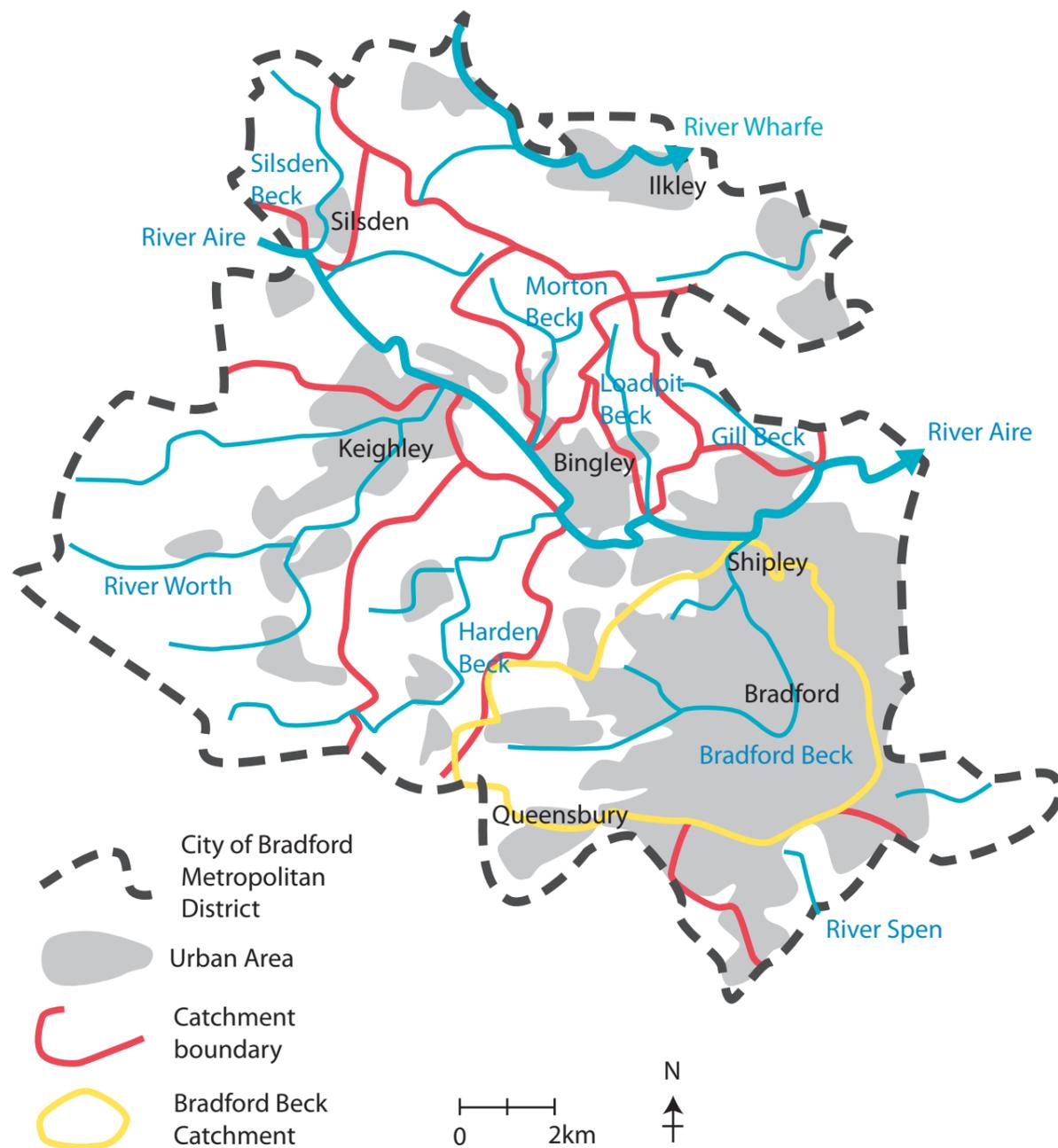


**BRADFORD'S
BECKS** A New
Lease of Life



BRADFORD BECK CATCHMENT AREA

BRADFORD'S BECKS

A PLAN FOR THE 21ST CENTURY

One of the most appealing features of Yorkshire's landscapes is its rivers. The district of Bradford is no exception to this with water everywhere - from springs to becks to the River Aire.

This plan is about managing the catchment of the Bradford Beck and its tributaries, which flow through the City.

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INTRODUCTION

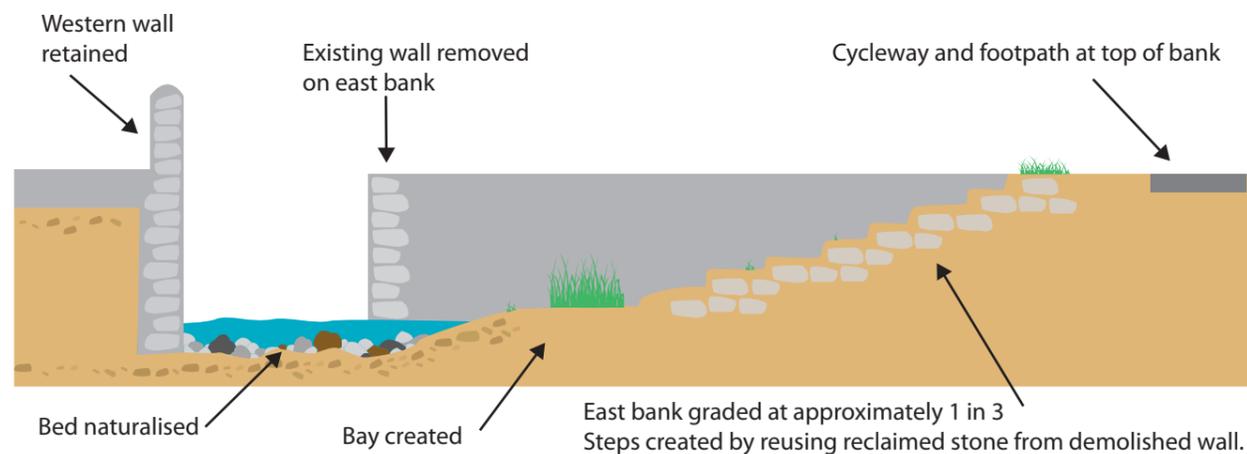
Watercourses have always been important to Bradford but they now need revitalising so that they can play a greater part in place-making and economic regeneration and contribute to Safer, Cleaner, Greener Neighbourhoods.

The Bradford Beck is a small river system of around 11km that flows through the City of Bradford. It starts as a collection of tiny tributaries in the west of the City which coalesce into one waterway which flows eastwards towards the city centre gathering momentum and size. When in the city centre in its underground channel, it takes a northerly turn towards Shipley through the Bradford Valley. The Beck was mistreated during the industrial revolution resulting in a legacy of hidden and culverted sections, a loss of natural banks and issues with substantial water pollution. Significant improvements in water quality occurred over the 20th century, but no significant improvements happened with the physical character of the river. The end result is that the Beck is now classified as 'poor ecological quality' under the Water Framework Directive. This plan represents the opportunity to understand how the Beck might be restored to be an asset the city is proud of and which contributes positively to the future. The schematic diagram below illustrates an example of a partial renaturalisation that could be carried out.

The river was at the centre of life of the small settlement of Bradford for centuries and is where the city derives its 1000+ year old name, the broad 'ford' or crossing over

the Beck. The Beck up until the industrial revolution would have been the idyllic English country stream and was integral to Bradford for powering the corn mills. By 1800 as the wool and textile processing trade became increasingly mechanised the town grew and prospered. As the town mushroomed in size and became wealthier the Beck concomitantly became increasingly neglected and by 1840 was a fetid repository for raw sewage and industrial effluent. By 1870 Bradford had the dubious reputation of being known as England's most polluted town and had become the focus of several public health enquiries.

In order to escape the recurrent flooding problems every decade and the unpleasant polluted state of the Beck the waterway became culverted and eventually disappeared in the city centre, probably before 1900. About 1.5km to the west of the city the Beck enters a covered culvert. This hiding of the Beck became common with its shape becoming increasingly artificial over time. By the early 1970's it was a heavily modified waterway with prominent signs on its banks denoting it as 'contaminated water'. Flytipping and poor riparian management decisions since that time have further scarred the Beck and its tributaries.



Schematic of partial renaturalisation of the Bradford Beck channel



In an attempt to understand how a plan might be shaped to bring a better future to the Beck system the Bradford Beck project was initiated in early 2012.

The Bradford Beck project is one of 25 pilot projects across the UK that have been funded by DEFRA in order to look at new ways of preparing catchment management plans. In order to plan a better future the initiative brought together a wide variety of stakeholders from across the city in early 2012 to create this plan and to align with the strategies of the Environment Agency, Yorkshire Water and Bradford Council. The plan is underpinned by hard data about water quality and the ecology of the Beck system and led by six qualitative visions on how to improve the Beck.

The visions are:

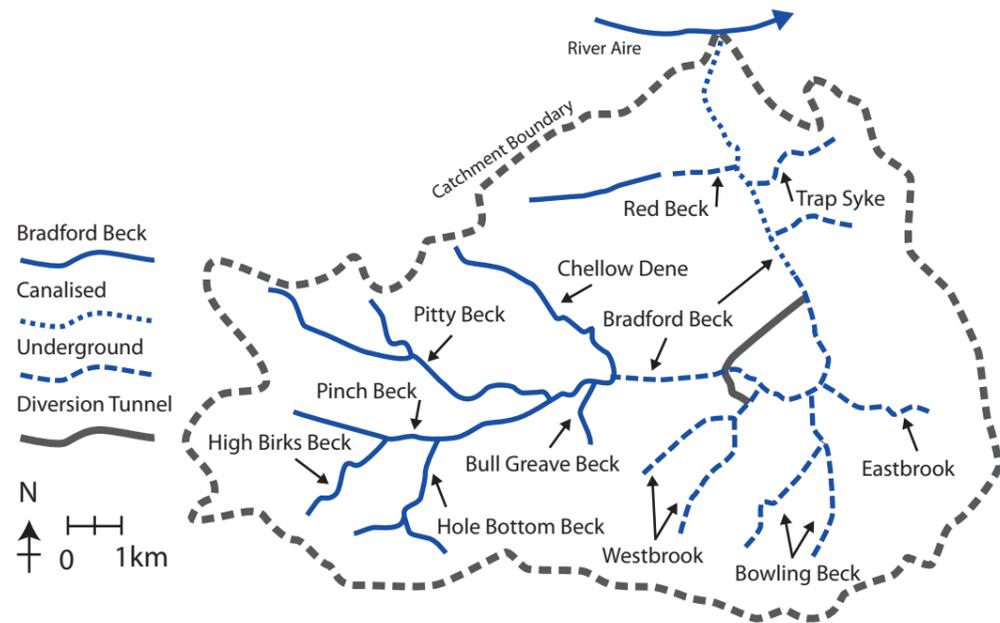
-  clean (i.e. free of pollution)
-  visible
-  accessible
-  thriving
-  cared for becks
-  in a water wise city

These visions came from engaging the people and institutions of Bradford in discussing the Beck and its tributaries as the assets that they are, a system of hidden

treasures, instead of mere drainage problems to be culverted over, diverted, and forgotten about. In the next section of this report, these visions are explained and developed into possible actions. These actions are then built up into a series of activity areas which are some of the first steps to renaturalise and improve the becks and provide an asset that the city can be proud of. They build on past successes with water management in the city such as the City Park, the Flood Relief tunnel and wetland creation, and are designed to support other activities in Bradford which include the City Centre Plan, the Shipley and Canal Road Corridor Area Action Plan, the New Bolton Woods project, the District Flood Risk and water management approaches, and the Environment Agency's River Basin Management Plan.

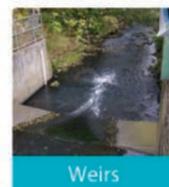
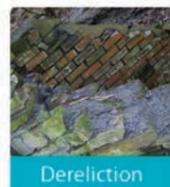
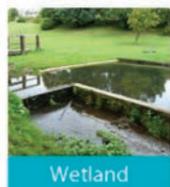
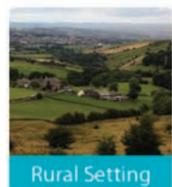
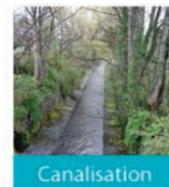
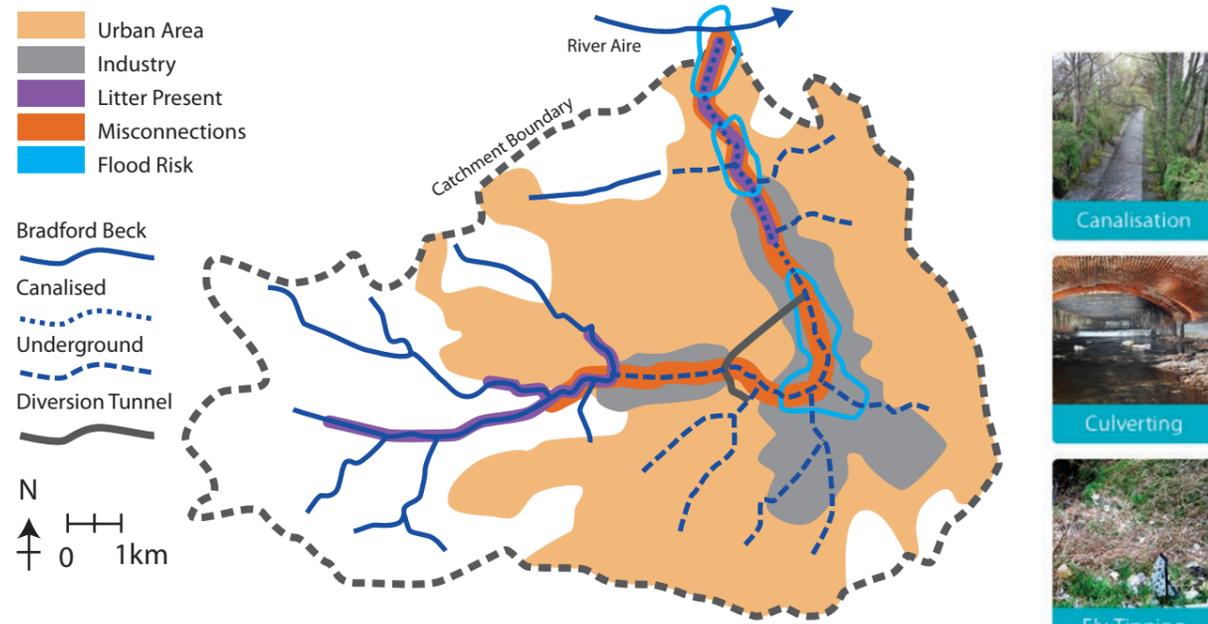
This plan sets out an aspirational trajectory for long-term restoration of the Beck that will provide a new focus of water based socio-economic regeneration in the city of Bradford; one day our grand-children may see a living river flowing through the city centre! We believe it will have many benefits by making a more attractive place, encouraging economic development, improving community cohesion and public health, and encouraging greater biodiversity.

BRADFORD'S BECKS



SCHEMATIC MAP

The Catchment of the Bradford Beck Illustrating some aspects of its character today



WE WANT CLEAN BECKS



WHY?

Clean water and river corridors underpin all our other ambitions for the becks and Bradford. They enable ecosystems to flourish, improve neighbourhoods, reduce flood risk and encourage people to take more care of the environment.

Although the water quality of Bradford's becks has improved over the last two decades, they are still polluted by many sources, including misconnected domestic and industrial sewers, fly tipping, wind and water borne litter, storm discharges from combined sewer overflows, sediment erosion in agricultural areas, and road runoff.

HOW?

- Find and cure misconnections
- Ensure that combined sewer overflows perform correctly
- Raise awareness of the becks with the people of Bradford
- Encourage and support urban and rural riparian owners to care for their becks
- Stop fly tipping
- Conduct regular litter picks
- Maintain existing wetlands in Pitty Beck and Chellow Dene
- Install real-time, on-line monitoring of water quality
- Require water-aware designs in new developments and major redevelopments
- Create a system to observe the becks and report any problems

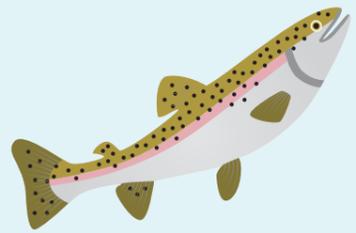
VISION #1

“Our vision is of becks with good water quality that meet European water quality targets and are free from sewage, litter and pollutants”



VISION #2

“Our vision is of Bradford Beck and its tributaries being a visible part of Bradford, raising awareness, enabling contact and helping to develop a bluer, greener city”



WE WANT VISIBLE BECKS



WHY?

From Cemetery Road downstream, the Bradford Beck is culverted and underground, hidden behind walls, or deep in an artificial canyon; Eastbrook, Westbrook, Bowling Beck and Trap Sike are even more hidden.

Rivers that are lost are just drains that cannot be enjoyed or be assets to the city. They have no ecological value, have higher flood risks, and disconnect people from their environment and the consequences of their actions. Plus pollution sources are much harder to find.

HOW?

- Identify the opportunities to deculvert ('daylight') the becks by opening up culverts and canyons
- Act to daylight the becks wherever possible
- Encourage new developments and major redevelopments in the riparian area to be sensitive to views of the becks
- Improve visibility with new footpaths and cycleways
- Mark the courses of the culverted becks with paving, art, panels and glass roofs
- Raise awareness of the becks and become a 'water sensitive city'
- Encourage waterside venues

WE WANT ACCESSIBLE BECKS



WHY?

The becks can become recognisable assets – safe yet stimulating and enjoyable places to visit and spend time, with appropriate and welcoming access. As part of a recognised and cohesive network of walking paths and cycleways linking places for leisure and commuting, they will enhance the social, economic and environmental fabric of Bradford.

Accessible becks will raise ecological consciousness and will enable citizens to monitor and report problems of flood blockages, pollution and litter.

HOW?

- Deculvert ('daylight') wherever possible
- Mark the becks' locations wherever they are underground or under buildings
- Establish rights of way along the courses of the becks
- Ensure that beckside paths are accessible to all users, particularly wheelchairs and buggies, and are safe and secure
- Enable tours of underground sections (with appropriate safety precautions)
- Make the beck corridors ecologically connected and more accessible to wildlife
- Design access for different purposes in appropriate places (e.g. leisure, commuting, nature trails, fishing)
- Provide local signage, interpretation and information about local wildlife and history
- Provide interpretation and information about the becks on the internet

VISION #3

“Our vision is of becks accessible to everyone, linking and involving communities and creating a network of signed and recognisable paths”



VISION #4

“Our vision is of clean vibrant river corridors where wildlife thrives and which provides a safe, positive and happy space for people to live, work and play within a rich ecosystem”



WE WANT THRIVING BECKS



WHY?

Thriving ecosystems have their own biodiversity value. They also provide many services to people and cities: regulating climate, flooding, and carbon flows; providing energy and recreation; purifying water and recycling nutrients.

A high quality ecosystem helps with place-making and encourages high quality economic and residential development in its locality.

HOW?

- Have cleaner becks (improve water quality, prevent pollution incidents, stop littering)
- Renaturalise the becks and their flood plains wherever possible
- Ensure the beck corridors are not ecologically fragmented
- Control significant invasive plants and animals
- Have more focused management of plants in the corridors
- Create cooperative management between the many agencies, owners and interested groups
- Enhance the quality of monitoring and reporting of the becks' condition
- Include the thriving themes in signage and interpretation material

WE WANT CARED-FOR BECKS



WHY?

The Beck and its tributaries are a prime feature and asset of Bradford and their regeneration would uplift the city. The city's aspiration to have “clean, green and safe neighbourhoods” will only be achieved by including care for the becks and their catchments.

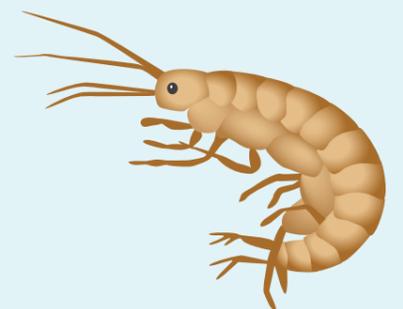
As time goes by, the care and conservation of fresh water resources will become a greater and greater feature of everyday life; starting now will make this easier in the future.

HOW?

- Involve communities in the design and care of their waterways
- Encourage Friends groups to take responsibility for care on policing of their local waterways
- Share data and information about the becks freely and intelligibly between organisations and communities
- Make the watercourses visible and accessible & engage communities in their care
- Encourage and support urban and rural riparian owners to be beck stewards through a water-wise charter
- Seek funds to care for the becks
- Encourage the Council to deliver “institutional place leadership”

VISION #5

“Our vision is of a network of becks which are cared for and understood by all for present and future generations”



VISION #6

“Our vision is of a city that takes its watercourses to its heart and uses them to enhance the life of the district and create a river system it is proud of. A water-wise city understands that water is embedded everywhere in the fabric of the city and is mindful of the value of good custodianship of this valuable resource.”

WE WANT A WATER-WISE CITY



WHY?

All the water in Bradford’s becks comes from the same land that the city occupies, whether it is fields, gardens, houses, roofs or roads. Floods come from the land and city before they flow to the sewers and rivers (and sometimes come back out again to damage the city); likewise pollution and litter come into the rivers from the city and damage the cityscape and environment. A water sensitive city needs less water, has less flooding, causes less pollution, uses less energy and is greener and bluer than its competitors.

HOW?

- Adopt ‘water-wise city’ as a vision for the future and create a ‘water-wise charter’
- Make water more visible everywhere in the city, recreating streams and building wetlands and ponds
- Plan and implement a network of blue-green corridors
- Share data and information about the becks freely and intelligibly between organisations and communities
- Coordinate strategies between the agencies responsible for many aspects of city life which affect the becks
- Help decision-makers recognise the value of beck-centred investments
- Help citizens and businesses understand the links between the city and its becks, develop respect and become self-policing
- Offer educational opportunities to schools on the links between city life and water
- Recognise and work with the ancient cultural and spiritual values associated with water and waterways



ACTIVITY AREAS TO HELP ACHIEVE THE VISIONS

The many actions listed with the visions above have been distilled through public consultation into twelve areas of activity. They are the important steps which will raise awareness of the becks with the public and land-owners, manage the becks and their catchments through cooperation, improve aesthetics, and deal with some of the water quality and ecological problems. Between them, these activities will make major contributions towards achieving the six visions for Bradford’s Becks and at the same time supporting Bradford’s aspirations for economic development and safer, cleaner, greener neighbourhoods.

A summary of the twelve activity areas and how they support the six visions

	Clean becks	Visible becks	Accessible becks	Thriving becks	Cared-for becks	A water-wise city
1. A demonstration of river renaturalisation	✓	✓	✓	✓	✓	✓
2. Addressing water quality issues	✓			✓	✓	✓
3. Friends of Bradford Beck	✓	✓		✓	✓	✓
4. Collaborative catchment management and shared intelligence	✓	✓	✓	✓	✓	✓
5. Encouraging water stewardship by business and riparian owners	✓	✓	✓	✓	✓	✓
6. Signage and interpretation		✓	✓		✓	✓
7. Nature trails and Beck improvement	✓		✓	✓	✓	✓
8. Footpaths and cycle routes	✓		✓			✓
9. Looking after the tributaries and wetlands	✓		✓	✓	✓	✓
10. Schools and educational activities			✓		✓	✓
11. Flood risk management strategy	✓	✓	✓	✓	✓	✓
12. Invasive species control	✓			✓	✓	✓

These activity areas are described in the following pages; the brief descriptions do not attempt to convey their full detail and complexity. They are a framework to be further developed by partnership working between the institutions, businesses, voluntary groups and the public. Some of the areas are large and will lead to multiple projects and last for many years. Others are small and can be developed by volunteers or with limited funding within a year or two. Read on!

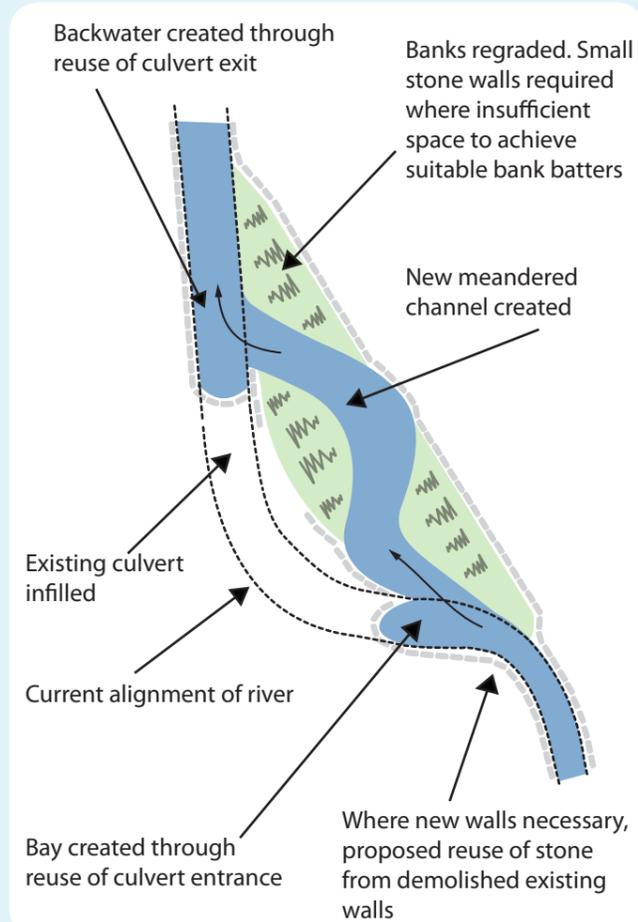
ACTIVITY AREA # 1 A DEMONSTRATION OF RIVER RENATURALISATION

What is it?

A short section of the canalised or culverted Beck in the Shipley and Canal Road would be re-engineered into a more natural river in order to demonstrate the place-making and ecological benefits and set an example for elsewhere in Bradford.

Why is it important?

Natural rivers make for attractive cities and provide a focus for recreation and economic development. Through more natural beds and banks, they improve ecology and biodiversity, including encouraging migratory fish such as trout and salmon. A demonstration project like the adjacent schematic would show what could be achieved elsewhere in Bradford. It would make the beck more visible and accessible and provide an ideal opportunity for community engagement and school activities. Flood capacity could be increased at the same time.



Timescale, cost and sources of finance

A modest demonstration project could be delivered in 3 years or less if the partners are keen and finance is available. The cost would be about £800,000. A location in the Canal Rd corridor would be ideal as there is space and it would link well with the Shipley and Canal Rd Corridor Area Action Plan. Funding may be available from the Catchment Restoration Fund, flood defence funding (if it would reduce flood risk downstream), developers and charitable funds such as the lottery. Further stages would be linked to development activities in the corridor.

Partners

Bradford Council, local landowners, Environment Agency, Aire Rivers Trust, Urbo (a property development and investment company in partnership with Bradford for development of New Bolton Woods).

First steps

1. A scoping study showing possible locations, designs and indicative costs is already available (Appendix 6).
2. Agreement in principle between the partners, creation of a Steering Group, and selection of a lead partner to drive the process forward.
3. Selection of a location in Canal Rd corridor for the demonstration. We recommend either the stretch from Leeds Rd to Briggate, or part of that from Briggate to Poplar Rd.
4. Detailed modelling, design and costing of selected option.
5. Conduct public consultation, refine design, seek planning permission.
6. Construct the renaturalised section of the Bradford Beck!

ACTIVITY AREA # 2 ADDRESSING WATER QUALITY ISSUES

What is it?

A series of activities to improve water quality in the Becks. It will start by understanding pollution sources and identifying the most important ones. A plan to correct these will be developed. It will include a longer term evaluation of the capacity of the sewer system and its interaction with the Becks through storm water discharges in light of climate change and population forecasts for Bradford.

Why is it important?

Bradford's Becks are not a significant risk to health but will not be assets to the city if they continue to be discoloured by pollution, adorned by water-borne litter, have poor ecological quality and be at risk of fish kills. Misconnections and pollution incidents contribute to the poor water quality as shown by the surveys done to prepare this plan; road and other surface runoff may also contribute. The impact on the sewer network of population growth and climate change may cause an increase in CSO discharges to the Becks; an assessment of future capacity will assist planning of investment.



Timescale, cost and sources of finance

A programme of identifying and correcting pollution sources, including misconnections, can be started within a few months although it will take some years to complete. No additional funding is required for this as it is an obligation on the water company for their sewers and on the landowner in other cases. Any larger investment that may be required would be much further into the future after suitable investigations and planning. It would be funded through the Periodic Review (PR) mechanism for water company investments.

Partners

The technically and regulatory aspects of these issues are complex, and partnership working is essential, as recommended in the Water UK/Environment Agency Good Practice Guide Investigation and rectification of drainage misconnections. The key partners are the Environment Agency, Yorkshire Water and Bradford Council. All business, public sector and residential land occupiers will potentially be affected.

First steps

1. The Environment Agency to restart routine monitoring of water quality, preferably with an on-line system so all interested parties can monitor progress.
2. The Environment Agency to recognise that water quality in the Bradford Beck is still "poor" under the Water Framework Directive, and include a requirement for action in the National Environment Programme for PR14.
3. Create a partnership to take action following the Good Practice Guide.
4. Yorkshire Water to propose investment in Drainage Area Planning for Bradford in its business plan for AMP6, potentially leading to investment in AMP7.



What is it?

The Friends of Bradford Beck is a group of individuals who carry out practical work on the Beck system as well as other enthusiasts interested in the restoration of Bradford’s waterways. The proposal is to formalise this group, encourage it to grow and to continue working on and lobbying for projects around the Beck. Activities could include walks, talks, clean-ups, information gathering, monitoring for pollution incidents, and creating educational projects. Other possible actions could be to manage the Water Stewardship Scheme (activity 5), the Signage and Interpretation project (6), collect water quality and ecological data (2), and support other groups (9).

Why is it important?

It maintains continuity, goodwill, community interest and will further develop grassroots support. Secondly, it provides a resource of experienced people. Thirdly, it has proved itself to be effective and makes things happen i.e. clean-ups and science work. And lastly it is part of the localism agenda and this group of Bradfordians as tax-payers and voters want to see improvements of the Beck as part of Bradford’s wider regeneration. The main outcome from it would be the continuation of the high profile of the Beck and the ongoing work that is required to make it an asset to the city. Because of the network and knowledge that it has built up already creating a wider programme of education work in schools, regular clean-ups etc would be easy to achieve.

Timescale, cost and sources of finance

The project would initially have no costs, being organised and run by volunteers and working with existing resources. The Environment Agency, Yorkshire Water and Bradford Council would be asked to contribute in-kind and other practical support to undertake projects such as litter picks. The group would need to obtain funding for any larger projects, perhaps from the National Lottery or similar charitable funds.

Partners

Aire Rivers Trust and the volunteers. All business and residents of Bradford would be invited to join.

First steps

1. Publicise the group, and canvas members about potential activities.
2. Liaise with the Collaborative catchment management activities (4).
3. Design a programme of events and get started!

What is it?

This would create effective governance by arrangements between all the organisations with responsibilities for and influence in the Beck and its catchment. The group would share data, analysis, research and intelligence for better decision making and planning about the watercourses and key issues and opportunities. The group would share data on a common IT platform to make discussion of overlapping interests easier.

Why is it important?

Managing catchments and waterways is complex, with many overlapping interests, organisations, policies and regulations. Projects dealing with one aspect (e.g. flooding) can often, with minor changes, have benefits for other aspects. Cooperation and data-sharing are a powerful way to achieve these ‘win-win’ situations, particularly in such complex situations. Other cities, e.g. Sheffield, have used such cooperative approaches which have led to great improvements in the city in flood risk, urban place-making, economic development, and ecological quality. Such an approach does not replace the formal and regulatory avenues, but supplements them with greater mutual understanding and the creation of shared visions and ambitions. The shared data and intelligence could include:

CBMDC	Flood Strategy, Structures within the Watercourse, Ownership already identified.
	Socio-economic data. Historic site information e.g. old scouring sites, foundries etc.
	Political Boundaries, Open/culverted sections, Development Plans, Highway drainage.
Yorkshire Water	Asset locations e.g. CSO’s, surface water outfalls, SPS.
	CSO predicted spills/ consent info (subject to approval / data sharing protocol).
	Asset performance data.
Environment Agency	Water Quality Information, pollution incident data.
	Sample points and sample data (water quality and ecological).
Aire Rivers Trust	Sample points and sample data, informal observations.

Timescale, cost and sources of finance

The cooperative management arrangement could be set-up very quickly, with time to be devoted to establishing memorandums of understanding in terms of data sharing and collective usage. This would be a very low cost project to instigate with most costs internal to participating organisations. The long term value of the group and its work would be reviewed after 3 years.

First steps

1. Scope, confirm and authorize collaborative catchment

Partners

Yorkshire Water, CBMDC, Environment Agency and other organisations have key data for and insight into proactive catchment management. CBMDC is already harnessing GIS and IT for flood, water, environmental and District management. The Aire Rivers Trust and other partners could progress shared intelligence as a key foundation for enhanced catchment and Beck management.

- management arrangements that shape and support proactive improvements in Bradford Beck.
2. Link the Beck arrangements with the flood, catchment and water management issues and opportunities within the District and with catchment planning for the whole Aire catchment.
3. Develop arrangements between key stakeholders for data sharing, shared intelligence and collaborative systems, including a focus on geographic information systems.



What is it?

Riparian land occupiers and businesses would be encouraged to demonstrate that they were having a positive effect on the Becks. An awards scheme might be appropriate. At a minimum, they would want to show there is no possibility of their premises causing water pollution. Credit would be given for reducing storm runoff (a flood benefit), making more space for water, organising litter picks, creating wetlands or nature reserves, water saving, or other activities. If desired, there could be an annual awards ceremony and dinner. Possible names include Water-wise Charter and Beck Buddy.

Why is it important?

Riparian occupiers and businesses, particularly in the city, are often not aware of their effects on the Becks or of their responsibilities. The activity is designed to reward through publicity those who make an effort to protect and enhance the Becks. It would raise the profile of water problems (pollution, flooding, water saving) within the business community. In the longer term, it could lead to a joint stewardship scheme for the Becks.

Timescale, cost and sources of finance

This would be an ongoing project with little cost if in-kind technical support was made available by Environment Agency and Yorkshire Water, or local environmental consultancies. It could be set up and make its first inspections within a few months.

First steps

1. Discuss and finalise the concept with the business community and other land occupiers such as Bradford Council. If an award scheme is favoured, seek a sponsor.
2. Identify the criteria for inspection in conjunction with technical experts.
3. Launch the scheme with a first round of inspections.

Partners

This activity could be organised by the Aire Rivers Trust (or Friends of Bradford Beck) alone, but would be better in collaboration with the Environment Agency and Yorkshire Water who could provide expertise in inspecting premises and advice on improvements. Other potential partners include the Chamber of Commerce and other business groupings.

What is it?

The idea is to bring the Becks to the attention of Bradfordians. The project would have four components (1) remove the remaining contaminated water signs put up in 1972, (2) design and put up new signs identifying the becks and give some of their history, (3) mark the course of the culverted becks, and (4) develop a website which allows people to interact and contribute to the body of growing knowledge on the beck system.

Why is it important?

This is an easy to achieve project with a relatively modest cost but which would be very important in changing attitudes. It would increase the profile of the Becks and generate more interest in improving them. It would raise water awareness, and encourage more care, less litter and better reporting of problems. The website will provide information to citizens and an educational resource, and enable people to feed their knowledge, stories and photos into a common resource. The project could provide opportunities for a design competition and for voluntary work to place the signs.



Timescale, cost and sources of finance

A website can be created within a couple of months for a nominal cost. Negotiating with landowners, designing, making and placing the signs should be achievable within 12 months. 60 signs would enable most tributaries, bridges, culverts and paths to be marked. The signs would include QR codes for interaction with smartphones. Basic signs (20x20 cm) are about £75 but larger or more interesting signs range up to £500 and beyond. The cost of installation would be variable depending on the location but £12,000 – 15,000 has to be added, so a set of 60 interesting signs could probably be designed, bought and installed for less than £20,000, and even less if volunteers were able to help. The cost of having a salaried officer to direct any activity would be extra if required.

Partners

Bradford Council (Parks and Gardens, Neighbourhood Coordinators), local landowners, Aire Rivers Trust, Friends of Bradford Beck, and possibly local companies to sponsor the activities.

Marking the culverts more distinctively, for example with road paint, would be more complicated and probably expensive and would probably take longer, but could be conducted alongside a "YellowFish" campaign to raise awareness of pollution risks.

First steps

1. Design and build website – within current project.
2. Set up a Steering Group and plan project.
3. Seek funding and support in kind from local businesses.
4. Create a design competition and instigate community consultation about designs and places for signs.
5. Make and install signs.
6. Investigate options to mark culverted reaches.

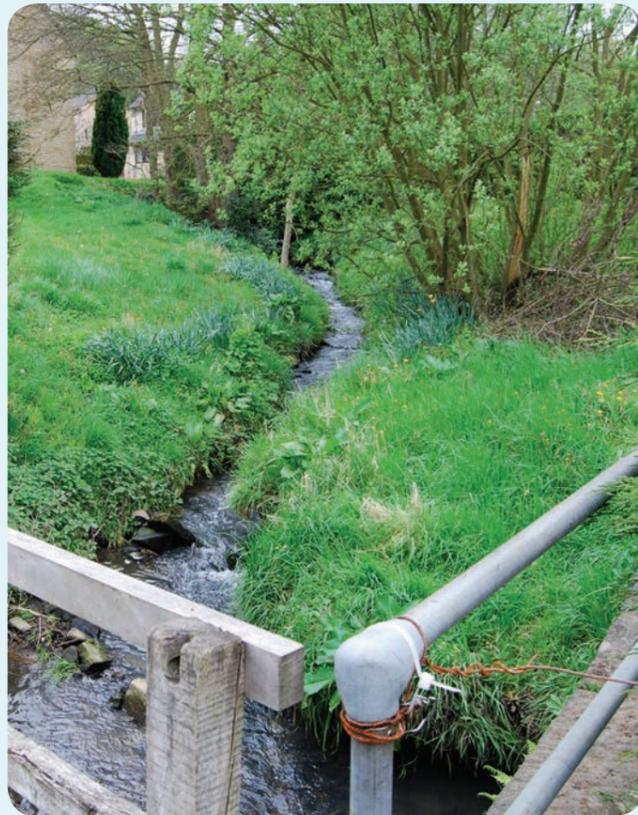
ACTIVITY AREA # 7 NATURE TRAILS AND BECK IMPROVEMENT

What is it?

This would be a city wide Beck and riverbank area improvement and educational initiative with regular litterpicks and clean-ups that covers the areas of all of the tributaries and main Beck. The pilot has already identified Bullgreave Wood as a potential area for trout spawning which could be significantly improved. It would also look at the feasibility of creating specific nature trails linked to the beck around its banks and in the green spaces that hold its tributaries.

Why is it important?

These activities, while modest in scale and cost, could result in many positive outcomes. A feasibility study on the creation of nature trails in and around the beck system would work alongside an anti-litter campaign, which raises awareness and shifts public attitudes towards flytipping and off-road motorcycling by showing their effects on ecosystems as a whole. It would involve local communities in clean-ups and potential planting. An example of community led 'pride of local place'. It would also encourage the Council to experiment with rewilding management techniques for green spaces that the public use recreationally, which provides better habitat for local species and adds water retaining 'roughness' to the landscape. It would provide many opportunities for ecology students at local Universities/HE, as well as providing significant opportunities for local primary/secondary schools in regards their science and citizenship curriculums.



Timescale, cost and sources of finance

An initial 3 year project would consist of the salary of a local coordinator and the funds required for agreed improvements. The sources of finance would likely be the lottery fund and any potential funding from the EA's catchment restoration fund.

Partners

The lead partner would be Yorkshire Wildlife Trust, working with the Forest of Bradford, CBMDC local neighbourhood coordinators and Countryside team, local schools and Aire Rivers Trust.

First steps

1. A public consultation through the local neighbourhood coordinators to understand the enthusiasm for such a project.
2. Strategic assessment and agreement between all stakeholders and a mutually agreed project implementation and review plan, once funding established.

ACTIVITY AREA # 8 FOOTPATHS AND CYCLE ROUTES

What is it?

Potential bike and pedestrian footpaths would be scoped, possibly starting with one in Western Bradford that ran beside the Beck, linking the city with Route 69 on the National Cycle Network.

Why is it important?

A new cycleway and footpath would enable another fantastic piece of transport infrastructure for the city that mirrors the work in the far west by Sustrans on route 69, as well as the anticipated cycle path along Canal Road. It would align with community and transport infrastructure improvement, public health improvement, and have appropriate links to local schools, universities and the national cycle network. Paths provide modern cities with low-carbon transport opportunities and health benefits by the encouragement of cycling and walking. Plus they are very useful spaces for public contemplation of nature, which is documented in the literature for making important contributions to overall wellbeing. This project would help create closer relationships with riparian owners in western Bradford, and would support other potential regeneration opportunities in that part of the city.

Timescale, cost and sources of finance

A feasibility study would take about 12 months. The cost would be £60,000, which would cover the salary for a project officer, project overheads, and resources for local consultations. The funding would be the local sustainable transport fund with potentially matched funding from the national lottery.

To implement the pathway after a successful feasibility study would take around 5 years, although parts could be delivered earlier if there are willing landowners and funds. The project might best be delivered in stages with a timescale allowing for survey work, preliminary designs, consultations and setting up support groups, negotiations with land owners, planning applications, seeking funding, a bridleway creation order process including public inquiry, detailed design and procurement of the works. A 4 km cycle route would cost £1,600,000 excluding design costs, public enquiries, land compensation, road crossings, bridges and any other engineering works. Sustrans list several funding sources for this kind of work: the local sustainable transport fund, DfT safety fund and other aggregates. Local authority contributions will be more difficult to obtain given the current and anticipated future public spending cuts.

Partners

Sustrans would be the lead partner with appropriate contributions from CBMDC and ART, plus core funders.

First steps

1. Bid for funding.
2. After securing funding obtain an agreement between all stakeholders over project milestones and write a strategic assessment and project plan. Create a plan that follows the successes of current Canal Rd link, and how it could link with the Great Northern Route (#69) in the far west of Bradford.
3. Identify the current rights of way.
4. Conduct scoping exercise and consult with public.

ACTIVITY AREA # 9 LOOKING AFTER THE TRIBUTARIES AND WETLANDS

What is it?

To care for the attractive tributaries and wetlands which already exist, including Chellow Dene, Pitty Beck, Heaton Woods and Northcliffe.

Why is it important?

Quality places need care, and help to engage people with their environment. Wetlands help control diffuse pollution, attenuate flows and provide ecological habitats.

Timescale, cost and sources of finance

Most Friends groups rely on volunteers and raise additional funds from charitable sources.

Partners

Friends of Chellow Dene and Pitty Beck, supported by Bradford Council, Environment Agency and Aire Rivers Trust.

First steps

1. Bring together the existing groups to discuss water and catchment management
2. Identify locations where new groups would be beneficial and encourage their formation.
3. Support active 'friends of' groups.

ACTIVITY AREA # 10 SCHOOLS AND EDUCATIONAL ACTIVITIES

What is it?

This is a schools and education initiative with strands specifically designed for primary and secondary schools which covers water science, ecology and rural and urban geography in very practical activities in locations by and around the beck in conjunction with the curriculum.

Why is it important?

It would develop teaching resources for the topics, based on Bradford Beck and riparian corridor. It would aim to raise levels of interest in science and urban geography in Bradford district schools. It would be of particular benefit in framing the principles of wise water use in a practical and real sense by working with young people in practical activities that gets them out on site and involved with work and study opportunities that are appropriate for their age, skillset and knowledge. It would also provide a specific route to engage with the most 'at risk' and disenfranchised/excluded students. It could potentially lead to the construction of areas around the Beck that are safe for children to access.

Timescale, cost and sources of finance

The project would only cost for any consumables used with any staff cost being borne internally by the host organisation.

Partners

ART, Yorkshire Wildlife Trust, Local schools

First steps

1. Identify a champion to initiate and lead activity
2. Find broad agreement between the different partners on the strategy.
3. Find retired teachers who are interested to committing time to this initiative.
4. Draw up different water science portfolios with local primary and secondary schools.

ACTIVITY AREA # 11 FLOOD RISK MANAGEMENT STRATEGY

What is it?

City of Bradford Metropolitan District Council is the Lead Local Flood Authority and has a duty under the Flood and Water Management Act to develop, maintain, apply and monitor a strategy for local flood risk management within the district. It will consider the amounts of runoff in all the catchments in the district under current and future conditions. Although Bradford's responsibilities are focussed on surface water, groundwater and streams, by working with Yorkshire Water Services and the Environment Agency, it will also take account of the capacity of the sewers and larger watercourses to handle this water safely. It will identify what is needed to protect life and property while contributing to wider objectives such as biodiversity. For example it may recommend harvesting rainwater from roofs to reduce the amount of surface water when it is raining, and to make cost savings by reducing the use of potable water for low grade activities such as gully cleaning, ground maintenance and toilet flushing.

Why is it important?

The strategy being developed by Bradford is being aligned with Bradford's corporate policy and will set out how flood risk management will contribute to the achievement of wider environmental objectives and contribute to the economic wellbeing of the district. These objectives include climate change adaptation, biodiversity and a wide range of other issues including coordination with the Water Framework Directive. This means that from the perspective of CBMDC, this (and other) Catchment Management Plans must be coordinated with the local flood risk management strategy. There is synergy between the aims of the flood strategy, the aspirations of the catchment plan, and the ambitions of Bradford. The flood risk strategy is not just concerned with threats and hazards, it is also concerned with opportunities which will improve the environment and the district.

Timescale, cost and sources of finance

Strategy development is an ongoing process which will be reviewed at regular intervals, but the first steps described below will be completed by December 2013. The cost of developing the strategy is covered partly by Government funding, but to a significant degree by the European Regional Development Fund through the North West Europe Interreg IVB project FloodResilienCity.

First steps

1. The first steps have been to develop approaches for the overall process of flood risk management (including approaches to communication and capacity building) and for the scoping and assessment of current and future flood risk, plus the development and implementation of risk treatment measures for high priority problems.
2. There has also been a pre-consultation review with the Environment Agency and YWS.
3. Other activities undertaken have included the development of technical approaches for the assessment of current and future flood risk. These will be used in the scoping study and in detailed investigations to follow.
4. The next step will be to seek political support within CBMDC and to complete the scoping study that will lead to the prioritisation of future activities.

Partners

CBMDC (relevant departments), Environment Agency, Yorkshire Water Services Ltd (YWS), other flood management authorities and stakeholders (e.g. ART) as appropriate, University of Sheffield.



What is it?

This project would map and remove the big 3 invasive plant species i.e. Himalayan Balsam, Giant Hogweed and Japanese Knotweed. It would find the vector/originator plants and deal with them, as well as train property owners on invasive species control.

Why is it important?

One of the main benefits of the project would be in creating increased land owner understanding of their legal responsibilities towards invasive plants. The project holds the possibility of job creation, where training courses are set up for owners to learn how to control the invasives on their own properties, and where apprentices in land management can gain work experience. Another benefit would be that the increased removal of invasive plant species (as in schedule 9 of the 1981 Wildlife and Countryside Act) would likely lead to a subsequent improvement of local biodiversity, in particular by carrying out small scale planting of appropriate native species.

Timescale, cost and sources of finance

The project would be a 1 year pilot and would cost the salary of one coordinator and the cost of appropriate consumables – hence in the region of £70,000. The sources of finance would be the lottery and other charitable funds directed towards biodiversity improvement.

First steps

1. Link to wider regional invasive species control projects.
2. Find broad agreement between the different partners on the strategy and project plan.
3. A thorough mapping of the Beck in regards its invasive species utilising the distribution information held by the Council and Yorkshire Wildlife Trust.
4. Organise training sessions for new operatives and volunteers to do the work i.e. spraying and other removal.

Partners

The lead partner would be the Yorkshire Wildlife Trust, while also having close ties with ART, CBMDC, Natural England and the Environment Agency.

SUMMARY

The idea behind this plan is that there is a virtuous circle by which better becks contribute to a better Bradford which in turn contributes to better becks; both benefit the wider environment and society.

Our consultations have found six visions and twelve areas of activity which would help to deliver this virtuous circle. Cared-for becks in a water-wise city are clean, visible, accessible and ecologically thriving. All of these lead to more resilience of the ecosystem and the city, with less water use, less pollution, lower flood risk, a tighter social fabric and a stronger economy.



A good quality water environment is well known to help place-making, creating economic development and social cohesion and well being. A good local example is the new City Park, and there have been discussions over the years of recreating the canal from Shipley to the city centre. Focussing on restoring the Beck instead of the canal would cost less and deliver more; it would take less land and give a living river – a multifunctional asset for Bradford and the environment.

THE WAY FORWARD

The best way to implement the projects and achieve the visions is through cooperation between all those with interest and responsibilities for the city and its water environment. We recommend that this Catchment Management Plan with its visions, ambitions and collaborative activities is considered and noted by the key institutions and interested parties and that they commit to work together to take its principles forward.

Aire Rivers Trust

In the short term, the Aire Rivers Trust will:

- Create a Friends of Bradford Beck group and take at least one practical project forward during 2013.
- Set up a website of information and interpretation about Bradford's Becks.
- Forward the plan to each of the major institutions (City of Bradford Metropolitan District Council, Environment Agency and Yorkshire Water) in the terms noted below.
- Organise a joint launch and appropriate publicity for the plan with key partners and volunteers.

City of Bradford Metropolitan District Council

The Aire Rivers Trust recommends that officers and elected members accept the plan, particularly noting the opportunities provided by the links with current activities:

- The District 2020 Vision and Community Strategy
- The City Centre Plan
- Shipley and Canal Road Corridor Area Action Plan
- The Flood Risk Management Strategy
- Area and Ward plans and activities including 'Safer, Cleaner, Greener Neighbourhoods'

And that CBMDC supports Collaborative Catchment Management by inviting Yorkshire Water, the Environment Agency and other groups to work together to achieve the visions set out in the plan.

Environment Agency

The Aire Rivers Trust recommends that the Environment Agency adopts the plan as a contribution to the River Basin Planning activities, supports Collaborative Catchment Management and uses its best endeavours to assist in achieving the visions set out in the plan. This would include working with Yorkshire Water and others on a water quality improvement programme and other activities.

Yorkshire Water

The Aire Rivers Trust recommends that Yorkshire Water (or its parent company Kelda) adopts the plan as contributing to its ambition of "Taking responsibility for the water environment for good" and its strategic business objective of "excellent catchments, rivers and coasts", supports Collaborative Catchment Management and looks for opportunities to make investments and in-kind contributions to assist in achieving the visions set out in the plan.

Other groups

Other groups such as Yorkshire Wildlife Trust, the Forest of Bradford, the Urban Wildlife Group, Bradford Friends of the Earth, Bradford Environmental Action Trust, Bradford Environmental Education Services, and Friends groups such as Northcliffe, Heaton Woods, Chellow Dene are invited to support the Catchment Management Plan and help to implement it. We want to encourage as wide a participation in the process as possible and would encourage all community groups from across Bradford to join the process.

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This document was prepared by David (Barney) Lerner and Michael Canning of the Aire Rivers Trust.

Photographs

Page 5: Flooding picture courtesy of the Telegraph and Argus, Bradford www.telegraphandargus.co.uk

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Design

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Appendices

1. Bradford Beck – A history
2. Water Quality in the Bradford Beck and tributaries
3. Water Framework Directive Advisory Visit - Bradford Beck (fish habitats)
4. Bradford Beck Business/Riparian owners survey
5. Case studies of urban river restoration and deculverting
6. Bradford Beck River Restoration (4 documents)
7. Bradford Beck Ecology Assessment

