



Ribble Rivers Trust

Annual Newsletter: Issue 19 | 2023

Suggested donation: £1

ISSN 2052-8094

COMMUNITY TREE NURSERIES

Planting the catchment with
local provenance trees

RIVER DOUGLAS FISH PASSAGE

Unlocking new river
habitat for migratory fish

FARM ADVICE

Helping our local
farmers to keep their
rivers and streams
healthy

CITIZEN SCIENCE

Monitoring our
local ecology
with the help of
volunteers

HABITAT RESTORATION - EDUCATION - NATURAL FLOOD MANAGEMENT





Yellowhammer © imageBROKER / Alamy Stock Photo

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Company number: 3498691

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WELCOME



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CEO'S REPORT

Jack Spees rounds up the past year's activities



If I had to describe 2022 with a single word, it would be 'whirlwind'.

The year saw many long term work programmes such as Ribble Life Together and Ribble Life for Water coming to an end, whilst new programmes including Health

and Environmental Action Lancashire peaked, and we developed and commenced new work.

Ribble Life Together was truly an organisational changing project, bringing together all elements of our work: education, farming, habitat creation and restoration, and data and evidence. It also made a significant change to the catchment and developed our education and engagement work.

It galvanised the Catchment Based Approach partnership too, leading to many 'spin off' projects and programmes to ensure an ongoing legacy for the project and its activities.

This was visible at the end of project celebration at Brockholes attended by representatives from all project partners and many of the communities involved.

Although this marked the 'end' of the project, in the summer it won the UK River Prize at the River Restoration Centre annual conference. In recognition of the project's scale, it won 'catchment scale' project of the year, a new award category!

Even after an epic eight years, there was no chance of this project leaving a void as we went straight into the river



L to R: Adam Walmsley, Capital Works Officer, Harvey Hamilton Thorpe, Deputy CEO and Head of People & Learning, and Ellie Brown, Evidence & GIS Manager.

delivery season and the opening of the new wetland and additional footpath at Primrose Lodge.

The latest works at Primrose were supported by the Water Environment Grant programme, through Ribble Life for Water which was initially meant to run for two years, but ended in December 2022 after four busy years of delivery across the catchment.

We worked closely with partners including the Forest of Bowland AONB, the Environment Agency (EA) and Yorkshire Dales Millennium Trust. On page 7 is a review of this programme. The diversity of work is only equalled by the scale of some of the projects!

Working with those partners has sprung us forward, with

projects delivered with Yorkshire Dales Millennium Trust (Deeper Connections) at Long Preston, seeing the Wigglesworth Aqueduct repaired, and water now flowing year round along the final 400m of Wigglesworth Beck before it joins the Ribble.

Before this, a leak in the aqueduct saw the Beck run dry in the summer, resulting in losses of fish, insects and other species so we are pleased to have fixed it. The farmer has since asked us to manage the largest flood plain reconnection project in the Ribble – some 33 hectares – intended to start this summer!

With the EA we've delivered several projects this last year, including the Ribble and Douglas farm advice project, providing advice and micro grants to reduce diffuse pollution.

We have also established a 'Farm Group' where we meet regularly with Douglas farmers to share knowledge and opportunities to improve farm businesses and the environment.

This work has complemented the Opening Up the River (OUR) Douglas Project, which saw two more fish passes built, and preparations for a weir removal and fish pass to be completed in 2023. If salmon in Wigan seems an unlikely idea, similar comments were made about salmon

in Burnley – and we achieved that!

Other projects and activities that I am excited and proud of include:

- Darwen Evidence and Engagement Project – this led to a new programme of environmental improvement projects to also provide Natural Flood Risk Management;
- Our ongoing work on data and evidence - seeing our tools rolled out nationally;
- Catchment System Thinking Monitoring Co-operative (CastCo), where we seek to enable communities and individuals to collect data and evidence linking to our ongoing invertebrate and fisheries monitoring, resulting in improvements across the catchment in a new way;
- River in the Classroom going stronger than ever thanks to the support of schools, angling clubs, Rotary and many more!

All this work was delivered by our incredible team, which in itself saw some changes. We said sad goodbyes to several colleagues, some long-servers, but were pleased to welcome new team members, and even welcome back one!



Left to right: Jack Spees, Philip Lord, Jeff Cowburn

CHAIRMAN UPDATE

Philip Lord retires as chairman after 25 years

After 25 years at the Trust, Philip Lord has stepped down as Chairman, but continues to support us as a Trustee. We've been so fortunate to have him championing and driving the river and its improvement. We're proud that soon after his retirement, Philip was awarded the British Empire Medal – a fitting honour.

To express our gratitude to Philip, we will plant an English Oak near to the

Ribble where we can all see and reflect on the changes he has brought about.

With Philip's retirement comes a new Chair, Jeffery Cowburn, a trustee for nine years, who brings a wealth of knowledge of our rivers and charities to the role. Together we look forward to leading the Trust into the future.

TRIBUTE TO MIKE HORNER

In 2022, we lost one of our longest serving trustees, Dr Mike Horner.

Mike had only recently retired and moved away from the area but he kept in touch as the Ribble still held a special place in his heart.

Mike was passionate about peat moorland restoration, as well as tree planting, and he was really proud of the Trust's work using woodland to restore rivers.

Everyone at RRT would like to thank Mike's family and friends for their kind donations towards the Trust's work, given in his memory.

Mike may no longer be with us but his work to protect and improve the Ribble will live on.



PROJECTS

HEAL

Health and Environmental Action in Lancashire

Spring 2023 sees the Health and Environmental Action in Lancashire (HEAL) project come to a close.

Funded by the Green Recovery Challenge Fund, HEAL's aim has been to prioritise disadvantaged communities across the Ribble, Lune and Wyre catchments to reconnect people with nature, protect species and create and restore habitats.

The project, which ended in March, is the result of specialist research and GIS analysis using Ribble Rivers Trust's own data and evidence and data from the Environment Agency and Lancashire County Council's Public Health Team.

With a focus on improving health and wellbeing across Lancashire through increasing access to natural spaces and encouraging physical activity, as of January 2023, the project had delivered:

- Three volunteer-led micro tree nurseries
- Thousands of trees of local provenance grown from seed
- More than 70 health walks
- Heathland management
- Wildflower meadow management
- More than 800m of footpaths, increasing access to nature
- One wetland
- 16 woodlands (20 hectares, 23,500 trees) with more to come
- 160 people trained in conservation and ecological skills
- 14 schools provided with funded activities

Seven schools in Blackburn and Pendle took part in the Trust's Water and Wellness programme, with a visit every half term. Activities included sowing acorns, litter



picking, health walks, mindfulness and making bug hotels. Seven schools in Preston, Great Harwood, Blackburn and Darwen were also provided with funded activities such as river walks and invertebrate sampling.

Regular health walks have been taking place in Avenham Park, Preston. These short, gentle walks have been designed to get people into regular exercise. In addition to the physical health benefits, the walks are helping to combat loneliness and isolation, reduce stress, reconnect people with the green and blue spaces on their doorsteps and form friendships.

The HEAL project has depended on partnerships with Prospects Foundation, Wyre Rivers Trust, Lune Rivers Trust, Hyndburn Borough Council, Pendle Borough Council, Lancaster University, Forest of Bowland AONB and the Freshwater Biological Association.

A collaboration with Hyndburn Council and Prospects Foundation saw the installation of a brand-new

footpath and bridge at Peel Park and the Coppice, Accrington. This footpath now forms a shorter circular loop for the public to use, increasing the accessibility of the park and connecting people to nature. Adjacent to the new path, a brand-new wetland has been created on Pleck Meadow, increasing the habitat diversity of the site and storing water for natural flood management.



Green Recovery Challenge Fund



Department
for Environment
Food & Rural Affairs

The
National Lottery
Heritage Fund



Environment
Agency





OUR DOUGLAS

Opening Up the River Douglas for fish migration

Three more fish passes along the River Douglas were completed in 2022 as part of the ambitious Opening Up the River programme, known as OUR Douglas.

The three passes at Worthington Lakes, Red Rock and Pottery Terrace in Wigan town centre alone opened up more than 4.5 miles of river habitat.

Thanks must go to the landowners who have supported Ribble Rivers Trust to help deliver the three key fish passes last year, including United Utilities (for the fish pass at Worthington Lakes); Morris Homes (for Red Rock); and Heaton Group and Wigan Council (for Pottery Terrace).

Alongside the three constructed in 2021, almost 14 miles of the River Douglas has now been made accessible to migrating fish, thanks

to the hard work of Ribble Rivers Trust staff.

The OUR Douglas programme is the first major project which the Trust is delivering on the River Douglas catchment and seeks to deliver a strategic series of eight fish passes aimed at removing the main barriers to fish migration along the River Douglas and its tributaries, contributing towards improvements in local fish populations, including salmon and trout.

The River Douglas flows from the West Pennine moors at Winter Hill past the urban centres of Horwich, Adlington and Wigan, then northwards through largely agricultural areas and is joined by the River Tawd, south of Rufford and the River Yarrow, north of Rufford. It meets the Ribble estuary north of Tarleton, near Preston. The waters

then flow northwards towards the bathing waters of the Fylde coast.

As we moved into 2023, the OUR Douglas programme was turning into the home stretch, with the final plans being put in place for the construction of the final two fish passes at Gathurst on the River Douglas and Cobbs Clough on the River Tawd. When delivered, they will add a further 20.5 miles of reconnected river to the 14 miles already achieved.

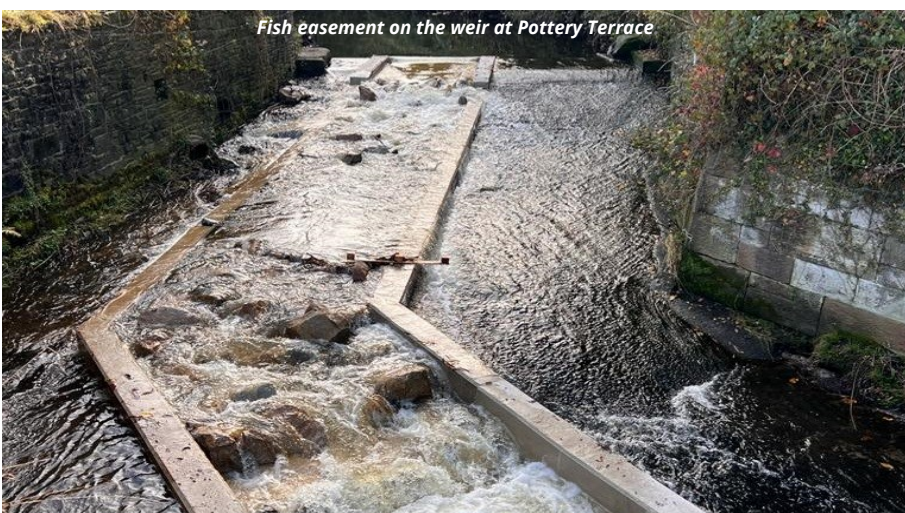
OUR Douglas is a £949,454 project which is match funded by central government via the European Regional Development Fund, and by Groundwork Cheshire, Lancashire and Merseyside, with contributions also coming from the Environment Agency and the National Lottery Heritage Fund.



Fish easement on the weir near Worthington Lakes



Cobbs Clough weir



Fish easement on the weir at Pottery Terrace



European Union

European Regional
Development Fund



LANGDEN GRAVEL REINTRODUCTION

Improving in-channel habitat by returning gravel back into the river system

Some 2,500 tonnes of gravel has been excavated from Langden Brook Intake by Ribble Rivers Trust and partners. The aim is to redistribute the gravel back into the River Hodder allowing natural processes to resume.

This mammoth task was a team effort between Ribble Rivers Trust, Wade Group, Hodder Consultative, United Utilities and the Environment Agency.

Langden Brook is one of the few remaining salmon strongholds in this region and also an important part of drinking water infrastructure.

As part of the Stocks Reservoir network of watercourses and abstraction points, it features a gravel trap which, as the name suggests, 'traps' gravel and sediment before it enters the intake. This needs to be emptied periodically.

While gravels collect at the trap, the

natural river processes are temporarily halted. Trout and salmon need these gravels to lay their eggs, failing to find suitable habitat could potentially reduce their populations in these areas over time.

Following months of planning, work began on extracting the gravel from the trap creating stockpiles of gravels on United Utilities land.

Fish welfare was a top priority and 1,500 fish were successfully moved from the site prior to the works beginning. Among fish rescued were brown trout, bullheads, minnows, stone loach, eels and even juvenile salmon.

Of the 800 tonnes of gravels translocated 400 metres down river, at least two thirds has now been moved via natural processes. The remainder should have moved over winter as the flows get higher and

faster.

It was expected that around 1,000 tonnes of gravel would be removed from the site but 2,500 tonnes had actually accrued over four to five years.

The Trust hopes to work with its partners to translocate remaining gravels to nearby locations in the near future, resulting in a very positive impact on increasing spawning and nursery habitat.

These locations are carefully selected using RRT's electrofishing data taken at the same sites every summer since 2008.

During the surveys, fish species and their numbers are recorded as well as habitat information. This data indicates which river sections do / don't currently have good gravel levels, and where adding gravels could improve habitat and benefit local fish populations.



Langden Brook gravel trap being excavated



Long Preston Deeps SSSI

DEEPER CONNECTIONS



Restoring floodplain habitat within the Long Preston Deeps SSSI

Ribble Rivers Trust is making 'Deeper Connections' within the Long Preston floodplain area in North Yorkshire.

The Deeper Connections programme is based within the 765 hectares of the Long Preston 'Deeps' floodplain and will create and restore 10 hectares of habitat, with a focus on wildlife corridors that provide vital nature-based solutions.

The project is being delivered through Yorkshire Dales Millennium Trust's (YDMT) Green Recovery Challenge Funded programme, Deeper Connections.

While RRT is delivering most of the capital works, YDMT are leading on people engagement and resources as well as providing footpath improvements and interpretation.

The Long Preston 'Deeps' section of the River Ribble is a Site of Special Scientific Interest (SSSI) notable for its unusual physical nature as it

crosses a flat floodplain in its upper catchment in contrast with most other river systems.

This unusual situation combined with the base-rich water and fine river deposits, supports unique aquatic flora and the flood plain is also an important breeding area for wading birds including snipe, redshank and lapwing.

Perhaps most importantly for residents of the lower catchment, the floodplain is also capable of holding a huge amount of water and so plays a vital role in controlling and containing flood waters.

RRT's role in the Deeper Connections programme includes:

- Woodland management – eg: walling to make the wood stock proof, invasive species removal (rhododendron), halo thinning etc.
- Creating 16 habitat schemes—

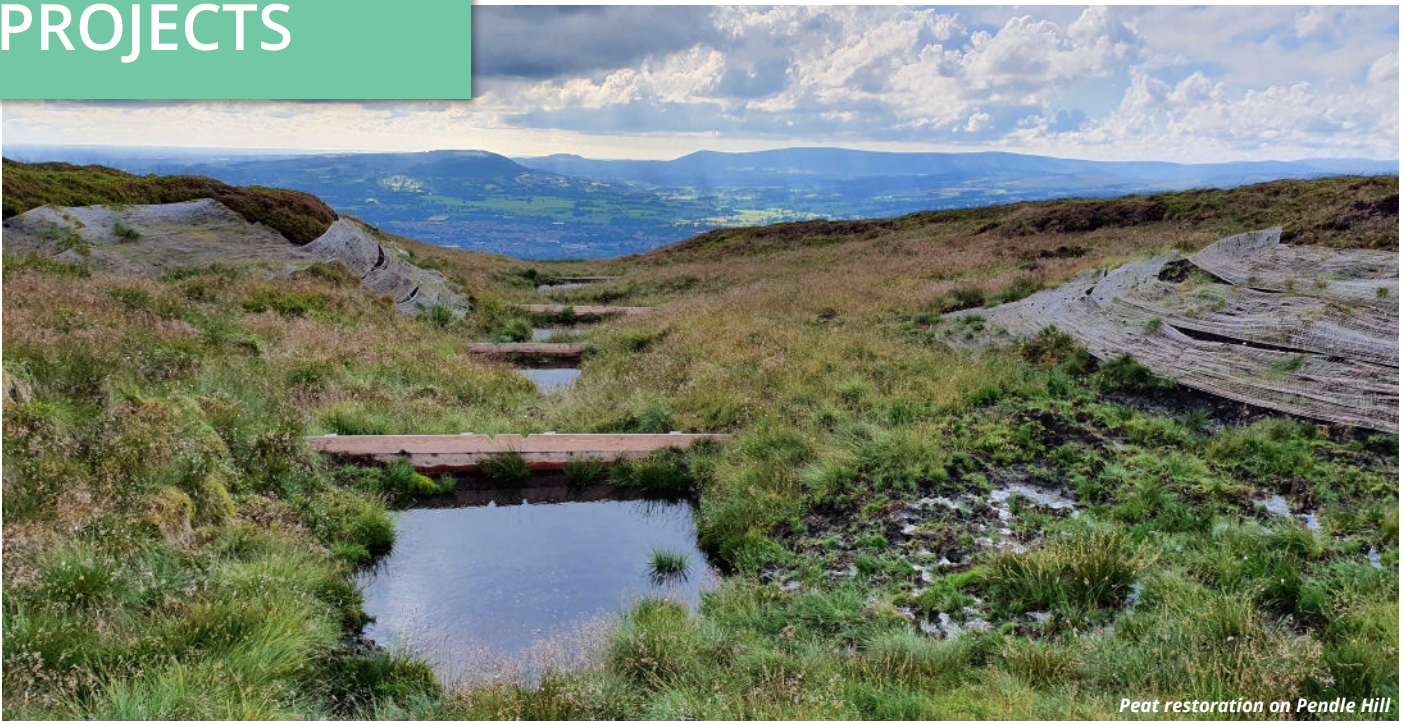
riparian woodlands, hedgerows, protection of wetlands and tributaries

- Planting 80 landscape trees to combat losses from Ash Dieback disease
- Repair of the aqueduct to benefit aquatic species and provide natural flood management
- Installation of nest boxes for tree sparrows which have suffered serious decline

YDMT aims to connect around 8,000 people to nature through improved access and interpretation of the area, volunteering, events and online activity.

YDMT will also be responsible for encouraging 200 people from under-represented communities to take part in green activities.

A further 60 farmers will be engaged in the project which will also sustain 2.5 green jobs.



Peat restoration on Pendle Hill

RIBBLE LIFE FOR WATER

A partnership project with a holistic approach to catchment restoration

Ribble Life for Water was a major four-year project which came to an end in 2022.

The second collaborative project to be implemented by the Ribble's Catchment Partnership, it targeted different areas around the catchment, from the source of the Ribble to its tidal limit and the tributaries in between, that were most in need of improvement and restoration.

So what did Ribble Life for Water achieve?

Some 64km of watercourse were improved and fish and invertebrate populations were further boosted by improvements to in-channel habitats.

Another success for the project was the removal of Samlesbury weir. This old redundant weir, which was 60 metres wide, was the first barrier to any migratory fish swimming up the Ribble from the sea. Removing this weir helped salmon, sea trout, smelt, eels and many more fish move around the catchment more freely. Meanwhile, a bypass channel was built around the side of Holland Wood weir to enable fish to

successfully migrate from the sea to rivers and back again.

Further improvements to water quality were achieved thanks to farm advice being delivered by the Trust and 193 hectares of degraded peatland were restored including on Pendle Hill.

Natural flood management helped to reduce flood risk, access routes were improved and four feasibility studies were also carried out to inform future projects.

Ribble Life for Water also positively impacted three designated sites: Long Preston Deep's Site of Special Scientific Interest, the Forest of Bowland Area of Outstanding Natural Beauty and the Ribble Estuary Marine Conservation Zone.

All this work would not have been possible without a grant of £1.9 million from the Environment Agency and Natural England who jointly administered the Water Environment Grant provided by the European Agricultural Fund for Rural Development to improve the water environment in rural England.



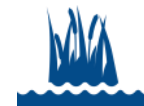
71km of watercourse improved for biodiversity



13km of watercourse improved for water quality



64km of watercourse improved for fish passage



6ha of flood storage/natural flood management



193ha of degraded peatland restored



4 feasibility studies completed to inform future projects.



3 designated sites improved: SSSI, AONB & MCZ.



The European Agricultural Fund for Rural Development
Europe investing in rural areas

FARM ADVICE

Working with farmers to deliver mutually beneficial habitat improvements

Farming covers the vast majority of land use in the Ribble catchment so offers the greatest area in which the Trust can deliver improvements to the rivers.

That's why Ribble Rivers Trust's farm advisors are continuing to provide regular support and advice to farmers across the catchment.

In 2022, RRT farm advisors visited 58 new farms within the Ribble and Douglas catchments.

They also delivered and supported 16 Countryside Stewardship applications which are resulting in a range of environmental benefits such as hedgerow creation and restoration, riparian buffers, grassland management as well as farm infrastructure including guttering improvements, rainwater harvesting techniques

and roofing for livestock handling areas.

The farm advice and Countryside Stewardship support provided by RRT offers opportunities to deliver improvements that reduce diffuse and point source pollution. Many of the habitats and actions are tackling the problems at source to ensure they don't get near to the river, and use approaches that will support farmers and the wider environment, but ultimately deliver a better river.

This year, the Trust also formed a Farmer Think Tank which includes a group of 10 farmers from across the catchment. This group provides invaluable feedback on RRT's work and the Trust will continue to liaise with the think tank to make sure the needs of the farming community are being met.



RIBBLE & DOUGLAS CATCHMENT FARM GRANTS

A grant from the Environment Agency's Water Environment Improvement Fund has enabled Ribble Trust's farm advisors to visit farms around the Ribble and Douglas river catchments to deliver advice and offer small grants to support improvements that will help reduce water pollution. Interventions include riparian fencing, guttering and brash

bundling, which will help to reduce diffuse water pollution within the catchment.

Our farm advisors are also working with six farmers to complete Countryside Stewardship capital grants to complement and increase the impact interventions have on those farms.

LANDSCAPE RECOVERY: TESTS & TRIALS

Ribble Rivers Trust is involved with a Landscape Recovery Test and Trials Project, which aims to engage with 180 farmers across the country to understand farmers' views, experiences, and appetite for approaches to landscape recovery.

The Trust has been engaging with farmers across the catchment to feed into this project, through questionnaires and running a workshop attended by 26 farms in the catchment to discuss blended finance. A second workshop will be run in late spring to complete the project. All feedback will be acted on by DEFRA to design the Landscape Recovery Project.



NATURAL FLOOD MANAGEMENT

Using natural processes to reduce flood risk

Natural flood management uses natural processes to reduce the risk of flooding. Examples include: re-naturalising river channels, such as re-meandering artificially straightened channels and removing man-made flood banks, and changing the way riparian land is managed so soil can absorb more water, including planting trees and creating wetlands.

With climate change intensifying periods of heavy rainfall and drought, it has become more important than ever that works are undertaken to 'slow the flow', enabling rivers to receive a more steady input of rainwater and ensuring that river habitats remain favourable to the wildlife they sustain.

RIVER LOUD NFM

The Loud and Chipping NFM Project, funded by United Utilities, aims to reduce phosphate and increase natural flood management measures within the River Loud catchment.

This project has been developed over four years and continues the fantastic work already being done by the Loud Catchment farmers. Trust farm advisors will be working with the Loud Farm group which involves 30 farmers covering 2,000 hectares of land.

The advisors will work with each farmer to provide advice and support at a farm scale but also look at how the interventions applied will impact the project at a catchment scale.

These interventions include soil and nutrient management, farmyard infrastructure such as roofing slurry stores and clean and dirty water



Tree planting to intercept rainfall runoff from Pendle Hill

separation, as well as green infrastructure like hedgerow restoration and riparian woodland.

As well as interventions, RRT will continue arranging training sessions for members of the Loud Farm group focusing on soil and nutrient management, funding opportunities, habitat connectivity and creation, and natural flood management techniques which will not only help to improve water quality but also to support sustainable farm businesses within the area.

The project has also allowed the Trust to create an equipment pool for the Loud group which aims to provide equipment to improve soils on holdings. The first piece of equipment is a sward slitter to aerate grassland soils.

As well as working with farmers, RRT wishes to work with the local community to show how domestic properties can also help to reduce phosphate within the Loud catchment. This is a very exciting project for the Trust and continues

the incredible work that the Loud farmers are already doing.

TRAWDEN BROOK NFM

Trawden NFM project aims to use modelling already completed within the catchment to help RRT to focus interventions to reduce flood peaks within the Trawden catchment.

Thanks to funding from the Environment Agency, our farm advisors are starting to engage with landowners and farmers within the catchment to look at interventions which aim to increase natural flood management techniques.

Such interventions will include woodland creation, hedgerow creation, leaky dams, storage ponds and soil management. RRT aims to visit 35 farms within the catchment over two years.

As well as working with farmers individually, the Trust also hopes to create a farm group in the area to increase engagement and provide advice and support for local farmers.



Pleck Meadow wetlands during construction

WETLANDS

In 2022, Ribble Trust partnered with the Prospects Foundation to construct a wetland area at Pleck Meadow, which forms part of a local nature reserve on the outskirts of Accrington. The work was done as part of RRT's HEAL project, which was funded by the Green Recovery Challenge Fund.

The pools will help to intercept rainfall runoff and slow the flow, whilst providing vital habitat for invertebrates, amphibians and specialist plant species.

RRT are also involved in a partnership project with the Environment Agency and West Lancashire Borough Council to develop and construct a treatment wetland at Tawd Valley Park in the River Douglas catchment.

The Tawd Wetland will be an example of a Sustainable Drainage System (SuDS). It will take water from an existing surface water sewer and direct it into the new wetland, before returning it to the sewer which discharges into the River Tawd.

The idea is that the wetland will improve the quality of the water discharged into the river by filtering out sediments and other pollutants.

The wetland will also have biodiversity benefits by providing habitat for invertebrates, amphibians and birds. Also, a new circular path will be created around the wetland for the public to enjoy.

LEAKY DAMS

Throughout 2022, RRT has continued to construct leaky dams on smaller watercourses to slow the flow of water and help reduce the impacts of flooding.

Leaky dams are an example of Natural Flood Management (NFM). They replicate natural log jams which form when trees fall into the river and collect other large woody material.

They are also similar to the dams and lodges created by European beavers in order to engineer their habitat.

As well as reducing flood risk for people, leaky dams benefit the ecology of the rivers by introducing woody material into the channel which provides habitat for fish and invertebrates.

Leaky dams were constructed with

the help of RRT volunteers at Sabden, Masons Wood in Preston, and Pleck Brook in Accrington. More are planned in 2023 on a much larger watercourse – Grunsagill Beck.

They are constructed from locally sourced trees, branches and logs interlocked across the channel and fixed to the bank with posts.

They allow normal flows to pass unimpeded below the dam but hold back flows when the river is in flood, helping to reduce flood peaks downstream. As each leaky dam typically holds a small quantity of water, they are more effective when constructed in high numbers across the catchment.

The Trust has been creating leaky dams since 2018 and there is still an element of experimentation and learning about how to best construct them and how they perform in different river environments.



A typical leaky dam on Sabden Brook

GATHERING THE EVIDENCE

Combining data and maps to help us target and prioritise our work

For 15 years, RRT have been using an evidence-based approach to target their work and are now helping other organisations nationwide to do the same.

The Ribble catchment covers 1,950 km² and has more than 5,000km of watercourses that face a range of human-made pressures, including (but not limited to) a lack of trees, climate change, in-river structures such as weirs, pollution, soil erosion, urbanisation, invasive non-native species and litter.

These pressures have an impact on water quality (cleanliness) and quantity (causing flooding or drought); habitat quality (its ability to support diverse and large populations); habitat connectivity (often called 'wildlife corridors'); human health and wellbeing.

So which issues should we address first, and where?

RRT uses a data and evidence-led approach to target works where the information suggests they could have the greatest benefits for the environment, wildlife and people,

thus making the best use of limited resources.

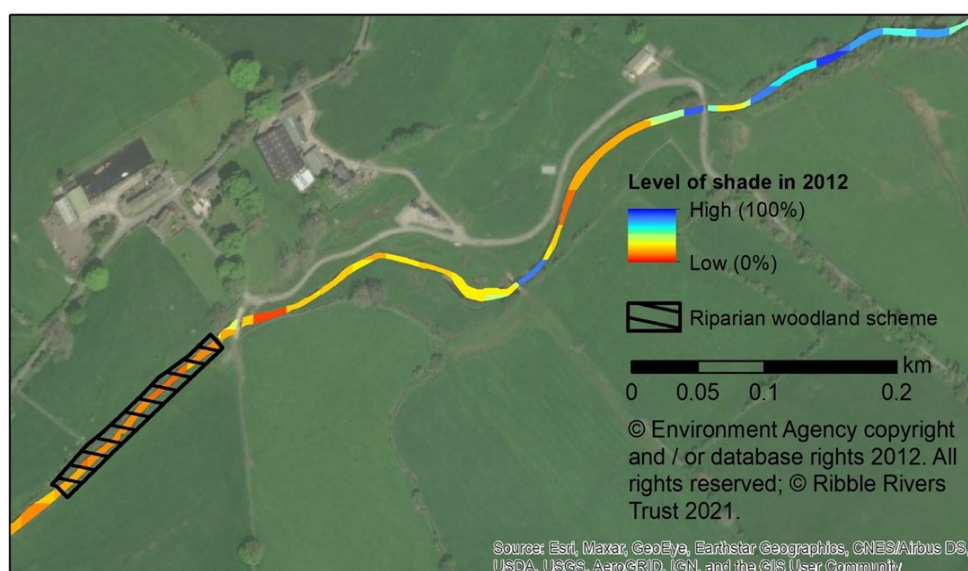
The Trust uses a piece of mapping software called 'GIS' (Geographical Information System) to visualise and analyse data to help decision making. For example, RRT use GIS to:

- Calculate the amount of river upstream and downstream of each of the catchment's 1000+ in-river barriers, to identify which to address first to reconnect the greatest amount of river habitat.
- Predict where pollutants are most likely to wash into watercourses after rainfall, based on land use and the shape of the land across the catchment. To identify where the creation of habitats – eg: woodlands, hedgerows or wetlands – could intercept overland flow pathways, reducing the amount of pollution reaching rivers.
- Calculate the amount of solar radiation reaching each stretch of river, to identify those that could

most benefit from the planting of riverside trees to cast shade over the rivers, to help keep them cool and support more life.

- Identify schools and local communities that have a lack of access to natural spaces and/or have prevalent health and wellbeing issues, and could most benefit from RRT's work to connect people with local rivers.
- Visualise the locations of important or protected habitats or where rare species have recently been recorded, to help plan RRT's works, ensuring they don't negatively impact on other habitats and species.

Below is a map showing the results of the Environment Agency's Keeping Rivers Cool project to map the amount of solar radiation reaching rivers. Ribble Rivers Trust created woodland along an at-risk stretch of Easington Brook; the photos show how, after just three years, the scheme was already helping to shade the river.





Mayfly larva



Recording water temperature

MEASURING THE IMPACT

Collecting 'before and after' data to evaluate our habitat works

Data and evidence is integral to shaping the development of Ribble Rivers Trust projects all year round, helping them to locate areas where their work would be most beneficial to the river.

Environmental monitoring is undertaken before and following projects to determine biological and chemical water quality, habitat condition, and freshwater fish population.

The benefit of such data is that it not only helps the Trust make informed decisions about how to utilise resources within the Ribble catchment, but also allows RRT to evaluate what projects have accomplished, in terms of their benefit for the environment.

During 2022-23, the Trust has been monitoring the OUR Douglas project, which aims to create a healthier river environment in the Douglas catchment by facilitating fish passage between Gathurst and Horwich.

Electric fishing surveys were completed before works began to install the fish pass. The Trust identified which species of fish, and roughly how many, were using the river habitat within the vicinity of the barrier for feeding and breeding.

For works completed in 2022, post-installation monitoring was completed again for fish and for flow velocity across the fish pass. Fish passes are designed to create a friendlier flow over which fish can move more easily, giving them access to more habitat, so monitoring flow after the fish passes' installation allows RRT to determine how useful they are to local and migratory fish.

This year, as part of the Catchment Systems Thinking Co-operative (CaSTCo) project, the Trust began setting up 'sentinel' monitoring sites in the Ribble catchment. These sites align with existing electric fishing sites and will be monitored to collect data above and beyond fish populations, including aquatic invertebrates, water chemistry and habitat condition.

The aim is to make this a yearly occurrence, allowing the tracking of water quality changes over time and direct project work within the associated waterbody catchments.

To further build on the Trust's monitoring and evaluation programme, the Data and Evidence Team worked alongside the Land Management Team, in delivering advice to farmers in the Ribble and Douglas catchments and distributing

Environment Agency grant funding for watercourse fencing.

Data was collected relating to farmland water quality and river habitat condition, prior to the fencing being installed. In March 2023, following the laying of these watercourse fences, the sites would be monitored again to see if/how the fencing has positively impacted water quality and habitat.



Riverfly surveying

FISH SURVEYS

Latest results from our annual monitoring

2022 marked the 15th anniversary of Ribble Rivers Trust's fisheries monitoring programme and coincided with one of the warmest summers on record.

The Ribble catchment's 2022 brown trout and Atlantic salmon cohort had to endure the driest year since 1976 coupled with a summer as warm as that in 2018.

As well as contending with high temperatures during early egg development, the reduction in this year's productivity could also be attributed to a struggling 2019 cohort, as some brown trout reach reproductive maturity at 3+ years. Brown trout were found to be present in 77.5% of sites, with the fry (young-of-year) only present in 64.3% of sites.

With winter river levels of 2021/22 being more favourable for trout and salmon spawning, there were fewer impactful flows during early development when compared to the

previous year.

Along with natural variation between years, a reduction in fry numbers for 2022 may point towards in-river temperatures being above that of optimal survival during incubation and early lifecycle stages.

The recruitment of Atlantic salmon fry on all catchments saw little improvement for 2022. Results from this year show limited areas across the catchments where Atlantic salmon are spawning, and many sites are absent of fry.

During the year, salmon were recorded in only 18.7% of sites surveyed.

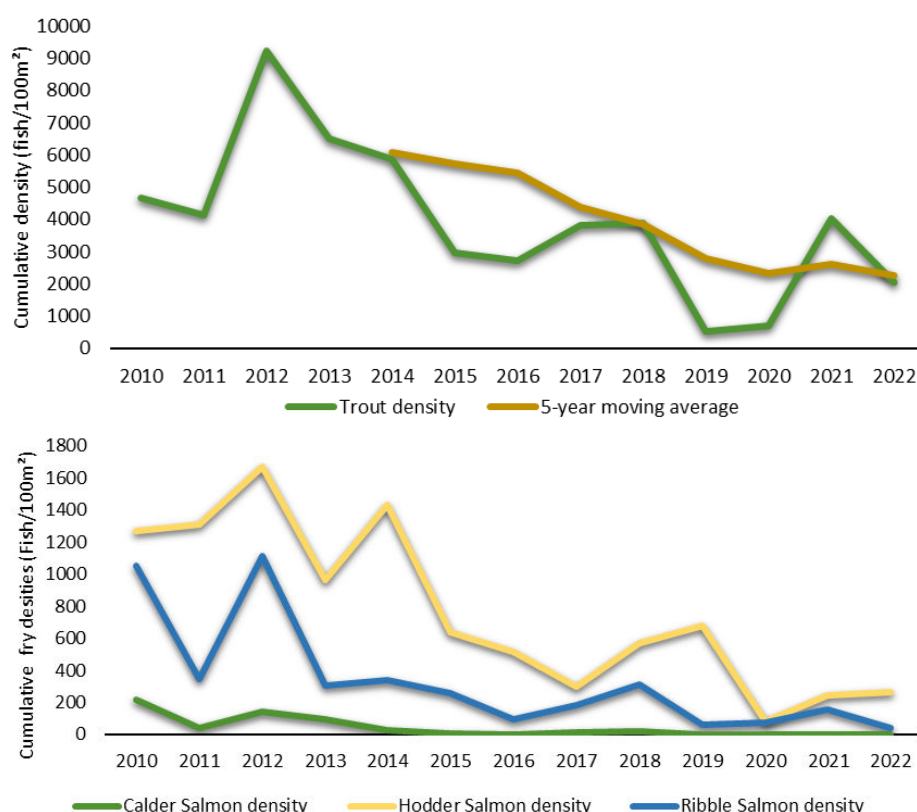
There was a lift in salmon fry densities on the Hodder catchment with a re-appearance of fry on Langden Brook after being recorded absent in 2021. Sites on the main River Hodder below Slaidburn regularly see the highest densities of the year. However, this is not reflected across the catchments,

with a significant drop in productivity from 2015.

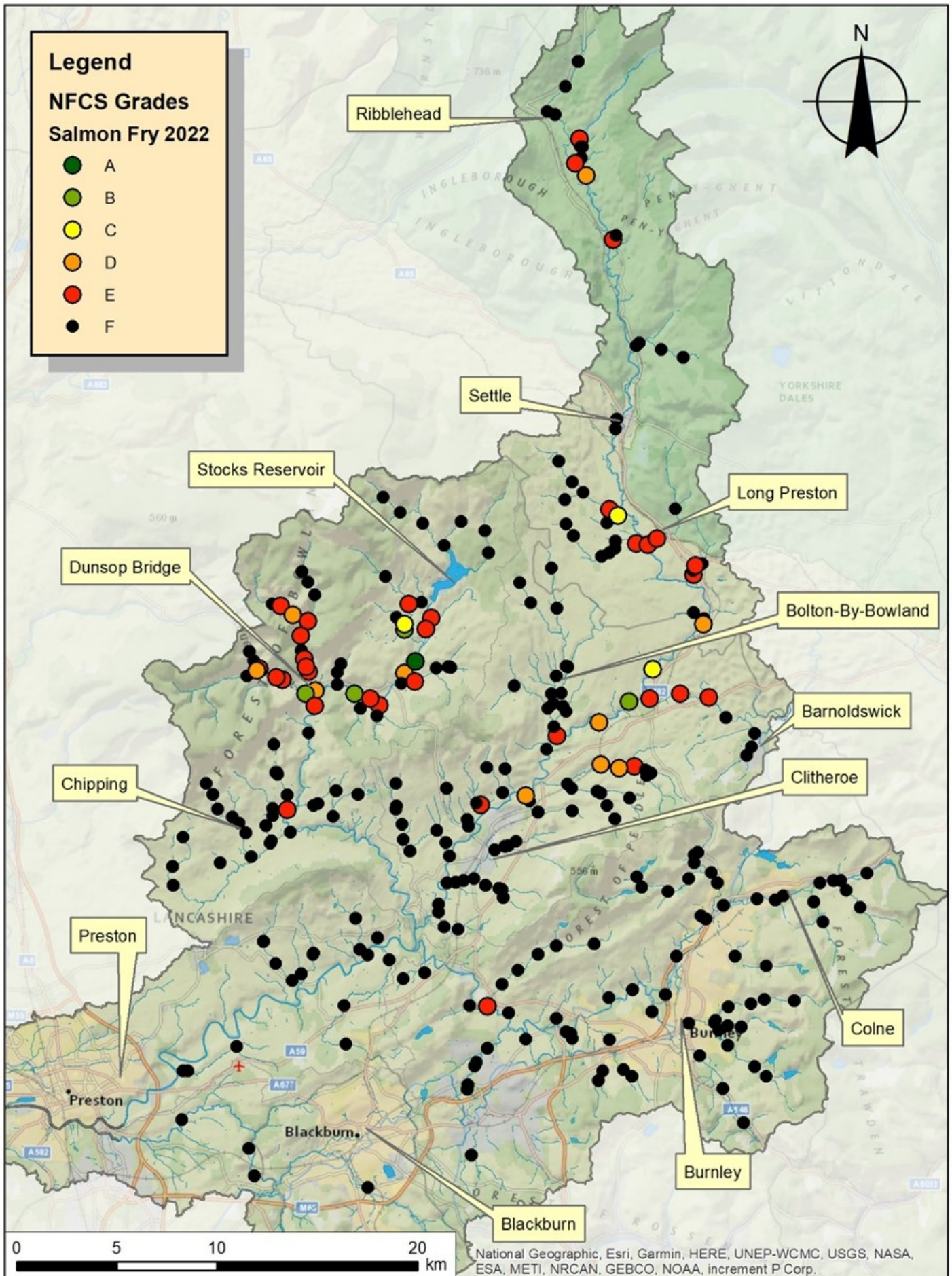
The decline of salmon has been geographically widespread and is well documented. To ensure the future of Atlantic salmon within the Ribble catchment, freshwater management and habitat restoration is paramount.

The largest contribution towards salmon populations is within the freshwater, early life-cycle stages. This is to ensure that the number of fish that survive to smolt in good condition are sufficient to provide a strong returning spawning population, showing the importance of good river and land management.

During 2022, more than 300 sites were surveyed across the Calder, Hodder and Ribble sub-catchments and results from this work continue to inform Ribble Rivers Trust about where conservational efforts should be directed.



The Ribble Rivers Trust: Fisheries Monitoring Programme





A trout fry hatches in a classroom tank

RIVERS IN THE CLASSROOM

Educating the future guardians of our rivers

Bats, trout and rivers are just some of the subjects which have engaged around 2,500 children who've taken part in education projects led by Ribble Rivers Trust during 2022.

New for 2023 is the Bats in Schools project with primary pupils in Clitheroe, supported by £1,000 donation from the Tesco Community Grants Scheme.

During the sessions, pupils learn about different species of bats, where they live, what they eat, and echolocation. They also make bat boxes to be installed at some of the sites where the Trust is working to improve the habitat for wildlife.

The Trout in the Classroom and Rivers in the Classroom programmes continue to be popular too.

During the year, 13 schools from Chatburn, Barrow, Chipping, Goosnargh, Preston, Blackburn, Oswaldtwistle, Bolton and Burnley learned more about trout by raising them from eggs and watching them grow before releasing them into the river. Sessions covered various

aspects of the curriculum including science, English, geography and art.

Rivers in the Classroom is the standard education programme offered to schools and is designed to teach children about rivers through fun, hands on experiences tailored to the curriculum. It is hoped that by sparking their interest in rivers and engaging with them, children can learn about creatures living in rivers, pollution prevention, and the importance of taking care of the environment.

Secondary school pupils have been given the opportunity to focus on the River Darwen as part of the DEEP (Darwen Evidence and Engagement Priorities) project.

The sessions aim to find out what pupils already know about the River Darwen before testing a sample from the river for nutrients including phosphates, nitrates and ammonia. This gives pupils a better idea of the health of their local river and has led to discussions about what problems, challenges and solutions there are for improving the River Darwen.

The Water + Wellness education programme which was developed through the HEAL (Health and Environmental Action Lancashire) project finished in December 2022 but received such good feedback that it was condensed into a three half-day package which schools can now book.

Activities include the Health Walk (local to school), Water Safety and Countryside Code, and a session focussed on 'seeds and cycles' (life cycles of trees and river life). This will run in the summer term, after Trout in the Classroom has finished before Easter.



TREE NURSERIES

Growing trees of local provenance with the help of our local communities

Community tree nurseries will branch out during 2023.

They've been so successful, that, thanks to recently secured funding, three new tree nurseries will be created this year, adding to the three established in 2021 as part of the Health and Environmental Action Lancashire (HEAL) project.

At a time when there is a huge demand for planting trees – more than existing commercial tree nurseries can supply – the nurseries and their volunteers are helping to ensure Ribble Rivers Trust will sustain its woodland creation programme for many years.

The nurseries were launched to create meaningful volunteering opportunities that encourage gentle outdoor exercise in locations where there are prevalent health and wellbeing issues and a lack of access to green and blue spaces (spaces with greenery and water).

The first three were created at Marsden Park in Nelson; Lancaster University's ECOHub and Tinker Brook CIC in Oswaldtwistle, using

reclaimed materials wherever possible.

The Trust aims to involve local people in every aspect of growing native trees: collecting tree berries, nuts and catkins from local ancient semi-natural woodlands; extracting seeds from berries; sowing seeds; potting out tree seedlings; and tending to the saplings. When big enough, the trees will be planted in RRT's own woodland creation schemes.

The Trust has been working with local health and wellbeing organisations to try and reach people who could most benefit from the gentle outdoor exercise involved in volunteering at the nurseries. The tree nursery sessions are suitable for people of all ages, abilities and mobility levels, with participants ranging from primary school children to adults aged 80 plus.

Since September 2021, RRT and volunteers have harvested more than 100,000 seeds from native tree species, including: English oak, hazel, hawthorn, blackthorn, crab apple,



holly, wych elm, goat willow, elder, dog rose, field maple, alder, downy birch rowan, guelder rose and hornbeam.

The Trust has run 25 sessions at three nurseries – with help from Lune Rivers Trust, Prospects Foundation and The Bay – with volunteers helping to grow 4,500 saplings. And volunteers were vital in ensuring saplings survived the summer 2022 heatwaves by watering the trees daily.

Participants have described volunteering as 'mindful', 'therapeutic' and 'relaxing', and the activities have been simple to adapt, making them suitable for people with limited dexterity and learning disabilities.

Using tips and tricks learned over the initial 18 months, the Trust hopes to increase annual tree production to 12,000 and will continue providing low intensity volunteering opportunities at all the nurseries.



CITIZEN SCIENCE

Expanding our reach with community research initiatives

Variety is the spice of a Citizen Scientist's life when they volunteer with Ribble Rivers Trust.

Citizen Scientists collect valuable environmental and species data which, combined with that collected by the RRT team, guides catchment management decisions and monitors the impacts of the Trust's works.

Citizen Scientists help RRT to collect data relating to:

- The invertebrate communities within our rivers, using a method developed by The Riverfly Partnership. Invertebrates form an important part of the riverine food chain and tell us a lot about river health.
- How natural watercourses are in terms of their biology, chemistry, hydrology and physical characteristics, using a method developed by the Freshwater Biological Association and Natural England.
- How our habitat creation projects impact on bat populations, and the distribution of good foraging habitats across the catchment. Healthy habitats = more flying insects = more bats!
- Signs of otters: a protected species that is recovering after a human-induced population crash in the mid-20th Century.
- In-river structures, such as weirs and dams, that prevent wildlife from moving up and down rivers to feed, breed and find shelter.



CATCHMENT SYSTEMS THINKING COOPERATIVE

RRT are helping to deliver the nationwide Catchment Systems Thinking Co-operative (CaSTCo) project: a three-year innovation project led by The Rivers Trust and United Utilities, funded by Ofwat.

More than 20 partner organisations from the water industry, non-governmental organisations and the academic sector are working together to revolutionise the way environmental data is gathered and shared, and to make sure that local communities count at the heart of rivers' recovery.

Ribble Rivers Trust are trialling a RiverBlitz approach: a one-day event where Citizen Scientists join together to collect information within a small area of the catchment, using some of the aforementioned techniques, to fill in the gaps in knowledge and to help guide future works in that area.

If successful, elements of the RiverBlitz approach might be

incorporated into a nationally recommended methodology.

Anyone can become a Citizen Scientist: you just need a passion for nature and the outdoors, and a bit of free time. The Trust provides all required training and equipment, with courses happening throughout the year.

If you want to know more about how to get involved, contact admin@ribbletrust.com. We look forward to seeing new Citizen Scientists on the river bank soon!





Volunteers planting trees on farmland in Samlesbury

VOLUNTEERING

You can help to make a difference too!

2022 saw the end of Covid restrictions and a return to normality for Ribble Rivers Trust's volunteering programme.

The removal of limits to outdoor events had people raring to get out and do their bit for the environment.

Volunteering not only helps the environment but also benefits the volunteers themselves.

Ribble Rivers Trust was actually founded by volunteers with a passion for wildlife, angling and the outdoor life way back in 1998 and just a year later achieved charitable status.

The volunteer programmes run by Ribble Rivers Trust are a great way to meet likeminded people and feel a sense of achievement at the end of a day of volunteering.

The Trust provides all tools and training and volunteers can do as much or as little as they can manage. During 2022, volunteers contributed 4,600 hours of work to help restore our rivers.

Volunteers are vital for the improvement of the Ribble catchment and the Trust has many opportunities in the pipeline including the expansion of community tree nurseries which will eventually be planted by volunteers into woodland schemes in Colne, Barrowford, Preston, and Higham.

Tree planting is the Trust's most popular volunteer activity. Lancashire has one of the lowest percentage woodland covers in any English county and through a massive effort, that trend is beginning to reverse. Environmental benefits to tree planting are extensive and intrinsic to improving rivers.

And there are other ways of getting involved in the Trust's work, including:

- Fencing
- Hedge planting
- Brash bundling
- Litter picks

- Invasive species control, such as Himalayan balsam pulling
- Site maintenance.

There are even opportunities to become a citizen scientist and join teams of volunteers who collect data on barriers, bats, habitats, otters and riverflies to help the Trust direct their conservation work.

Everyone is welcome at our volunteer days, even if it's your first time volunteering. With plenty of brews, biscuits and friendly faces, our volunteer days are a brilliant way for people to get active outdoors, learn more about rivers and wildlife.

If you would like to hear of volunteering opportunities with Ribble Rivers Trust, sign up to the mailing list at ribbletrust.org.uk/volunteer and you will receive a weekly bulletin including details of forthcoming volunteer days.

CORPORATE SUPPORT

We're making a difference thanks to local businesses

2022 was a bumper year for business giving here at Ribble Rivers Trust.

With new supporters, sponsors, and one for one donations, we're developing some really exciting relationships. After all, it's not all about us; we know our corporate supporters want to see their money spent wisely!

From woodland creation and wildflower meadows to team away days and carbon capture, delivering environmental improvement activities which match up with our supporter's business models is key to our ever-growing network of eco-friendly companies.

As well as being a way of boosting eco-credentials, business giving and corporate support is also a really

great way for a company to show their commitment to the local environment and community. But it isn't just about image boosting.

If a business is offering similar products to their rivals, in a similar price bracket, then showing care for the local environment and local community naturally pushes eco-conscious shoppers towards the greener option.

Despite the rise in corporate donors, we're always looking for new fundraising opportunities. Ribble Rivers Trust's projects are mostly grant funded, but there are some things that grant funding doesn't pay for, such as wildlife surveying, volunteer training, research and development, and site maintenance. The more amazing work we deliver, the more these costs rise!

The money raised from business giving ensures that the Trust has a regular, reliable funding stream, which can cover these vital costs. It also helps us to plan ahead, ensuring that we can keep protecting rivers and the surrounding area in the future.

Whether you are a tech start up, a small independent high street shop, or a major UK company with a multimillion-pound turnover, Ribble Rivers Trust can help you to reach your green goals.

For more information on any aspect of corporate giving, email Charlotte Ireland Pope at charlotte@ribbletrust.com and visit <https://ribbletrust.org.uk/corporate-support/>



Tree planting at Foulridge



JOIN RIBBLE RIVERS TRUST

As a charity, we rely entirely on supporters, donations and grants to continue the vital conservation of our rivers. If you love nature and would like to make a difference, please complete the form or visit ribbletrust.org.uk to join online.

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Your subscription is a donation towards our work. The more you can afford to give, the more we can do to improve our rivers.

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Please pay £ to Ribble Catchment Conservation Trust Ltd. starting on / / and repeating annually / monthly

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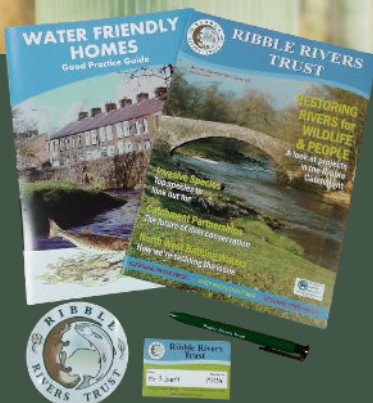
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