



Enhancing the Thames Catchment



Thames
rivers trust



Restoring the
Thames and
its tributaries
for people
and wildlife

Mission

Thames Rivers Trust – a partnership of all Rivers Trusts in the Thames Basin working to restore rivers and wetlands to benefit communities, wildlife and the environment.

Vision

Our Vision is for vibrant and healthy rivers and wetlands across the Thames Basin, which our communities can cherish and be proud of.

Introduction

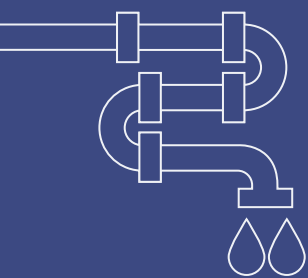
Thames Rivers Trust

We represent six partner Trusts, who are dedicated to improving the Thames and its tributaries for the benefit of people, wildlife and the environment.

Working strategically and collaboratively across the catchment we are delivering projects on the ground to restore and conserve rivers and wetlands. Partnering with other stakeholders we are working to bring about improvements by influencing decision makers to ensure a healthy river basin for the future.

From 2017 to 2019 we have administered the Thames Restoration Fund (TRF), a small grants funding scheme of £175,000. This has enabled 9 diverse projects within the Thames Basin to be successfully delivered. All had to achieve at least one of the following priority objectives:

- **Slowing the Flow** – natural flood management and sustainable urban drainage systems.
- **Improving Water Quality** – identifying and addressing the impacts of diffuse and point source pollution.
- **Increasing connectivity and access for fish** – increasing the opportunity for fish to move between habitats to successfully complete their life-cycle.



ARK activities included rain garden assemblies for students and teachers; and a drop in for parents to improve their understanding of SuDS and get them involved.



Rainscapes

Action for the River Kennet

This award winning project has created Rain Gardens at local primary schools and delivered SuDS workshops within the Kennet catchment.

ARK has raised awareness of effective management of storm water to reduce flooding of the land and pollution of the Kennet, an internationally rare chalk stream. The community have been hands on, helping create a range of SuDS features within two school grounds; whilst learning about the importance of water efficiency and slowing the flow.

Working with locally based RHS Hampton Court Gold Medal award winner Wendy Allen to design the Rainscapes ARK has run a series of practical volunteer days at Preshute Primary, Manton and Ramsbury Primary enabling a wide cross section of local people to be part of bringing the Rainscapes to fruition as well as gaining knowledge about the issues their rivers are facing, including storm water runoff.

Rain walls, storm water planters, increasing permeable surfaces, water butts and lots of quirky features from wiggly blue and transparent drainpipes to green roof bug hotels has made sure

this project raises the profile of the message that water is one of the most important things in our natural world.

ARK visits included rain garden assemblies for students and teachers; and a drop in for parents to improve their understanding of the project and get them involved.



Action for the River Kennet



200+
volunteer hours



70
volunteers attended
a series of practical
volunteer days



6
SuDS talks
delivered



Building on the success
of Phase One, Phase Two
has diversified a 1 kilometre
stretch of habitat.



Reconnecting the river to the floodplain

Cotswolds Rivers Trust

River Evenlode – Pudlicote Phase Two

The Evenlode is a clay catchment prone to flash flooding and is a headwater tributary in the Thames Basin. By re-profiling the artificially high riverbanks (a product of historic dredging) and reinstating natural meanders the floodplain is now reconnected the river, allowing water to breach the riverbanks in times of high flow.

Pinning in flow deflectors and introducing gravel and large stones has created flow diversity, such as riffles and has raised the riverbed within the channel. This has enhanced the river habitat for freshwater invertebrates and a range of fish. The riverbed is now suitable for successful spawning and there are places of refuge, this is of particular benefit to fry.

An objective of the project was to return some land to permanent pasture, through arable reversion. 8.5 ha has been converted and woodland planting by local volunteers has contributed to

reducing downstream flooding and runoff pollution.

These actions are bringing significant benefits to a wide variety of wildlife and some flood attenuation plus sediment and nutrient capture.

CRT partnered with the Evenlode Catchment Partnership to manage and deliver Pudlicote Phase Two. Monitoring of the project has been measured by Riverfly Monitoring, carried out by CRT in partnership with RSK Environment and electrofishing by the Environment Agency. Both of these methods to measure freshwater aquatic life were carried out pre-project delivery and will be measured again to record any changes in the fish community or macro-invertebrate community following the works.



Otter
spraint recorded after
works completed



£45k
additional funding



8.5ha
woodland planting



Conservation value
improved greater habitat
connectivity with access to
quality habitat downstream.



Working together

London Wildlife Trust

The Yeading Brook – Stafford Road Open Space River Improvement Project

A series of improvements have been carried out on the Yeading Brook. LWT, The London Borough of Hillingdon and the Environment Agency are working together as part of the Crane Valley Partnership in order to fulfil the objectives of The Crane Valley Catchment Plan.

Our funding has enabled actions that contribute to the delivery of the Water Framework Directive:

1. Retain marginal and riparian habitats.
2. Preserve and where possible enhance the value of marginal aquatic habitat, banks and riparian zone.
3. Increase in-channel morphological diversity.
4. Preserve and where possible restore historic aquatic habitats.

A historic meander that was cut off from the main channel has been reinstated and a backwater that provides fish refuge has been created. Habitat connectivity is better with access

to quality downstream habitat now possible.

This project had a strong emphasis on community engagement and input. A series of volunteer days were run to capture the interest and involve the local community, with an aim to increase a sense of civic pride in the river. Awareness was raised and hundreds of native plants were planted to re-naturalise the banks and encourage colonisation of wildlife. A volunteer balsam bashing day enabled effective management of the non-native invasive plant Himalayan balsam.



900
native plants planted
by volunteers



£48.5k
additional funding



Increased
capacity of the river



“I saw a kingfisher perching on top of the stakes in one of the berms and dive into the water to fish, and then come back to perch again which is great news.”

Landowner of Waterstock Mill



Waterstock Mill fish passage

River Thame Conservation Trust

Opening up fish passage and creating spawning grounds is vital for a sustainable long term population of healthy and thriving fish.

The Thame has suffered from catastrophic pollution incidents. Fish passage is also problem, modifying the sluice creates access for wild fish to freely migrate up and downstream to escape pollution and fulfil their natural life cycle. This is key to their survival.

This project opened up a stretch of the Thame that was previously only passable in times of very high flow. By carrying out modification works to a redundant sluice that was is disrepair the Waterstock Mill, Oxfordshire stretch of the Thame is now reconnected allowing access to a mix of habitats for fish at the different stages in their development. Fish and other freshwater wildlife can reach a newly created fish refuge, this is particularly beneficial to fry. Fish can now spawn on 100 tonnes of clean gravel that has been added to raise the riverbed. The faggot berms have created natural meanders that will improve in

channel flow and will prevent a build up of silt.

Tree work has brought a better balance of light and shade along the riverbank to promote marginal and aquatic plant growth, which will be beneficial to invertebrates and this in turn will benefit wildlife further up the food chain. One of the keys to the success of this project was the relationship between RTCT and the landowner who has a passion for wildlife.



100

tonnes of clean gravel



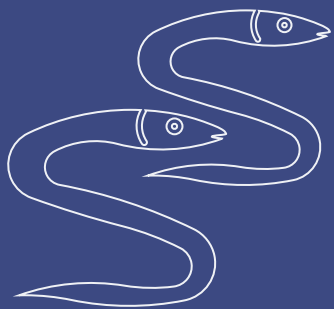
Benefits

to invertebrates
and wildlife



Fish

can freely migrate up
and down stream



Many fish species are
benefitting from this project,
including the critically
endangered European eel.

Hogsmill River

South East Rivers Trust

Fish Passage Improvements on the Hogsmill River

Weirs make fish passage impossible, this leads to isolated populations of fish that cannot migrate upstream to spawn. When isolated, fish are vulnerable to pollution. Work carried out to four obstructions on the Hogsmill River, South West London have been part of the final stages addressing an ongoing programme of fish passage easements at 18 weirs on the Hogsmill River.

The Hogsmill has populations of chub, dace, roach, barbel, stickleback and European eel. Weirs have either been removed or modified by cutting notches in the weir to enable fish passage. Where the weir was fully removed in excess of 30 tonnes of concrete was removed. The riverbanks have been re-profiled and native marginal plants are now established. This is a more natural habitat for wildlife, which will also provide erosion control. These works have contributed to the goal of achieving fish passage from the Hogsmill chalk stream headwaters to its confluence with the River Thames. Natural geomorphological processes

have been restored to this previously impounded section of river. All the works have been monitored for fish passage to confirm the success of the project.

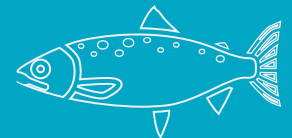
Through the lead up to and delivery of this project landowners and tenants who have land next to the river now have a greater understanding of the river including the impacts that septic tanks can have.

Further progress has been made to achieving WFD targets by addressing causes of failure to fish, enhancing fish populations and delivering mitigation measures.

Eel bristle has been installed to allow eelers to migrate upstream. Work continues to return this river to a more natural and restored state.



Eel
bristle has been
installed



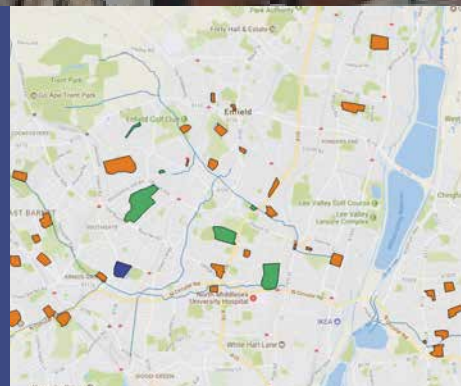
Fish
passage has been
achieved



Greater
understanding of
the river



Building the community
group's knowledge
and understanding of
the pressures through
mapping workshops,
walkovers and site visits.



Community water quality modelling (Lower River Lea)

Thames21

Enable, Identify, Investigate and Prioritise

A new Project Officer role was created to run this ground breaking project, bringing together local residents to form three community groups to investigate water quality. The River Lea and the tributaries in North London are failing to achieve 'good' ecological status. The Salmons Brook, Pymmes Brook and Ching Brook are heavily urbanised rivers, receiving contaminated water through misconnected drains, at capacity separate sewers and urban diffuse runoff. By building the community groups knowledge and understanding of these pressures through mapping workshops, walkovers and site visits, along with training to use a developed computer modelling programme the groups were enabled to test a range of scenarios and potential solutions. Wetlands and a range of river restoration techniques and their benefits were quantified and pollution hot spots were prioritised.

The results demonstrate that constructed wetlands on a catchment scale can change water body status.

In July 2018 T21 held a conference at Walthamstow Wetlands, where the community groups shared the findings with interested stakeholders.

T21 are supporting the community group formed through this project in discussions with a major developer in the catchment. The group are using the information provided by this project to potentially to gain a large financial S106 contribution to help implement the strategy developed from this project.



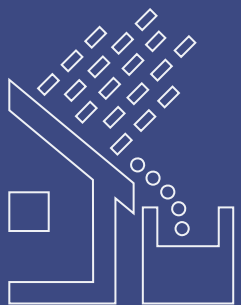
Improved
community cohesion



£30k
additional funding



Groups
empowered with new
knowledge and skills



The creation of the rain garden involved regular ARK volunteers, a team of Travel Port corporate volunteers and school parents.



Rainscapes II

Action for the River Kennet

Like most rivers the Kennet, an internationally important and rare chalk stream is under pressure from diffuse pollution. This can come from both an urban and agricultural environment.

Building on the success of ARK's first Rainscapes project, Phase Two continued to educate and involve the communities living along the Kennet catchment by building two new rain gardens within the grounds of local primary schools. These small scale interventions to 'slow the flow' and reduce storm water flooding, increase aquifer recharge and improve water quality as a result. Reducing the nutrients that reach the river means less algal growth. There is then a healthier invertebrate population and cleaner gravel beds for fish including brown trout and grayling to spawn.

This project built rain gardens that include elements that can be copied and used at home. By running school assemblies and community talks these exciting gardening ideas have been spread to a wider audience.

In December 2018, ARK delivered a rain garden at St Nicholas Primary School,

Baydon which was professionally designed by Hampton Court Gold Medal Award winning garden designer Wendy Allen. The construction of the rain garden involved regular ARK volunteers, a team of Travel Port corporate volunteers and school parents. The space within the school grounds has been transformed. Hundreds of plants have gone in, a large water butt is connected to a downpipe, which leads to a water play trough. In times of heavy rain this overflows through an open pipe into the rain garden. Wildflower turf surrounded by hazel faggots (a nod to the river restoration that ARK carries out) has been laid at the entrance, a dead hedge habitat has been created and an existing hedge has been laid and new native saplings added.



Action for the River Kennet



Raise

awareness of chalk streams and SuDs



Water

quality improvement and aquifer recharge



100's

of plants have been planted



The SERT rain garden
showcases the benefits; helping
local schools and the wider
community to see what a rain
garden is and how it works.



Reducing flooding

South East Rivers Trust

SuDS in Sutton Schools (SiSS Phase One)

Sustainable urban drainage system (SuDS) can reduce flood risk by attenuating rain fall. Rain gardens and other SuDS can be created at many scales and collectively lots of small interventions can deliver multiple collective benefits.

SERT have built a rain garden demonstration site at Sutton Council offices in Carshalton. It showcases a rain garden and the benefits; helping local schools and the wider community to see what a rain garden is and how it works. It also demonstrates what will be delivered within local school grounds in the second phase of this project.

The rain garden and interpretive panel raise awareness of flooding. The site, which is visible to passers-by serves as an exemplar to residents and businesses of what can be achieved by retro-fitting SuDS.

By enhancing understanding about the project and enthusing the local community through an Open Day, a

planting day with council staff, school assemblies and classroom engagement activities; as well as meetings and presentations with stakeholders, there have been significant opportunities for education. The rain garden also provides recreation and amenity features for employees of Sutton Council to enjoy.

Relationships with three schools have already been forged and SiSS designs are in development. The key objective to be achieved by the end of Phase two is to work with seven schools to disconnect over 4.5 ha of land from the surface water drainage system currently contributing to the surface water network during peak times.

This will reduce the risk of properties being flooded in the Hackbridge area of the River Wandle by over 80%. When complete the overall project will provide £5.5 million in quantifiable benefits (figures from the EA Cost Benefit calculator).



2000+
of the community
now understand SuDS



4.5 ha
of land is aimed to be
disconnected from
the surface water
drainage system



£128k
additional funding



Looking at how to restore
three of the most challenging
rivers in the UK from a
water quality and flood risk
perspective.



Natural flood modelling

Thames21

Community Natural Flood Modelling in the London Lea Catchment

This project aimed to change how we look to manage highly challenging urban rivers from a water quality and flood risk perspective.

The Pymmes, Salmons and Ching Brooks are so polluted that they support extremely limited riverine ecology. Each river is extremely flashy, this washes out much of the ecological value when it eventually does establish. The development and delivery of diffused Nature Based Solutions throughout these catchments would purify the water and regulate the flow regime therefore enabling the development of proper riverine ecology within these catchments.

The established community groups had access to modelling software and additional training. They investigated the potential of a range of interventions they'd identified to reduce the risk of flooding to people and property that as well as NFM could also bring about significant

improved water quality and amenity. Each site could reach a level of storage in the region of 10,000 m².

The project has combined a flood modelling assessment with the Community WQ modelling outcomes to form an enhanced ecosystems approach for the areas in question. The flood modelling project has quantified the benefits of identified sites and highlighted the significant reduction to flood risk. This has resulted in the Ching Brook sites being included within the Waltham Forest Flood Risk management Strategy, now seeking funding to create the new wetland sites.

This work is continuing in the Pymmes Brook and has the potential to become a new strategy to resolve flooding within the catchment. Through the combination of these results T21 hopes to develop the business

case for significant investment to develop catchment scale water quality improvement and flood risk reduction to people and property.

The project has already formed the basis for a large NERC catchment wide project called CAMELLIA, looking at Community Water Management for a Liveable London.



Our partners



Action for the River Kennet

Action for the River Kennet is a group of people who care about the River Kennet and its tributaries. We are catchment hosts for the Kennet Catchment Partnership.



Cotswolds Rivers Trust was formed to ensure that the Cotswolds rivers are fully included in the implementation of the EU's Water Framework Directive.



London Wildlife Trust care for over 37 of London's wild spaces, inspire people to connect with nature and give wildlife a voice.



The River Thame Conservation Trust was formed by a group of individuals who were passionate, but concerned about the seemingly declining state of the River Thame.



The South East Rivers Trust is an environmental charity dedicated to the conservation and restoration of rivers in the south east of England.



Thames21 is the voice for London's waterways, working with communities to improve rivers and canals for people and wildlife.



Thames
rivers trust

e: info@thamesriverstrust.org.uk
w: www.thamesriverstrust.org.uk



[www.facebook/ thamesriverstrust/](https://www.facebook.com/thamesriverstrust/)



[@Thames_RvrsTrst](https://twitter.com/Thames_RvrsTrst)

