



Trout in the Town Urban River Toolkit

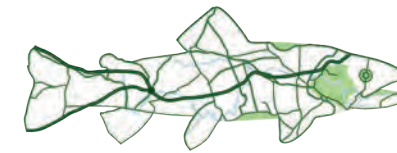
Inspiration and guidance for
mending your urban river



By Theo Pike & Dr Paul Gaskell



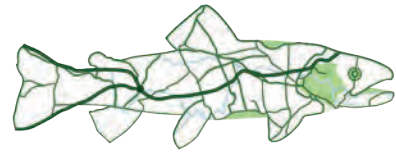
WILD TROUT
TRUST



Trout in the Town

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Trout in the Town

1

Introduction

Everyone feels an instinctive connection with running water, and most of our towns and cities were built where they are because of streams and rivers. Trout in the Town is all about reconnecting today's urban dwellers with these life-giving waterways

By some calculations, more than 90% of the UK's population will be living in urban areas by 2030, and it's already well established that rivers and green spaces have a hugely positive effect on people's health and happiness. So, it's great to know that many of Britain's urban rivers are now the cleanest they've been for the last 100 years.

The decline of heavy industry on the banks of many 'post-industrial' waterways has been matched by long-term investment in sewage treatment works, leading to a general, gradual improvement in water quality, and the health of the fish, birds and insects living in and around them.

Today, despite the wide range of challenges still facing urban rivers, many city streams are capable of supporting amazing populations of wild fish including trout, salmon, grayling, chub and dace – all unthinkable in our recent industrial past. Among these fish, trout are recognised as iconic because they need clean water, high quality habitat,

and a diverse ecosystem around them. If trout are doing well in your local river, all the other species will be doing well too. But they are under threat. The gains we've made in recent decades are fragile.

Urban rivers and their fish still live in the constant shadow of pollution from surface water drainage, fly-tipping and sewage treatment accidents. Additionally, habitat in and around our towns' and cities' waterways is under constant pressure from encroaching urban development which has already left many of them encased in concrete banks, or even completely culverted in underground pipes.

Changes in climatic patterns that we are already experiencing will amplify these threats and risks. Drought conditions concentrate toxic chemicals (due to lack of dilution) and extreme rainfall causes massive inputs of pollutants into watercourses. High summer temperatures combined with low flows are a direct stress to specialist cold-water species such as trout.



The River Wandle in south London, where the idea of Trout in the Town was born

(C) SOUTH EAST RIVERS TRUST



Most of the material in this Toolkit has been based on experience gained from working on urban rivers and their surroundings in the UK.

Outside the UK, there will certainly be differences in laws and paperwork, so you should always check your local rules and regulations first.

But the same broad principles apply all over the world - in fact, anywhere that local communities are looking for ways to improve their urban rivers, and make them better places for people and wildlife to share.

Wherever you live, from Salzburg to San Francisco, there's almost certain to be an urban river nearby that needs your help. Why not let this Toolkit inspire you to start taking action today?

This Urban River Toolkit was created by the Wild Trout Trust, which has been fighting for native trout in Britain and Ireland since 1998; see and support our work here: www.wildtrout.org

Or fellow wild trout champions of the North American continent created Trout Unlimited (TU) in 1959. Resources, campaigns and opportunities to support TU can be found here: <https://www.tu.org> (USA) and <https://tucanada.org> (Canada).

Even where those conditions don't directly exterminate temperature-sensitive species, they can make existing stresses much worse. Urban trout and urban trout streams are in the firing line - and there is a real risk of returning to the 'bad old days' for the waterways of our towns and cities.

Under these circumstances, there's huge scope for local people to start taking pride in the urban rivers on their doorsteps. And that's where the Wild Trout Trust's Trout in the Town project - and this Toolkit - come in.

Read on to be inspired by all the ways you can start looking after your own local urban river, and improving it for trout and lots of other species too...

How to use this toolkit

This Toolkit - and the Trout in the Town project as a whole - has been created to help people look after their local urban river.

Urban rivers face a multitude of challenges - from pollution events that create negative headlines, to limited access, uncertain riparian ownership, and perception of poor quality habitat and pollution due to fly-tipping.

All these factors can add up to rivers that have been abandoned, even in the heart of our towns and cities. For many urban rivers, protecting and restoring them is as much about informing and

Why restore urban rivers?

If you're reading this Toolkit, you may already understand the importance of restoring urban rivers. But if you need any more reasons, or you'd like some extra help to convince other people, here's a wide range of benefits noticed by urban river menders in recent years:

- ✦ Rebuilding a sense of community: restoring urban rivers can get neighbours talking and collaborating with each other, and give them a real sense of pride, ownership and responsibility for their local patch
- ✦ Education: creating 'outdoor classrooms' and study opportunities for schools, colleges and universities
- ✦ Reducing pollution for the benefit of local people, and everyone living downstream
- ✦ Bringing plants, insects, fish, birds and animals back into urban environments
- ✦ Developing public access in areas which might have been regarded as dangerous or inaccessible, including footpaths, nature trails and pocket parks
- ✦ Making the local environment more resilient to the future effects of climate change
- ✦ Restoring local identity by preserving historical and heritage resources
- ✦ Urban regeneration: increasing property values by making riverside areas more desirable to live
- ✦ Improving the quality of life for local residents
- ✦ Social and recreational benefits: fishing, 'green gyms', cultural heritage and volunteering opportunities





(C) CATCH

“We are now managing the shade / light ratios on this town stretch and have gained experience in continuing the task in areas where it is required. The feedback from local residents and very importantly our kick sample results are all good... Without WTT and its guidance from the start, I can categorically say we would not be enjoying the successful stage that the group is now and more importantly the impact that our community and wildlife is benefitting from”.

Gary Hunt, CATCH (Community Action to Transform Cale Habitat)

supporting local communities to become custodians as it is about physical restoration.

For this reason, much of this guidance focuses on community engagement, education and organisational advice. In the USA, organisations like Coalition to Restore Urban Waters (CRUW) have provided some valuable case studies, and practical guides have been published, taking US federal legislation and other socio-economic and governmental factors into account.

By contrast, there’s still very little guidance of this nature in the UK, so this Toolkit has been designed to fill that gap. Its first iteration, published in December 2010 as the Wild Trout Trust’s ‘Urban River Restoration Guidelines’, grew out of Paul Gaskell’s experience gained from working with Trout in the Town chapters between 2008 and 2010.

The Trout in the Town approach is designed to promote reach-scale custodianship by local communities, with the capacity to campaign for and influence natural processes that affect the whole river catchment - so this Toolkit now aims to update the WTT’s original guidelines after several years of new experience (including Theo Pike’s special insights from developing the UK’s first and longest-running Trout in the Town group, the Wandle Trust). Some of it will also be relevant to groups or fishing clubs which want to improve more rural stretches of river - for instance, using our guidance on running successful cleanups and other events.

All types of river are found in urban settings, including chalkstreams and other spring-fed watercourses as well as spate rivers with their variable flows. So techniques appropriate to each fundamental river type can very often be successfully adopted (perhaps with minimal modifications) from existing practical restoration manuals.

This means that the Toolkit can be used in conjunction with the Wild Trout Trust’s other



Fly-tipping around urban rivers leads to the perception that they’re polluted and dangerous, even when water quality is good

publications, including our 'Wild Trout Survival Guide', 'Chalkstream Habitat Manual', and 'Upland Rivers Manual'. It can also be used alongside other valuable publications like the River Restoration Centre's 'Manual of River Restoration Techniques' and the Grayling Society's 'European Grayling Conservation, Ecology and Management: A Practical Conservation Guide for the United Kingdom'.

Throughout the Wild Trout Trust's own manuals, we've been guided by the principle of identifying core issues and addressing them at source. In the case of this Urban River Toolkit, we've also included working with local communities around the river, since they're often just as important for the river's health as many more traditional factors.

Each section of this Toolkit is titled and numbered for ease of cross-reference. In digital versions, you can also navigate straight to it by clicking on the section title on the contents page.

Please feel free to contact the Wild Trout Trust at any time for advice on your own specific circumstances, as well as guidance on putting the theory into practice.



Brue CREW volunteers building rock berms in Bruton

Acknowledgments

The first iteration of this Toolkit was published in 2010 as the 'Urban River Restoration Guidelines' with support from the Esmée Fairbairn Foundation.

This new, updated edition has been supported by the Environment Agency, to continue fostering custodianship of our urban rivers, and their help is very gratefully acknowledged.

The Wild Trout Trust would like to thank the following Trout in the Town people and partners:

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★ Simon Hirst (River Holme Connections)

★ Paul Kenyon, Sara Clowes and Helen Dix (Douglas Catchment Partnership)

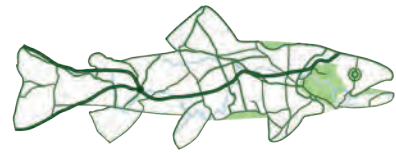
★ Phil Slater (Friends of the Dearne)

★ Sam Thorn, Jan Stratford and Simon Ogden (Sheffield City Council)

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This document was written by Theo Pike and Paul Gaskell. Design and production were undertaken by Rebecca Hawtrey, and the Trout in the Town logo was designed by Bruno Vincent.



Trout in the Town

2

How to help your urban river

Taking time to understand your river's history, ecology and its place in the wider landscape will pay huge dividends in the future. This section of the toolkit suggests some ways for you to get started

2.1 Understanding your urban river

When you're thinking about adopting and looking after a stretch of urban river, it's essential to understand everything that's having an effect on it. This includes finding out where the water comes from, and how healthy your river is to start with.

Getting a good grasp of these facts will help you in the long term, especially if your river is already quite healthy. It's very difficult to predict when a problem might arise, but being able to prove the seriousness of any damage may also be invaluable.

Later in your project, you'll also want to know how successful your river restoration work has been, and if more work is needed.

As well as exploring your river's corridor, it's important to find out how members of local communities benefit from participating in, or simply having their local environment improved by, projects like Trout in the Town.

And maybe best of all, if you have a good understanding of your river, and all its flora and fauna, you'll be able to use all this knowledge to tell its story more effectively, as a way of inspiring wider support.

2.1.1 Taking a Catchment Based Approach

There's a saying that 'we all live downstream'. Everything - good and bad - that happens further up the river eventually affects everything lower



Everything that happens to the river in your town will affect it far downstream

down the catchment, and many of these impacts are amplified when they apply to the large numbers of people who live around urban rivers.

Since 2013, the Catchment Based Approach has formed the basis of river across England and cross-border with Wales, both from government and from local Rivers Trusts – river-focused environmental charities which now cover the whole country.

If you're thinking about a river-based project, one of the first things to do is talk to your local Rivers Trust about ways they can help and support you. But you'll benefit from researching your river's catchment for yourself too, using Ordnance Survey maps as well as mapping software like Google Maps, and reading any books you can find about local history. Even

searching for old postcards on eBay can reveal fascinating details about your river's past life.

All the farming, forestry and other forms of rural and urban land management upstream of your town will be having an effect on your river. And, in turn, everything that happens to the river in your town will also influence the river as it flows further downstream.

If you can actually walk your river's catchment, so much the better. With your boots on the ground, you'll get an excellent feel for what's happening in and around the river, and it won't take long before you're feeling inspired by lots of ideas to improve it – not just locally, but on a whole-catchment scale.

Find out about the Catchment Based Approach at: <http://www.catchmentbasedapproach.org/>

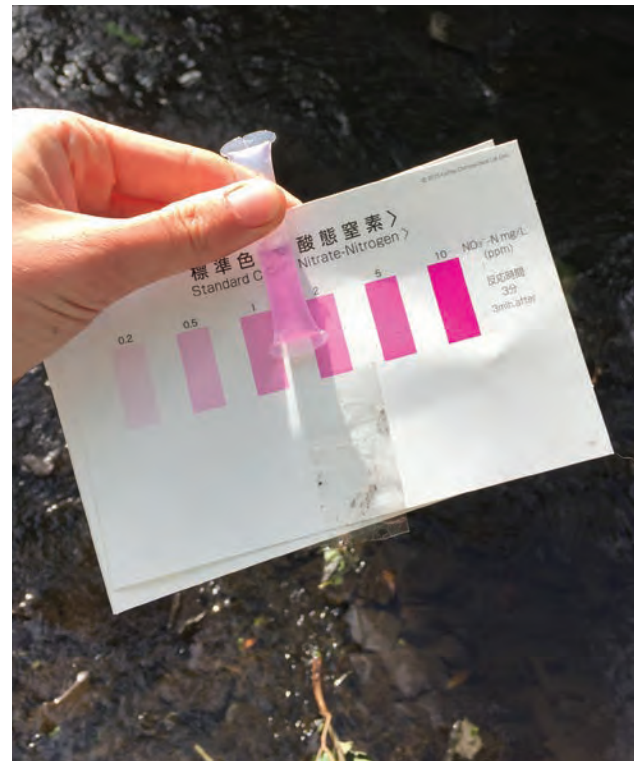
2.1.2 Official water quality data

Good water quality and quantity are vital for any river, so there are some basic datasets that are well worth digging into at the start of your project.

If there are any sewage works discharging into your river, these licensed discharges should have water quality consent values (the chemical quality of effluent that must be complied with).

In England and Wales, your local Environment Agency or Natural Resources Wales office will hold a public register of discharge consents, as well as records of actual effluent quality, which are measured during routine monitoring.

In Scotland, such public records are held by the Scottish Environment Protection Agency (SEPA) and can be inspected free of charge by any member of the public. In Northern Ireland it is the Northern Ireland Environment Agency (NIEA) and their Water Management Unit (WMU) which hold these records, whilst the Environmental Protection Agency (EPA) performs this role in the Republic



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of Ireland. All these agencies will also hold details of abstraction licences from surface watercourses.

Both water quality consent values for licensed discharges and the records of actual effluent quality that are measured during routine monitoring are publicly available. Don't be discouraged if it seems to take a very long time to obtain such records: persistence is the key, as well as knowing your rights.

In areas of the UK covered by Salmon & Trout Conservation UK (S&TCUK), local and national officers receive notifications of new applications and variations to existing consent values for both discharge and abstraction. If you contact your local S&TC representatives (<http://www.salmon-trout.org/branches.asp>) they should be able to put you in contact with the right Water Resources Officer for your location.

Both the S&TCUK and WTT should be able to help you to interpret these facts and figures. However, broadly speaking, measured discharge values for each chemical should be lower than maximum consented values: for example, the maximum permitted Biochemical Oxygen Demand (BOD) may be set at a value of 50 mg/l (i.e. 50 milligrams per litre of water), which means that any published results for BOD that are greater than 50 mg/l can be highlighted and challenged. For these purposes, you don't need to know exactly what every individual chemical actually is – all you need to know is whether what is coming out of the pipe is at a lower concentration than its maximum consented limit. At the same time, it's worth remembering that routine monitoring isn't continuous, so it will only capture data from each particular moment in time when a sample is taken, and may not pick up transient episodes which exceed consented values.

If you discover any breaches to the legally defined consents, you should bring them to the attention of the EA, NRW, SEPA, NIEA or IEA. In the UK, you could also think about bringing a prosecution through Fish Legal (<http://www.fishlegal.net/default.asp>) if any fishing rights have been affected.



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Citizen science: colorimetric data from simple water quality tests can be used to identify issues which require more robust analysis for engaging with water companies and statutory agencies

If your prosecution is successful, and damages or an Enforcement Undertaking are awarded, please don't automatically campaign for funds to be spent on fish stocking.

Instead, assess the physical and chemical habitat bottlenecks in your river, and lobby for funds to be directed to solving the environmental problems before even thinking about fish stocking. There is no point in putting fish into degraded habitat – they will either die or migrate out of the area.

2.1.3 Citizen science: Monitoring and data collection

Getting your urban river group into the habit of collecting data and monitoring the effect of your work will be incredibly valuable for the future. If good monitoring practices are adopted they will provide guidance on what a project has achieved and help you to reassure current funders that their money is being well spent. That should make future funding easier to secure.

This monitoring doesn't have to be hugely onerous, and it can be tailored to the resources that each

particular project has available. To help community groups along the right path, the Trout in the Town Monitoring Strategy has been developed as a tool for assessing both biological and sociological factors.

Additionally, in partnership with the SUBSTANCE research co-operative, we've developed a template for capturing the sociological benefits of the Trout in the Town project. Questionnaires are tailored to capture the benefits to participants and local residents as well as delivery partners and their institutions.

Just like all our resources, both of these tools are free, and are available as Appendices 7 and 8 at the end of this Toolkit.

The great thing about applying this strategy is that it encourages creativity in the ways that project aims are achieved. In order to get a good handle on the current ecological status of a river, there are many options that can be pursued (even without expensive, professional consultants). For instance, the presence and relative abundance of fish, aquatic invertebrates and a wide variety of bankside flora and fauna can be assessed by mixing and matching sources of data described in the panel below.

DATA FOR ASSESSING THE ECOLOGICAL STATUS OF YOUR RIVER		
<ul style="list-style-type: none"> ★ Data from anglers' catch returns: recording species and size of fish per hour of effort, either routinely for each fishing session, or from a friendly competition that could be held on a regular or annual basis ★ Data from riverfly monitoring (see section 2.1.4 of this Toolkit) ★ Data from Outfall 	<ul style="list-style-type: none"> Safaris and similar projects to identify misconceptions and accurately target water quality improvements (see section 2.1.6) ★ Data gathered by volunteers after attending invertebrate and plant identification courses run by the Freshwater Biological Association ★ Data from other local wildlife and Friends groups: 	<ul style="list-style-type: none"> getting lots of people to walk the banks can quickly assess the extent of invasive non-native plants ★ Pre-existing survey and monitoring data from your local River Trust and Wildlife Trust, plus resources like the 'River Obstacles' app ★ Specialist ecological surveys from specialist contractors (if funding is available)



Figure 2b



Figure 2c



Figure 2a

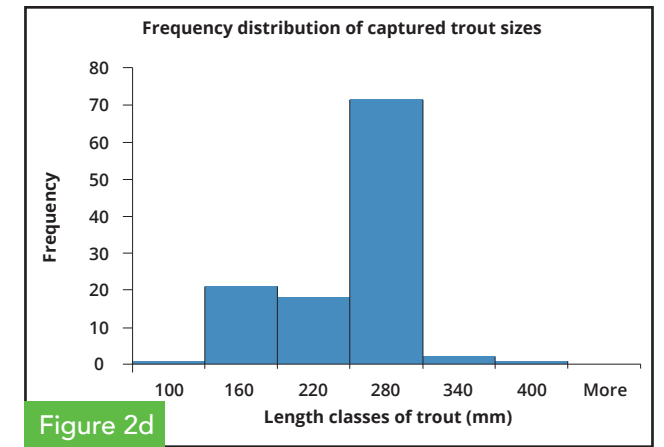


Figure 2d

The WTT and other expert bodies will be able to advise on how to collect and record biological monitoring data, as well as help with interpreting the resulting information. For instance, as mentioned above, our template for sociological surveys, developed with SUBSTANCE, is expressly designed to yield clear, simple and easily interpreted responses.

Finally, when you're designing a project, remember that it's crucially important to identify and set appropriate and specific goals. Once the goals are clear, it should become obvious where to focus your assessment efforts in order to judge success. This way, you won't just know what to do, you'll know why it should be done, and then you can be creative or seek advice on how to measure it.

For example, the members of Lancashire's Colne Water Trout in the Town chapter wanted to encourage scour pool formation to provide habitat for adult fish. To assess the success of physical

structures in promoting stream bed scour, members of the angling club obtained pre- and post-depth measurements at three cross sections of the river. In this way, the action of the flow deflectors in scouring out pools and creating gravel ramps was tracked through time, all for the cost of some string, a few pegs and a tape measure.

Figure 2a (above) shows WTT staff helping to train Colne Water Trout in the Town volunteers in simple stream cross-section depth measurements. Pegs are permanently sited at each cross section, and twine can be attached each time measurements are taken. The distance from the twine to the stream bed is measured at 30cm intervals along the twine.

Figures 2b, 2c and 2d (above) show wild trout caught, measured and returned during an enjoyable urban flyfishing competition with results used to plot biological data which could be supplied to databases such as the Biological Records Centre.



Riverfly monitoring can be an effective way to engage the whole community

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2.1.4 Riverfly Monitoring

The aquatic invertebrates which live in a river can tell us a great deal about its water quality. These insects include mayflies, stoneflies, caddis flies (sedges) and freshwater shrimp.

All these aquatic invertebrates live in the water for most of their lives, and their sensitivity to different kinds of pollution makes them an excellent proxy source of information about what kinds of pollutants may be coming downstream without registering in occasional water samples.

The Anglers' Riverfly Monitoring Initiative is a national citizen science scheme which was set up in 2007 by the Riverfly Partnership, as a way of helping local people to monitor the health of their rivers. The scheme now has more than 2,000 trained volunteers collecting much-needed long-term data at 1,500 sites across the UK. It has led to successful prosecutions

of polluters, notably on the River Rhymney in Wales, and the River Wandle in south London.

Riverfly monitoring is based on a standard 3-minute kick sample in a cross-section of river bed, capturing invertebrates in a net, counting them, and recording their abundance on a logarithmic scale.

Ideally, you should try to locate a monitoring site just downstream of each tributary or sewage treatment works on your river (which helps to narrow down the source of any pollution very quickly) and aim to take a regular 'snapshot' by monitoring all your sites within a fairly short window of time, on a monthly basis.

For more detailed riverfly-based monitoring, including an adaptation of the standard methodology to include other species found in heavily impacted urban streams, a suite of further projects called Riverfly Plus is also available.

Full training is available from the Riverfly Partnership, and it's highly recommended as an inspiring way to engage people with the food web and water quality of their local river.

A very helpful identification 'Guide to the major groups of British freshwater invertebrates' is also available from the Field Studies Council at:

<https://www.field-studies-council.org/publications/pubs/a-key-to-the-major-groups-of-british-fresh-water-invertebrates.aspx>

For more information about starting a riverfly monitoring project, including training details and outline costs, visit <http://www.riverflies.org/> and see Appendix 5 of this Toolkit.

2.1.5 SmartRivers

Devised by Salmon & Trout Conservation UK (S&TCUK), SmartRivers is an initiative that builds on earlier Riverfly Census benchmarking work - helping volunteers to take the concept of riverfly sampling to a more advanced level, and monitor the water quality in their rivers to near-professional standard:

- ✦ **Sample:** after spring and autumn benchmarking to establish which invertebrates are present in your river, volunteers are trained to use the EA's standard 3-minute kick-sampling protocol and preserve the sample in alcohol
- ✦ **Analyse:** in future years, trained volunteers can analyse and record samples to species level, using a microscope and the special SmartRivers app. (Alternatively, samples can be sent away for analysis at a modest cost)
- ✦ **Report:** volunteers send raw data to S&TCUK to derive a detailed analysis of water quality at their monitoring sites. This analysis will indicate the impacts of organic pollution, nutrient enrichment, sediment, river flow and pesticides, and the data will be stored in a database to help with future work to improve your river and others
- ✦ **Act:** you can use data from your river to assist in practical river management and assess the success of river restoration projects. Data can also be used to work with the EA and other partners to address the causes of poor water quality

For more information, including introductory and training videos, visit: <https://www.salmon-trout.org/smart-rivers/>

(C) SALMON & TROUT CONSERVATION UK



Evidence of a major misconnection on the River Trym, identified during a WTT Advisory Visit

2.1.6 Outfall Safaris and Pollution Patrols

If your volunteers are really enthused about improving water quality in your river, another useful project is looking for misconnected pipes which may be channelling chronic pollution into the water.

Misconnections happen when domestic waste pipes (often from sinks and washing machines) are mistakenly plumbed into surface water drainage pipes, which should only be carrying rainwater into the river. Offensive smells, milky or coloured water, sanitary products and grey sewage fungus on the river bed may all be signs of one or more misconnections. These can often add up to a chronic threat to water quality in urban rivers.

Your local water company should have a priority list of misconnections to be tackled, and making them aware of newly-discovered misconnections could boost your river's water quality quite dramatically.

The Outfall Safari methodology for organising volunteer citizen scientists to identify such misconnections was developed by the Zoological Society of London in partnership with the EA, Thames Water and other NGOs and communities in Greater London, and was first used on the River Crane in 2016.

In dry weather, trained volunteers systematically walk the river banks with a mobile app that allows them to geolocate, photograph and assess outfalls for evidence of pollution, on a scale from 0 to 20. The higher the score, the greater the visible impact of the outfall, and a higher score indicates more pollution.

All this information is sent directly to a database for analysis and reporting to the local regulator and water company.

A full resource pack for setting up an Outfall Safari project can be found at: <https://catchmentbasedapproach.org/learn/outfall-safari-guide/>

HOW VOLUNTEERS HAVE TACKLED POLLUTION ON THE RIVER WANDLE

Trained volunteers from your group may also be able to help the Environment Agency by attending reported Category 3 pollution incidents, and reporting back vital information to the EA and the local rivers trust. After the South East Rivers Trust trained almost 50 volunteers to identify pollution and assess Category 3 pollution incidents, the EA was able to improve the River Wandle's water quality by stopping pollution incidents such as:

- ✦ A hand car wash whose drainage system was half demolished underground, allowing the foul sewage to discharge to the surface water system
- ✦ A large civic amenity site that didn't realise their oil interceptor (a chamber that stops oils and fuels from leaving a site via surface water run-off) had an outlet that led to the local watercourse
- ✦ Large amounts of detergent wash-waters escaping through a hole in a wall to the surface water drain
- ✦ Floor washings from a car mechanic's workshop being disposed of to the surface water system
- ✦ Homes with misconnected pipes discharging direct to the river



(C) JESSE BOWSER VIA UNSPLASH



Highly urbanised: the River Dour in Dover

2.1.7 River survey tools

The Urban River Survey is a scientific assessment method and suite of tools, developed from the EA's River Habitat Survey, for recording and assessing information on the physical structure of 500m stretches of urban rivers and their margins.

Alternatively, the Modular River Survey (including MoRPH, MultiMoRPH and HydroMorPH components) uses a geomorphological approach to help citizen scientists record and assess physical habitat and hydromorphological functioning in their local rivers and streams.

For more information, visit <https://urbanriversurvey.org/> and <https://modularriversurvey.org/>

For <https://modularriversurvey.org/>

2.2 More ways to help your urban river

Even if you're still researching your river's history and assessing its baseline data with the relevant regulators and other authorities, you'll want to be thinking about future ways to get stuck into improving it. Here's a wide range of projects to inspire you – all of which have proved very successful for other urban river groups.

2.2.1 River cleanups and litter picks

Community river cleanups and litter picks are one of the most popular ways of engaging people with their local waterway. Everyone involved can see immediate benefits from the work they've done – helping to foster new pride in previously overlooked areas, and quickly improving community cohesion.

Running successful community cleanups is easy when you know how, so this Toolkit includes lots of ideas and procedures which have been developed and tested over time.

Turn to section 4.2 of the Toolkit to find out more.

2.2.2 Controlling invasive non-native species

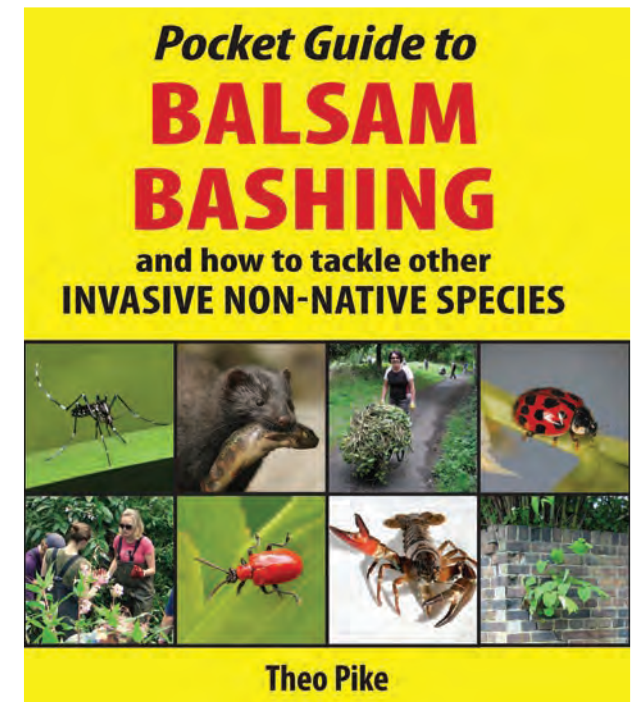
Invasive non-native species (INNS) are plants and animals that have spread beyond their native range, often as a result of human activities, and cause catastrophic problems for native species which haven't evolved to live with them. Urban rivers are often particularly badly affected by INNS like mink, American signal crayfish, Himalayan balsam, Japanese knotweed and giant hogweed – but local community groups can have a real impact in terms of controlling the spread of these species, with huge benefits for native biodiversity. (But don't forget that there are often risks in tackling INNS – including legality, personal safety, and inadvertently spreading the INNS even further afield).

It's also worth noting that events like 'Balsam Bashing' work parties can be very helpful for engaging local people who may be interested in plants and gardening, but haven't previously considered getting involved in river restoration.

By taking the right considerations into account, raising awareness of INNS, and tackling them if it's safe and possible, can be a very rewarding and valuable activity.

For more information about specific INNS, turn to section 7.1.2 of this Toolkit.

You may also wish to get a copy of Theo Pike's 'Pocket Guide to Balsam Bashing' available as an ebook from Merlin Unwin Books www.merlinunwin.co.uk/balsambashing



Over several years, volunteers have successfully cleared Himalayan balsam from the headwaters of the River Wandle

(C) SOUTH EAST RIVERS TRUST



Natural flood management on the Painswick Stream above Stroud

2.2.3 SUDS/rain gardens

Many aspects of urbanisation increase the risk of flooding during heavy rainfall. For instance, replacing grass, flowers and trees with tarmac and concrete reduces the amount of porous ground that can soak up rain (and later make it available for rivers as groundwater). More houses and other buildings also mean more roofs, which make the total area of hard impermeable surfaces even larger.

One very effective way of reducing runoff from hard surfaces, and rebooting the water cycle, is installing Sustainable Drainage Systems (SUDS). Large-scale SUDS involve balancing ponds with

‘throttled’ outfalls that slowly release stored floodwater after times of heavy rainfall. Smaller-scale SUDS can include rain gardens, grassy soakaways and swales, and even domestic water butts. Other options are porous hard surfaces including pervious concrete, bricks and paving, as well as porous asphalt.

Find out more about SUDS at: <https://www.southeastriverstrust.org/sudsinschools/suds-how-they-work/>

2.2.4 Natural flood management

Urban flood risk can often be increased by unsympathetic land management in areas of river upstream from towns and cities. Faced with more intense storms and other weather events as a result of climate change, conventional hard-engineered flood defences may not be able to cope, so attention is turning to ways of ‘slowing the flow’ from the hills to pinch-points in urban areas. Natural flood management techniques include planting trees, creating flood water storage areas on farmland, and building ‘leaky dams’ to stop water flowing quickly over the land without soaking into the soil.

In urban areas like Stroud and Hebden Bridge, where residents are directly affected by this kind of flooding, many community groups are getting steadily more involved in working with landowners to alleviate local flood risk.

Find out more about natural flood management at: <https://thefloodhub.co.uk/wp-content/uploads/2018/11/North-West-NFM-handbook.pdf> and <http://slowtheflow.net/>

2.2.5 Habitat improvements

As a result of their industrial history, combined with more modern flood defence works, urban river channels have often been straightened and simplified, leaving very few habitat niches.



Volunteers installing Large Woody Material during a WTT Practical Visit on the River Wandle

(C) SOUTH EAST RIVERS TRUST



Improving fish passage by notching a weir on the River Brue in Bruton

2.2.6 Fish Passage Improvements

Most fish need to move around in a river system to complete their lifecycles successfully, but it's still a little-known fact that barriers across rivers like weirs, culverts, hatches, sluices and hydropower installations can be as much of a problem for trout, grayling, eels and coarse fish as they are for long-distance travellers like salmon.

Barriers result in fragmented and degraded habitat, leading to isolated populations of fish which are vulnerable to problems like pollution or climate change – or even genetic impacts caused by restricted access to a full range of breeding partners.

A well-connected river habitat is much more resilient because it allows natural recolonisation by fish moving freely up and downstream, and in and out of side streams too. It also allows natural processes like downstream sediment transport to take place – allowing the gravel and stone of the river bed to move around naturally, replenishing spawning areas and habitat for a host of fish, invertebrates and plants.

Whenever it's practical, removing man made barriers to create a naturally-connected river habitat is preferable to installing engineered fish passes, which are expensive and require long-term maintenance.

On most urban rivers, there are numerous small barriers to migration which could be relatively easily overcome by the right partnerships of people working together – often a combination of local community groups, rivers trusts, the WTT and local authorities.

For more information, visit <https://www.wildtrout.org/content/weirs-culverts-and-barriers>

After basic issues like water quality and flow have been addressed, restoring biodiversity means recreating variety in the river, and restarting natural processes like erosion, deposition and sediment transport, even on a small scale.

Simple but effective enhancements could include leaving more woody material in the channel, or

supportive planting with native species like *Ranunculus* spp. (water crowfoot). The Wild Trout Trust's 'Wild Trout Survival Guide' is a great starting point for understanding basic principles of river habitat improvement, and we've also published helpful habitat manuals for chalkstreams and upland rivers, as well as individual habitat management sheets. To get advice that's tailored to your river, the Wild Trout

Trust's Advisory Visit programme is designed to help identify improvements for your group to make, supported by later Practical Visits to teach volunteers hands-on skills.

For more information, see section 7.2 of this Toolkit, and visit: <https://www.wildtrout.org/content/habitat-improvement>

2.3 Education and engagement

Experience suggests that urban river projects are much more sustainable when they're not just tackling existing challenges, but helping to educate local communities – and the next generation of environmental champions! – to value healthy rivers too.

2.3.1 Mayfly in the Classroom

Mayfly in the Classroom is the Wild Trout Trust's flagship education programme, which aims to connect school children to their local river habitats by using the lifecycle of mayflies to teach them about the broader themes of biodiversity, ecology and the links between aquatic and terrestrial biodiversity.

The project involves setting up a series of small oxygenated 'tanks', using recycled plastic drinks bottles and inexpensive aerators. Mayfly or other aquatic invertebrate larvae are collected from a local stream or river, reared and studied by the

kids until the insects hatch, and are finally released back into the wild.

Mayfly in the Classroom is aimed at Years 4 – 6 (but has also been run in secondary school settings) and can be linked to specific Key Stages of the National Curriculum. Experience shows that it's a very effective way to engage children with their local river by tapping into their fascination with mini-beasts.

For more information and downloadable guidelines, please visit: <https://www.wildtrout.org/content/mayfly-classroom>



(C) ACTION FOR THE RIVER KENNET

2.3.2 Yellow Fish

Some of the worst pollution in urban rivers is caused by people simply not knowing that road drains and gully pots carry water straight from the road to the nearest river, instead of into the sewage treatment system. So, they use these drains to dispose of paint, oil and other substances, polluting rivers, canals, wetlands and beaches.

The Yellow Fish campaign, which marks road drains and educates the public with the message 'Only rain down the drain', was pioneered in Canada, but it's a great idea for rivers all over the world. As such, it has been successfully used by many Rivers Trusts and urban groups across the UK.

Find out more about Yellow Fish at: <https://www.gov.uk/government/publications/avoiding-pollution-yellow-fish-scheme>

'Only Rain Down the Drain: A Handy Guide to Yellow Fish' produced by Action for the River Kennet (ARK) can be found in Appendix 6 of this Toolkit.

2.3.3 Biosecurity

People who use urban rivers for recreation often don't realise how easy it is to spread INNS and even dangerous pathogens on their clothes or sports equipment – often with devastating consequences for local biodiversity.

For example, exotic, predatory freshwater shrimps and the spores of crayfish plague (which is deadly to the UK's native crayfish) can survive for up to two weeks in damp areas of fishing tackle, boats, trailers, kayaks and other water sports equipment.

The Check, Clean, Dry biosecurity protocol has been developed to help 'Stop the Spread' of such problems, and urban community groups can have a great influence in promoting good biosecurity practices, including with helpful posters and other downloadable materials.

Find out more about Check, Clean, Dry at www.nonnativespecies.org/checkcleandry





2.3.4 Plastic Pollution

Especially since the BBC's 'Blue Planet II' and 'Drowning in Plastic' documentaries, marine plastic pollution has been hitting the headlines – but urban river campaigners have known for years that litter in our rivers is a major pathway for plastic into the sea.

Empowering people to reduce marine plastic pollution by cleaning it out of their local river can be a very effective way to get them involved in a community project. Thames 21 have devoted a whole award-winning project to the idea of plastic monitoring, and groups like CATCH have successfully recycled single-use plastic waste from cleanups into public artwork to help raise awareness of this issue. There's also lots of potential for your group to help reduce litter by promoting reusable bottle campaigns like #Refill and #OneLess.

For more information, visit <https://www.onelessbottle.org/> and <https://refill.org.uk/>

2.3.5 Wise water use

Despite the UK's reputation for grey, rainy weather, we actually get less rainfall than far 'drier' parts of the world, and every person in the UK uses 150 litres of water a day on average, equivalent in weight to the very biggest professional rugby player or heavyweight boxer. In some parts of England, average water use is around 180 litres, the same as the weight of the world's strongest man!



River remedies like riverfly monitoring and litter picking have helped to improve wellbeing and connect people with their local environment

(C) BRISTOL AVON RIVERS TRUST

The more water we use in our homes, the less is left for life in our rivers – urban river community groups can play a major part in spreading this message.

Under pressure from growing populations, and water resources that are threatened by climate change, water companies are often very keen to work with community organisations to reduce domestic water consumption. For example, they may be able to provide you with free water saving devices to give away at fairs and other events.

To find your local water supply company, visit <https://www.water.org.uk/advice-for-customers/find-your-supplier/>

2.3.6 River remedies

'Green gyms' have been a popular fitness movement for several years, and studies have shown that simply living near green space can have positive benefits for people's health and wellbeing.

There's a strong argument for saying that these effects are heightened even further by being near a river, and some attempts have been made to link this kind of activity with medical treatment.

In 2018, one of the most successful studies so far has seen Bristol Avon Rivers Trust (BART) working with local councils to offer vulnerable adults and teenagers the opportunity to take part in river-based activities including riverfly monitoring, testing for phosphates and nitrates, litter picking and Yellow Fish campaigning.

Results are still being assessed, but the small sample size indicated positive wellbeing after this portfolio of 'river remedies', and participants were also more aware of pollution in the natural environment.

For more information visit : <https://theecologist.org/2018/nov/07/nature-prescriptions-improve-wellbeing>

2.3.7 Responsible angling

Fishing has lots of social, environmental and health benefits, and many responsible anglers pride themselves on being the ‘eyes and ears’ of their local rivers. In fact, some of the most successful urban river projects have been started by anglers. The wide-ranging benefits of angling participation have been the subject of qualitative and quantitative research by the SUBSTANCE social research co-operative – a project supported by the Wild Trout Trust. Its conclusions were published in 2012, and evidenced how angling can be a gateway for many positive social and environmental improvements, including:

- ✦ Increasing physical activity for people of all abilities, and assisting recovery from illness
- ✦ Promoting good mental health
- ✦ Helping to build young people’s relationships and confidence
- ✦ Providing opportunities for ‘active ageing’
- ✦ Getting millions of people involved with sport across the UK
- ✦ Helping people to make connections with nature
- ✦ Contributing to public knowledge about freshwater and marine environments
- ✦ Empowering people to become active citizens and build cohesive communities
- ✦ Bringing people from different backgrounds together

The full report, ‘Fishing for Answers: The Final Report of the Social and Community Benefits of Angling Project’, can be downloaded from this link: <https://tinyurl.com/benefitsofangling>



Responsible angling can be hugely life-enhancing for urban dwellers

Despite all these benefits, however, irresponsible and even anti-social angling does sometimes occur, and it often falls to a local river group to try to mitigate the problem. One solution for your urban fishery might be to facilitate setting up a local angling club, with a remit to promote responsible fishing, including careful catch and release of all species of fish. Alternatively, you could think about promoting fishing on your river with the ‘Fish Pass’ app, pioneered by the Westcountry Rivers Trust.

Some community groups (such as SPRITE in Sheffield) have found friendly angling competitions

a very useful way of surveying the health of their fish populations – and a good way to attract anglers to their cause too!

For more information, visit:
<https://westcountryangling.com/fish-pass/>

Or contact the Westcountry Rivers Trust:
<http://wrt.org.uk/>

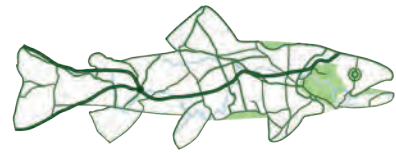
More information about handling fish safely can be found at: <https://www.wildtrout.org/content/catch-and-release> and <https://keepemwet.org>



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JOIN the
Wild Trout Trust

<https://www.wildtrout.org/content/membership>



Trout in the Town

3

Running your Urban River Group

All community groups, voluntary organisations and charities need careful management to help them meet their goals - and the group's management committee is responsible for this

3.1 Governance

Governance includes leadership, planning, financial management, managing staff and volunteers, and ensuring that any legal requirements are met. Apart from complying with the relevant laws, good governance also boosts an organisation's reputation: if you're seen as a safe pair of hands, other partners will be more likely to want to work with you, and you'll be able to achieve your objectives more easily.

For the purposes of good governance, your committee members should:

- * Treat discussions about the group's matters as confidential, and abide by decisions taken

- * Act only in the best interests of your group, and behave transparently, objectively and honestly
- * Use their specific skills and knowledge to help the group's decision-making
- * Be actively involved in major decisions, including attending as many meetings as possible
- * Make decisions democratically and collectively, unless your governing document specifies otherwise
- * Declare any conflicts of interest

3.2 Committee roles and responsibilities

Experience shows that groups of all kinds run best with the following voluntary roles and responsibilities as a minimum:

CHAIR	SECRETARY	TREASURER
<ul style="list-style-type: none"> * Provide leadership and support for committee members, staff and volunteers * Plan and chair meetings effectively * Be impartial in meetings, making sure everyone has the chance to speak * Ensure that actions agreed at meetings are put into practice * Represent the group at functions, meetings and in the wider media, in line with the group's agreed strategy * Lead on liaison with the multiple individuals and organisations involved with each project (e.g. different EA departments, schools and community groups, local business sponsors, other conservation organisations and trusts) * Stay up to date with external factors that may affect your group, and circulate these to committee members * Assume financial responsibilities if necessary (e.g. signing cheques) 	<ul style="list-style-type: none"> * Work closely with the Chair to plan meetings and agree the agenda * Book locations for meetings * Let committee members know meeting times and locations well in advance * Send committee members the agenda, minutes from the last meeting, and any documents needed for making decisions * Take minutes at meetings * Respond to enquiries about your group and its activities * Make sure that the group complies with data protection (GDPR) and any other legal requirements * Manage membership of your group (if you don't have a separate Membership Secretary) 	<ul style="list-style-type: none"> * Supervise the group's bank account, and keep a record of all money paid and received * Make sure that financial procedures are in place, adhered to and regularly reviewed * Keep an eye on budgets for all activities * Provide regular financial reports for committee members * Have the group's accounts independently checked each year * Make payments to suppliers * Ensure that the group is complying with relevant laws regarding fundraising activities <p>Other useful skills and roles for a more advanced committee structure could include:</p> <ul style="list-style-type: none"> * Membership management * Marketing, website and social media management * Fundraising * Health and safety * PR and events management



3.3 Choosing your group's constitution

All community groups start out small, but formalising your legal status as soon as possible will help you to raise funds and operate more credibly. There's a hierarchy of structures you can adopt – from a simple 'unincorporated association' to a more complicated but prestigious registered charity. This section of the Toolkit summarises some of the benefits of each, and points you in the direction of further resources.

For more information, visit: <https://www.resourcecentre.org.uk/information/legal-structures-for-community-and-voluntary-groups/#uia>

<https://www.groundwork.org.uk/Sites/projecttoolkit/Pages/setting-up-your-group-tips>

A sample constitution, which has proved helpful for groups associated with Trout in the Town, can be found in Appendix 1.

3.3.1 Constituted group/ Unincorporated association

Setting up an unincorporated association (also known as a 'constituted group' or 'Friends group') is widely accepted as the simplest approach for a new community group - allowing you to open a bank account and perform other essential organisational functions:

BENEFITS:

- ★ The easiest, quickest and cheapest way to establish a constituted group: all you need to do is draw up a constitution according to members' agreement
- ★ Very few regulatory requirements or compliance costs
- ★ Highly democratic and accountable to a voting membership



River menders at work: good governance of your group is vital for improving your urban waterway

DISADVANTAGES:

- ★ Cannot sign formal contracts because it has no legal standing
- ★ Unlimited liability: officers and members are responsible for any debts incurred or contracts signed in the group's name
- ★ If the group has charitable aims, needs to register with Charity Commission if income is more than £5,000 a year

For more information about setting up an unincorporated association, visit:

<https://www.resourcecentre.org.uk/information/legal-structures-for-community-and-voluntary-groups/#community%20group>

<http://www.resourcecentre.org.uk/information/constitutions/>

<https://www.groundwork.org.uk/Sites/projecttoolkit/Pages/setting-up-your-group-tips>

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Find your nearest trout in the town group
<https://www.wildtrout.org/content/trout-town>

3.3.2 COMMUNITY INTEREST COMPANY (CIC)

A community interest company (CIC) is a special form of non-charitable limited company, which exists primarily to benefit a community or with a view to pursuing a social purpose.

BENEFITS:

- ★ Quicker and easier to set up than a charity
- ★ Fewer governance requirements than a charity
- ★ Limited liability for board members, who can also be paid for their work

DISADVANTAGES:

- ★ More regulatory requirements than an unincorporated association (e.g. filing annual accounts at Companies House)
- ★ Fewer tax advantages than a charity (e.g. liable for corporation tax) and some funding streams may be restricted to charities only
- ★ Less public awareness and trust than a charity

For more information about setting up a CIC, visit: <https://www.gov.uk/government/publicationscommunity-interest-companies-introduction><https://www.informdirect.co.uk/company-formation/community-interest-company-cic-advantages-disadvantages/>

3.3.3 Charity

Charitable status is undoubtedly the 'gold standard' of the not-for-profit sector, but it comes with relatively onerous governance responsibilities.

BENEFITS:

- ★ Prestige and public recognition



Urban rivers can be risky, so make sure you get the right insurance for your activities

- ★ Tax advantages including Gift Aid and reduced business rates
 - ★ Increased access to funds from grant-making trusts, the government and the public
- DISADVANTAGES:
- ★ Unlimited liability for Trustees (under certain circumstances)
 - ★ Founders and board members cannot usually

be paid (but this can be a benefit for reputation and transparency!)

- ★ Increasingly onerous annual reporting requirements

For more information about setting up a charity, visit: <https://www.gov.uk/topic/running-charity/setting-up> <https://hlca.co.uk/news/advantages-disadvantages-charity/>

3.4 Insurance

Following the advice in this Toolkit, including the guidelines on Health and Safety in sections 3.7, 4.2 and 7.4 should help to make your events and other activities as safe as possible.

But, as part of running a responsible community group, you should always have appropriate insurance in place - just in case of any unexpected accidents.

In practice, many groups will have very similar insurance requirements, but we can't make assumptions about your situation in this Toolkit. Instead, doing your own due diligence will be invaluable for your peace of mind, as well as ensuring that you have the right insurance for your needs.

As a starting point for your research, the following have proved helpful in providing suitable insurance for community river activities in the past (fully or partly as a membership benefit, in the case of the first two on this list):

- ★ The Angling Trust
- ★ The Conservation Volunteers
- ★ Zurich

Alternatively, you may find it reassuring to consult a professional insurance broker, and follow their recommendations once you're confident that they understand the scope of your activities. For example:

- ★ Jelf
- ★ Lycetts

(Please note that the inclusion of any insurance providers and brokers in this section does not constitute endorsement, and the Wild Trout Trust does not receive commissions for referrals.)

Groups associated with Trout in the Town have obtained insurance cover via these suppliers in the past - but personal responsibility for ensuring appropriateness of cover lies with each applicant).



Celebrating success together:
always let your volunteers know
how much they're appreciated

(C) COMMUNITY ACTION TO TRANSFORM CALE HABITAT (CATCH)

3.5 Setting up a bank account

In the very earliest stages of your group's development, you may be able to operate without a special bank account. But it's best practice from a point of view of transparency (to say nothing of security for your group's hard-won funds) to get a dedicated bank account, in your group's name, set up as soon as possible.

As an extra layer of security, you should also specify two separate signatures for cheques or authorisations for online payments (as part of this process, you can nominate more than two authorised signatories in case someone is away or unavailable).

In all of these matters, including finding an interest rate that's as high as possible whilst also offering appropriate access to your money, any good bank should be able to offer advice that is tailored to your group's situation.

3.6 Managing volunteers

Volunteers are the lifeblood of any urban river group – which means it's incredibly important to support and motivate them as well as you can.

Every volunteer will have their own individual reasons for wanting to help, but there are some tried and tested ways to help them feel part of your urban river project.

Always remember that volunteers are giving their time and talents, so it's important to thank them frequently and sincerely: use personal contact as well as public channels like your website and social media to show them how much they're appreciated.

Taking a break during volunteer events for tea or coffee and a slice of cake can add a hugely enjoyable social dimension to your activities. Holding an annual 'thank you' event such as a summer picnic, perhaps with special awards, is another great way to thank volunteers and celebrate successes together.

Events like this will also give you an opportunity to share plans for the future and get ideas back from your volunteers – all excellent ways of letting people know that their input is valued, and help to keep them engaged.

It's also worth thinking laterally about different ways to involve volunteers in your project. Not everyone has the same amount of time to dedicate, but if you find you need a particular skill to help your work, don't hesitate to ask your volunteers – you may be surprised by the people who step up to help! Having said all this, volunteering often has a lifecycle, and many organisations notice a degree of 'churn'. But if you're losing volunteers more often or more quickly than you'd like, it may be worth investigating the reasons why.

For example, volunteers can easily suffer from burnout, so you should try not to let small numbers of the 'usual suspects' become overburdened by doing the same tasks repeatedly or all the time, when loss of motivation can become a real risk.

No matter how committed they are, volunteers also have lives of their own, which are likely to take priority over their voluntary work, sometimes at inconvenient times for you and your group. They can also stop volunteering quite suddenly without giving a reason: they're not employees, and it's difficult to ask them to do anything they don't want to do.

Finally, while working with volunteers can be incredibly rewarding at a personal level, to say nothing of the huge benefits that volunteers can bring to any project, it's essential to remember that while volunteers aren't paid, they're not cost-free. Managing volunteers always has implications in terms of time cost, even if that time is a donation in kind by volunteer committee members!

3.7 Health and safety

Health and safety is an issue that should be fully embedded in your urban river group's culture - not



Using protective equipment like life vests should be second nature in all your activities

just to protect yourself and your volunteers from harm, but because it has so many legal and reputational implications.

Health and safety law applies to everyone - and best practice suggests that you should also comply with Health & Safety Executive (HSE) guidelines including:

- * HSE driving at work guidance
- * HSE lone working guidance
- * HSE manual handling guidance

It's important to remember that successful implementation of health and safety isn't just a box-ticking exercise, or a one-off action or intervention: it's a sustained, systematic approach that depends on the attitudes and behaviours of everyone in your group.



(C) SOUTH EAST RIVERS TRUST

Safeguarding issues are vital for every community group

Experience shows that holding informal 'toolbox talks' before events – focusing on specific hazards and safe working practices - can be a very good way of keeping health and safety issues at the forefront of your group's members' minds.

Section 4.2 of this Toolkit discusses health and safety at river cleanups and other events, while section 7.4 explores risk assessments in more detail. A sample risk assessment can be found in Appendix 3 of this Toolkit.

3.8 Safeguarding

As a community group with frequent contact with volunteers and other members of the public, perhaps including children, it's important to be aware of your responsibilities with regard to safeguarding. You should take reasonable steps to

protect everyone from harm, including (but not limited to) abuse, bullying, negligent treatment, discrimination and exploitation. As such, your group should have safeguarding policies and practices which are put into practice, reviewed at least once a year, and available to the public.

Your safeguarding policy should set out how you'll protect people from harm, make sure anyone can raise safeguarding concerns, handle allegations or incidents, and report concerns to the authorities.

A sample safeguarding policy can be found in Appendix 2 of this Toolkit. Additionally, if you work with children or adults at risk, you should consult the Disclosure and Barring Service (DBS) for any criminal records and information held by the police. For more information about best practice in safeguarding, visit: <https://www.gov.uk/guidance/safeguarding-duties-for-charity-trustees>

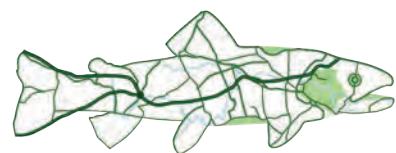
3.9 Data Protection (GDPR)

Since the General Data Protection Regulations (GDPR) came into force in 2018, the rules around holding people's identifiable details (including email addresses) have become much stricter.

In brief, you'll need to get explicit permission from each person to hold their information, have a good reason for holding it, specify how long you'll hold it for, and delete it from your records when that time comes.

Since every organisation is different, it's not possible to offer detailed advice on GDPR in this Toolkit. However, it is important for all groups to give careful consideration to GDPR, work out how it affects them, and embed its principles into every part of the way they work.

For more information about GDPR, visit <https://www.gov.uk/government/publications/guide-to-the-general-data-protection-regulation> and <https://adprofs.co/beginners-guide-to-gdpr/>

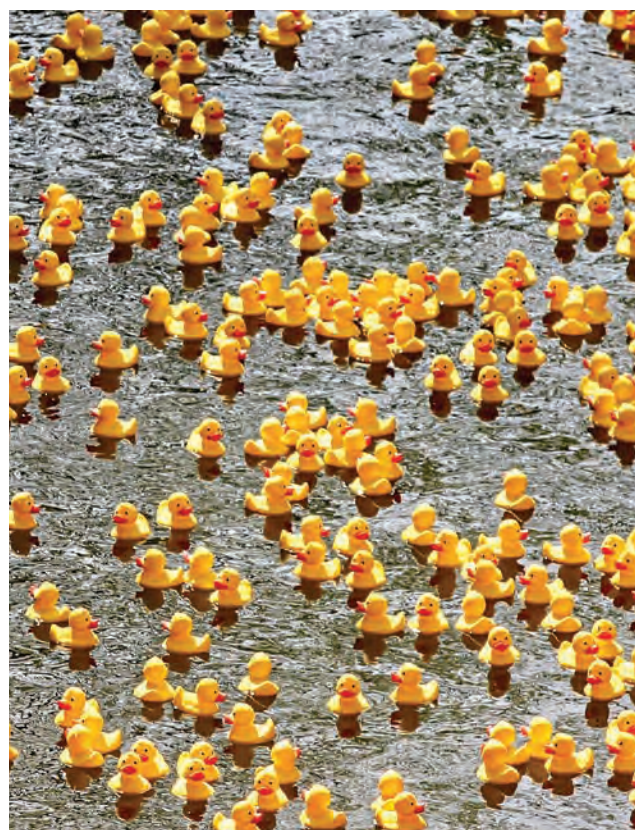


Trout in the Town

4

Organising events

Fighting for your urban river means campaigning on many different fronts, but face-to-face conversations and hands-on working parties are often the most engaging, and the most enjoyable too!



4.1 Fairs and community days

Fairs and other community gatherings are a fantastic opportunity to communicate with the public face-to-face.

Whether you're running a stall, giving a talk at a local environmental or community-themed fair, or perhaps organising an event of your own design, these are a great means of talking - and listening - to the public directly, and make a big noise about all the positive things you do for your local area.

There's really no limit to what you can do, but here are some inspirational ideas which have proved successful for other groups.

Local events can also be linked to bigger global celebrations: for example, World Rivers Day, which is marked on the fourth Sunday of September every year.



Plastic fish: art projects can help you inspire local residents of all ages

- ★ Bug hunting: displaying a tray of invertebrates collected from your river (always a crowd-pleaser, for kids and adults alike!)
- ★ Making a 'magic sand box' to show how rivers and landscapes work: for full step-by-step instructions, see <https://imgur.com/a/Q86wR>
- ★ For adults, communicating how 'we all live downstream' and that local urban rubbish eventually becomes global and marine rubbish
- ★ On a slightly more ambitious larger scale, you could also consider:
 - ★ Holding a celebratory activity or fete on your local river to coincide with World Rivers Day: <https://worldriversday.com/>
 - ★ Organise a 'duck race' and riverside fete for local residents (but make sure the ducks are safely removed from the river afterwards to avoid plastic pollution!)
- ★ Filling a paddling pool with water and using magnetic toy fishing rods to catch cut-out cardboard fish (with paperclips on their mouths to make them magnetic too)
- ★ Displaying the kinds of rubbish you've pulled out of the river – on a table, fastened to a board or metal grille, or even working with local artists to form rubbish into the shape of a giant fish or other creature to highlight issues like plastic pollution
- ★ Holding fun competitions: colouring pictures of trout, or making insects from plasticine, paper and pipe-cleaners

4.2: River cleanups and habitat improvement events

Since 2001, when some of the first organised community river cleanups started on the Wandle, everyone in the urban river restoration sector has learned a lot about what makes a great event of this kind. First and foremost, proper preparation is essential - so it's vital to be clear in your own mind (and able to communicate to your volunteers so that they understand it) what you want to achieve during each working party.

In the case of rubbish clearance, it's at least as much about sending the message that the river is valuable and worth looking after, as producing a significant direct biological benefit. In some cases, it may even be worth leaving inert or visually less intrusive rubbish (such as bricks and similar builders' waste) in place to act as habitat. Setting clear objectives should also include defining the limits for each event, such as upstream and downstream boundaries.

Being fully active on health and safety issues (and being seen to be fully active on them!) is now more vital than ever, and should be embedded in your group's culture from the very beginning. You should prepare a formal risk assessment before every volunteer event, and make hard copies available for volunteers to sign up to, accepting their contents as well as acknowledging responsibility for health and safety compliance.

As soon as you start planning your river cleanup, choose one person to be your Event Controller for the occasion, and someone else to be your Health and Safety Officer. Ideally, one or both of them will be first-aid trained, and both your officials should meet at the cleanup location several days ahead to identify likely risks and look for ways to reduce them.

Section 7.4 of this Toolkit discusses risk assessments in more detail, and a risk assessment template can be found in Appendix 3.



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Smiles all round: it's incredibly satisfying to leave an urban river cleaner than you found it

Time for a pint?
The end of another
epic cleanup



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Preparing this formalised risk assessment will also prove very useful when you can use it as the script for your Health and Safety briefing at the start of each event. Explaining the dangers and risk control measures you've already identified will let you tell your volunteers what you expect from them, in terms of keeping themselves and others safe, and give them a chance to ask questions before signing up to the risk assessment.

Except in the case of the most basic tasks, you should provide appropriate equipment for your volunteers (and also ensure that it's used!). An essential checklist for a cleanup might include protective gloves, high visibility vests or jackets, litter pickers, antiseptic wipes and handwash, and robust waste sacks. Volunteers should also be asked to wear robust footwear, and clothes which they don't mind getting muddy.

Part of making urban river restoration accessible and appealing to everyone involves providing a variety of ways to take part, which are suited to participants' interests and abilities. Remember, supervising other volunteers, keeping an eye on everyone's bags under your event gazebo, or making sure that passers-by aren't put at risk by any of your activities, is just as important as dragging heavy rubbish out of the river!

Cleaning up an urban river is a feelgood activity in its own right, but your volunteers will still appreciate a break with refreshments to keep their energy levels up. A hot drink of tea or coffee is always very welcome, and a generous slice of cake will go a long way towards bringing people back to help you time and time again. After the event, a pint at a local pub can add another fun social aspect.

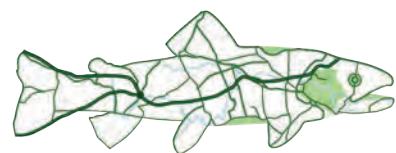
And finally, before and after your event, be sure to thank everyone for their contribution and celebrate successes. Frequent heartfelt thanks are vital, not just because it's right and proper to acknowledge everybody's voluntary efforts, but also to keep a project lively and ongoing.



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Do's and don'ts FOR urban river events

- * Don't work alone
 - * Don't try to lift heavy items on your own - and stand back as rubbish is being lifted up the banks
 - * Don't wade deeper than hip deep - stay in areas where you feel comfortable
 - * Don't throw tools or rubbish to each other - pass these by hand to protect everyone around you
 - * Don't splash water while working
 - * Don't dig with your hands - use litter pickers and other tools provided
 - * Don't touch sharps like needles if you find them - alert a supervisor who can put them in a special closed container
 - * Don't work in water (or muddy conditions) if you have any cuts or abrasions to your skin that may come into contact with pathogens responsible for waterborne diseases
- 
- * Do wear protective gloves at all times
 - * Do wash your hands before you eat, drink or smoke
 - * Do take your time getting into the river - you may have to use a ladder to get into the water, or walk down a steep bank
 - * Do be careful when wading, walk slowly and watch out for tripping hazards
 - * Do watch out for deeper areas - use your litter picker to test depth
 - * Do come prepared for the weather with appropriate clothing, sun cream and drinking water
 - * Do alert a supervisor if you hurt yourself
 - * Do be aware of other members of the public on nearby footpaths and roads



Trout in the Town

5

COMMUNICATIONS AND MARKETING

If you want to look after your urban river effectively, you'll need to get into the habit of publicising your group's aims and work. Now that almost everyone has easy internet access via the mobile phone in their pocket, using social media is an obvious first step, but there are plenty of other options too

Although the reasons for improving a river will probably be quite obvious to those 'in the know', winning the hearts and minds of other local people may take a lot of time, effort and commitment. The dedication and patience of volunteers will be vital, and you may even need to seek additional funds (see section 6 of this Toolkit) to support public relations work. You should also be ready to handle an increase in your activities if your publicity really takes off!

5.1 Social Media

Since the earliest days of the urban river restoration movement, social media of different kinds have always been a powerful way to spread the word about our efforts – and an excellent public way to

thank people for supporting our work. Most recently, Facebook seems to have emerged as a favoured place for community groups to establish a quick, low-cost internet presence without the time and expense of creating a more traditional website.

Setting up a Facebook Group takes no more than a few minutes, and can be very helpful in pulling together a virtual community of interest-recruiting help quickly, announcing events, celebrating successes with your supporters, and letting lots of interested people discuss your work and suggest ideas (if you wish, you can adjust the posting privileges and settings so that posts only appear after they've been moderated by someone in charge).



(C) GERD ALTMANN VIA PIXABAY

Having a range of social media channels, as well as your own website, will help you spread news from your urban river far and wide

For an example of a Facebook Group, take a look at the Wild Trout Trust's Trout in the Town group at <https://www.facebook.com/groups/wildtrouttrusttroutinthetown/>. (Note the 'custom address' function which allows you to personalise your group's web address with your own identity, instead of an automated string of numbers).

Alternatively, a Facebook Page, similarly branded with your group's identity, but only allowing administrators to post, would be more 'corporate' in feel. However, this offers an alternative option if you prefer to control all the messaging on this channel more tightly. It also has the advantage of all shared posts being visible to any Facebook user (as long as privacy settings allow); whereas Group post content

is not generally viewable to anyone who isn't a Group member – even when shared outside that Group.

Other useful social media platforms include Twitter (more business-like, but great for getting your message out beyond your usual social or local circle), Instagram (ideal as a backup marketing channel, especially if you have lots of beautiful photos to catch potential supporters' attention) and Whatsapp (ideal for instant messaging between members of a group).

Finally, don't underestimate the power of publicising your project's events and websites or blogs on the many local and national-interest internet forums.

Events like river cleanups can help you to generate lots of inspiring content for your social media channels!



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Special interest (e.g. fishing) forums like <https://www.flyforums.co.uk>, or local interest boards like <https://www.sheffieldforum.co.uk/> were some of the first social media used by the urban river restoration movement, and can still help you to reach influential communities which might be hard to target by other means. This is particularly true if your group's activities stimulate passionate discussion and you're able to argue your own case clearly. Even readers who don't contribute directly to such discussions will form opinions based on the various viewpoints expressed.

Whichever social media platform you choose, you'll find that being someone who actually gets out there with their group and does things in the community or for local wildlife will lend you a great deal of credibility.

5.2 Blogs and websites

To increase your group's public profile and credibility, the next step is often to build a website. This will involve buying a suitable domain name, paying for web hosting, and then creating the website

– a task which you could either outsource to a web design agency, or do yourself.

Don't worry, however, if funding is tight, or you don't know anyone with advanced coding skills. Blogging platforms like Wordpress and Blogger are designed to make it easy for everyone to publish their writing online, and it's very easy to use them for urban river communications too. Both platforms offer an almost infinite variety of visual 'themes', and nearly every setting can be tweaked to make a website that's as individual as your group.

In terms of planning your content, it really helps to feature regular updates (so that people come back to your site as a destination) with good photos and short videos (via YouTube or Vimeo, to keep visitors interacting with your site for longer).

5.3 Emails

In recent years, social media platforms like Facebook seem to have made more traditional 'outbound' email marketing less essential for community groups, but emails can still be very useful for contacting your



Your local Mayor can also help to get your message out!

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supporters directly with particular messages (and being as confident as you can be that your supporters will have received them!)

Email marketing platforms like Mailchimp have been designed to help groups or businesses to maintain databases of contacts, and send out professional-looking email templates, with a minimum of fuss.

However, you should always be aware of the implications of data protection regulations (GDPR) for your group (see section 3.9). These rules may result in some community groups choosing to use social media platforms instead of emails as their main publicity channel, at least in their early days, and keep email usage restricted to internal management communications.

For more information about GDPR, visit <https://www.gov.uk/government/publications/guide-to-the-general-data-protection-regulation> and <https://adprofs.co/beginners-guide-to-gdpr/>

5.4 Local news and press releases

Despite the prevalence of newer social media, don't forget that many people still get their news from more traditional forms of media like local TV, radio stations and newspapers – or that local newspapers often have widely-read websites as well as printed paper distribution.

Local news outlets are always very keen to receive news stories to interest communities in their area. It's also worth remembering that such papers are often short-staffed, so the more 'finished' you can make your story when you submit it, the more likely it is to get published.

Submitting a press release is a tried and tested method, making sure to include the '5 W's and an H':

- ✦ What happened?
- ✦ Where did it happen?
- ✦ When did it happen?
- ✦ Who was involved?
- ✦ Why did it happen?
- ✦ How did it happen?

A really good press release, written close to the tone of voice of the publication you're targeting, may end up being published as a news piece, almost word for word. Sending a small selection of good photos will also help the editor to decide that your story looks good as well as engaging the interest of local readers.

Getting endorsement from relevant authorities (e.g. EA, NRW, SEPA, NIEA or EPA) and ensuring that the story of your works also fit into a good wider plan, is an excellent way of ensuring credibility, which is very important for the work itself and the publicity you're hoping to achieve.

5.5 Other communication channels

Under the right circumstances, despite the prevalence of digital communications, there's still no substitute for traditional posters, flyers and letterbox drops. These can be used to let people know what your project stands for, recruiting volunteers and giving local people a chance to have their say about the aims of your work.

Local politicians, personalities and opinion-formers are often keen to be associated with community-led projects: there are great examples

in London, Sheffield and Huddersfield. In addition to better media coverage, forming a link between your group and a higher-profile community figure can also open up channels of governmental support, and help to act as a catalyst for action.

5.6 Building relationships with Partners

From a point of view of good communications rather than marketing, it's essential to establish good lines of communication with partner organisations in your geographical area, including your local:

- ✦ Environmental regulator: EA, NRW, SEPA, NIEA or EPA
- ✦ Council
- ✦ Rivers Trust

- ✦ Wildlife Trust
- ✦ Water companies (sewerage and clean water supply)
- ✦ Businesses
- ✦ Landowners

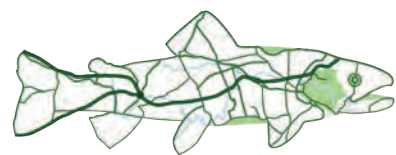
All of these organisations will be able to help you with information and further contacts – and even perhaps funding for projects in the long term. When you're working with them, don't forget to take every opportunity to thank them publicly for their help and support.

Building great personal relationships and levels of trust can take time, so the sooner you get started on making these contacts for your urban river group, the better. Remember that it's always best to 'dig your well before you get thirsty'.



Collaborating at events can help to build great working relationships with partners like the Environment Agency

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Trout in the Town

6

Funding and Fundraising

Whenever you're talking to funders, you'll need to understand what your potential donors will want to achieve by supporting you - and it's important to remember to thank them properly too!

Like many other conservation organisations, the Wild Trout Trust can help you to develop your group's ambitions with professional advice on fundraising, as well as assistance with grant applications and other funding bids.

6.1 Understanding Potential Donors

Whether your donor is an individual, business, public funding body or charitable trust, they'll have their own particular motivation for supporting you, and it's important to understand what that is.

By using the internet to search company profiles or policy statements, you can start to get a good insight into the affiliations and ethos

of each potential donor. Through this process of research, and any more formal funding application processes, it's essential to understand what any funder aims to get out of the relationship.

This could include boosting brand recognition, promoting their business, fulfilling corporate responsibility requirements, achieving common aims and objectives, granting funds for specific purposes, and other factors which may be unique to that particular funder. Successfully applying for funding will depend on pressing the right buttons.

If you can offer your potential funder an opportunity to support a project that meets their needs, there's no reason for an application to be rejected (funds permitting!)



Every little helps: it's surprising what you can find in the course of a river cleanup!

(C) SOUTH EAST RIVERS TRUST

In most cases, this will require carefully tuning the outline or details of your project to fulfil the funder's needs and aspirations. But if your own aspirations would be too compromised or lost during this process, don't be afraid to think about approaching a different funding partner instead.

Finally, when you're writing your funding application, be careful to write it in clear and simple language (while at the same time including enough professional terminology to make it credible). This will help you avoid the problem of confusing and discouraging the people who assess each application.



Be creative: funding for urban river projects can come from all kinds of sources

6.2 Fundraising ideas

Raising funds for community-driven urban river restoration projects isn't always easy, and most successful groups take a 'portfolio' approach – not relying too heavily on a single source of funding. Some ideas which have proved to work well in the past have included:

- * Heritage Lottery Fund: Awards For All
- * Plastic bag tax: local voting in supermarkets
- * Partnership in larger Heritage Lottery Fund schemes
- * Landfill Communities Fund
- * Involvement in Rivers Trust projects: e.g. natural flood management
- * Defra funding pots: e.g. the Water Environment Improvement Fund
- * Fishing and fisheries improvement grants
- * Grant making trusts: e.g. Esmée Fairbairn, Greggs Foundation
- * Water company biodiversity and/or community investment programmes
- * Enforcement undertakings: direct compensation for pollution or other environmental damage
- * Local business donations to support river cleanups and other events
- * Donations in kind: e.g. local council rubbish collections
- * Making and selling merchandise: e.g. Christmas cards, branded clothing
- * Running fundraising events: e.g. fetes, jumble sales, seasonal markets
- * Sponsorship for various activities: e.g. running a marathon
- * Duck races: each entrant 'sponsors' a duck
- * Prize draws and raffles



(C) DENISE ASHTON

6.3 Saying thank you properly

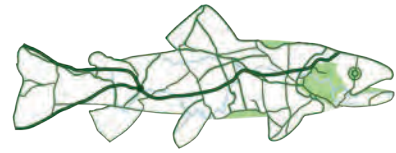
Everybody likes to be thanked, and funders are no different. It's vitally important to thank your fundraising partners, formally and informally, for the support they've given you.

Saying thank you can be formal and informal – from providing agreed written reports, to keeping key contacts updated with occasional emails or friendly phone calls.

Mentioning your funders appropriately on social media is another very useful way to let them know you're grateful for your help. If they share or retweet your message and photos, that's extra publicity for your project too!

Thanking your funders properly isn't just good manners and the right and proper thing to do - it will also improve your chances of repeat funding, and even make you and your project visible to completely new funding partners.





Trout in the Town

7

IMPROVING YOUR URBAN RIVER

Improving your urban river is likely to be a long but satisfying process, and a good starting point would be the ideas outlined in section 2 of this toolkit

After this, to understand your river's full potential, and get ideas for suggested solutions, you could consider a technical assessment and guidance report produced by a professional ecologist or conservation organisation. The Wild Trout Trust's own Advisory Visit (AV) scheme makes this professional service available to all for free - asking only for travel costs of the member of staff who performs the visit (see www.wildtrout.org for more details).

This kind of report should include a list of the most important issues faced by your river, along with suggestions for tackling them. You can read these solutions as a list of objectives for a habitat improvement project, so that the works can be accurately costed and scheduled. Setting out clear aims and objectives at the start of your project are also an important step in monitoring the success of habitat works.

Many of the typical challenges associated with the rural reaches of both groundwater-fed and upland rivers are identified in the Wild Trout Trust's 'Chalkstream Habitat Manual' and 'Upland Rivers Habitat Manual' respectively (both available for download at www.wildtrout.org).

But urban reaches of all rivers come with their own particular problems too, so we've outlined these characteristic issues in the following section of this Toolkit.

7.1 COMMON PROBLEMS ON URBAN RIVERS

Urban rivers share many of the same problems as their more rural counterparts, but the ways they've been modified, overlooked and underappreciated for decades, or even centuries, can make them vulnerable to problems of their own.



Fly-tipping can be a constant challenge in under-appreciated urban areas

7.1.1 Fly-tipping

Apart from contaminating your river in their own right, fly-tipping and litter are very obvious forms of visual pollution which convey a public message that the river is dirty and not worth valuing. This can lead to even more fly-tipping, as well as worse pollution.

Rubbish in rivers falls into a legal grey area: landowners and local councils have no obligation to remove it, and even the Environment Agency will only clear it if it's causing a flood risk. So it all adds up to a perfect opportunity for volunteers to step in.

Experience shows that it's important to clear fly-tipping as soon as possible, to reduce the chance of more being added. Depending on the extent of the problem, this may involve a range of efforts - from one or two volunteers with litter pickers and domestic wheelie

bins, on an occasional basis, to large-scale volunteer events at regular times every month.

If fly-tipping is a problem for your river, gaining support from your local council will always be time well spent. Biodiversity officers are often the most sympathetic to approaches from voluntary groups, and they may be able to arrange rubbish collections by the council's waste management team, using skips or grab lorries to take the rubbish you pull out of the river to a landfill or recycling site.

Early-stage Trout in the Town groups have sometimes been asked to fund skips or rubbish collection themselves - up to £1,000 each time. In cases like these, it's worth politely reminding the council that while they may not be formally responsible for what's in the river, your group is working hard, on a voluntary basis, to do work that the council should otherwise be doing to improve the local area.

7.1.2 Invasive non-native species

Invasive non-native species (INNS) of all kinds tend to thrive in places where native plants and animals have already been affected by urban development and other human pressures. They can easily move along urban rivers, roads and railway lines to colonise new areas, often without being noticed until they've achieved a tenacious foothold. But this doesn't mean they can't be tackled by determined groups of volunteers. Read on for a summary of the most problematic plants and animals, and what you can do about them.

HIMALAYAN BALSAM (*IMPATIENS GLANDULIFERA*)

A relative of the busy lizzie, commonly known as 'jumping jacks' or 'policeman's helmet', Himalayan balsam is a tall, robust plant with stems up to 3m high and distinctive pink or purple flowers. It often forms massed monoculture stands along rivers and streams, and may be able to reduce the diversity of native plants by two thirds: first by shading them out, then out-competing them for the attention of pollinators with its long flowering season and plentiful nectar. It also has strong allelopathic effects, releasing substances that inhibit other plants' germination and growth. When it suppresses native wildflowers and plants, it also reduces the diversity of insects that depend on them.

Even a single Himalayan balsam plant can quickly dominate a new site, producing over 800 spring-loaded seeds which can be fired up to 7m away. When the shallow-rooted plants die back in autumn, river banks are left bare and vulnerable to erosion by winter floods, suffocating river gravels, fish eggs, and aquatic invertebrates with silt.

Fortunately, Himalayan balsam is easy to pull up, so this makes it an ideal target for community working parties. However, due to the seed-bank in the soil, it's likely to take several years to clear completely:

Himalayan balsam out-competes native plants by growing in dense stands.
Inset: Himalayan balsam seedlings



- * Pull up Himalayan balsam, ideally in May, June or July before the plant can flower and set seed around August, starting as far up your river catchment as possible, and pile up stems on the bank to compost.
- * Cut each plant below the lowest node of the stem (if you cut above this point, it can still re-sprout)
- * Revisit the site regularly, until the first frosts in October or even November, to catch late-germinating plants. It's a good idea to learn what the seedlings look like
- * Get appropriate training to spray large stands with glyphosate (near water, you'll need approval from the appropriate regulatory authority)

GIANT HOGWEED (*HERACLEUM MANTEGAZZANUM*)

In recent years, giant hogweed has come to public awareness as a real health risk, especially in untended edgelands around urban rivers like Manchester's River Irwell. Brushing against its bristly leaves and red-blotched stems can transfer beads of sap to people's skin, resulting in blisters and recurring third-degree burns from sensitivity to UV light (phyto-photodermatitis). These burns may even need hospital treatment.

Giant hogweed was once prized by Victorian plant collectors for its 'Herculean proportions' and 'splendid invasiveness'. It's now Europe's tallest herbaceous plant, growing to 5m in height in dense colonies which shade out other species. Each giant hogweed plant takes several years to mature before flowering once, setting up to 50,000 seeds, and finally dying.

Giant hogweed can be identified by its sharply serrated leaves and red-blotched stems, and it's unwise to approach plants that you suspect might be giant hogweed without full eye and skin protection. If you touch the sap, wash any affected skin at once and shield it from sunlight for at least 48 hours. But if you can safely get close enough, here's are some ways of dealing with it:



- * Cut each plant's root with a spade or mattock, 15cm below ground level
- * Cut off and burn the plate-like flower heads after seed has set, but before it has scattered
- * Get appropriate training to inject each stem with glyphosate, using a special injection kit, or spray the leaves with glyphosate (near water, approval from your regulatory authority will be required)
- * NB: giant hogweed should never be trimmed or composted: cuttings are classified as controlled waste under the UK's Environmental Protection Act 1990
- * Always wear suitable eye and skin protection before approaching any giant hogweed plant



JAPANESE KNOTWEED
(*FALLOPIA JAPONICA*)

Having apparently evolved to survive volcanic eruptions and grow back through hardened lava on Mount Fuji, Japanese knotweed has a fearsome reputation for being able to destroy concrete, tarmac, drains and flood defences with its strong root system. After being introduced to the UK as a garden plant, it now thrives in disturbed environments like railway lines, riverbanks, roads and footpaths, in graveyards, on derelict sites or anywhere that it has been dumped, dropped or deposited.

Japanese knotweed has large, oval green leaves and a hollow stem. Usually in early spring (although sometimes later in the year) the plant produces fleshy red tinged shoots, rather like asparagus in appearance. These can reach a height of 1.5 metres by May and 3 metres by June. Towards the end of August, clusters of cream flowers develop and produce sterile seeds, before the plant dies back between September and November. If disturbed, its underground rhizome network can spread at a rate of 7 metres a year. Japanese knotweed can regenerate from fragments as small as a pea, so if you find it on public land, this is one INNS to notify to your local council, and leave for them to deal with, unless you have their permission, and you're really determined

and qualified in the use of herbicides. Alternatively, if Japanese knotweed is growing on private land, the court case of *Waistell v Network Rail* (2018) established that it's the landowner's responsibility to stop it spreading within 7 metres of anyone else's property. Japanese knotweed can be tackled as follows:

- * Fence off until winter, then cut and burn dead growth to let frost weaken the rhizomes, before spraying with glyphosate over 3 years
- * Get appropriate training to inject each stem with glyphosate, using a special injection kit, in late summer or early autumn, so the herbicide is drawn down into the rhizomes (near water, regulatory approval will be required)
- * NB: Japanese knotweed should never be composted, and is classified as controlled waste under the UK's Environmental Protection Act 1990. Even earth containing fragments of roots and stems must be disposed of at a licensed landfill site



Volunteers clearing floating pennywort on a backwater of the River Wandle.
Inset: a floating pennywort leaf

FLOATING PENNYWORT
(*HYDROCOTYLE RANUNCULOIDES*)

Floating pennywort was introduced in the 1980s as an ornamental plant for tropical aquaria and garden ponds from its native range in Africa and the Americas, and was first noted in the wild in Essex in 1990. It is now spreading rapidly north and west from southern counties of the UK.

By anchoring onto the bank, floating pennywort spreads in densely interwoven mats of fleshy leaves and stems across the surface of slow-flowing or still water, growing at a rate of 20cm per day. It shades out native plants, damages underwater ecosystems, restricts navigation, and causes serious flood risks. In the UK, the official cost of herbicide control is already more than £250,000 a year.

Experience from the Wandle in south London shows that floating pennywort can be tackled by volunteers, though it may require a few visits each year to keep it under control:

- * Pull floating pennywort out of the water and leave it on the bank to compost. Regular pulling (May-October) helps to stop it achieving total dominance
- * Get appropriate training to spray it with glyphosate in winter, when it dies back between growing seasons (regulatory approval will be required, as well as pre-spraying the waxy leaves with surfactant to help the herbicide stick to them)
- * NB: complete new floating pennywort plants can grow from small pieces of stem, which snap off easily, so all fragments of broken vegetation should be carefully netted out of the water



American signal crayfish create distinctive half-moon-shaped burrows

AMERICAN SIGNAL CRAYFISH
(*PACIFASTACUS LENIUSCULUS*)

Invasive crayfish are one of the greatest threats to freshwater ecosystems worldwide. Native to California's Klamath River drainage, American signal crayfish were introduced to English fish farms in 1975. They have now spread widely and were first recorded in Scotland in 1995.

In the UK, signal crayfish are driving native white-clawed crayfish into extinction - if not by transmitting crayfish plague, which is lethal to white-clawed crayfish, then by out-competing them with larger size and faster growth.

Signal crayfish also devastate the wider environment, reducing overall invertebrate biomass in infested waters by more than 40%. By undermining banks with half-moon-shaped



(C) TREVOR RENALS

- * Trapping signal crayfish usually requires a licence, to help ensure that our beleaguered native crayfish aren't targeted by mistake. But river groups can still help to spread the word about careful biosecurity, both in theory and practice:
- * Encourage all your volunteers to take careful biosecurity measures if they move between different rivers for fishing, river cleanups and other activities. Apart from stringent biosecurity, no effective means of controlling signal crayfish are currently known
- * If you catch an alien crayfish, it's illegal to release it or allow it to escape: crushing is usually the easiest and most humane means of dispatch

tunnels up to 2m long, they increase erosion and dump silt into gravels, which inhibits successful spawning by native fish. Research by the Ribble Rivers Trust shows that they drive trout and other fish out of streambed refuges into areas where they're more vulnerable to predation. Signal crayfish may also be responsible for the decline of many amphibians.

American mink are voracious predators



AMERICAN MINK (*NEOVISON VISON*)

Now almost ubiquitous in Britain and Ireland mink were brought to Europe for fur farming from the 1920s. The UK's last fur farm closed in 2003, but deliberate releases by animal rights activists are still occurring in Ireland.

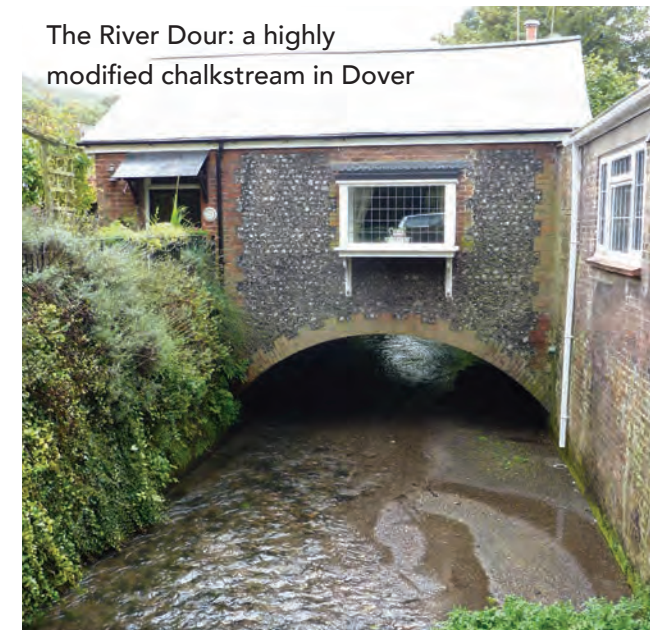
American mink are highly opportunistic semi-aquatic predators, widely regarded as seriously invasive for their ability to colonise new territories and kill many other species including fish, frogs, crayfish, waterfowl and small mammals. Ground-nesting birds are very vulnerable, and mink have had a catastrophic effect on the UK's native water voles because they're small enough to hunt them in their burrows. As a result, water vole populations have crashed by 95% since the 1950s.

There's welcome evidence that mink are declining in regions where otters are making a comeback, but experts agree that mink need to be eradicated before any reintroduction of water voles can take place in areas suffering from these local extinctions. Volunteers can play a key role in creating the right conditions for this to happen.

For more information about tackling these and other INNS, we recommend getting a copy of Theo Pike's 'Pocket Guide to Balsam Bashing' (available as an ebook from Merlin Unwin Books) <https://www.merlinunwin.co.uk/balsambashing>

- * Set up a monitoring and trapping programme on your local river corridors, using floating mink rafts pioneered by the Game & Wildlife Conservation Trust
- * NB: it is illegal to release captured mink or allow them to escape. Trapped mink should be humanely dispatched by shooting in the cage with a suitable licensed firearm

The River Dour: a highly modified chalkstream in Dover



7.1.3 Damaging channel Modifications

When it comes to managing urban rivers, these valuable watercourses affect many members of society, so there's a wide range of different interests that need to be balanced.

Some people like to see more formal, heavily managed parkland, while others prefer our native wildlife and flora. The needs of kayakers, dog walkers, anglers and bird watchers may share many common factors - but they can also differ on specific, significant details.

Additionally, what might be good for showcasing industrial heritage may be bad for the resident wildlife. For example, the Sheffield Don and the East Lancashire Colne have both seen pressure for weirs to be reinstated to recreate a particular period in the history of each river. Such reinstatements could seriously degrade habitat upstream and downstream of the weirs, as well as restricting free movement of fish between high quality habitat patches.

In all such cases of 'river-user' priorities, a local Trout in the Town group can play an important role

Figure 7a: Good habitat at Malin Bridge in Sheffield (note arch of upstream bridge in background)



Figure 7b: During works photo - dramatic clearance, but at least some variation in depth remains - along with a variety of bed material, from cobbles/small boulders to gravel. Coppiced trees will provide bushy low cover through re-growth



Figure 7c: Catastrophic habitat destruction. The photo is taken from a second bridge which is the bottleneck on this section. NO ADDITIONAL FLOOD RISK REDUCTION has been achieved



in representing the needs of the flora and fauna of the river corridor – and this includes making sure that flood risk management schemes are proportionate and effective.

For many riverside residents and businesses, catastrophic river flooding is a very serious concern – but flood alleviation projects can be the most ecologically destructive human activity that ever affect the river channel. It's absolutely essential that the most up-to-date information and approaches are used for effective flood risk management, so that damage to property can be minimised – but

also to make sure that the local environment is not destroyed for absolutely no reduction in flood risk.

One example of ecologically damaging 'flood alleviation' work in rivers is the removal of trees and logs that have fallen into the channel. At a local level, this 'large woody material' (LWM) plays a vital role in the river, cleaning gravels and scouring out deep holes where fish can shelter.

At a catchment scale, LWM is even more important - smoothing out and prolonging the flow of flood water at a lower maximum depth. As a result, rivers

without much LWM tend suffer from short but severe flood events with much greater maximum depths.

Removing bankside vegetation and dredging out gravel or cobble shoals are other common forms of 'flood alleviation' work – and they're highly destructive for wildlife in and around the river. In some cases, for instance when washed-down trees have blocked bridge arches, removal is clearly quite appropriate. However, it's very worrying to note that many well-intentioned practices that destroy habitat and wildlife will be of no benefit to flood risk - or may even make flood risk worse. Simplifying the

channel by removing gravel side-bars, stable LWM, riverside woodland and mid-channel islands tends to promote more rapid and more simultaneous arrival of peak flood-flows at bottlenecks like bridges or culverts. Since such bottlenecks are usually associated with roads or buildings, making flooding more likely at these points is a highly undesirable consequence of dredging and tree removal. There are plenty of examples of these practices leading to more regular and more serious flooding.

Many typical features of urbanisation increase the risk of rivers flooding during heavy rainfall. For

HOW TO PROTECT YOUR URBAN RIVER AND ITS WILDLIFE FROM UNSYMPATHETIC MANAGEMENT

- ✦ Stay alert for notifications of intended work on the river (e.g. notices on trees)
- ✦ Obtain the contact details of the project managers for all works
- ✦ Start civilised and rational consultation with project managers
- ✦ Make sure that the reasons for works are clear, and that the proposed measures will achieve their aims – for example, ask the local council or regulatory authority if the scheme has considered the flow capacity of the town's bridges
- ✦ Protest in numbers against potentially inappropriate works
- ✦ Publicise unjustified works in local, regional and national media
- ✦ Work with the Wild Trout Trust, the Rivers Trust (<https://www.theriverstrust.org>), the River Restoration Centre (<http://www.therrc.co.uk/>) or other specialists to identify any alternative means of meeting those aims with a lesser environmental impact
- ✦ Seek support from representative lobbying bodies like the Angling Trust or Salmon & Trout Conservation UK
- ✦ Promote and lead by example with good drainage practices (e.g. installing a water butt to collect rainwater from roofs, to use later during dry weather)
- ✦ Campaign for SUDS, flood storage creation and better land use practices instead of channel dredging

instance, the use of tarmac and concrete, and the removal of grass, flowers and trees from land reduces the amount of porous ground that can 'soak up' rainfall. More houses and other buildings mean more roofs, which increases the total surface area of hard impermeable surfaces even more.

All these factors combine to greatly increase the speed at which rainfall flows through our drainage systems and into the nearest river. Such 'flash flooding' becomes a real problem when it needs to pass under bridges that were often built long before there were so many homes and businesses on the flood plain of most rivers.

Each bridge arch can only let so much water through, so the more water we pour into our drains, the bigger the risk of making the river back up above the bridge, and causing a flood.

These factors are at the core of successful flood risk management, and show that it's pointless to dredge river channels between bottlenecks like


bridges. Instead, because much of the problem is caused by land-use and drainage systems, we need to solve the problem away from the river in its wider catchment - not simply by dredging and felling trees on the river's banks.

It's also worth remembering that urban development isn't the only cause of flashy floods in rivers. As noted in the Wild Trout Trust's 'Upland Rivers Habitat Manual', the biggest single issue affecting upland rural catchments is probably poorly controlled surface water runoff: for more details, see <https://www.wildtrout.org/content/wtt-publications>

Changes in agriculture since the Second World War have generally increased the numbers of livestock on grassland, while arable cultivation now uses bigger, heavier machinery on larger and larger fields. This has led to soil compaction, faster runoff into the nearest waterway, and higher risks of flooding in urban areas downstream.

#Flood the Parks, not the Properties

In south London, the QWAG community group decided to fight for their local River Quaggy by adopting the slogan 'Flood the parks, not the properties' and campaigning for reinstating the natural channel of the river.



The renaturalised River Quaggy in Sutcliffe Park

Previously buried in a man-made concrete channel, the Quaggy has now been broken out and reconnected to its floodplain through Sutcliffe Park. The creation of new, upstream flood storage areas now reduces the risk of flooding to downstream properties and has also dramatically increased the biodiversity and conservation value of its river corridor flora and fauna. This is also a dramatic example of the value of extending floodwater storage capacity, instead of trying to dredge deeper channels

between bridges. Other highly effective (and more environmentally friendly) ways of alleviating flooding include the widespread use of water butts, which have been very successfully promoted in the Quaggy catchment to slow and reduce the impacts of flashy surface runoff into the river).

JULIA GROLLMAN



Recent studies suggest that every river in the UK is impacted by weirs or other barriers

7.1.4 Habitat Fragmentation

In urban areas, weirs and culverts are the most common problems preventing fish from reaching the kinds of habitat they need to complete their lifecycles successfully. Impassable barriers or severe restrictions to free passage may also be caused by:

- ✦ Heavily engineered main-river banks
- ✦ Dredging to such an extent that flowing water is too wide, shallow and lacking in cover for fish to pass through

- ✦ Spawning tributaries being forced to flow over vertical waterfalls into the main river channel as a result of:
 - ✦ Rampant erosion of the main river channel, perhaps due to unsympathetic forestry drainage
- Particularly for gravel-spawning fish, there's a vital need for free movement between different kinds of habitat at specific stages in their lifecycle (spawning, juvenile and adult). Ideally, fish would be able to swim freely between adult holding pools, sheltered juvenile shallows and clean, well-irrigated gravel mounds.



Figure 7d



Figure 7e



Figure 7g



Figure 7f

Where fish can't overcome a barrier to upstream migration, their life must be lived in perhaps less-than-ideal habitat downstream of that structure.

But it shouldn't be assumed that installing a fish pass is automatically the best solution to fish migration. Instead, fish passes should be considered a (vital) last resort which, when properly designed and installed, can allow some fish to move upstream over previously impassable barriers.

Of course, this is absolutely desirable, but it's still not as beneficial as having no barrier at all. Only a proportion of fish will be able to find their way up the engineered structures, and installing a fish pass on an otherwise unmodified weir does nothing to improve the habitat in the sluggish water impounded upstream of the structure.

Knocking down weirs, in full or in part (see sections 7.1.5 and 7.2.2 for obtaining permissions), doesn't just improve fish passage - it also results in huge improvements to this upstream habitat, and can increase trout and salmon biomass 10-fold.

Strategically placed notches in the lip of a weir (perhaps coupled with a suitable fish pass if necessary) could also enhance the accessibility and appreciation of important heritage features, by making larger sections of the weir's structure visible to interested visitors.

Figure 7d: A small redundant 'stilling weir' on the River Wandle, trapping sediment and stopping gravels moving downstream

Figure 7e: After removing the top courses of stone, note the gravel ramp thrown up below the lowered weir

Figure 7f: Before lowering the weir, note the ankle-deep grey silt trapped in the impoundment

Figure 7g: After lowering the river has been able to scour away silt to reveal a clean gravel bed



7.1.6 Riparian ownership

Land ownership can be extremely complicated along urban river corridors as a result of the sheer number of different owners. There can also be confusion between 'adopted' and 'unadopted' highways and access paths by local councils, and a general suspicion of why local groups may want access to sections of urban river in the first place. Ownership of rural estates is often far simpler!

In many cases, the best option is knocking on the doors of the various riverside businesses and properties to explain your group's reasons for wanting to look after the river. Local councils or wildlife trusts may have compiled their own lists of riparian owners (especially if there is a local habitat 'Biodiversity Action Plan' in place for the river: see <http://www.ukbap.org.uk/default.aspx>).

You'll almost certainly need to consult the Land Registry at some point - although even this approach may not resolve all ownership queries: <http://www.landregistry.gov.uk/>

However, if you can identify any landowners, it will be essential to contact them to ask permission for your group to access the river and carry out working parties, habitat improvements, and perhaps even fish those stretches of river. It's also a good idea to keep a record of your attempts to obtain these permissions (including keeping responses on file, in case of any dispute that may arise).

7.2 Habitat works on urban rivers

Although urban channels can suffer from many obvious constraints – either due to perception or to surrounding physical infrastructure – there are often plenty of opportunities to improve both habitat quality and connectivity.

Due to the more obvious physical constraints (and a greatly heightened public and regulatory sensitivity to flood risk), a lot of patience and persistence is often required. But as with most significant obstacles, having enough inventiveness will often let you work around these problems – producing highly significant benefits after all your hard work.

7.2.1 General principles

In order for habitat works to be successful, it's important to identify the most significant factors affecting sensitive keystone species like trout and grayling, and the general health of river corridor plant and wildlife communities. This raises the very important (and often overlooked) prospect that the solutions to degraded urban river corridors may lie a considerable distance away from the local stretch you want to improve.

This means that it's vital to follow the project planning process outlined in detail in the 'Wild Trout Survival Guide' and the 'Upland Rivers Habitat Manual', if you want your habitat works to be properly effective.

For example, if you want to improve spawning success in your stretch of river, restoring degraded riffles may be just the start – you may also need to get fish up and over a weir, further down the river, before the whole ecosystem can really see the benefit of your work. (See sections 5.3 and 5.1/5.2 of the WTT's 'Upland Rivers Habitat Manual' for gravel management and fish passage easement respectively, as well as section 2.2.6 of this Toolkit).



River mending in progress: restoring a section of the Wandle, using cobbles, gravel and brushwood berms, after removing a redundant weir

Solving problems at their distant source also applies to controlling or eradicating invasive plants, which will almost certainly require a top-of-catchment-down approach in order to restore the biodiversity of plants (and the foodwebs that depend on them) on your local stretch of river. In short, be sure to look for problems at their source and tackle them at source when possible.

For more detailed guidance on restoring your urban river, the WTT's 'Chalkstream Habitat Manual' and 'Upland Rivers Habitat Manual' will help you identify particular solutions according to your river's characteristics. However, the special conditions of urban rivers also means that some of these solutions may need to be adapted: see section 7.2.3 for more details. Don't forget – advice from the WTT or your local regulator's fisheries office is just a phone call away!



WILD TROUT TRUST
See the latest list of trout in the town groups
<https://www.wildtrout.org/content/trout-town>

7.2.2 Getting permission to work in your river

As well as getting permission from landowners (see section 7.1.5) you'll need to obtain consent from your regulatory authority for any habitat restoration works you'd like to do (apart from removing litter and fly-tipped rubbish) in any stream or river.

The legislation and administrative requirements for these processes have been (and continue to be) subject to quite frequent variations. So what follows is some overall guidance to navigating whatever process you currently need to engage with.

In general terms, the regulatory risk-assessment process is designed to ensure that no works in the river, or (commonly) within 8m of its banks, will increase flood risk or damage biodiversity. In urban rivers, of course, the flood risk aspect is particularly important and sensitive. There may be activities that are considered 'exempt' by your local regulatory

authority – though often an application (for the purpose of maintaining records of works) will still need to be submitted. Contact and communication with representatives of your local regulator are essential to determine which activities may be classified as 'exempt' and 'non-exempt'.

Have patience and determination when you're preparing and submitting your applications, and be prepared to accommodate and respond to feedback. After you've been through this process once, all your future applications will feel much easier, and everyone will be familiar with both the process and everyone else involved.

You should also be aware that payments may be required to submit a final/formal application to gain consent for your habitat works. In England and Wales, for example, if the works are demonstrably by a non-profit organisation and for environmental good, the minimum charge from the EA or NRW is £170 (2019 price).



(C) DUNCAN SOAR

Always talk to your local regulator at an early stage of planning your urban river projects

PREPARING AND SUBMITTING YOUR APPLICATIONS

In order to assure the regulator that your works won't cause problems, you'll need to provide the following as a minimum, using official forms supplemented with your own extra information:

- * A plan of the area where you'll be working, marked up with the structures and changes you want to make
- * A cross-section drawing of these structures or changes
- * A method statement describing how you'll do this work
- * An environmental impact assessment identifying any risks and how you plan to mitigate them

To help the consenting process run smoothly, it's highly recommended to start talking to your local regulatory contacts as early as possible, preferably including a meeting on the bank to talk over your plans.

You should also try to send a first draft of your plans, laid out in the form of a project proposal, to your regulator as a 'pre-application'.

This will usually be circulated to the fisheries, biodiversity and flood risk management teams for comments - and addressing these will also help your final application to proceed without unexpected hitches.

From experience, a successful pre-application and application will include:

- * A brief but precise account of what the works are designed to achieve, and why each outcome is desirable
- * Sufficient detail in all plan and elevation views to show how any introduced habitat features (e.g. logs) will be anchored in place (complete with dimensions of anchors)
- * Sufficient details and clarity to show the maximum dimensions of these features, their location in the channel, and the proportion of the channel they'll occupy (NB usually extending

to no more than two thirds of the width of the channel).

- * At least a six figure National Grid Reference (e.g. SK 310 931) to identify the location of the works (or, if necessary, upstream and downstream references).

You'll be able to obtain the right forms to fill in from the appropriate team in your local regulatory authority, or by calling them e.g.

08708 506 506 for EA
0300 065 3000 for NRW
028 9262 3100 for NIEA
053-9160600 for EPA
01786 457700 for SEPA



Figure 7h

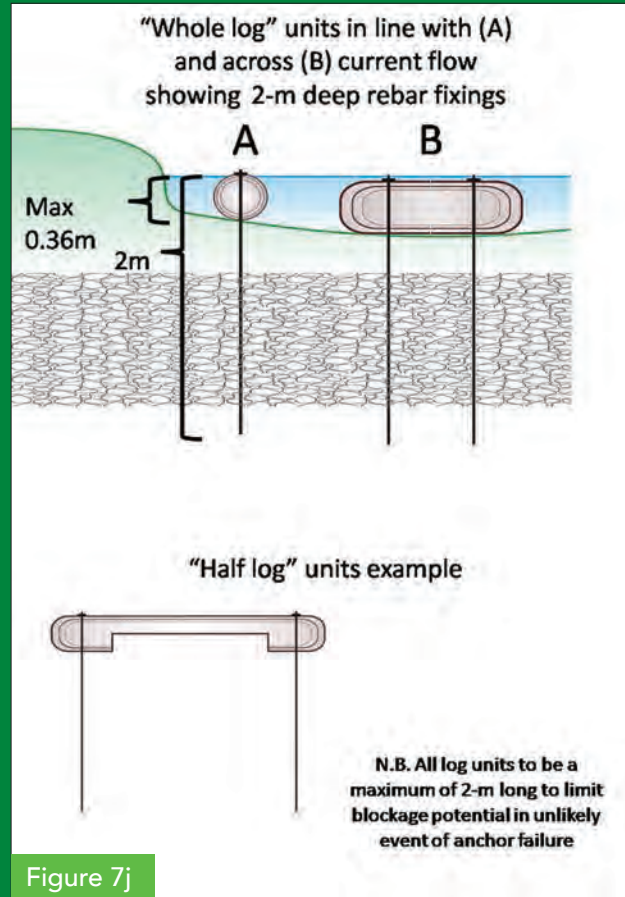


Figure 7j

Figure 7h: LWM cabled to living tree pictured during falling spate flows on Derbyshire's River Goyt

Figure 7i: Just upstream of bridge parapet accumulating unsecured, naturally-occurring LWM

Figure 7j: Small log sections including anchoring via 2-m lengths of steel rebar

Figure 7k/l: Examples of small logs combined to produce flow deflecting structures red arrows (top) indicate direction of main flow and subsequent deflection and scouring action. Steel rebar anchors (2-m x 19 mm) are used in both cases



Figure 7i

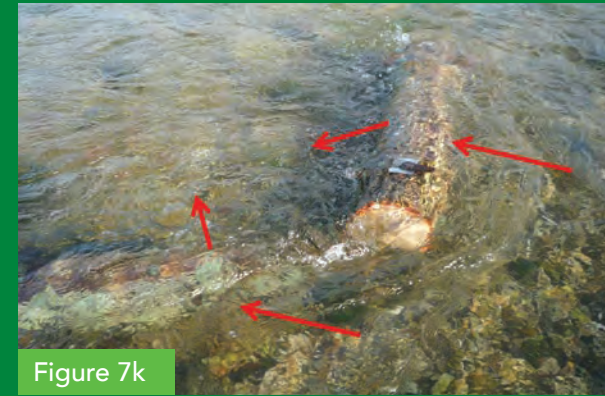


Figure 7k



Figure 7l

7.2.3 Adapting river restoration for urban environments

Where habitat restoration includes installing or repositioning large structural components in the channel such as boulders or Large Woody Material (LWM) the basic approaches outlined in the WTT's 'Chalkstream Habitat Manual' and 'Upland Rivers Habitat Manual' will often be absolutely appropriate.

In fact, measures that can be securely installed, and most closely mimic the form and function of natural, in-channel structures, are always strongly preferred. So, for example, from a habitat viewpoint, a fallen tree creates great habitat for many invertebrate and fish species, both within its submerged branches, and also in how it diverts water and creates variety of depth and bed material around it. Trying to mimic these natural effects should be your priority.

However, urban rivers are often subject to extra high or torrential spate flows – as well as great public sensitivity to potential flood risk – so we need to pay extra attention to the risks of our structures breaking free. This applies to areas upstream of urban development as well as the fully urban stretches.

There may also be hidden urban infrastructure which could affect your ability to anchor new habitat features securely. So you may find the following checklist useful:

- * Commission a check for underground services (electricity, gas, water pipes, sewers and internet cables) via Linesearch (<https://www.linesearchbeforeudig.co.uk/>) to avoid damaging or disturbing service pipes. Your local regulatory authority contacts may also be able to help with this utilities search.
- * Use secure anchoring (e.g. Figs. 7h and 7l) to prevent structures breaking loose:
- * Use 2m lengths of rebar drilled through LWM

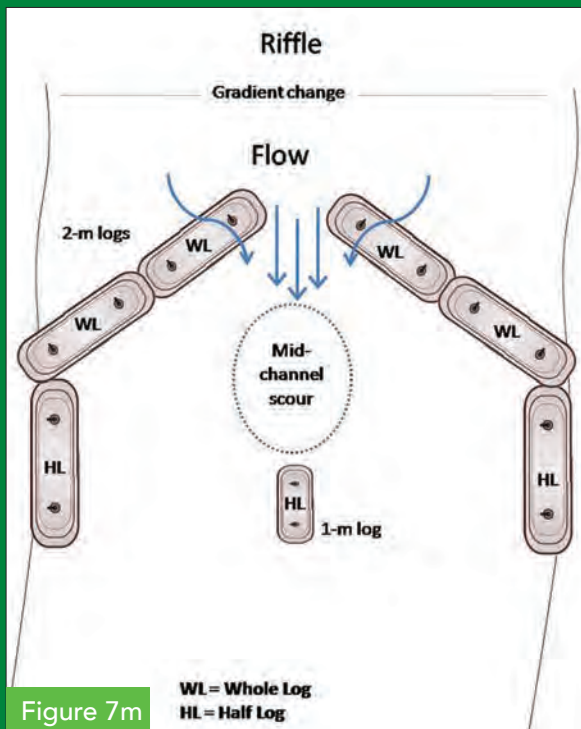


Figure 7m

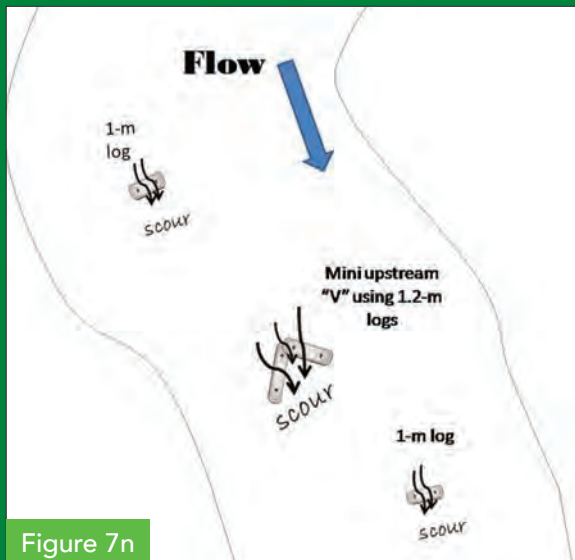


Figure 7n

Figure 7m: Plan view of small logs (half log and whole log) combined to produce large mid-channel scouring deflector with overhead cover that would conventionally require large individual trees or logs

Figure 7n: Example plan view of potential Land Drainage Consent application diagram - here using small logs to introduce scattered localised scour pots in a uniform riffle

placements and driven at 1 to 2m centres to full depth in the riverbed. (However, you'll need to be really sure that there are no buried services in the area you do this kind of work!)

- * Cable LWM to mature living trees with 12mm steel cable (as a failsafe, back this up with rebar pins if necessary)
- * Anchor cables to expansion bolts drilled into stable structural walls in engineered channels
- * Try to increase the numbers of in-channel structures (and general channel 'roughness') at the same time as removing weirs and adding 'slowing the flow' measures in your river's headwaters (and throughout its catchment). Guidance on Natural Flood Management is available here: <https://www.sruc.ac.uk/NaturalFloodMgmt>

- * Consider splitting larger structures into smaller individual pieces (e.g. 3 or 4 small logs installed end to end, in the shape of a single, larger log). This creates a lower risk of blockage, if individual logs are washed away. However, it's worth trying to balance the reduced biological benefit of such formal structures against more complex and natural features that have been properly anchored

In short, restoring habitat in urban rivers requires just as much inventiveness as finding new, creative ways to engage all the people who live on and around the river's banks! But it's just as fulfilling when it all comes together – and of course the WTT will always be here to help with advice, guidance and practical assistance, across the UK.



Appropriate monitoring should be part of every river restoration project

7.3 Project Monitoring

From an early stage of planning habitat improvement projects on your urban river, it's a good idea to start collecting basic physical and biological monitoring data. This will provide a baseline for judging the effects of your group's restoration work in the future.

In order to assess fish populations, electrofishing survey data is ideal, but it may not always be available. As an alternative, you could start collecting anglers' catch returns when they fish the river, asking them to report fish size and angling effort (the number of rod-hours spent in order to catch those fish). Other pre- and post-restoration monitoring could include fixed point photography and assessments of invertebrate communities. Invertebrates are widely used to assess water quality (see sections 2.1.4 and 2.1.5)

and of course they provide a food supply for fish, bats and birds. In addition, invertebrates are known to respond to changes in flow and physical habitat conditions. As such, invertebrates are an important indicator of water quality, habitat quality and have direct and indirect (e.g. resource for predators) biodiversity value.

Other kinds of monitoring could include an assessment of social benefits resulting from urban projects – with examples as simple as a noticeable reduction in fly-tipping or an increase in social usage of the river corridor (e.g. more workers taking their lunch on the riverbank). Keeping records of all these kinds of positive changes is likely to make it easier to win support for future projects – on your own river and even on a national scale.

For more information about monitoring Trout in the Town projects, see Appendix 8 of this Toolkit.

7.4 Risk assessments

As explained in section 4.2 (River cleanups and habitat improvement events) you should conduct a health and safety risk assessment in advance of every river event you organise.

Risk assessment is all about identifying potential dangers, assessing how likely they are, and who might be harmed, together with the severity of the damage if they happened - and what you can do to minimise the likelihood and potential damage. This shouldn't simply be a one-off exercise: you should continually assess risks as an ongoing part of your group's operations. All your risk assessments should be based on the realities of your activities, not seen as a box ticking exercise.

At an early stage of planning your event, choose one person to be your Event Controller for the occasion, and someone else to be your Health and Safety Officer. Ideally, one or both of them will be first aid trained, and both your officials

Risk assessment is vital
for all river events



should meet at the event location several days ahead to identify risks and look for ways to reduce them.

On the day of the event itself, both of these officials should aim to arrive slightly early to double check that these risks and mitigations still apply – for example, have river levels been raised by rain, or has any other unexpected hazard appeared?

For example, and around any urban river in need of a cleanup or other improvement, typical risks might include:

- * Steep banks, deep mud and dangerous currents
- * Jagged, heavy objects
- * Needles and broken glass
- * Dangerous plants like giant hogweed
- * Stinging insects and wasps' nests
- * Sewage and other pollutants
- * Weil's Disease

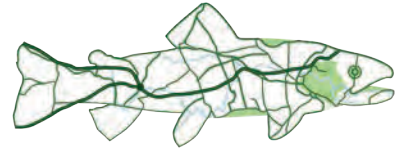
Additional risks relating to restoration work might include:

- * Heavy tools
- * Sharp objects (e.g. nails and wire)
- * Power tools (e.g. chainsaws and augur drills)
- * Falling debris (e.g. trees and branches felled as part of the project)

Reducing risk often amounts to simple common sense. For instance, if deep, fast water is the problem, get your volunteers to work in teams. Dangerous mud can be cordoned off if necessary, and slippery banks can be made safer by hanging a knotted rope alongside, or using a ladder. Chainsaws and other power tools should only be used by fully qualified operatives, while everyone else stands well back. Sometimes, just warning your volunteers about a particular danger can be enough to reduce it to minor significance. And remember – there's no substitute for careful thinking and common sense!

A worked-through sample risk assessment, including plenty of tried and tested ideas for controlling risks, can be found in Appendix 3 of this Toolkit.





Trout in the Town

8

Becoming a Trout in the Town Chapter

The Trout in the Town programme is designed to empower urban community groups to improve river habitat and boost biodiversity in towns and cities



The River Wandle: one of the first Trout in the Town chapter locations

It's all about promoting education and awareness of the value of healthy urban rivers - and generating even more community involvement in the local environment - instead of simply seeing urban rivers as dangerous eyesores.

Becoming an accredited Trout in the Town 'chapter' means that your group will be officially recognised as part of this inspiring movement, with tiers of membership that reflect the levels of development and success that you achieve over time. For more information about getting your urban river group accredited as a Trout in the Town chapter, please contact the Wild Trout Trust.

Trout in the Town: First Contact

Watercourse	Urban, suitable for trout (subject to water quality and fish passage improvements)
Structure and governance	WTT Advisory Visit received Key project leader identified

Trout in the Town: Bronze Level Chapter: as per First Contact, Plus...

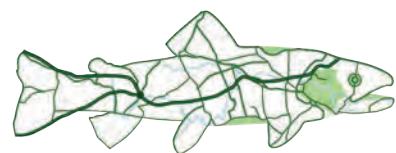
Watercourse	Urban, suitable for trout (subject to water quality and fish passage improvements)
Structure and governance	Basic committee structure established (chair, secretary, treasurer) Bank account assigned and accurate financial records kept Adherence to all relevant Trout in the Town best practice standards Volunteer workforce established, committed to long-term maintenance of river enhancements Developing relationships with local rivers trust, council and EA
Activities	Community river cleanups organised Social media presence: Facebook, Twitter or Instagram

Trout in the Town: Silver Level Chapter: as per Bronze Level, Plus...

Watercourse	Wild trout population present or possible Water quality improving
Structure and governance	Regular activity updates to WTT (for WTT to publicise further) More advanced committee structure established Riverfly monitoring (RFM) training undertaken Good working relationships with local rivers trust, council and EA
Activities	Citizen science: regular water quality monitoring (RFM) in progress Standalone website displaying TinTT partnership material and reciprocal links to WTT INNS assessed and addressed River restoration: first physical projects planned

Trout in the Town: Gold Level Chapter: as per Silver Level, Plus...

Watercourse	Self-sustaining wild trout population present Fish passage issues being improved
Structure and governance	Audited accounts for transparency
Activities	Education: schools project delivered Additional citizen science programmes in progress River restoration: physical projects delivered Monitoring effects of physical projects, cleanups etc Working with WTT to mentor other Trout in the Town groups Participating in local river / wildlife festivals Contributing to organisation of Trout in the Town Urban Conclaves



Trout in the Town

9

Successful urban river projects

The Trout in the Town programme began in 2008, and was inspired by the local community's success in restoring the River Wandle in south London. This section of the toolkit includes some case studies from different Trout in the Town groups, which we hope you'll find inspiring for your own urban river project

9.1 South East Rivers Trust

Like many early Trout in the Town groups, the Wandle river restoration project began as a group of anglers and concerned local residents pulling shopping trolleys out of an under-appreciated urban river on occasional Sunday mornings, and very quickly attracted huge support across the wider community.

The River Wandle was a famous trout stream in the Victorian era, but became massively polluted by industry, and was declared biologically dead in the 1960s. Thanks to improvements in sewage treatment, the ecosystem slowly started to recover, and the charity's early trustees (including Theo Pike) commissioned an Advisory Visit from the Wild Trout Trust in 2007.

Later in the same year, the river was severely damaged by a catastrophic bleach pollution incident, but this led to a river restoration programme worth £0.5m over 5 years – the largest compensation from any UK polluter at the time. This allowed the Trust to employ its first full-time member of staff: Dr Bella Davies, with a PhD in aquatic biology.

A community catchment plan for the river's future was generated from one of the widest public consultations ever held in the Wandle Valley, and a breeding population of wild trout became established in the river thanks to the Trust's 'Trout in the Classroom' schools project. Between 2013 and 2018, the Trust was a lead partner in the Heritage Lottery Fund's first ever Urban Landscape Partnership Scheme, and won the urban category of the UK River Prize in 2016 for restoring the



(C) SOUTH EAST RIVERS TRUST

Urban idyll: the River Wandle in Carshalton after restoration

Carshalton arm of the river to 'good ecological status' under the EU Water Framework Directive (the first time this has been achieved in the UK).

The Trust now employs around a dozen members of staff, and still runs popular monthly community river cleanups, as well as pollution patrols, invasive species management, and educational programmes. As an early member of the national Rivers Trust

movement, it has also expanded its charitable area of benefit to include many rivers across the south east of England, and has grown to become the South East Rivers Trust – with far bigger ambitions than those original anglers and residents ever dreamed possible!

For more information, visit www.southeastriverstrust.org

9.2 River Worth Friends

The River Worth is a green wildlife corridor that runs through the centre of Keighley in West Yorkshire. It might not look very pretty in places, but it has an abundance of wild trout, grayling, dippers, kingfishers, riverflies and wild flowers.

Philip Sheridan had informally looked after 'his stretch' of the River Worth since he moved to Keighley in 2005. He retrieved chemical and paint containers from the river, reported potential pollution incidents to the Environment Agency, and regularly fished this 'dirty' river for recreation and personal therapy. As part of his role on the committee of Salmon & Trout Conservation UK (West Yorkshire branch), he also started co-ordinating a group of Riverfly monitors on the River Aire and its tributaries.

In May 2013, Phil gave a keynote talk on resilience at the Wild Trout Trust's Urban Conclave. Later, inspired by the amazing work of other urban trout warriors he'd met at the Conclave, he discovered an



Riverfly monitoring on the River Worth

(C) RIVER WORTH FRIENDS

opportunity in 2015 to gain funding for the River Worth when he became a member of the Keighley BIG Local Partnership, a programme funded by the National Lottery.

In this case, the Local Trust had awarded £1 million to a designated area within Keighley to help improve the quality of life for local residents. Only local people who lived, worked or played in the area could make the final decisions on how the money was spent. Philip gained agreement from



Upwinged mayflies are valuable indicators of water quality in urban rivers

(C) RIVER WORTH FRIENDS

the Partnership to draw down £2,000 of seed funding to help form a Friends group for the River Worth, aiming to bring the river into focus and raise its status as an important asset to the people of Keighley, and engage residents and businesses to take on a pro-active role in looking after the river.

In 2017, Paul Gaskell delivered an Advisory Visit on the River Worth, making a number of recommendations which the River Worth Friends could use as the basis for progressing the group

and its work. The report has been shared with other key stakeholders, such as the EA, Bradford City Council, and the Aire Rivers Trust (ART) with the aim to inform decisions about flood alleviation schemes, habitat restoration and the Trust's long term DNAire project to remove obstructions to migratory fish passage.

With the help of Muppet, a local community development worker, Phil has also initiated guided walks, Riverfly monitoring demonstrations, stakeholder meetings, and litter picks. Most recently, Nick Milsom of the Aire Rivers Trust has led some outstanding work on the River Aire and its tributaries, including supporting new and established groups like the River Worth Friends.

For more information, visit <https://www.facebook.com/RiverWorthFriends/> <https://airiverstrust.org.uk/> and <https://keighley-biglocal.org.uk/>



A view of the river: urban waterways are focal points for recreation and personal therapy

(C) RIVER WORTH FRIENDS

Donate to support the Wild Trout Trust's vital work
<https://www.wildtrout.org/shop/donations>



(C) CATCH

CATCH has inspired the local community to enjoy looking after the River Cale and its surroundings

9.3 CATCH

One Sunday afternoon, two dads in Wincanton were putting the world to rights, agreeing that something needed to be done to improve their local river.

The Cale is a spate river that feeds into the Dorset Stour. Unfortunately, in 2010 a fire in an industrial estate caused a pollution event, when water contaminated with dairy produce ran into the river, and thousands of fish died from deoxygenation.

Littered and neglected, the Cale was in a poor state. This didn't sit well with the dads, Gary Hunt and Matt Bishop, who had both grown up near rivers and appreciated the Cale's importance – not just

environmentally, but also for children like their own to be able to enjoy a healthy river in their town.

Gary and Matt assembled their wives, friends and families for a meeting in a local pub, and agreed to form a community group 'to sort the river out'. The Environment Agency put them in touch with the Wild Trout Trust, and an Advisory Visit was conducted on the urban section of the Cale in 2013, which became the basis for future plans (it still provides the backbone of the CATCH committee's bi-monthly meetings).

The group's first litter pick cleared a hoard of river litter, and the EA provided 4,500 native fish (roach, dace and chub) to be released with

local schools. These fish are now flourishing in the river, and occasional wild trout have also been spotted.

As well as looking after the river, CATCH volunteers monitor water quality, maintain a wild flower meadow, give talks to other groups and schools, assist with improvements in signage, clear invasive species, and hold community events. They have also started to deliver habitat improvements, with multiple aesthetic and other benefits for local people.

CATCH finds funding for all its own activities, and has earned money through jumble sales, match-funding through hours worked by volunteers, and other small funding avenues, with support from the EA as larger projects arise.

This self-sufficiency is generated from self-belief and commitment from the local community—with the motto of 'a community group committed to returning the River Cale to a self-sustaining ecosystem that is rich in biodiversity and to be enjoyed by all'.

<http://www.rivercale.org/> and <https://www.facebook.com/RiverCaleCatch/>

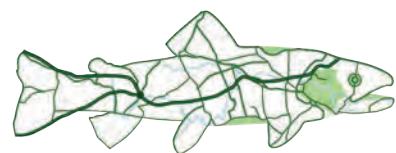


Sharing experiences: CATCH chairman Gary Hunt visits a Wandle cleanup

(C) CATCH



A new sign of the times: practical efforts to restore the river Cale to its central place in the life of Wincanton



Trout in the Town

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Other resources

The trout in the town programme is here to help urban community groups to improve river habitat and boost biodiversity in towns and cities. It's also designed to promote education and awareness of the value of healthy urban rivers, and generate even more community involvement in the local environment – reconnecting urban dwellers to their nearest waterways. Whatever stage you've reached on this journey, the Wild Trout Trust can offer lots of support for your future progress

10.1 The Wild Trout Trust's Trout in the Town specialists

When you've read this Toolkit, please feel free to contact the Wild Trout Trust's Trout in the Town specialists to talk about next steps and more involvement in the national Trout in the Town programme.

★ Paul Gaskell: Trout in the Town (north):
pgaskell@wildtrout.org

★ Theo Pike: Trout in the Town (south):
tpike@wildtrout.org

10.2 Trout in the Town networking

Being part of the Trout in the Town programme provides a wide range of benefits for you and your group – and one of the most important of these is networking.

The programme has chapters across the country, and the support network that this offers is very important. Since Trout in the Town was launched, several Urban Conclaves have been held, as opportunities for all the chapters to get together to share experiences and learn new skills.



An Advisory Visit on the River Trym near Bristol

ADVISORY VISITS

'We have been given a dream to aspire to – that there could be trout in the Trym. After receiving our WTT Advisory Visit, we are investigating removing the weirs. We have stopped removing wood from the river, and we are making greater efforts to clear litter and other rubbish, and remove invasive plants from the banks. We are more aware of the need to report pollution incidents and how to do so, and we have a good understanding of the misconnection issue. We have passed the AV report on to others, and they have been very impressed'.

Alex Dunn, SusWoT (Sustainable Westbury-on-Trym)

More informally, members of different chapters are very welcome to travel to each other's cleanups and river restoration events – where they're always enthusiastically received!

They also collaborate in the development and delivery of partnership projects with a wide range of organisations including fishing clubs, rivers and wildlife trusts and government agencies:

Meanwhile, on social media, the Trout in the Town Facebook Group makes it easy to share news and ask for advice from fellow urban river menders all over the country, and even around the world. To join the group, visit <https://www.facebook.com/groups/wildtrouttrusttroutinthetown/>

ADVISORY VISITS

Advisory Visits (AVs) provide expert, practical advice to individuals or organisations that have responsibility for a stretch of river or a lake which is, or should be, wild trout habitat. One of WTT's Conservation Officers will walk your stretch of river with you and discuss how you can best manage and improve the habitat. They will give you a report with recommendations and advice on techniques, consents and project funding. This report is usually the basis of a habitat improvement project or change in habitat management – more than 90% of our AVs result in practical action. AVs in England are largely funded by the Environment Agency through rod licence

10.3 Wild Trout Trust general advice and practical help

The Wild Trout Trust's team of full and part-time Conservation Officers, based across England, provide advice about the management of rivers and lakes through Advisory Visits, email and phone.



A wide range of advice and publications from the Wild Trout Trust

revenues. The visits and the report are FREE; you only pay travel expenses. We also carry out visits in Wales, Scotland and Ireland and these are also free subject to funds being available (they usually are!).

If you would like an AV, send an email to projects@wildtrout.org or write to the WTT office at PO Box 120, Waterlooville, PO8 0WZ with a request for support and a short summary of the location and current management of the site. Copies of AV reports are held on the WTT website: <https://www.wildtrout.org/avs>

PROJECT PROPOSALS

Following, or instead of, an AV, our Conservation Officers can write up Project Proposals (PPs). These reports are more in-depth than AVs, detailing methods for particular enhancement projects. Very

often, our PPs form the basis of applications to the regulatory authorities for practical in-river habitat enhancement work.

RIVER HABITAT WORKSHOPS

The Wild Trout Trust is a hands-on, muddy-waders organisation, so we like nothing better than teaching people the practical skills they need to improve the habitat of their local river. These sessions take place in the river and on the river bank and are led by WTT Conservation Officers.

The WTT Conservation Officers are fully trained to run these days, including health and safety aspects of this work, first aid, and use of chainsaws and other equipment. Participants do not use chain saws or other heavy equipment, and do not need any special skills other than a reasonable level of fitness and a

willingness to get wet and dirty! Waders, gloves and any other protective equipment required can be provided by the WTT.

River Habitat Workshops are one day sessions run for groups of up to 15 people from a wide range of backgrounds including volunteers for local community conservation groups, fishing club members, Wildlife Trust staff and volunteers and Environment Agency and Local Government staff.

The objective of these workshops is to give participants practical experience of how to manage and improve river habitat for the benefit of wildlife and the community. They are hands-on, in the river, wet and muddy sessions, but tremendous fun as well as great learning opportunities.

These sessions will generally also include short talks on the river bank about relevant issues such as land use, water quality, managing floods and droughts as well as an invertebrate kick sample to look at the bugs in the river and introduce the Anglers Riverfly Monitoring Initiative.

PRACTICAL VISITS

Practical Visits (PVs) are similar to Habitat Workshops, in that they are highly practical and held for group of people, but they generally follow on from an AV and are more focused delivering a specific project with, for example, a fishing club. PVs last from 1 - 3 days and may deliver part or all of a project identified in an AV or PP.

The types of activity carried out in these sessions will be determined by the river and the opportunities to improve habitat, but will typically include:

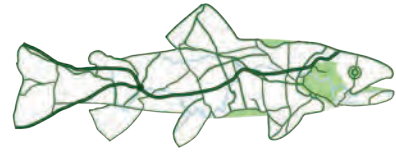
- ★ Protecting banks from erosion using natural materials
- ★ Installing flow deflectors and large woody material to introduce more variation in depths and flows
- ★ Creating 'tree kickers' along the bank to provide protection from erosion as well as essential cover from predators for trout
- ★ Coppicing bankside trees both to win material for 'in river' work and to illustrate how to manage bankside vegetation
- ★ Removing weirs

10.4 Wild Trout Trust reference Materials

The Wild Trout Trust has a comprehensive set of manuals and guides which are designed to help people to carry out habitat improvement and management, including:

- ★ 'The Wild Trout Survival Guide'
- ★ 'The Upland Rivers Habitat Manual'
- ★ 'The Chalkstream Habitat Manual'
- ★ Habitat management guides including controlling invasive plants, gravel cleaning, and managing bank erosion, trees, woody material and instream vegetation

All of these are practical 'how to' guides and come in a variety of formats – book, CD, downloadable PDF and video. To see the full range of publications, visit: <https://www.wildtrout.org/content/wtt-publications>



Trout in the Town

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And finally...

- ★ Take a fully catchment-based approach to restoring your urban river
- ★ Think in terms of partnership with other organisations - not competition
- ★ Don't try to tackle everything at once
- ★ Take time to build up capacity, knowledge and trust
- ★ Develop experience and confidence to stand up for what you know is right
- ★ Make decisions and present arguments based on scientific evidence - objectivity, not subjectivity and emotion
- ★ Sometimes it's about waiting and slowly changing people's aspirations - not delivering a tick box compromise too early
- ★ Don't forget to have fun and enjoy it!

This Urban River Toolkit is produced for guidance; no liability or responsibility for any loss or damage can be accepted by the Wild Trout Trust as a result of any other person, company or organisation acting or refraining from acting, upon guidance or any information contained in this Toolkit.



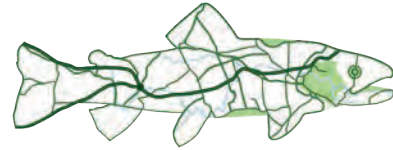

WILD TROUT TRUST

Watch fishing videos and protect wild trout

<https://www.wildtrout.org/content/fly-fishing-videos>

The River Wandle at Hackbridge: restored urban rivers provide relaxing blue-green spaces, full of benefits for everyone, in the hearts of our towns and cities





Trout in the Town

APPENDICES

Appendix 1

Sample constitution for an urban river community group

Appendix 2

Sample safeguarding policy for an urban river community group

Appendix 3

Risk assessment template

Appendix 4

Event registration template

Appendix 5

The Anglers' Riverfly Monitoring Initiative: detailed guidelines

Appendix 6

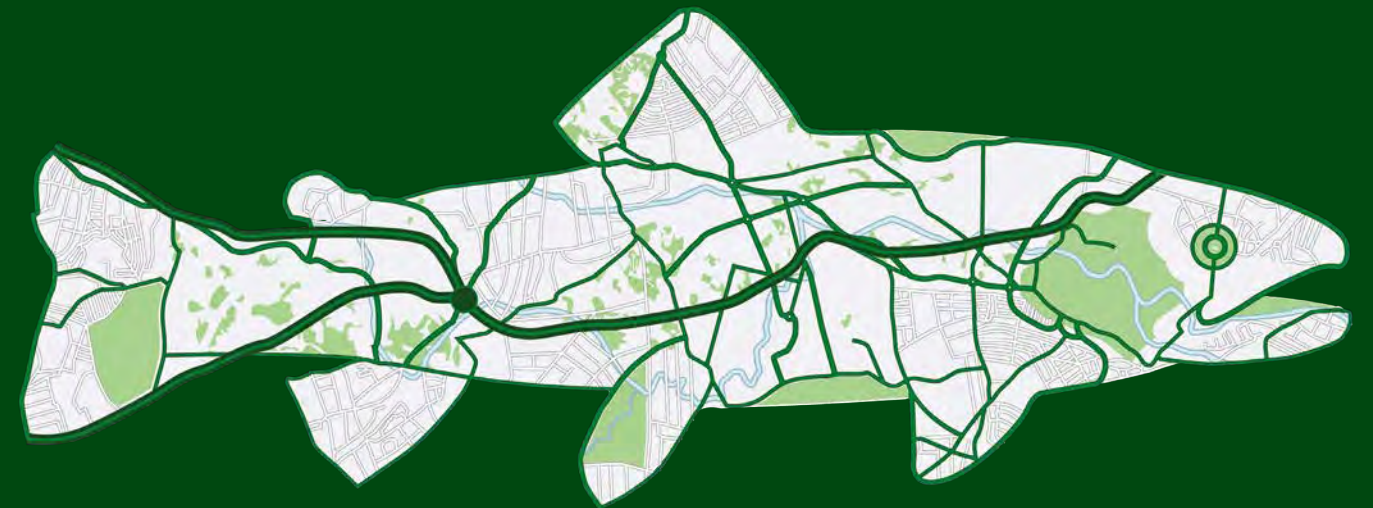
Only Rain Down the Drain: A Handy Guide to Yellow Fish

Appendix 7

Reaching Communities: consultation questions

Appendix 8

Monitoring Trout in the Town projects



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To download the latest Appendices for the Urban River Toolkit, please visit this page on the Wild Trout Trust website: www.wildtrout.org/content/tintt-appendices