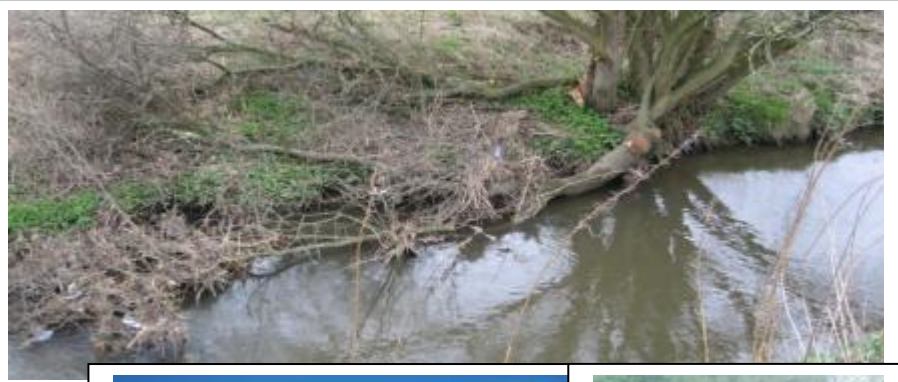


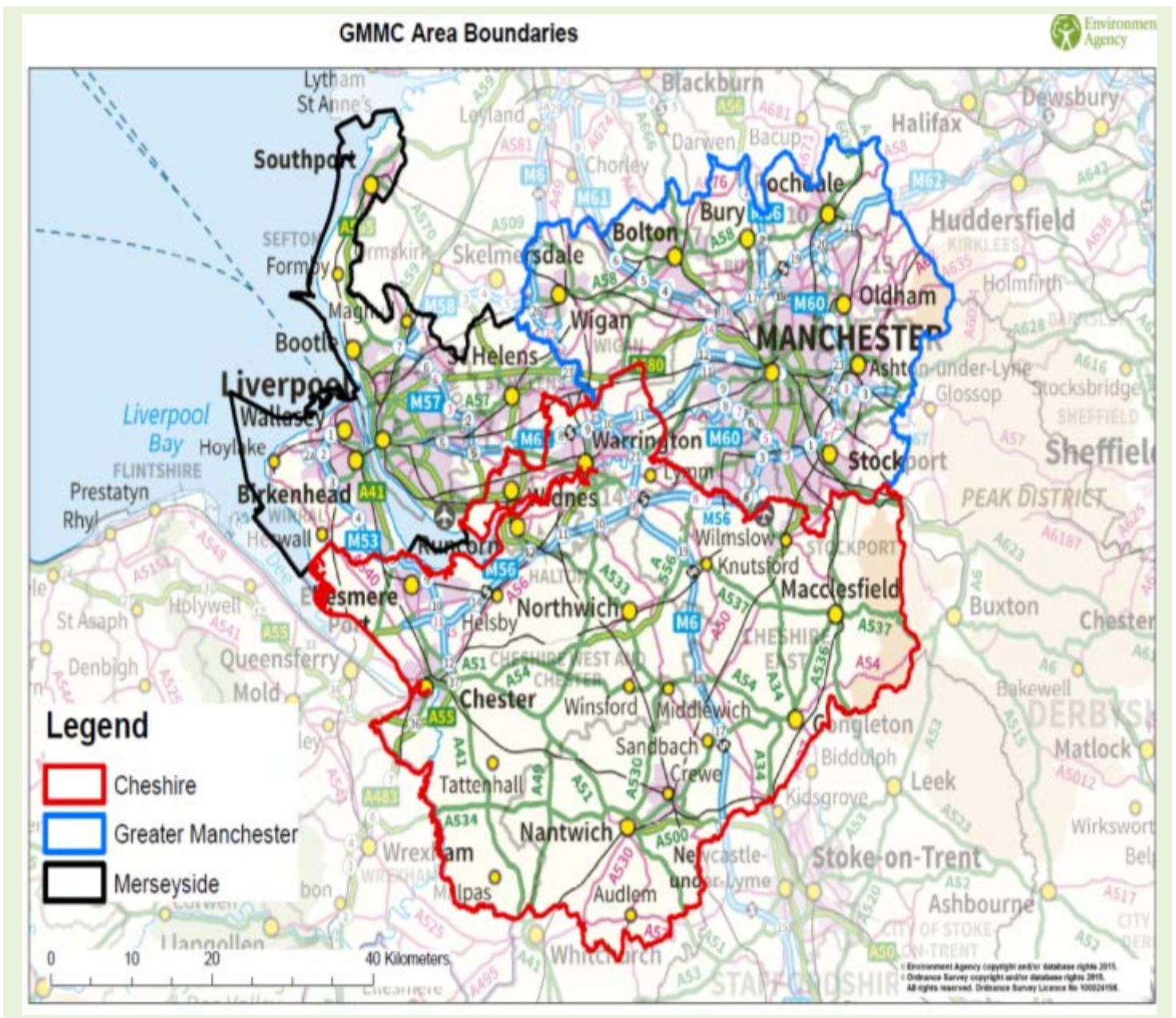
GMMC
*Environmental
Projects*
A Year in Review
2014/15



Foreword

The last year represented a significant change for the Environment Programme in GMMC, moving from regional to area delivery. We maintained an ambitious programme in GMMC delivering over £600,000 of environmental projects, working with partners, stakeholders and volunteers. £1.14 million in partnership funding helped to deliver significant environmental improvements in the area providing more benefits with every pound that we spent. This document highlights the achievements of the programme in 2014/15 and provides examples of how our projects have delivered some fantastic environmental outcomes. The next year will see us taking on new challenges; delivering river restoration, increasing fish passage along our watercourses and creating new habitats. We'll also undertake investigations and identify solutions for misconceptions on our most significant industrial estates.

Claire Bunter. Environment Planning & Engagement Manager, GMMC.



Summary

Project Name	Area	Detail <i>(For full information on this project please go to the page)</i>
Port Salford	Salford	This is an ambitious package of projects which aims to transform a valuable, yet neglected, corridor of green space into a 3km high-quality cycle and walking path The 5 year vision will see the creation of exciting leisure facilities, stunning landmarks, diverse and improved habitats and engaging community projects.
Rural Diffuse	Cheshire	Conduct three on-farm trials on the application of SNS (soil nitrogen sampling) for reducing inorganic Nitrogen fertiliser applications to arable crops and grassland. Work with referred farmers to improve their impact on water quality.
Haydock Industrial Estate	St Helens	Solving a smelly problem: Ellam's Brook has been suffering from repeated very intermittent pollution incidents which had a perfume smell associated with them. This has now been solved and addressed
Revealing the Roch	Rochdale	The Roch is currently culverted for 750 metres, this project removed part of that culvert (approx. 100m central section). Removal of the culvert at this site was identified as one of the highest priority sites in NW England.
Medlock	Clayton Vale	Re-naturalisation of part of the water course. A sterile/ dead section has been turned into one that now supports wildlife and encourages communities to take greater pride in the local environment
BEACON	Cheshire	Catchment walkovers surveys to learn more about the phosphates failures from rural diffuse water pollution issues
Worthenbury & Wych	Cheshire	Farm visits to help in the improvement of water quality in the area
Industrial Estates	Area Wide	Identify and remove polluting discharges from surface water drainage systems and put in place pollution prevention procedures and measures
Moston Brook	Oldham	Reducing the deleterious effects of any contaminated surface water from the industrial site and anti social uses at the end of Mill Lane which is adjacent to the Brook.
Green Infrastructure	Salford	Test the effectiveness of reducing urban diffuse pollution by using specialised roadside tree pits to intercept urban run-off
Life IP	Area Wide	Bring together organisations, skills and expertise cross NW to tackle underlying challenges for WFD delivery
Partington Elver Pass	Manchester	Construction of pass to provide a safer less restricted passage to migrating Elvers – improve eel
Wilmslow Gauging Station	Cheshire	Construction of a pre barrage weir downstream of the Wilmslow Gauging station and the installation of a solar powered eel pass
Manley Hall	Cheshire	Hydrometric improvements to ensure continued accurate flow data can be obtained. Repairs to weir crest and wing walls and installation of a eel pass
Misconnections	Merseyside	Develop a campaign to increase awareness of misconnections in the area. Target audience – Plumbers, builders and DIY installers

Port Salford

This £1.5M project is an ambitious package of projects which aims to transform a valuable, yet neglected, corridor of greenspace into a 3km high-quality cycle and walking path linking the Bridgewater Canal to the development of Port Salford with its 3000 employees. The 5 year vision will see the creation of exciting leisure facilities, stunning landmarks, diverse and improved habitats and engaging community projects.

Where: Worsley, Salford – within the Folly and Salteye Brook Waterbody catchment (GB11206906140), North West River Basin District. NGR: SJ7527698295

Who: Led by Salford City Council and Red Rose Forest. Other partners include Transport for Greater Manchester, Highways Agency, Peel Ports, City West Housing and Friends of Winton Park.

What: The first phase (2014/15) has provided the cycleway and WFD improvements to Worsley Brook through identified mitigation measures:

- Creation of channel berms and bankside habitat
- Creation of backwater habitat
- Removal of redundant structures
- Creation of vertical banks
- Live Woody Debris

In the wider context, this project forms part of the Atlantic Gateway Portfolio of environmental improvements

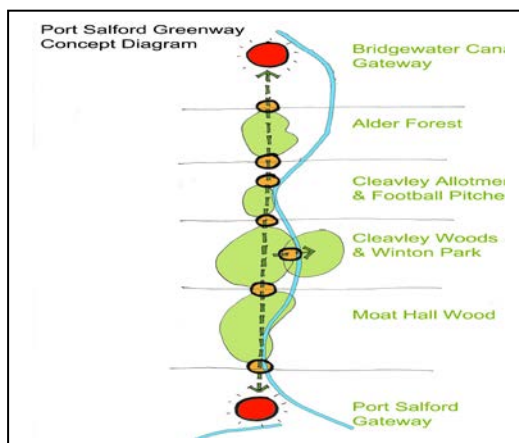
Benefits: Phase 1 has delivered approx. 700m of in-channel and bankside features or restored improved flow, fish passage and provision of BAP habitat

Cost: £70, 000 -Environment Agency contribution for Phase 1 River Improvements.

Communication is key with a project involving a number of partners. Making sure everyone is updated on a regular basis and all talking to each other.

Next Steps: Further water quality and habitat improvements along Worsley Brook including tackling diffuse pollution issues.

Contact: Helen Telfer



Live Woody Debris

Straight Channel



Introduction of Meanders, Backwater Habitat

Rural Diffuse

Who: United Utilities, Reaseheath College and Harvey Hughes Ltd

Where: Delamere, Five Crosses, Manley Common and Winwick Ground Water Safeguard Zones in Cheshire

What: The nature of farming means that it presents a significant risk to the quality of surface and groundwater. The challenge is to help farmers own the impact their business has on water, realise the potential that good practice can have on productivity and profitability of their business and to show how inappropriate practices can harm not just the environment, but also their enterprise.

Project Aims: Measure changes on-farms that have been implemented as a result of our previous work. Conduct three on-farm trials on the application of SNS (soil nitrogen sampling) for reducing inorganic Nitrogen fertiliser applications to arable crops and grassland. Use our experience and technical (farm business/environmental gain) approach to work with referred farmers to improve their impact on water quality. We also understand what drives farmer's decision making regarding nutrient planning.

Outputs and Outcomes: Improved water quality in the Delamere, Five Crosses, Manley Common and Winwick Ground Water Safeguard Zones

Costs: £42k (£45k Partner Contribution)

Benefits: Improved ground water quality in the following Groundwater Safeguard Zones: Delamere, Five Crosses, Manley Common, Winwick

Contact: Louise Cramp



Haydock Industrial Estates – solving a smelly problem

Who: APEM Ltd

Where: Ellam’s Brook, a tributary of Millingford Brook in St Helens

What: The long term pollution of Ellam’s Brook has been solved thanks to an investigation by APEM Ltd; the brook has been suffering from repeated very intermittent pollution incidents which had a perfume smell associated with them. The results of water quality samples taken by our Land and Water team suggested the pollution was from an industrial source.

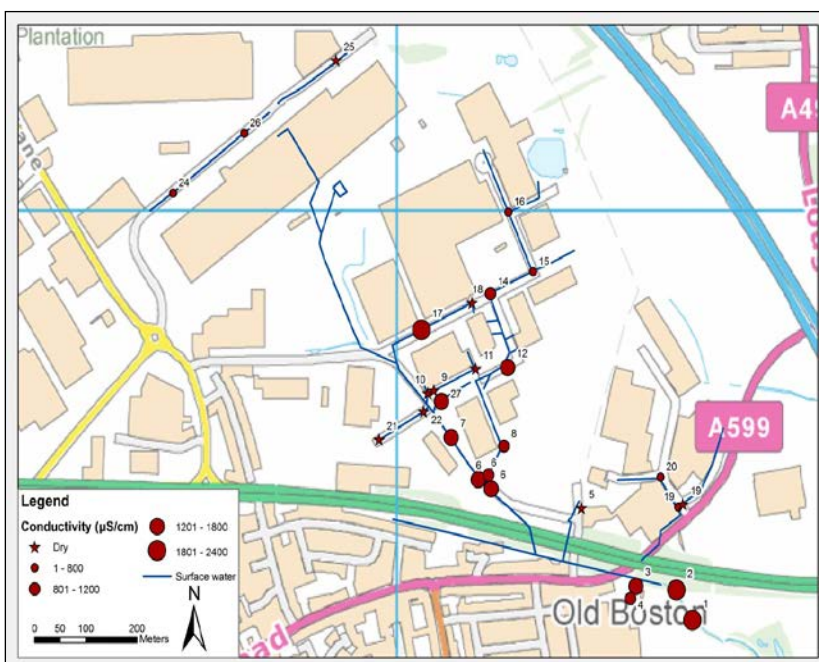
Project money became available in December 2014 and Dave Nilsson from the Land and Water team was quick to secure the money for an investigation into the source of the pollution. As the project started so late in the financial year, we were under real pressure. A very precise scope was prepared for our consultants to maximise the value for money we achieved.

In order to deliver the work before 1 April, the project team made the best use of our existing contacts, with procurement, finance and United Utilities. Early engagement and good relationships meant that when the contractors were appointed, everything was in place so that they could start the work straight away.

Between February and March APEM carried out drainage surveys on the surface water system to target where they would carry out site inspections at individual businesses. In the end 7 business premises were visited and minor improvements recommended at most. However, one business in particular was identified as a potential source of the perfumed pollution which was ending up in Ellam’s Brook. The consultants recommended that further investigation of this site was carried out by local Environment officers.

Dave Nilsson has since worked with United Utilities to agree with the business that they will carry out significant drainage improvement works so that their contaminated drainage will always discharge to the foul sewer. This project will lead to better water quality in Ellam’s Brook and in Newton Lake and save our officers time investigating pollution incidents.

Contact: Dave Nilsson, Josie Martin



Floating residue in the sample water at site 17

Conductivity levels at locations throughout Haydock Industrial Estate

Revealing the Roch

Who: Rochdale MBC, Irwell Rivers Trust

Where: River Roch, Rochdale

What: The Roch is currently culverted for 750 metres through the town centre and this project removed part of that culvert (approx. 100m central section). Removal of the culvert at this site was identified as one of the highest priority sites in NW England. This project formed a focal point in the regeneration of Rochdale Town Centre and as such is the 'jewel in the crown' of Rochdale MBCs regeneration plan.

Benefits:

- Removed sections of the culvert to open the river and improve its ecological value which is currently poor status under WFD and needs to be improved to good status
- Reduce flood risk in Rochdale town centre particularly from surface water, which effects circa 500 properties including a large number of key infrastructure
- Natural features exposed and introduced at the bed and bank, including vegetation, river bed gravels and natural bank materials, providing improved habitat for fish, invertebrates and mammals
- Improved urban environment connecting people to the watercourse
- Exposed the intact original 15th century packhorse bridge that the culvert covered
- The project attracted substantial funding from Heritage Lottery

Contact: Tony Callaghan



Medlock

Who: Manchester City Council, Groundwork, Irwell Rivers Trust, Friends of Clayton Vale

Where: Clayton Vale Manchester

What: In partnership we re-naturalised one of the UK's most heavily modified and constrained river corridors. The ambitious project turned a sterile/dead section of watercourse into one that now supports wildlife and encourages the local communities to take greater pride in their local environment

Cost: £240k

Benefits:

- Improved fish populations, Hydromorphology and natural connectivity
- Removal of artificial material from the river
- Improved bird and plant life and better access for people with a wider and more diverse range of natural habitats
- A more aesthetically pleasing environment for the local community to enjoy
- Reduced flood risk
- Improved bed substrate for fish spawning
- Huge increase in macro-invert populations and diversity

Next Steps: Continued work on the remainder of modified river corridor downstream to maintain the momentum achieved. Share the lessons learnt from the project with others across the UK and Europe, in a bid to enthuse and drive others to tackle even the most challenging of scenarios



The Old Medlock



Before Works started



After



After



Medlock Trout
(There were no fish before)

BEACON Rural Diffuse Water Pollution Project

Who: BEACON (Bollin Environmental Action and Conservation);
Made up of different partner organisations to help landowners and communities manage invasive species;
Spanning the Bollin catchment BEACON has recently expanded its focus to look at water quality issues

What:

- The project, funded by United Utilities Catchment Wise Fund and the EA, comprised of volunteer walkover surveys to learn more about the phosphates failures from rural diffuse water pollution issues in Birkin, Mobberley, Marthall, Pedley and Sugar brooks
- BEACON volunteers were trained by APEM Consultants to identify and record diffuse pollution issues. The training was split between indoor theory sessions and outdoor field work. The surveys were carried out at the start of the year - a distance of approximately 80kms was walked.
- A training session was run by the Environment Agency to train volunteers how to digitise data collected from the walkover surveys. Field observations were entered onto the EA's 'Catchment Walkover Tool' in a standardised format, and then this was used to create interactive maps and educational resources to illustrate the survey results.
- A Catchment pack has been created for use as an educational tool to engage landowners, farmers and communities to help change behaviours and manage the land better to improve the water environment.
- Farmers and landowners engaged throughout the project came together with BEACON volunteers, members of the Local Authority, United Utilities, and Natural England at a workshop on the 16th June to hear more about the project. The EA presented on Water Friendly Farming
- The information gathered has provided a baseline from which additional investigations and engagement can take place. Further analysis of the data collated will be carried out to help target future work and investigations in the Bollin catchment
- The project has helped volunteers to develop existing knowledge and learn new skills. It has raised awareness of rural diffuse water pollution issues within the local community and helped to bring in elements of citizen science whilst enhancing the Environment Agency's evidence base

Contact: Rachel Argyros



Volunteer Walkover Survey Training
Hosted by APEM 31st October 2014



Workshop 16th June 2015



Catchment Walkover Tool Training
Hosted by the EA 26th November 2014



Volunteer Walkover Surveys



Worthenbury & Wych Rural Diffuse Pollution

Who: Welsh Dee, Reaseheath College, United Utilities, Welsh Water, NRW, Woodland Trust, NFU, Natural England, Meres & Mosses Landscape Partnership

Where: Location: South Cheshire and cross-border with Wales

Cost: cost to date: £146k (inc. in-kind contributions)

Overview:

Evidence shows that the Worthenbury and Wych Brooks, which comprise 4 waterbodies, have a poor to moderate WFD ecological classification status. All 4 waterbodies are failing due to high phosphate levels from agricultural diffuse and point sources and some are also failing for fish, phytoplankton and ammonia.

The primary environmental benefit of this project is the improvement of water quality in the Worthenbury and Wych Brooks. Phosphate and other pollutants (including pesticides) in the watercourses will be reduced, river corridor biodiversity will be enhanced and local landowners will be engaged on water management issues.

Benefits:

By contributing £8k to the Middle Dee Catchment Partnership's existing rural diffuse pollution project, the EA has benefitted from making a low contribution to a £94k (cash) existing project which is already underway i.e. excellent value for money. The partnership project has achieved what the EA is not able to. Reaseheath College has visited farms in the role of a "trusted agricultural advisor" and spent time on site developing Water Management Plans, which goes far beyond the scope of an Environment Officer's visit. The farm visits provide extremely good value for money, being part-funded by the College and delivered by agricultural experts.

An additional 5 farm visits have been delivered in England by the project. Therefore Environment Officers have not had to undertake these visits and have been able to target their resources elsewhere. Additionally, the site visits conducted as part of this project have a far wider scope than Environment Officers are able to commit time to.

The project has satisfied the drivers of several key partners, who have worked extremely well together. Reaseheath College have built up the trust of the other partners due to their excellent delivery, and the landowners have confidence in Reaseheath College which reflects well on the Catchment Partnership and the Environment Agency, as a key partner. This has led to initially sceptical landowners stepping forward to participate in the project, once they have seen what is being done for neighbouring farms.

Contact: Jo Holden



Industrial Estates

Who: Groundwork Manchester, Salford, Stockport, Tameside and Trafford Ltd

Where: Various locations across the Greater Manchester, Merseyside and Cheshire Area.

Overview: Activities undertaken means that these locations present a significant risk to the quality of surface and groundwater through diffuse pollution; the challenge is for business owners to understand the impact their business has on water, realise the potential that good practice can have on productivity and profitability of their business.

Project Aims:

Identify and remove polluting discharges from surface water drainage systems (and watercourses) and put in place pollution prevention procedures and measures in order to reduce the number of pollution incidents coming from industrial estates.

The main objectives of this project are as follows:

- On the ground survey of highlighted industrial estates to detect sources of diffuse pollution such as poorly stored oil or misconnections.
- Production of a scoping report in order to identify potential sources of diffuse pollution (including contaminated surface water outfalls, road run off, and general site drainage) within industrial estates flagged as high priority by IEP and Catchment Partnerships.
- Prioritise high risk sites within each industrial estate (having the potential to cause pollution from their onsite activities and infrastructure).

This scoping study will provide a solid evidence base to justify follow up investigations and engagement with sites that are highlighted as being high risk and therefore high priority. Tackling urban diffuse pollution issues brings additional benefits such as increased biodiversity and flood resilience.

Outputs and Outcomes: Improved water quality in several waterbodies in the GMMC Area and a reduced number of pollution incidents.

Costs: £15k (with an additional £5k Partner Contribution)

Contact: Louise Cramp



Moston Brook Water Quality and Habitat Enhancement Scheme

Who: Oldham Council, Manchester Council, Groundwork Oldham and Rochdale

Where: Location: Moston Brook at Mill Lane

Cost: cost to date: £14.5k (inc. in-kind contributions)

Overview:

The water quality of Moston Brook has been known to be poor for some time. The latest GQA statuses for the biology and chemistry of the brook are both grade F, the lowest category available. The chemical status in particular has been stable for the last 8 years, with significant failures on BOD and ammonia.

This project focuses on a key gateway to Moston Brook at Mill Lane, Failsworth. The site is approximately 2 hectares. The aim of the project was to prevent surface water drainage from the industrial site at the end of Mill Lane, Failsworth and areas of unauthorised tipping from entering the watercourse. To achieve this, open drains/swales were created to form a wetland scrape to reduce rainwater runoff from the scrap yards into Moston Brook. Site access barriers and the creation of a natural bund were installed to prevent illegal access onto the site.

Benefits:

This project is one of a number of SuDs schemes proposed by the Moston Brook Partnership. Benefits of this scheme include reducing the deleterious effects of any contaminated surface water from the industrial site and anti social uses at the end of Mill Lane which is adjacent to the Brook. It should help deliver Water Framework Directive objectives by reducing the impact of urban diffuse pollution and the project will contribute to the 2014 to 2016 Corporate Plan – by ‘Protecting and improving water, land and biodiversity and’ Working with people, communities and local authorities to protect and improve local environments. Other benefits include improved visual amenity, community involvement and improved biodiversity.

Contact: Peter Hewitt



Green Infrastructure Solution to Urban Diffuse Pollution

Who: Red Rose Forest, Manchester University, Salford CC

What: Working in partnership on an exciting project that examines the use of mini SuDS bio-filtration systems in conjunction with street trees in an area of Salford undergoing a programme of regeneration.

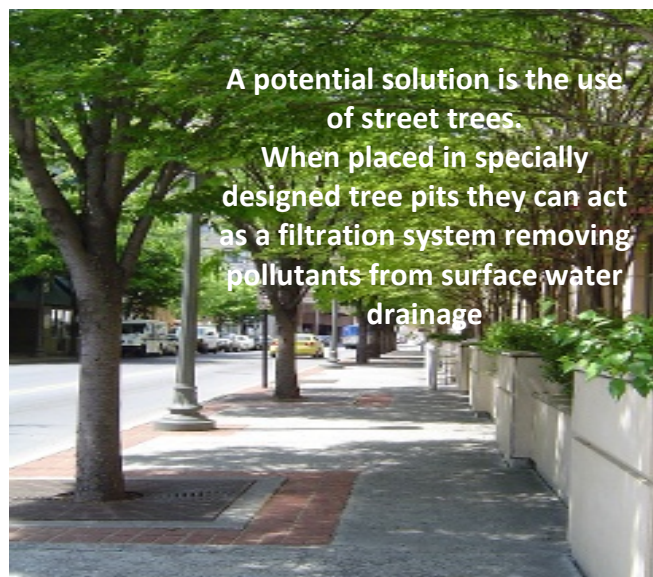
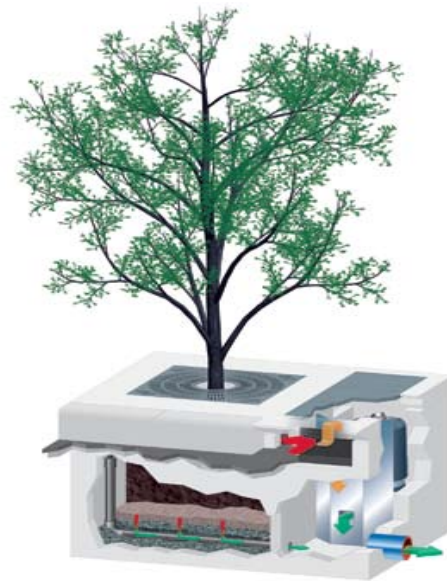
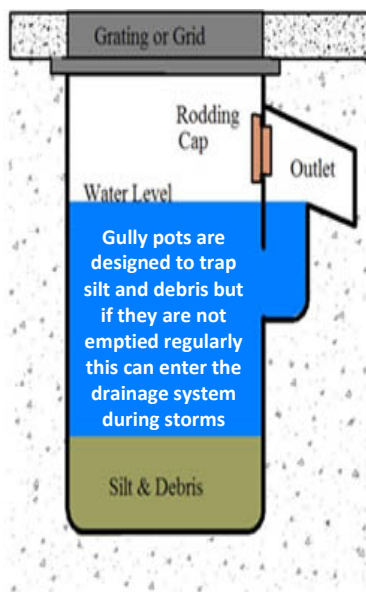
This project has been developed to test the effectiveness of reducing urban diffuse pollution by using specialised roadside tree pits to intercept urban runoff. Proving of this concept would encourage future street tree planting to include bio-filtration features in areas where diffuse urban pollution is a significant cause of WFD failure.

This project also provided a number of important additional ecosystem services and benefits on top of demonstrating the role of street tree bio-filtration pits in reducing urban diffuse pollution. These will include habitat creation, attenuation of surface water to reduce flooding, community engagement, visual enhancement of a deprived area, urban cooling, air quality improvement and human health benefits. The project will include some baseline survey work to enable the Social Return on Investment of the project to be calculated.

Objectives:

- Test the effectiveness of customised street tree pits as bio-filtration systems to tackle diffuse pollution in a UK urban setting and for attenuating surface water run off
- Carry out WQ analyses of inputs and outputs from tree pits
- Monitor flows across impermeable surfaces and through tree pits
- Raise awareness of diffuse pollution and the potential for addressing this problem

Contact: Katherine Causer



Life IP

A 20 million Euro, collaborative project bid has reached the final assessment stages with the European Commission's LIFE funding stream.

The project's vision is to bring together organisations, skills and expertise across the North West to tackle underlying challenges for WFD delivery. By working together we have greater capacity and resources to deliver key environmental outcomes.

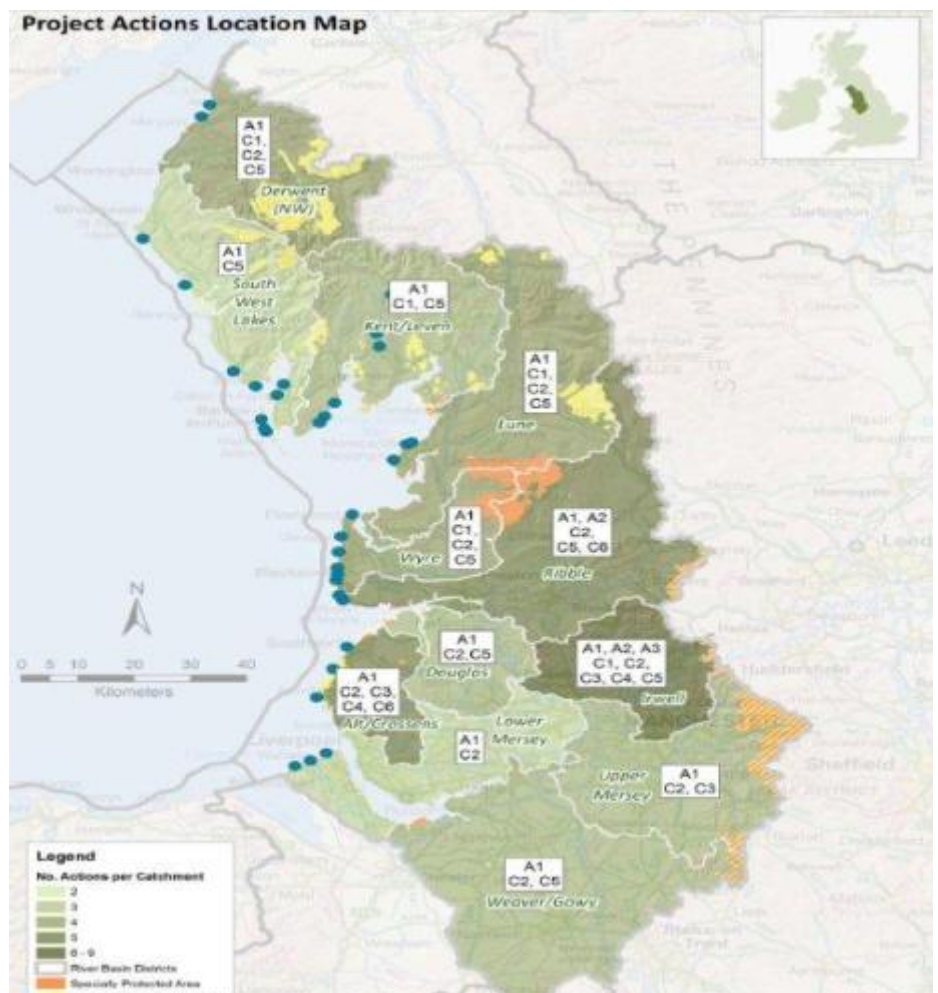
This innovative integrated project (IP) will see designated staff from the Environment Agency, United Utilities, The Rivers Trust, Natural England and AGMA coming together to tackle the issues the challenges of WFD, as well as offering delivery on the ground.

LIFE IP will run over 10 years and together we will deliver environmental outcomes in 2.5 year phases. The funding is based on 40% being provided by the beneficiaries and 60% by the European Commission. If successful, the project will start in October 2015.

Objectives:

- More integrated water environment decision making
- Working together to produce local evidence
- Aligning with investment directed by the River Basin Planning Cycles
- Affordability and technical infeasibility measures
- Describing wider costs and benefits
- The integrated project Area: NW RBD
- Intensive delivery in the Irwell Catchment

Contact: Claire Zaidi



- A1 Develop integrated water management framework
- A2 Review third party knowledge
- A3 Review predictive and certainty tools
- A4 Review water governance
- C1 Redress physical modifications
- C2 Manage pollution from wastewater
- C3 Manage pollution from towns, cities & transport
- C4 Changes to natural flow and levels of water
- C5 Managing pollution from rural areas
- C6 Mobilising funds for multi benefits and ecosystems services
- C7 Supply chain water management and stewardship

Partington Elver Pass

Who: Environment Programme Team with Hydrometry and Telemetry Team

Where: Partington Flow Station, Sinderland Brook/Red Brook, in Greater Manchester.

What: Partington Flow Station is owned by the Environment Agency and is located on the Sinderland Brook, Greater Manchester. It is used to collect flow data and is important for water resources and flood management purposes.

The Eel Regulations (2009) make owners of weirs, which impede eel migration, responsible for the impacts of their structures. The Agency is the Regulator for this and we must ensure that our assets comply with the regulations.

As eels have been identified upstream of the weir we have installed an elver pass onto the weir to ensure returning elvers (young eels) have no barriers to their migration. Adult eels migrate to sea to spawn and the young return to grow and mature in rivers.

The elver pass is a brush lined channel that goes over the weir. It has a flow of water through the channel at times of migration to assist elver passage. Solar panels have been installed to power the water pump.

Benefits: The elver pass has provided a safer less restricted passage to migrating elvers and hence will help to eel and fish habitat and as a result improve eel populations in the catchment. This project was a good example of internal teams working well together.

Next Steps: The pass will be monitored regularly to ensure it is good working order. Monitoring of fish populations will take place upstream to determine if improvements to numbers have been made.

Contact: Jo Ratcliffe



‘The new pass will help elvers migrate upstream’

Wilmslow

Who: Environment Programme Team

What: Construction of a pre barrage weir downstream of the Wilmslow gauging weir, and the installation of a solar powered eel pass.

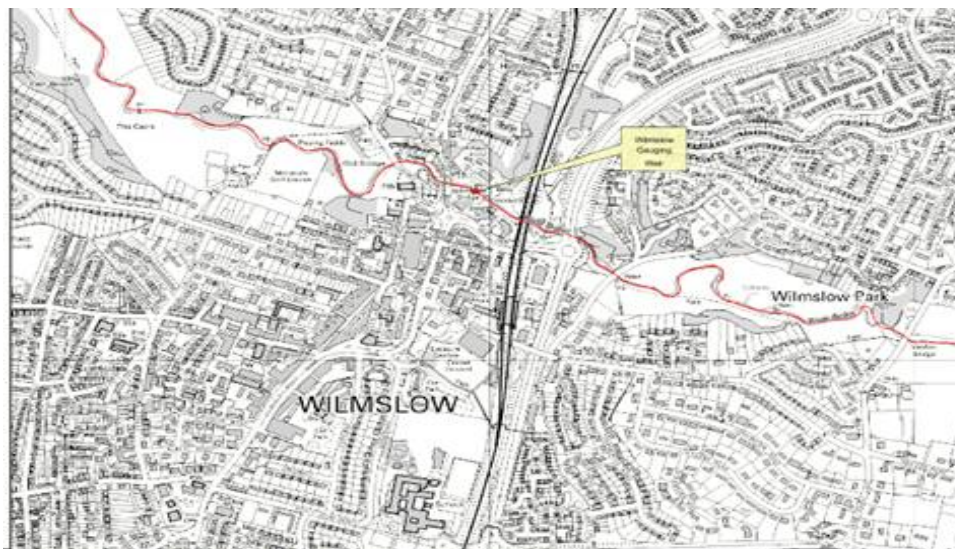
Benefits:

The fish pass will provide free passage for aquatic life within the River Bollin, Wilmslow, supporting the delivery of the Water Framework Directive. The fish pass also supports the Mersey Salmon Recovery programme and ensures that this EA asset is compliant with the Eel Regulations 2009.

The scheme contributes to the achievement of the following KPI's;

- Improvements in non-salmon fisheries and habitats: KPI 650
- Improvements in river habitats: KPI 730
- Progress actions from Biodiversity Plan: KPI 720
- Promote fisheries and provide advice: KPI 660

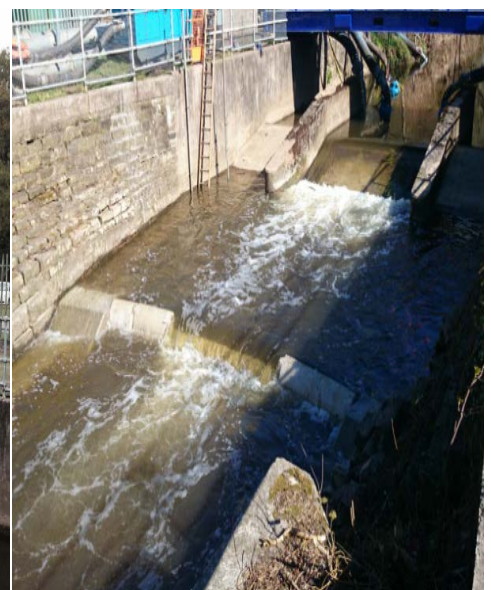
Contact: Lara Smith



The existing gauging weir at Wilmslow



The completed eel ramp



Completed pre-barrage weir

Manley Hall

Title: Manley Hall Gauging Station refurbishment

Location: Weir at Manley Hall on the River Dee, 8k south of Wrexham. On the EA/NRW boundary

Project Objectives:

- Undertake hydrometric improvements to ensure continued accurate flow data can be obtained
- Introduce improvements to comply with the Water Framework Directive
- Repairs to weir crest and wing walls.
- Installations of eel pass.
- New step and slipway access for hydrometry boat access
- Kiosk refurbishment

Did You Know?

The gauging station is critical to the Dee Catchment Abstraction Management Plan and for providing data supporting the Dee flood forecasting model. The gauging station is situated at the EA / NRW boundary. Following the formation of Natural Resources Wales, the assets are retained by the EA but maintained and operated by NRW. Therefore this refurbishment project was jointly funded and delivered through a collaborative project between both parties.

Contact: Andy Brown or Graham Sheppard



Misconnections Improved Urban Waters

Location: Merseyside Wirral Catchments.

Project Objectives:

- To develop a campaign that can be used by Environment Agency and partner organisations aimed at plumbers, builders and DIY installers to educate them about misconnections
- To increase awareness of misconnections in the area around a reoccurring misconnections problem (known as Frankby Ditch) using the developed campaign and the existing material

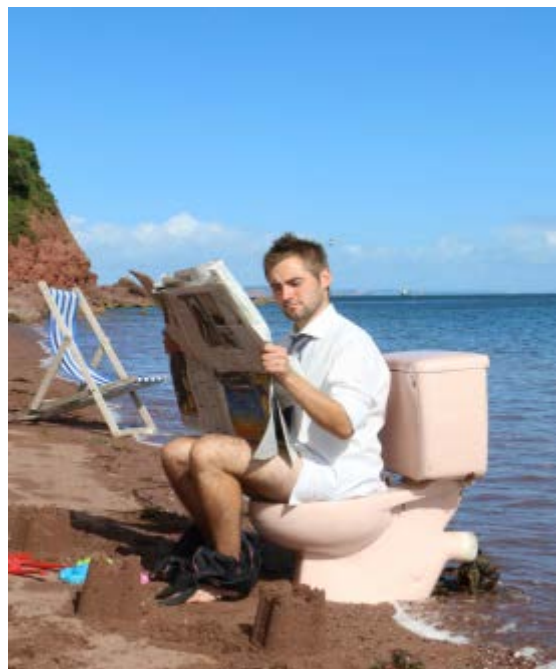
Diffuse pollution from misconnections has been identified as a major source of failures on Water Framework Directive watercourses.

This is a particular issue on the Wirral. A survey of the River Birket showed around 50% of surface water outfalls showed some contamination from misconnections. This watercourse was classed as failing under the Fresh Water Fish Directive and continues to fail on ammonia under WFD. Without tackling the misconnections on the Wirral we will fail to improve this and we will not meet the WFD objectives. In the worst case as these problems increase the watercourse could deteriorate.

We work with United Utilities and the local council to investigate these problems and persuade householders to correct existing misconnections. However once these investigations have completed we find that the problems quickly recur as new extensions and plumbing work is carried out. One catchment (known as Frankby Ditch) has been investigated in every AMP (every 5 years) and we continue to receive complaints, including MP letters, as the problem quickly recurs.

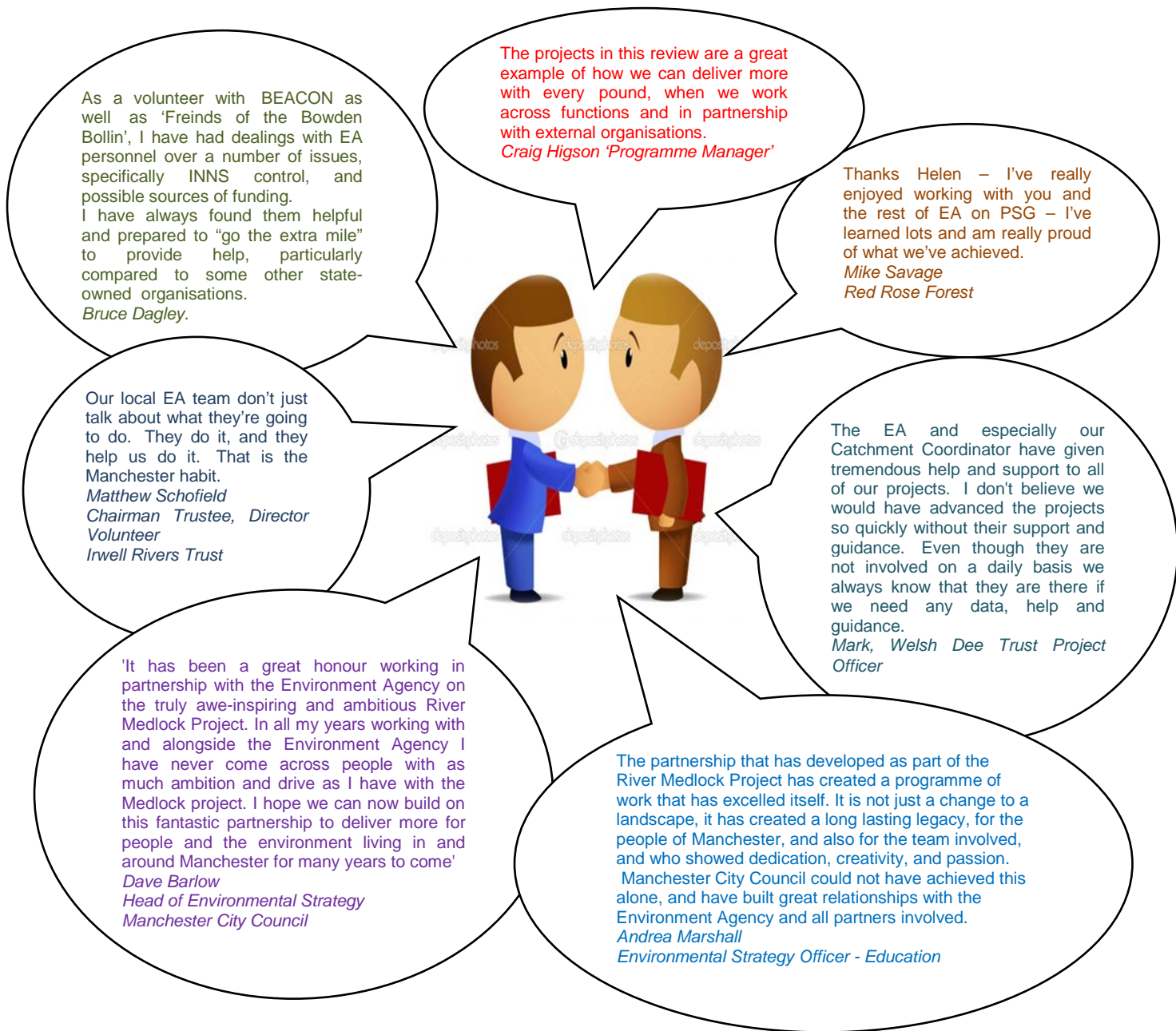
Research in 2009 showed that public understanding of this problem was very low. The connect right and Love My River campaigns have developed campaign material and art work that aims to raise awareness of misconnections and related water quality issues. This can be used to deliver a campaign aimed at householders and members of the public. However the same research showed that most installations were carried out by plumbers and that householder would be likely to ask a local plumber for information if told they had misconnections. It's therefore, vital that we make sure that plumbers are also educated on this issue.

Contact: Kim Everson/Karen Peart



Acknowledgments

Our Environment Programme is based on partnership working, to help us get more outputs for our money. We would like to thank all our partners who have led and participated in our projects



Our Partners

BEACON
United Utilities
Irwell Rivers Trust
Friends of Clayton Vale
NFU

Salford CC
Reaseheath College
Manchester CC
Welsh Water
Natural England

Red Rose Forest
Harvey Hughes
Groundwork
Woodland Trust NRW
Oldham Council

AGMA
Rochdale MBC
Welsh Dee

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