

RIBBLE RIVERS TRUST

PRIMROSE LODGE

A new wildlife haven in the heart of Clitheroe

OUR DOUGLAS

Removing barriers to fish migration in the River Douglas

RIBBLE LIFE FOR WATER

Improving water quality & reconnecting habitat across the catchment

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LANCASHIRE WOODLAND CONNECT

Campaign to plant half a million trees in Lancashire

CONNECTING PEOPLE WITH NATURE

EDUCATION

WATER FRIENDLY FARMING



CONTACT

Ribble Rivers Trust c/o Hanson Cement Ribblesdale Works Clitheroe Lancashire BB7 4QF

T: 01200 444452 E: admin@ribbletrust.com www.ribbletrust.org.uk

- Ribble Rivers Trust
- @RibbleTrust
- RibbleRiversTrust
- RibbleRiversTrust

Charity number: 1070672 Company number: 3498691

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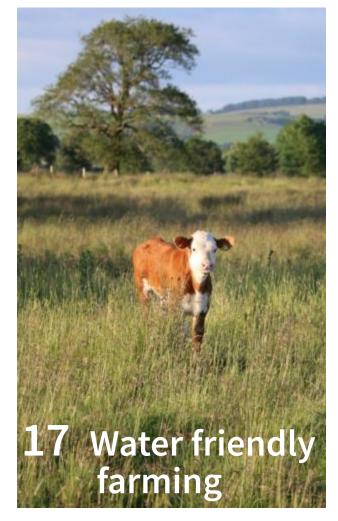
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Jack Spees, CEO

River restoration through a global pandemic, Brexit, the Green Recovery and the new Local Nature Partnership for Lancashire.

the year that was 2020 was always intended to be a standout year for Ribble Rivers Trust. Plans for the most work we had ever delivered in place the launch of Lancashire Woodland Connect, Primrose Lodge Blue and Greenway project, and Opening Up the River Douglas - just a few of many exciting projects. But we also had a year of celebration intended as our Ribble Life Together project began to draw to a and commencing development of our next big projects and programmes.

Well it did stand out, and not for the reasons we had planned! lockdown pandemic. and restrictions changed 2020 everyone, but thanks to our amazing team, we reacted and adapted and still delivered almost everything we had scheduled. Three weirs removed (including the UK's widest), four fish passes constructed, 75 hectares of peat restored on Pendle Hill, worked with over 60 farms to improve water quality and habitat, two new river themed art installations, geocaches and "A year on the Ribble" photo challenge, and held a multitude and diverse array of online events and activities, including dedicated



"...we try not to see problems, we see opportunities."

online resources for schools that were particularly well received. All improving our rivers for wildlife and people, and increasing people's enjoyment of river spaces (COVID safely of course).

We also completed work identifying where degraded environment and habitat could be contributing to poor public health, and prioritising where improvements could help to make people's lives and health better. This amazing work has been adopted and rolled out nationally, demonstrating just how strong a team we have developed and what we can achieve right in the Ribble!

This has all gone exceptionally well given the challenges that COVID presented everyone, and that which we didn't deliver in 2020, has been added to an already exciting programme for 2021, where we will celebrate the achievements of Ribble Life Together, continue our education programme, complete 15 circular walks with digital and traditional interpretation, oh and of course - three more fish passes, a further weir removal, 400m of concrete river lining removed, and the Ribble better connected to its floodplain – just as a starter for ten.

Importantly though, 2021 will see us begin our planning for the next four years. This will not be easy, with the uncertainty of COVID and Brexit, but we try not to see problems, we see opportunities. Brexit will bring an overhaul of agriculture subsidies and with the government placing more emphasis on 'public goods for public money', we hope that we can deliver actions that will support a better environment and sustainable farm businesses. This will include instigating a project that will be the first of its kind, a 'payment by results' for water quality. Not an easy concept, but one we are sure can be delivered, and if our first trial goes well, we hope it can be expanded out!.

The government has committed to 'building back better' and a 'green recovery'. It is not yet entirely clear the shape that this will take - we hope that we will see the environment embedded properly into future plans, not just for the environment, but for businesses, infrastructure and communities who all need and benefit from a healthy environment, and with a bit of help can gain so much more for the wildlife and habitats around them.

Beyond how Ribble Rivers Trust will tackle the not too distant future. I have been given the role as Chair of the re-launched Local Lancashire Nature Partnership (LNP). The LNP hopes to bring together cross-sectoral organisations, government, private and voluntary to find new ways of working to deliver more for our county's environment. I hope that the LNP will complement the work of the Catchment Partnerships and see greater uptake and delivery of environmental work that will benefit all of our species and habitats, and of course in so doing our rivers.

2020 is no doubt a year many of us will want to put behind us, and for good reason, I however won't forget many of the positives, how much we delivered, the increased use and enjoyment people have taken from the environment, how this is leading to greater demand to improve the health of environment, and the increase in demand to support each other locally as communities. I hope that this is maintained and increased in 2021 and with your support, we can deliver more for those that work, enjoy and live in our catchment people and wildlife alike.



In a testing time, when people relied upon nature more than ever, we as a Trust needed to think fast and act quickly to ensure that not only were our conservation projects delivered to schedule, but that we also found ways to maintain the momentum we'd built up over the years helping people to learn about and appreciate our catchment's wonderful rivers and wildlife.

All of our staff were advised to begin working from home the week prior to Boris Johnson's announcement on 23rd March that everyone 'MUST' stay at home. Businesses were told to close, however the guidance for charities such as ours was much less clear. We conducted our own risk assessments and between the staff and trustees, agreed that it would be safe to carry on with most activities.

Thankfully, our capital works were largely unaffected and went ahead to schedule. Our fish passage projects fell under the banner of 'Building and Construction' which was government permitted activity during lockdown.

Our work with the farming community was somewhat hindered,

however when restrictions were lifted, our Farm Advisors were able to carry out farm walks, albeit with the paperwork completed at home rather than at the farm kitchen table with a brew!

Regrettably, there were certain aspects of our work that could not continue. Schools were closed, which meant that our Education Officers were placed on furlough. Also furloughed were our Conservation Officers and Community Engagement Officer, as all of our volunteering and public events had to be cancelled.

In mid-June, when public-facing businesses and outdoor attractions were allowed to reopen, we reinstated our furloughed staff and volunteer days recommenced in the relative safely of open outdoor spaces. Attendees were limited, a strict booking system was put in place and a vast array of PPE was taken to every event. We avoided car sharing and tool sharing, and wore masks and visors. Sadly, the brew kit had to be left behind at the office, but this did little to deter our dedicated volunteers. Desperate for some time outdoors helping the environment

after being locked down for so long, our volunteers were to be commended for their overwhelming support and compliance with the social distancing procedures we put in place, and our environment thanked them for it.

Our Education Officers began planning and prepping for the schools' winter term, as well as compiling a plethora of online learning resources for parents and teachers alike, more detail of which can be found on the following pages.

Social media became more important than ever, helping us to reach more people, inspire them and encourage them to care more about our precious river environments, given that they had provided so much enjoyment and respite during a time when there was little else to enjoy. Through online campaigns, videos, tutorials and ideas for outdoor activities and nature-based crafts, we were able to spread our messages far and wide, and have garnered more support than ever by helping people to value and connect with nature, while learning more about how we can all protect it for the future.

VOLUNTEERING



When it was permissible for people to meet again in outdoor spaces, we began running our volunteer days, which we found people were very supportive of and grateful for. Litter picks, Himalayan balsam clearance, leaky dam maintenance for flood mitigation and brash bundling for riverbank

stabilization were all undertaken by our hardworking, socially distanced volunteers.

While the second national lockdown in November caused a delay to our tree planting season, we soon managed to catch up and thanks to our volunteers. another 10.000 trees were planted around catchment this winter, creating new habitat for wildlife, offering natural mitigation flood eventually shading the water from soaring summer temperatures.

Connecting People with Nature

CAMPAIGNS

With less opportunity to engage face to face with the public, we focused on our online presence and social media to help spread important messages and inspire people to think more about their actions and how they impact our rivers.

'Unblocktober' helped people to understand the problems rivers face when the wrong items enter our sewage system - wet wipes and fats for example. For 'No Plastic November' we promoted alternative products to help people cut the amount of plastic



they use, as microplastics are a huge issue for our rivers, seas and their wildlife.

We also experienced another relatively dry summer in 2020 and so we posted ideas to help people save water around their homes, as well as 'water friendly gardening;' tips to attract wildlife and reduce rainfall run-off to lower future flood risk. Be sure to follow us on social media for ways you can help do your bit for our environment.

CIRCULAR WALKS



As part of our Ribble Life Together project, 15 circular river walks have been created, with information leaflets and an accompanying app offering insight into the wildlife and features of each walk. The downloadable routes were showcased throughout the summer on our social media channels, encouraging people to enjoy safe, outdoor exercise during lockdown.

CRAFTS



When the weather was poor, we tried to inspire our followers to bring the enjoyment of the outdoors inside with ideas for nature -based crafts for all ages. From colourful leaf dishes and silhouette lanterns, to seasonal wreaths and bird feeders, we featured environmentally friendly crafts on our social media so people could maintain a connection with nature at times when they could not go outside.

GEOCACHING



In addition to our circular walks, we encouraged people to be safely active outdoors during lockdown

by joining the world's largest treasure hunt - an ideal family activity when most other entertainment facilities were closed. We geocaches hid seven around the Ribble Catchment to entice people out to find some of the hidden beauty spots our catchment has to offer. And what's inside the caches? You'll have to find them to find out!

PHOTOGRAPHY CHALLENGE



With so much uncertainty surrounding government restrictions, we chose not to run our regular photography competition. Instead, we replaced it with the 'Wish You Were Here' photo challenge, where we encouraged people to share their most beautiful photos of the Ribble Catchment to compile into a collective gallery on our website. The results are stunning and remind us how lucky we are to be surrounded by so much beauty and nature.

EDUCATION



Our Online Classroom

Ribble Rivers Trust has been delivering educational activities to primary schools for over a decade and we're not about to stop now. In fact, we just want to keep expanding to reach more and more children and young people in the Ribble Catchment!

While Covid-19 prevented our education team from going into schools, they have created an impressive collection of online learning resources instead to be used for home learning, as well as taking time to develop and update the Rivers in the Classroom programme.

The Rivers in the Classroom education programme brings freshwater science into schools. and now homes, across the Ribble Catchment. encouraging pupils to expand their knowledge of their local rivers, we hope to promote the value of the Ribble's natural heritage and improve its people and condition for wildlife. Through field-. classroom-, and now homebased activities, pupils learn about the relationships between things and environment. They discover how we can help to protect our rivers in the future by making small changes now.

Using virtual presentation software such as Prezi, as well as short films, wildlife factfiles, worksheets, crafts, activities, and games it has been possible to continue teaching children all about rivers, no matter where they are. Some of the topics

covered during the seventeen weeks of home learning activities included fish migration, climate change, water cycles, food webs, invasive species, plus a whole lot of information on various wildlife species.

A range of new digital resources are continually being created for those children who are not in school at the moment, and for those schools who signed for our additional education activities besides Trout in the Classroom.

Some of the other packages that have been developed and updated include; Remarkable Rivers, Terrific Trees, and Sensational Streams, which are full day packages designed to get pupils outside, with a variety of riverside and field-based activities.

Alternatively, several shorter packages are also available which all link to the KS2 National Curriculum and help pupils to develop Spiritual, Moral, Social and Cultural (SMSC) values. For more information please get in touch and ask for Christi or Neil.



SUMMER HOLIDAY CHALLENGES

Summer 2020 saw the introduction of another new series of educational activities, the Summer 2020 Challenges, created especially for the school holidays by the Ribble Rivers Trust education team.

A total of six challenges, one for each week of the summer holidays, provided river themed entertainment for families.

All of the activities were specially created for the Summer 2020 challenges and focused on getting outdoors, being active, and learning about rivers in a fun and exciting way that was accessible for everyone.

To kickstart the summer holidays the first challenge asked participants to carry out a microsafari, by doing a kick sample and looking under stones in the river to try and find and identify river invertebrates using our handy guide.

Following on from this, other challenges included river treasure hunts, river picnics, litter picks, river walks and geocaching.

Of course, with the Great British weather our education team were careful to include plenty of indoor activities too.

Along with detailed instructions and video guides, our team helped children across the Ribble catchment make their very own craft masterpieces. Using normal household objects some of the marvellous creations included wonderful waterscopes, spectacular shoebox rivers, and terrific treasure maps.





RIVER KIDS LEARNING HUB

World Fish Migration Day is a one day global celebration to create awareness of the importance of free flowing rivers and migratory fish

Held on 26th October 2020, we joined the campaign by co-hosting an online River Kids Learning Hub.

Rivers Trusts from around the UK joined forces to deliver a day packed with exciting fish and river themed activities. Each Trust took turns to post activities, educational videos and other learning resources and ideas on the Facebook hub to keep

youngsters creative during the half term, while learning about the wonderful world of rivers from the comfort of their own homes.

The resources are still available and can be accessed by searching Facebook for the 'River Kids Learning Hub' event.

The event was organised by 'Unlocking the Severn', a conservation and river engagement project funded by the National Lottery Heritage Fund and EU Life.

NEW TERM

Each year our education team has visited an ever-increasing number of schools. Despite Covid restrictions, and thanks to the new and improved Rivers in the Classroom programme, 2021 is busier than ever.

In anticipation of a return to classrooms in the new year, our education officers set up 10 Trout in the Classroom trout tanks in December. Although many of the pupils at these schools ended up learning from home, our team have still safely delivered 1,200 eggs into these tanks, whilst following all the necessary precautions.



A series of accompanying digital resources have been created which means that the children who are learning from home, as well as those children who are still attending school, will be able to learn all about the wonder of rivers.

184

KILOMETRES OF RIVER IMPROVED

193

PEOPLE WITH BETTER KNOWLEDGE OF RIVERS

FUNDERS

Heritage Lottery Fund, Environment Agency, Natural European Regional Development Fund, the European Commission's Life Programme via The Rivers Trust, Yorkshire Dales Millennium Trust, Tesco, Greggs, Arts Council, **Prospects** Foundation, European Maritime Environmental Fund, Forestry Commission, Woodland Trust.

For further information about the projects and activities, and to access to the resources, visit the project website:

RIBBLELIFETOGETHER.ORG

SOCIAL MEDIA



Facebook.com/RibbleTrust



Twitter.com/RibbleLife



Instagram.com/RibbleRiversTrust



YouTube.com/RibbleRiversTrus

Ribble Life Together

In April 2017, the Ribble Life Catchment Partnership was awarded £1.6 million from the National Lottery Heritage Fund. Contributions from match funders helped to increase the project value to £3.2 million. Since then, the programme has delivered substantial improvements to our rivers and reached thousands of people across Lancashire and North Yorkshire.

Ribble Life Together is developing new partnerships and improving how environmental charities, public bodies and local businesses work together to protect and improve our water resources and the wider environment. Through practical environmental action, based on science, the project is inspiring and educating communities, and leaving a positive legacy for future generations.

Ribble Life Together has also been a catalyst for other projects, building relationships and creating the conditions for further collaboration, resulting in the Ribble Life for Water, Primrose Lodge redevelopment and others

HABITAT IMPROVEMENTS



25 New woodlands planted



14 New wetlands created



15 Kms livestock fencing



14 New fish passes



46 River clean-ups



275 Volunteer days



CONNECTIONS

- 10,445 VOLUNTEER hours have helped make our rivers better places for wildlife and people.
- 33 FARMS have worked with us to improve our rivers' water quality and habitat.
- 3,532 SCHOOL CHILDREN have learned about the importance of protecting our rivers for the future.
- 9,874 MEMBERS OF THE PUBLIC have chatted with us at public events and open days.

TRAINING APPRENTICES RIVERFLY SURVEYORS **BARRIER SURVEYORS** WATER POLLUTION

EDUCATION

3,532 school children from 56 primary schools have taken part in our Rivers in the Classroom initiative, rearing their own trout to release into local rivers and learning about everything from food webs to water safety.

11 secondary school pupils have undertaken work experience with us, getting stuck in helping with fish surveys and other practical habitat restoration.

26 short river films and 12 podcasts have been produced and made available on our website, giving everyone the opportunity to learn more about our rivers and their heritage.

2017 Photo Competition: 'Hidden Gems' Interactive Catchment Explorer launched (see website) 2018 Photo Competition: 'River Wildlife' Bat walks x 2 Sketch workshops x 2 2019 Photo Competition: 'People Enjoying Rivers' Bat walks x 4 Sketch workshops x 4 River Explorers App Trail 2020 'A Year on the Ribble' photo challenge Geocaching - 7 caches to discover around the catchment

15 Circular River Walk guides

published, accompanied by an

app featuring additional info,

ACTIVITIES

ART INSTALLATIONS



Stone carved by stonemason Alan Rhodes featuring diving Martyn Bednarczuk kingfisher situated at Oakenshaw fish pass.



Stone mussel by master carver and sculptor located at the historic Lytham mussel tanks.



2021

Sabden fish pass carved with a commemorative poem by A. Haworth about the old mill.



audio and video.

Stone bench situated at Fixed-point photography Gabion bench made by frames enable passersby to record the changing seasons of a #AYearOnTheRibble



Phillipe Handford featuring pebbles painted by St Francis Cubs. located at Witton Park.



Ribble Life for Water

The multi-million pound Water Environment Grant scheme was introduced in 2018 as part of the Rural Development Programme for England, funded by the European Union. It aims to help tackle issues in waterbodies that are failing to meet European water quality standards (the Water Framework Directive), of which the Ribble catchment unfortunately still has plenty of.

The Ribble Catchment Partnership was fortunate to receive £1.5 million from the fund to help tackle a range of issues around the catchment. From weir removals and fish passes, to habitat work and peat restoration, we've been working hard on these projects for over two years to improve water quality and habitat connectivity in some of the catchment's most degraded rivers.

PENDLE PEAT RESTORATION

One of the main problems with Mearley Brook is that overgrazing of livestock and public recreation on Pendle Hill has resulted in severe peat erosion. This has been causing high levels of sediment in Mearley Brook, negatively affecting water quality. Alongside the Pendle Hill Landscape Partnership, we have undertaken work to address the causes of the erosion and with the help of JVT Construction, we have put in place interventions to restore some of the eroding peat gullies to help the peat to build back up and regenerate.

The work is also important because peat is an excellent carbon store. Despite peat covering just 12% of the UK, our peatlands alone hold 3.2 billion tonnes of carbon, which is more carbon than the combined forests of Britain, France, and Germany!

Peat is also beneficial for water management. It holds 20 times its own weight in water so is excellent for slowing the flow of rain water and helping to reduce flood risk. Additionally, peat is remarkable at filtering water, with 70% of our drinking water coming from peatland river catchments.

It goes without saying that peatland provides crucial habitat for a diverse range of birds, insects and rare plants that aren't found anywhere else in the world. It is therefore vitally important to protect our peatlands. Taking centuries to form, they are almost irreplaceable.



HOLLAND WOOD BYPASS CHANNEL

Holland Wood Weir is a threemetre high barrier to all fish species except perhaps the eel. It is located on the River Darwen close to the confluence with the River Ribble and was historically constructed to supply Walton Mill, a corn and flour mill in Walton-le-Dale near Preston.

Due to the size of the weir and the nature of flows in the Darwen catchment, it was decided that a bypass channel would be the best solution, as opposed to a fish pass or removal of the weir. This new, close-to-nature river channel, constructed by Wade Group, takes around 5 - 10% of the river's flow and offers fish an alternative route at a much lesser gradient.

It is hoped that fish species including salmon, trout, chub, roach and bullhead that have been limited to habitat below the weir for decades will now be able to mix with populations of the same upstream, thus boosting their numbers and potentially improving species resilience to environmental stressors such as climate change and water-borne diseases.

Furthermore, given the weir's proximity to the tidal limit, it is possible that some fish species that are more commonly associated with saltwater (flounder for example) may find sanctuary in the newly accessible habitat upstream of the weir.

TARGETED FARM ADVICE: MEARLEY BROOK CATCHMENT

Mearley Brook begins on Pendle Hill and flows down through Clitheroe to join the River Ribble near Mitton. In addition to the sedimentation from the peat erosion, the brook also suffers from high inputs of phosphate from agriculture, overgrazing and poor nutrient management.

We've worked closely with a number of farmers in the Mearley sub-catchment to find ways to improve the quality of the water running off their farms. Soil testing has highlighted where the problems lie and advice has been given as to how to rectify it, such as improvements to the storage, application and wider use of nutrients.

This work, coupled with the new fish pass at Primrose Lodge, should provide a boost to the fish populations in Mearley Brook.

LONG PRESTON WEIR REMOVAL

Long Preston Deeps on the River Ribble near Settle is designated as a Site of Special Scientific Interest (SSSI), covering 162 hectares of floodplain. The unusual river processes in this location offer rare, valuable habitat to breeding wader birds and aquatic plants.

Unfortunately the SSSI has been degraded by certain farming and industrial practices and the Long Preston Floodplain Partnership has been working for years to return Long Preston Deeps to a more natural state so that it can support more diverse and abundant wildlife.

One of the issues causing fragmented habitat was the presence of a moderately sized weir, which was built in the 1970s to help aerate the river downstream of Settle water treatment works. Due to upgrades at the treatment works, the weir was no longer needed and so with the help of Bailey Contracts, the central 60% was removed.

While the weir was a relatively low height, this work will mean that all fish species will be able to pass through in all flow conditions, as well as enabling gravel to move freely again, creating a more natural river channel.





PROJECTS





SAMLESBURY WEIR REMOVAL

For years the Trust has set its sights on tackling the huge, redundant gauging weir near Brockholes Nature Reserve at Samlesbury but until now, funding has eluded us because the weir was only deemed as a 'partial' barrier to fish, meaning that some of the larger, stronger swimmers were able to navigate over the structure.

The weir is the first obstacle faced by fish as they make their way up the Ribble. Given the number of other pressures on our fish populations such as pollution, floods and elevated water temperatures linked to climate change, a partially passable weir still has a significant impact on fish abundance and diversity upstream, especially if weaker swimmers are falling at the first hurdle.

With the help of Wade Group, the structure was removed from the channel completely, allowing free movement for fish of all sizes, both upstream and down. It is hoped that the work will boost populations of not only salmon and trout in the catchment, but also more rare and endangered species like eel, lamprey and smelt.

Invertebrates are also expected to benefit from the free movement of gravel along the riverbed, which will create more complex habitat.

GAYLE BECK HABITAT IMPROVEMENTS

Gayle Beck is one of the formative tributaries of the River Ribble and is sourced from the Dales around Ribblehead. Ribblehead Viaduct is partly to blame for the beck's inability to support wildlife, as a once tree-covered landscape was completely cleared during the construction of the viaduct in the 1870s. Agricultural activities, drainage of notably surrounding peat moorland and straightening of the channel, also contributed to Gayle Beck's degradation. The channel has become unnaturally wide due to erosion caused by rapid run-off from the surrounding landscape and because the flow of water in normal conditions is so spread out, the beck has very little energy to transport gravel. A natural channel would have pools and riffles formed by the transportation and deposition of gravel, but Gayle Beck is very homogenous, meaning there is a distinct lack of different types of habitat and therefore little variety of riverine species.

To improve the in-channel habitat, we installed woody material and log jams at intervals along a section of riverbank owned by Yorkshire Wildlife Trust to constrict the flow of water and speed it up. This will allow the beck to pick up gravel in the fast-flow zones and deposit it in the slower sections, creating more natural pool and riffle sequences to provide better habitat for invertebrates and spawning fish.



UPPER RIBBLE WEIR REMOVALS

The upper part of the River Ribble near Horton-in-Ribblesdale should be a prime location for spawning salmon and trout, however our surveys have consistently shown that juvenile numbers are far below what we would expect. Like Gayle Beck, land management activities and physical modifications to the river are believed to be causing a lack of inriver spawning habitat.

For this project, we have focused our attention on a series of four relatively small weirs. While the weirs don't pose much of a barrier to fish moving upstream, they do interrupt the natural movement of downstream, gravel as material becomes impounded above the weir. This gravel is what spawning fish lay their eggs in, so without the formation of riffle areas, the amount of suitable breeding grounds are significantly reduced.

We have worked with B. Scott Agricultural Services to remove the weirs and encourage natural pool and riffle sequences to reform in this part of the upper Ribble.

STILL TO COME...

The Ribble Life for Water programme of works is set to complete in 2022. At the time of print, work is underway on three further projects within the catchment.

LONG PRESTON FLOOD BANKS

We are working with a landowner on the Long Preston Deeps SSSI to move a floodplain further back from the river's edge to improve habitat and give the Ribble more room to flood.



PENDLE WATER RENATURALISATION

Work is underway to remove the concrete-lined riverbed along Pendle Water near Lomeshaye. Nature will be allowed to take its course and reinstate a natural riverbed that can support aquatic wildlife once again.



ROACH BRIDGE FEASIBILITY STUDY

Some of the project funds are being used to investigate whether it would be feasible to install fish passage solutions on what is possibly the biggest barrier to fish migration in the Ribble Catchment!









Opening Up the River (OUR) Douglas is the first major project the Ribble Rivers Trust is delivering in the River Douglas Catchment. It aims to create a healthier river environment by enabling fish passage between Gathurst and Horwich.

The project is receiving £505,828 from the Ministry for Housing Communities and Local Government, through the European Regional Development Fund, and £387,347 from delivery partner Groundwork Cheshire, Lancashire and Merseyside.

The River Douglas is currently in a degraded state with all waterbodies failing to meet 'Good Ecological Status', due to a legacy of construction and pollution from its industrial heritage. Much of the river is considered 'heavily modified' in part because of the presence of multiple weir structures along its course. These antiquated structures are often no longer functioning for their original purpose, and in many cases provide a significant barrier to habitat connectivity within the watercourse. This is particularly the case for fish. The barriers reduce the ecological potential for the River Douglas, limiting or blocking access completely for many or all fish species that require movement through the watercourse for spawning, to survive, thrive and also recover from pollution or disturbance events such as floods.

The project will deliver fish passes at eight locations along the River Douglas between 2020 and 2022, two of which have already been completed (see opposite). The fish passes will reconnect 106 hectares of the River Douglas catchment, benefitting all fish but allowing migratory fish such as sea trout and Atlantic salmon to reach as far as Horwich in the future. This reconnection will improve the ability of fish populations to spawn, reach a larger range of food resources, and recover from high flow or pollution disturbances quicker than before. The resulting healthier fish populations will support a healthier food chain benefitting birds and mammals also.

By improving one of the major rivers within Lancashire's unique landscape, the project also aims to raise awareness of rivers and their biodiversity within the local communities, with the enhanced blue space benefitting people as well as wildlife.

Each of the fish passes will be evaluated through markrecapture studies of fish using visible tags and electrofishing surveys to see if the fish are able to successfully navigate the passes, thus confirming whether the upstream and downstream habitats have been reconnected as a result of the work.

RIBBLE ESTUARY

GRIMEFORD WEIR

Problem: This small weir was historically built to enable Pincroft Works to abstract water. It was considered to be acting as a partial barrier to fish migration, especially during low flow conditions.

Solution: Construction of a loose-fill rock ramp was completed in September 2020, reconnecting 28km of river habitat.





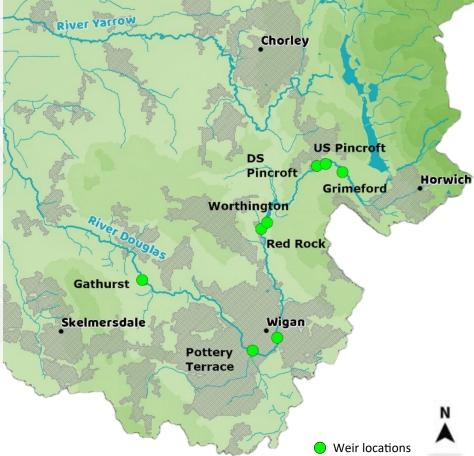
DOWNSTREAM PINCROFT





Problem: Located downstream of Pincroft Dyeworks, this low-head weir was considered to be a partial barrier to fish movement, particularly in low flows where a lack of depth of water impacted swimming ability.

Solution: Construction of a rock ramp was completed in October 2020, reconnecting 28km of river habitat.





UPSTREAM PINCROFT

Problem: A low-head partial barrier to fish movement located at Pincroft Dyeworks.

Solution: Construct a loose-fill rock ramp to allow two-way passage for all fish species.



WORTHINGTON WEIR

Problem: A complete barrier to all fish, located at the end of a culvert bypassing a reservoir.

Solution: Construct a partial width rock ramp to enable upstream and downstream fish passage.



SCHOLES WEIR

Problem: A sluice constructed to feed river water to the Leeds Liverpool canal.

Solution: Construct a prebarrage pool and rock ramp to allow fish passage both ways.



GATHURST WEIR

Problem: The first manmade barrier to fish migration above the tidal limit.

Solution: Construct a rock ramp on the face of the weir to reconnect 133km of river habitat.



A Brief History of Primrose Mill

The lodge was initially constructed to supply water to a purpose-built cotton-spinning mill, which was erected in 1787 by John Parker and John Parker, who also owned Low Moor Mill in Clitheroe. Primrose Mill was four storeys high, together with 11 cottages, a stable, shippon and gardens to create Clitheroe's second industrial settlement. The mill contained 14 spinning frames with 856 spindles, powered by a 26' diameter waterwheel.

Spinning continued until 1810/11 when Thomson, Chippendale & Burton, later to be James Thomson, Brother & Company, began calico printing. This firm began in a small way, although a machine room, bleach croft, three dye houses and two engine houses enlarged the business by 1827.

In 1854 the new owner, Richard Fort of Read Hall, separated the units so both cotton spinning and paper making took place on the premises. J & J Mercer of Holmes Mill converted the New Print shop to Primrose Spinning Mill in 1860. The building was constructed from random limestone with sandstone details.

The mill closed in 1884 and it remained empty until 1904 when the bobbin makers Richard & John Holden took over. Primrose Ring Mill Limited was formed in 1905, which re-equipped the building for ring spinning and destroyed the existing chimney. The final use for the textile industry was by Lancashire Cotton Corporation in 1930. By 1942 the building was used for storage by the Ministry of Pensions and the lodge was abandoned.

Primrose Lodge Blue & Green Way

In 2021, we completed an ambitious project to transform a neglected, overgrown Primrose Lodge into a wildlife haven and improve biodiversity within Clitheroe.

The project received over £900,000 of joint funding from the European Regional Development Fund, the Environment Agency, section 106 funding from Ribble Valley Borough Council and a charitable donation from Beck Developments.

The first phase of our project, undertaken by Ebsford Environmental Limited, was to remove over 4,000 cubic metres of silt and debris from the lodge to create an area of open water. The margins were replanted to attract insects and birdlife to the lodge.

Next, a fish pass, the longest of its type ever to be constructed in the UK at the time of print, was installed by Bailey Contracts on the weir at the foot of the lodge to enable fish to access the upper reaches of Mearley Brook for the first time in decades.

A fish tracking study was undertaken once the fish pass was opened to measure how successful different fish species were at using the pass and making their way through the lodge to the upper parts of Mearley Brook. Long-term monitoring through the Trust's

annual fish surveys will also reveal the impact of the pass on Mearley Brook's fish populations. The hope is to find Atlantic salmon above the lodge for the first time in over 200 years!

Around the site, new footpaths and footbridges were laid Conservefor Ltd, creating attractive blue and green way for the town's residents and visitors to enjoy. A viewing platform, funded by the Lancashire Environmental Fund, was also constructed. providing an excellent vantage point for spotting wildlife around the lodge. Even while all the construction was going sightings of kingfisher, egret and otter were reported.

A cohort of volunteers helped to remove litter, tackle Himalayan balsam and plant hedges and trees around the site, all whilst negotiating the ever-changing restrictions of Covid-19 lockdowns.

Primrose Community Nature Trust has been established to manage the ongoing maintenance of the town's picturesque new asset, which has already been listed as a Biological Heritage Site. They have installed interpretation boards around the site and commissioned a barn owl sculpture by chainsaw artist, Mike Burgess.























Water Friendly Farming



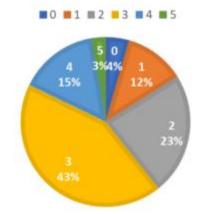
The Trust works with farmers to identify opportunities to reduce diffuse pollution, increase natural flood management and fight climate change. Many opportunities farmers can and do take forward, as they benefit the business and environment at little cost. However some require more significant investment. Finding funds to support this work, and to support farmers to make the changes is always difficult, partly as funding is limited, target to specific locations that don't always reflect water or farming priority, have extremely short timescales, or the applications Our work seeks to complicated. support farmers through this, by supporting access to existing funds, or to identify and develop projects that can provide funding targeted to where we have identified the greatest opportunities. This always seeks to balance an improvement to the environment and farm natural business, where the benefit to the farm business will ensure the sustainability of change. An upcoming example of this is our collaboration with United Utilities to continue to help farmers to reduce phosphate concentrations and increase natural flood management measures within the Loud Catchment. We have been building an evidence

base to support our decisions on where funding and types of mitigation methods should be applied. Some of this evidence base includes visiting farms and producing farm reports, soil sampling in farmers' fields and computer aided modelling.

Soil sampling has allowed RRT to understand current phosphate indexes in the area. For grassland the target index for phosphate is 2. As you can see from the chart below, only 23% of the fields were at the target index and 61% of the fields had an index of 3 or higher.

RRT asked EdenVale Young to carry out some modelling to see where tree

PHOSPHATE INDEX- LOUD CATCHMENT



planting in the area would reduce flood risk. The results suggest that planting in the upper Loud would have the greatest effect on flood risk. We are talking to a number of farmers about creating woodland but we must consider other habitats and species such as species rich grassland and wading birds, where planting trees, even if it would help to reduce flooding and diffuse pollution would have a negative effect on existing or possible habitats in the area.

As always, we are continuing to go out on site visits to assess farms and find opportunities for mitigation methods to reduce diffuse water pollution. For this project, once the assessment has been completed, we are running each farm through a programme called Farmscoper which was developed by ADAS. This programme aims to identify the mitigation methods that would have the greatest reduction on diffuse pollution. We have run this programme specifically to show which mitigation methods would have the greatest impact on phosphate reduction.

So overall, even with COVID 19, 2020 was a very busy and productive year and we look forward to implementing the work in 2021.



Pendle WINNS

Pendle Hill is the source of several streams in the Ribble Catchment, some flowing into the Ribble itself, with others flowing south to the River Calder. The Landscape Partnership project, led by the Forest of Bowland AONB, offers a fantastic opportunity for us to tackle several water quality issues

at their source.

The Pendle Hill Landscape Partnership project was awarded £1.8 million by the Heritage Lottery Fund in 2018. The grant is being used to restore, enhance and conserve the heritage and landscape of Pendle Hill, reconnecting people with



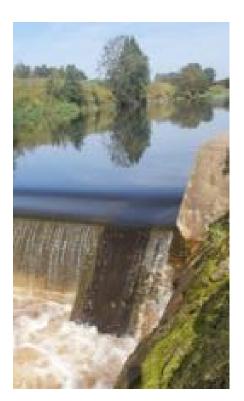
their past and their landscape, and creating a sustainable future for the environment.

Ribble Trust is helping the project achieve its aims by involving local volunteers in the planting of new woodland and control of invasive species around this iconic landmark.

Now three years into the four-year project, there have been some amazing milestones reached, including Himalayan balsam control at Barley, Wells Wood, Raven Clough Wood, Swanside Beck and the Huntroyde Estate.

The Pendle Hill Landscape Partnership Scheme has created an interactive map which you can use to find out more about the project, its activities, and who the partners are. You can view the map and find out more about the project at:

pendlehillproject.com/pendle-map





Henthorn Weir 2

The weir on the River Ribble at Henthorn in Clitheroe was constructed to provide river level and flow data for the Environment Agency. The data is used for various purposes, but most importantly to monitor flood risk. However, the weir also hampers the migration of eels upstream into the upper stretches of the River Ribble.

European eels are a critically endangered species whose numbers are thought to have declined by as much as 90% since the 1970s. Although eel lifecycles are still relatively mysterious, we do know that young eels travel from the Sargasso Sea in the Atlantic Ocean to Europe's rivers, where they spend decades of their lives, before returning to the Sargasso Sea as adults to spawn.

Obstructions on rivers, such as weirs, are one of the key issues facing eels, limiting the amount of habitat they can access. When completing their migratory journey, eels are still tiny elvers, not the larger adults that may immediately spring to

mind. By helping eel elvers to migrate and making their journey easier at this early stage in life, we can increase their chances of surviving into adulthood and returning to the sea to spawn.

The existing eel pass on this weir was a 25-metre solar powered pumped eel pass which was no longer functioning due to flood damage and blockages. Together with the Environment Agency, designed a new, maintenance-free eel pass which will be self-cleaning and cannot trap any debris. Rather than relying on pumps, the new eel pass is fed by the flow of the river so, providing water flows over the weir, the pass will work. The pass uses eel tiles which have a grid of finger-like projections which the eels use to brace against as they wriggle up against the flow.



DATA & EVIDENCE



Fish Surveys

A difficult year for all

Despite 2020 being a very difficult and unprecedented year, the Ribble Rivers Trust (RRT) concluded its 13th year of electric fishing surveys on the Calder, Hodder and Ribble catchments. Whilst the COVID-19 pandemic limited working, strict government guidance was observed to carry out surveys and additional protective measures implemented by the Trust to guarantee the health, safety and wellbeing of their staff.

Results from this year's survey works has shown that salmon and trout have also had a difficult year. With such low densities of fry (the young of year) recorded in 2019 and 2020 there are concerns to be had over how these cohorts will affect the future adult spawning population.

Wet weather warnings!

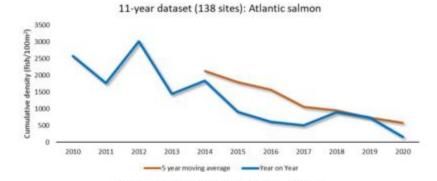
One major impact on fry densities is thought to be the snowballing effect of extreme flow events at critical lifecycle stages. A growing body of evidence suggests that high flows between spawning and fry emergence have a marked effect on the numbers of young in a population. In 2020 three named storms crossed the UK during

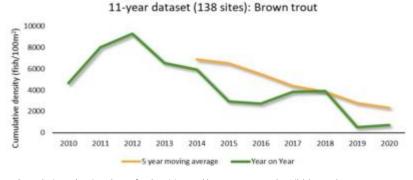
February (Ciara, Dennis, and Jorge) which caused severe flooding with many gauging stations logging their highest river level on record. At this time of year salmon and trout young are still relying on their yolk reserves while remaining very immobile within their gravel nests (redds). With river levels exceeding all previous records, heavy sediment movement will have washed out redds leading to high mortalities of undeveloped young that have little to no swimming ability.

A Silver Lining

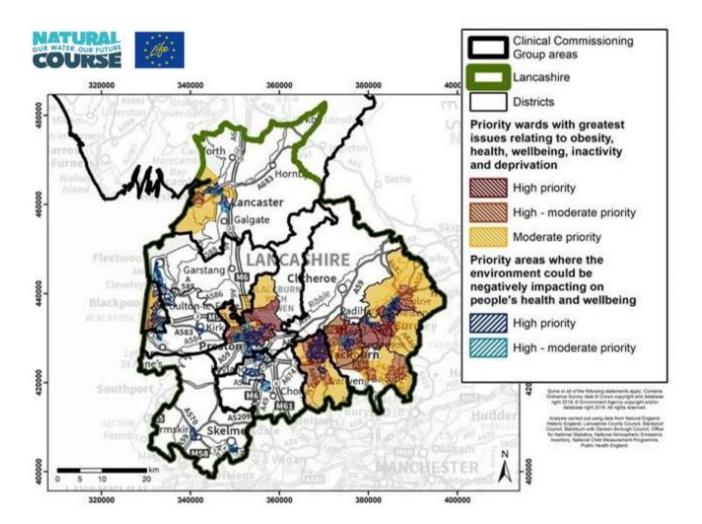
On a more positive note, fresh run sea trout were recorded on a small spawning tributary of the Hodder catchment after rainfall events in August. These fish can be responsible for a large proportion of trout young, especially when larger females can produce 1,000-2,000 eggs/kg of bodyweight.

With the ongoing pressures within freshwater systems the work that the Ribble Trust and its partners do to improve freshwater habitats is more important than ever in maintaining and enhancing fish populations, particularly for migratory species salmonids.





Cumulative Atlantic salmon fry densities and brown trout on the Ribble catchment for 138 sites fish 2010 – 2020 including 5 year moving average.



Connecting Communities and Natural Capital

Historically, the health of the environment and of people have been treated as independent issues, yet the two are highly interlinked. Pressures that impact on the environment often directly or indirectly impact on people's health and wellbeing, too. Never has this been more obvious than in 2020: a year that has highlighted how environmental destruction can impact people's health and the importance of accessing high-quality outdoor green- and blue-space for wellbeing.

In 2019, we undertook an analysis to identify locations where projects that address both environmental degradation and people's health and wellbeing could have the greatest positive impacts. This analysis was initially carried out for Lancashire but has since been extended across England thanks to funding from The

Rivers Trust, after it became apparent it could be of use to other organisations.

The analysis incorporated data collated by leading bodies such as Public Health England, Sport England and the Environment Agency. It mapped the geographic distribution of areas with high numbers of people with obesityrelated illnesses, mental health illnesses, high levels of inactivity and of deprivation, as well as the locations where current environmental conditions could be negatively impacting on health and wellbeing.

This analysis enables RRT and others to identify where:

a) Habitat creation or improvement could also reduce the impact the environment has on people's health through reducing air pollution, reducing flood risk, and increasing the amount of publicly accessible green-

and blue-space.

b) The creation or improvement of public open spaces could encourage greater levels of outdoor activity in populations with high levels of inactivity- and obesity-related issues.

RRT uses these results, in conjunction with our evidence-base highlighting where rivers and wildlife could benefit most from management works, to design holistic projects to benefit wildlife, the environment and people. Wherever possible, we involve local people in those works through volunteer days - whether that's planting trees, removing invasive nonnative plant species or picking litter - as this physical outdoor work has great health and wellbeing benefits and encourages a sense of pride in the local environment and a desire to help protect it.



Lancashire Woodland Connect

Everyone knows trees are great for the planet, but did you know that they're great for people too? Lancashire Woodland Connect is a campaign that will strengthen the bond between people, trees, and nature by taking the area's existing woodlands and joining them up, as well as creating new woodlands for the benefit of people, nature, and the planet.

The decade long campaign, launched in early 2020, aims to double the area of woodland across Lancashire to fight climate change, improve air quality, reduce flooding and support greater biodiversity. Our ambitious goal will see 500,000 trees planted, creating 500

hectares of new or restored woodland alongside the Rivers Ribble, Lune and Wyre and their whole catchments in the next 10 years.

The carbon offsets of around 100,000 tonnes of CO2 generated by the Lancashire Woodland Connect campaign, which are certified by the Woodland Carbon Code, provide financial support for landowners to tackle Climate Change, as well as creating richer habitats for wildlife and local communities to enjoy.

The Trust has already secured some financial support from a range of businesses including independent craft brewer BrewDog, Lancashire-based company TVS Supply Chain Solutions and Beastmaker, which specialises in making wooden training equipment for climbers.

You can get involved and support this campaign by donating just £15.00 to plant a tree; you will get a report on your tree's journey and growth, as well as photo updates of the woodland your tree is part of.

Your donation will support and enable us to deliver the Lancashire Woodland Connect campaign to plant 500,000 trees across Lancashire. Find out more at: ribbletrust.org.uk/lancashire-woodland-connect



Seed collecting

Each winter, Ribble Rivers Trust plants thousands of trees, with a lot of help from our team of fantastic volunteers. These trees provide a range of benefits not just to our rivers, but the wider landscape too. When planted in the right place, trees can have amazing benefits for habitat quality and connectivity, flood risk, water quality, air pollution and carbon capture.

In 2020, the Trust took the first steps towards reducing our reliance on local tree nurseries. Although all our trees are sourced from local suppliers, and grown locally, the Trust is planning to create a series of community-run micro tree nurseries across Lancashire.

To help us reach this goal, over the autumn and winter months volunteers across the catchment have been busy collecting seeds that are of local origin, or provenance (local, native species whose ancestors also grew in this part of the country) using guides that have been specially created for this task.

Generally, seeds from local trees need to be sourced from older woodlands, to try and ensure that they are locally grown and have not been planted using trees from elsewhere. Older woodlands can be identified in various ways, one simple way is to look at historic maps to determine the age of the woodland. Other clues include evidence of coppicing, an absence of planting patterns, and a wide range of tree ages.

Different species of seeds can be collected at different times during the year, with the majority of the species that the Trust hopes to grow being in seed from July to November. If collected too early the seeds may not germinate, but too late and the seeds may have been taken by local wildlife. Of course, it is important to support bird and wildlife populations, and to ensure that the woodland has enough seeds for its own continuation, so small numbers of seeds from a variety of trees and woodlands are collected.

In just a few weeks our volunteers collected around 7,000 seeds (pictured right) which have been carefully processed and either stored or planted in small pots, depending on the species. All the seeds that have been sown so far have been place in second-hand pots donated by Newlands Nursery in Chatburn, near Clitheroe and by Trust supporters.

All these trees will be grown outside, watered only by rainwater, and will eventually be planted in new native woodlands across the Ribble Catchment.



Present for the Planet

People across the country were lucky enough to receive a unique gift for Christmas 2020 thanks to a collaboration between Ribble Rivers Trust and local artist Jessica Jenyns.

Present for the Planet gave people the chance to give the gift of a tree to their loves ones at Christmas, with each donor getting a beautiful eco-friendly Christmas card designed by Jessica, and each recipient receiving a certificate, map, and annual progress updates about their tree.

Jessica has now created a spring range of greetings cards. Inspired by her love of nature, each card features a beautiful British bird. As an eco-conscious artist, all of Jessica's cards are handmade using UK materials and printed using an eco-tank printer. Plus, 50p from each card sold is donated to the Ribble Trust.

You can find out more about Jessica Jenyns and view her work at jessicajenyns.co.uk





Volunteering

From tree planting, fencing and Himalayan balsam pulling, to litter picks, fish surveys and riverfly monitoring, there are so many things you can do to help protect your local rivers and wildlife.

Register for our email bulletins to find out when and where there are

opportunities coming up and if you wish to take part, simply reply to the email to let us know. Experience is not required and we provide training, tools and friendly smiles!

Sign up today at: ribbletrust.org.uk/volunteering

Corporate Support

It's good for us, good for business and good for the planet! The corporate support we receive from local and national businesses helps to fund certain running costs that charitable grants don't normally cover. It keeps us operating from day to day. Our newest corporate supporters, Pearson Web Services, have this to say:

"When we set up this web services business, we did so with the desire to be environmentally responsible and therefore committed to regularly the carbon footprint produced by our website and workforce from the outset. In just six months of trading, we have planted almost 600 trees and reduced over 18 Tonnes of CO2 by investing in certified climate projects around the World that remove more greenhouse gasses than our own carbon footprint puts in. We also offset the entire carbon footprint produced by our client's web activities too. We believe we are the first company in the UK to do that. We provide a full range of website services including website design, website management, website hosting, marketing and SEO. This ethos is

driven from our personal desire to do our part in protecting the environment. To give our children an example of how we should all be more environmentally responsible.

We currently invest in climate positive projects around the World, but we wanted to do something local and close to our hearts. Supporting a local effort is hugely important to us both in our personal and professional life and being able to put boots on the ground in an area we are contributing to just makes us feel warm and fuzzy inside. Therefore, we started looking for local projects and when we found the Ribble Rivers Trust we knew it was the right direction for us. We are very passionate about the Forest of Bowland and the River Ribble and will always chose to spend our down time in the area. Our directors even had their first date at the Inn at Whitewell but more about that love story on our blog page."

More information about our corporate support packages can be found on our website at ribbletrust.org.uk/become-a-supporter



Legacy

Legacies make a huge difference to small charities and help to ensure that the care and protection of our rivers and wildlife continues for future generations.

More information about the different ways you can leave a legacy can be found on our website at ribbletrust.org.uk/become-asupporter



Day ticket fishing

Enjoy game and coarse fishing at a range of scenic locations around the Ribble Catchment, including the main Ribble and Calder rivers for as little as £5.00 per day.

The Angling Passport scheme aims to highlight the importance of clean and healthy rivers as a valuable asset to recreation and the local economy, and encourages local landowners to manage their land sensitively.

Proceeds from the ticket sales are invested straight back into our river conservation projects.

Tickets and fishery guides can be purchased from our website:

ribbletrust.org.uk/go-fishing



Join the Ribble 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 join us.

Your details Title Sumame Forename(s) Address Postcode Telephone Email Your subscription Your subscription is a donation towards our work. The more you can afford to give, the more we can do to improve our rivers. Individual Supporter £36 per year Individual Supporter £3 per month Life Supporter £250 one-off payment Your own amount: £ per month/year A little extra help giftaid it

Boost your donation by 25p of GiftAid for every £1 you donate at no extra cost to you! GiftAid is reclaimed by our charity from the tax you pay for the current tax year. Yes - I want to GiftAid my donation and any donations I make in the future or have made in the past 4 years. No - I don't want to GiftAid it Name Signature Date I am a UK taxpayer and understand that if I pay less Income Tax and/or Capital Gains Tax than the amount of Gift Aid claimed on all my donations in that tax year it is my responsibility to pay any difference. Please notify us if you wish to cancel the declaration, change your name or address, or no longer pay sufficient tax on your income and/or capital gains.

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