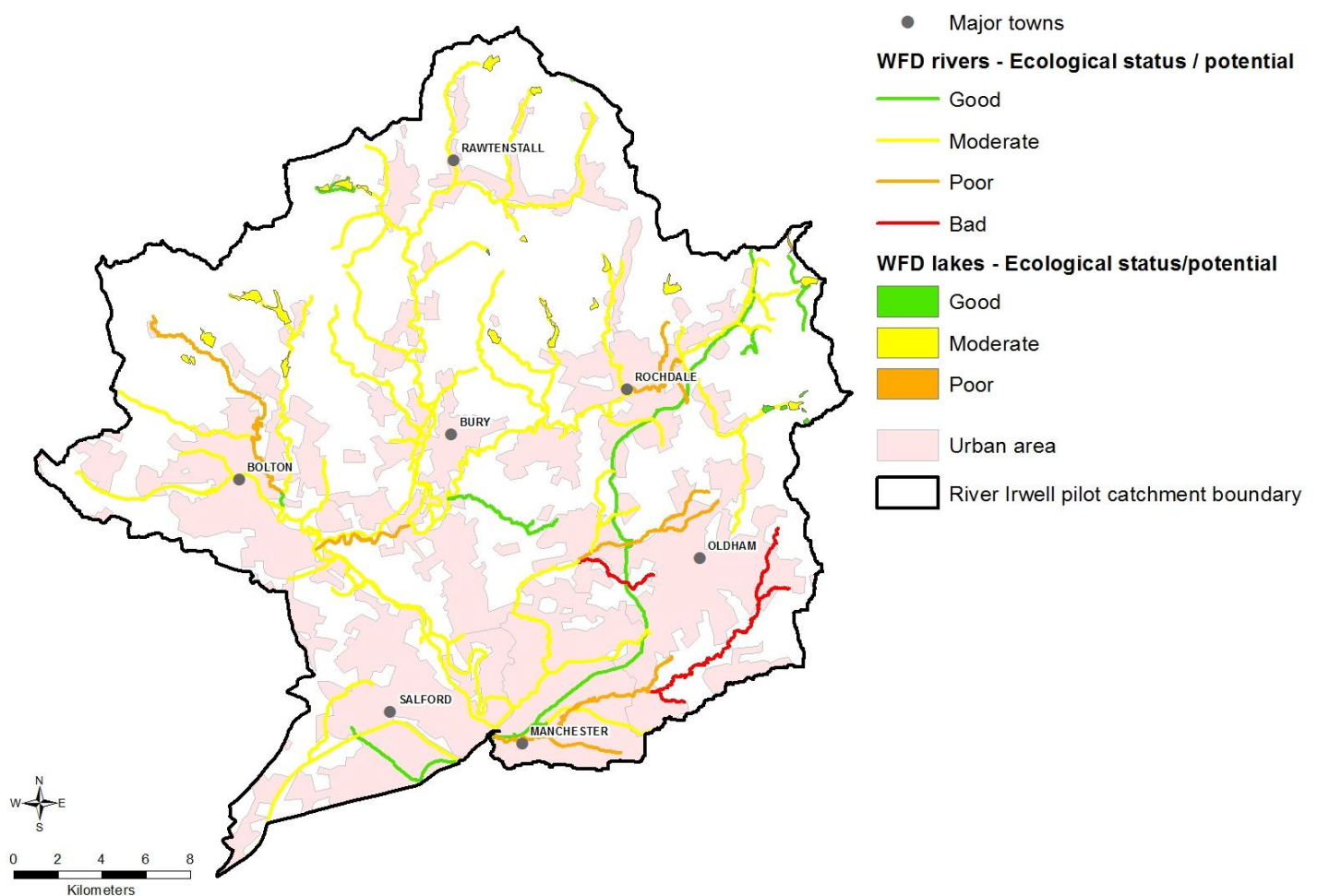
Pollution and man-made physical changes reduce the capacity of many aquatic life forms to flourish. Work, some being undertaken by local groups, to improve the habitat throughout the catchment is progressing, but there is still more to be done. The installation of simple and complex fish spawning units, floating islands, trees, bird boxes, bat boxes are techniques that could be applied to appropriate places in the rivers in the Irwell Catchment<sup>3</sup>.

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<sup>3</sup> *Urban River Regeneration in Manchester: Transforming the 'Dark River Irwell'* APEM and Environment Agency

## 6.2 Cleaner rivers

The rivers in the Irwell catchment have been divided into 34 sections known as river waterbodies for the purpose of reporting water quality. Assessment of 29 lakes (including reservoirs), five canals and six surface water transfer systems is also carried out. These assessments show that of these 74 surface waterbodies in the Irwell Catchment only 17 (13%) reach the required standard (good status/potential) as set out by the Water Framework Directive (Table 1). Of the 400km of river assessed only 2% or 8km is classed as good. Most river waterbodies (86%) are classified as moderate with 7.5% of poor status and 4.5% bad (Figure 2).



<sup>4</sup> Figure 2 Ecological status of the waterbodies of the Irwell Catchment<sup>5</sup>

<sup>4</sup> Source – Environment Agency

Table 1 Classification of waterbodies in the Irwell catchment

	Status as defined by the Water Framework Directive					Total
	High	Good	Moderate	Poor	Bad	
<b>Rivers</b>	0	2	29	2	1	<b>34</b>
<b>Lakes and reservoirs</b>	0	6	22	1	0	<b>29</b>
<b>Canals</b>	0	4	1	0	0	<b>5</b>
<b>Surface water transfer</b>	0	5	1	0	0	<b>6</b>

Water quality in urban areas remains highly impacted by pollution coming from point sources and land. Diffuse urban pollution (e.g. dirty water coming from roads, badly connected sewers and old landfills) and physical modifications to rivers (e.g. weirs, culverts and artificial river banks) are causing some rivers and other water bodies in the Irwell Catchment to fail to meet the legally required standards of water quality. These problems are particularly found in highly populated areas where traffic densities and road networks are concentrated and where there is a legacy of industrial activity.

Litter is a problem in the Rivers in the centre of Manchester, the other urban centres and in the Manchester Ship Canal. Some historic structures have been abused and treated with contempt, St Georges Arches, for example, are subject to illegal fly-tipping<sup>6</sup>.

### 6.3 Planning and Development

Much of the southern part of the Catchment is dominated by post-industrial towns and cities changing land use and land cover to more impervious surfaces. This contributes to flooding and reduces biodiversity for many biotic communities. Urbanisation also creates brownfield land. This is land that had been previously developed but on which the buildings have been demolished or abandoned. Redevelopment can be complicated by environmental contamination from prior land use making it technically challenging and economically unviable to remediate. It may also have implications for nearby water quality.

Planning and development can also have a positive effect on the environment through eg providing investment for improving waterways through green infrastructure, deculverting and regenerating degraded landscapes.

The planning process has a positive role to play in addressing this situation through connecting to the Green Infrastructure, Making space for Nature, places matter, and health agendas; inclusion of Sustainable Drainage Systems (SuDS), and identifying and planning for end uses for the brownfield sites; addressing trans-administration boundary problems; and coordination and facilitation are key issues to the future development of the Catchment.

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<sup>6</sup> *Urban River Regeneration in Manchester: Transforming the 'Dark River Irwell'* APEM and Environment Agency

## 6.4 Upland and rural land management

Although heavily affected by urban sprawl, agriculture plays an important part in the rural economy of the Irwell Catchment<sup>7</sup>. The rural, mostly upland areas, within the Irwell Catchment are located in the middle and north of the catchment surrounding the Upper Irwell and the Rossendale Valley. Natural land cover in this area is likely to have been changed by grazing, peatland management and deforestation. Land management could play a key role in reducing run-off, especially following heavy rain<sup>8</sup>.

The English uplands are nationally and internationally important for the value of their landscapes, biodiversity, agriculture, recreational opportunities, archaeology, and cultural and natural resources<sup>9</sup>.

Changes to rural land management over the past two hundred years have also had a significant impact on water quality. Activities such as moorland gripping to drain upland areas, over-grazing and farming intensification have contributed to the degradation of our rural watercourses and associated habitats in the Irwell Catchment. The impacts are not only seen in the headwaters but downstream as well where the accumulative effects can be significant.

## 6.5 Fish stocks

Until the early 19th century the rivers were well stocked with fish and other wildlife. However, during the Industrial Revolution increasing levels of pollution proved fatal to fish with stocks disappearing completely by about 1850. During the 20th century a slow improvement in water quality resulting from better regulation of industry and investment in sewage infrastructure was observed.

Over the last 25 years fish stocks have improved and there are now healthy populations of brown trout, chub, roach, bream, perch, pike and barbel as well as significant populations of 'minor' species such as minnow, stickleback, bullhead and stone loach in some of our rivers. However, not all rivers in the Irwell catchment reach the expected standards in relation to species abundance and diversity. There are a considerable number of barriers to fish movement within the Catchment.

Prior to the Industrial Revolution, the River Irwell provided important, spawning, nursery and feeding habitat for migratory fish such as Atlantic salmon, sea trout, European eel and lamprey. Now that water quality has improved, these species have started to return to the Lower Mersey Catchment. Their progress into the Irwell Catchment however has been prohibited by the Manchester Ship Canal which includes three locks at Irlam, Barton and Mode Wheel.

The economic benefit to the region from the return of the Atlantic salmon could be significant, as this fish is totemic amongst both anglers and the general public of a high quality environment. The Ribble Trust (who are based on the River Ribble 30 miles to the north of Manchester) estimate their annual runs of migratory fish contribute £19m per year to the local economy through tourism and angler spend. A similar economic benefit could be expected in North Manchester once migratory fish return in numbers making the estimated cost of £1.8m for the three fish passes on the Manchester Ship Canal a small expense in comparison to the potential benefits.

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<sup>7</sup> Environment Agency (May 2007) Water abstraction getting the balance right: the Northern Manchester Catchment Abstraction Management Strategy

<sup>8</sup> Environment Agency (2009) *Irwell Catchment Flood Management Plan: summary report December 2009* Environment Agency, Warrington p24

<sup>9</sup> Upland Policy Review March 2011; Department for Environment, Food and Rural Affairs

## 6.6 River function

A legacy of late 19th century industrial development and its subsequent decline is that many of the watercourses in the Irwell Catchment are heavily modified, with many kilometres of walled banks and over 1300 culverts, weirs, locks and dams. Over two-thirds of the rivers in the Irwell Catchment have been heavily modified. In addition, these modifications reduce the ability of the water environment to respond naturally to environmental changes such as flooding and drought, and diminish the ecosystem services they provide. It makes access for recreational activities (difficult and often dangerous and generally diminishes the aesthetic appeal, which could have social and economic consequences. However, many of these modifications are associated with flood risk management making their removal or mitigation measures difficult if not impossible to implement because of over-riding public health, excessive cost, and strategic drainage or flood alleviation functions.

Within the Northern Manchester Catchment Abstraction Management Strategy<sup>10</sup> it is stated that the majority of the water abstraction in the Irwell Catchment is used for industrial and commercial industry; the water being used for a variety of purposes, such as chemical, construction, metals and mineral, mining, leather and textiles. Less than 1% of the total water licensed is used for amenities such as golf courses, football pitches, amenity ponds and other recreational activities. The area also has numerous small sources that are used for domestic and agricultural purposes, mainly for the management of livestock. A significant proportion of the water is also used for public water supply with 29 surface water abstractions from licences permitting abstraction from reservoirs located at the headwaters of the Rivers Croal, Roch, and Irwell, and also one important groundwater abstraction. The numbers of new applications for industrial purposes are dwindling and increasing numbers of existing licences are revoked annually as traditional mill type industries cease trading. There are many wastewater treatment work discharges in this catchment. These contribute to flow, and in many river sections flows are higher than they would be otherwise. A significant amount of water is also imported into the catchment from the Lake District and Wales, the proportion of water supplied to the region by discharge is very significant.

## 6.7 Access to local water environments

In urban environments the importance and accessibility of managed and maintained green infrastructure allows people the space to relax and socialise and ultimately to feel good and be content about where they live. Within the Irwell Catchment there are some of the most deprived communities in the UK, as well as some of the most affluent. Tackling environmental inequalities and ensuring that all people have access to a good quality environment now and in the future is critical to sustainable communities.

The Irwell Sculpture Trail contains artworks by locally, nationally and internationally renowned artists. The 53km (33mile) trail runs through Salford, Bury and Rossendale and is the largest sculpture route in the UK. The trail follows the banks of the Irwell in places; elsewhere the route taken is away from the river bank.

There is an extensive network of public footpaths, bridleways, and strategic routes within the Catchment. Some of these provide access to water-side walks. Within the Catchment there are many urban parks, country and forest parks, playgrounds and play areas, allotments and nature reserves, all of which afford opportunities for recreational activities as well as contributing habitats for wildlife and to the attractiveness of the area.

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<sup>10</sup> Water abstraction getting the balance right: the Northern Manchester Catchment Abstraction Management Strategy p9



## **6.8 Skills and jobs for environmental improvements**

The North West has some of the highest concentrations of youth unemployment and worklessness in the UK and these figures are rising. This is of concern to a number of organisations and partnerships. By using environmental Intermediate Labour Markets, young people can be engaged in local environmental improvement schemes. This can provide them with routes into longer-term employment, enterprise, education and training, and give them a sense of pride and ownership in of their local environment.

The Irwell Catchment also holds one of the highest student populations in the UK providing opportunities for academic research and work placements to local authorities, the volunteer sector and other public and private sector organisations.

## **6.9 Engaging local people in improving their environment**

Public involvement is key to environmental success, yet opportunities for this are currently limited. Complex legal responsibilities, processes and procedures of regulatory bodies and riparian ownership can create barriers, preventing local action groups forming and becoming involved in improving their local environment. A number of local 'friends of' groups do exist throughout the Catchment but they often work in isolation and may not be aware of their contribution to the whole catchment.

Empowering local communities by assisting with group development, training in identifying and carrying out practical improvement works, and applying for funding will generate a great momentum in conservation and restoration efforts.

## **7.0 Nine aspirational outcomes**

The Rivers Return has nine aspirational outcomes relating to the issues identified. These outcomes will be reviewed regularly and may change over time.

It is recognised that these outcomes:

1. can only be achieved by two or more organisations in the group working together i.e. no one organisation can achieve this alone.
2. can only be achieved to a greater degree, and/or more efficiently and effectively, through two or more organisations working together.
3. can only be achieved by two or more organisations in the group working together in a different way than before i.e. in more depth, considering innovative approaches etc.



Table 2 Irwell Catchment Aspirational Outcomes

Outcomes	Target
<b>1 Wildlife and natural habitats (Natural capital)</b>	By 2027, the main rivers and tributaries in the Irwell Catchment will achieve a good water quality status which will support a wide range of wildlife and natural habitats that are interconnected.
<b>2 Cleaner Rivers</b>	By 2021, the point and diffuse pollutants discharging from urban areas into the main rivers and tributaries of the Irwell Catchment will be identified and a strategy in place to reduce their impact by 2027.
<b>3 Planning &amp; Development</b>	By 2015, all local plans or draft local plans will outline opportunities to turn the priority sites, including brownfield sites into quality green space of wildlife value, and all new developments planned will aim to maximise their contribution to green infrastructure to ensure delivery of the Irwell Catchment Outcomes.
<b>4 Upland and Rural Land Management</b>	By 2027, the major landowners of the South and West Pennine Moors and rural areas of the Irwell Catchment will manage their land to help reduce flooding and improve water quality.
<b>5 Fish Stocks</b>	By 2027, the main rivers and tributaries in the Irwell Catchment will achieve good water quality status which will support diverse, abundant and sustainable fish stocks; and water courses will be free of artificial barriers that inhibit migration of species across water environments.
<b>6 River Function</b>	By 2021, a strategy will be in place that identifies where the main rivers and tributaries of the Irwell Catchment could be altered to align with their natural flow conditions. This should alleviate drought and flooding conditions which will lead to a more robust, diverse, attractive and accessible environment.
<b>7 Access to Local Water Environments</b>	By 2027, all people in the Irwell Catchment will have greater accessibility and opportunities to enjoy their local water environment for recreational activities
<b>8 Skills and Jobs for Environmental Improvements</b>	The Irwell Partnership will provide young people and in particular those not in education, employment, enterprise or training, plus the unemployed and ex-offenders with an opportunity to learn the necessary skills and training to deliver the local environmental improvements outlined in the Catchment Plan.
<b>9 Engaging Local People in Improving their Environment</b>	By 2021, there will be a network of established voluntary Local Action Groups (LAGs) located on the rivers and tributaries of the Irwell actively identifying desired outcomes and seeking to make the improvements required.

## 7.2 Ecosystem services provided by natural capital associated with the water environments in the Irwell Catchment

The natural capital (the ecosystems, habitats and species) associated with the water environments in the Irwell Catchment provide a number of ecosystem services which are essential to the lives and livelihoods of over a million people. Rivers transport water, matter, energy and organisms within and between terrestrial systems, riparian zones, estuaries and near-coastal waters.

The Irwell Steering Group have begun mapping their aspirational outcomes against ecosystem service provision. As ecosystem service mapping tools become available it will be possible to map the provision and use of ecosystem services within the Catchment. Such mapping is seen as a precursor to establishing values for the ecosystem services delivered by the Catchment.

Final services of Freshwater habitat	Habitats potentially delivering services			Explanatory note:
	R	L	C	
Provisioning services: the material benefits that aquatic ecosystems can provide				
Fish		*		Commercially significant fisheries based on lakes reservoirs and ponds.
Water		*		Water for public supply, irrigated crops and industrial processing.
Navigation		*	*	Navigable waterways need sufficient water depth and low velocity.
Regulating services: the processes that aquatic ecosystem can regulate				
Carbon		*	*	Deposition of organic sediments within lakes, reservoirs and ponds.
Flood		*	*	Permanently saturated habitats may generate or augment floods.
Flow		*	*	River flow and groundwater recharge influenced by landscapes.
Water quality		*	*	Dilute, store and detoxify waste products and pollutants; some systems may accumulate substances to toxic levels.
Local climate		*	*	Water bodies may influence temperature and humidity fluctuations and important moist microclimates could develop.
Fire		*	*	Open water bodies can act as natural fire breaks.
Disease		*	*	Freshwaters can be sources of water borne diseases and disease vectors, but also they can be sources of biocontrol agents.
Cultural services: the non-material benefits that aquatic ecosystems can provide				
Science & education		*	*	Lake, floodplain, and mire sediment sequences contain palaeo-environmental archives.
Tourism & recreation		*	*	Good water quality and visual appearance required for swimming, boating, recreational fisheries and other water sports.
Sense of place		*	*	Water is important in defining specific landscape character and features strongly in art, culture and local folklore connections.
Human health		*	*	If visually attractive and supportive of physical recreation, natural freshwater systems can increase well-being and quality of life.

**This report was compiled by the Irwell Catchment Pilot Steering Group:**

- Greater Manchester Combined Authority – (Planning and Housing)
- Bury Council
- Environment Agency
- Greater Manchester Waste Disposal Authority
- Irk and Medlock Initiative, (Groundwork Manchester, Salford, Stockport, Tameside and Trafford, and Manchester City Council)
- Irwell Rivers Trust
- Lancashire, Manchester and Merseyside Wildlife Trust
- Manchester City Council
- Manchester Metropolitan University
- Moston Brook Project (Oldham Council and Manchester City Council)
- Natural England
- Red Rose Forest (Community Forest Trust)
- Rochdale Metropolitan Borough Council
- Rossendale Borough Council
- Salford City Council
- Salford Friendly Anglers Society
- The Conservation Volunteers
- United Utilities
- University of Manchester
- University of Salford

**If you would like more information or become involved with the Rivers Return Partnership please contact [katherine.causer@environment-agency.gov.uk](mailto:katherine.causer@environment-agency.gov.uk)**

**Preferred citation:**

James, P., Atkinson, S., Barlow, D., Bates, A., Comyn, F., Duddy, M., Dutton, D., Fraser, J., Horsfall, W., Hothersall, A., Hutchinson, A., Lowry, K., Moore, A., Rothwell, J., Schofield, M., Smith, A., Surtees, A., Taylor, D., Tollitt, B., Towers, C., Tzoulas, K., Whitaker, G. and Causer, K. (2012) *The Irwell Catchment Pilot: The Rivers Return* The Environment Agency, Warrington

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