

WESSEX RIVERS

NEWS

BLUE INFLUENCERS SCHEME

Find out how the Blue Influencers Scheme empowers young people to lead impactful environmental projects that benefit both their communities and local rivers.

FARMING AND RIVERS

Exploring how local farmers are collaborating to improve river health and reduce pollution through innovative partnerships and environmental initiatives.



Wessex
Rivers Trust

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STRATEGIC THINKING

Dave Rumble, CEO

Help us shape the Trust's strategy

Wessex Rivers Trust is currently drafting a strategy to prepare it for the next 3 years of growth. We are at the stage in our development where we must further prioritise what we do where rather than trying to do everything anywhere (which is the tendency in the early stages of an organisation's growth!) Rivers have never been higher up peoples' agendas so, looking ahead, what is the best and most unique contribution the Trust can make?

Our current delivery work is spread across three programmes: Habitat Restoration, Catchment Improvement and Education & Engagement; these are underpinned by Research and the core Administration functions. All of these work areas have grown in scale and impact - but Wessex is a large area, and we have recently absorbed the Isle of Wight following a change to our constitution. Our education work has grown rapidly over the last couple of years, and our work with farmer groups is also showing signs of good growth; practical river restoration remains our biggest portfolio.

We have not built-up skills in campaigning and advocacy but many partner organisations, notably the national Rivers Trust, are covering this well. But our voice is important, and our experiences and insights should be shared when it would be detrimental not to. Therefore, hand-in-hand with our organisational strategy, there will be a communications strategy so that we can, when needed, speak up to protect rivers and catchments.

Crucial to planning the Trust's growth journey is carefully contemplating the external landscape. The change in government is probably the most important single driver of change – for example, who in government will take ownership of the important work done to date nationally on the Chalk Stream Restoration Strategy? What will the role of citizen science be in dealing with river pollution? Will schools increasingly struggle to take groups on field trips? We must pre-empt these questions and craft a strategy which is prepared for a range of outcomes.

Part of this exercise includes confirming our organisational values, deciding what we are best placed to do, and how we differ from and should work alongside, other players. We value the views of our supporters and if you would like to register your say, please email info@wessexrt.org.uk and you will be sent a questionnaire which will shape the next exciting stage of the Trust's growth.



CEO'S ROUND-UP

Dave Rumble, CEO Wessex Rivers Trust

This edition of Wessex Rivers News covers a larger period than usual, featuring several months of the Trust's work and discussing practical approaches to river conservation. The main feature is the ground-breaking work undertaken on the Avon at Amesbury (page 5) which has been years in the making but reverses decades of harmful legacy. I am especially proud of the scale of this project and am impatient to see the response of the chalk stream habitat and recovery of its species over the coming months.

At the same time as reversing past destruction, our team also wreak a certain destruction: removing invasive non-native species (page 9) and incorporating wood into river habitats (page 13) – both approaches have proven and perhaps surprising benefits for our rivers.

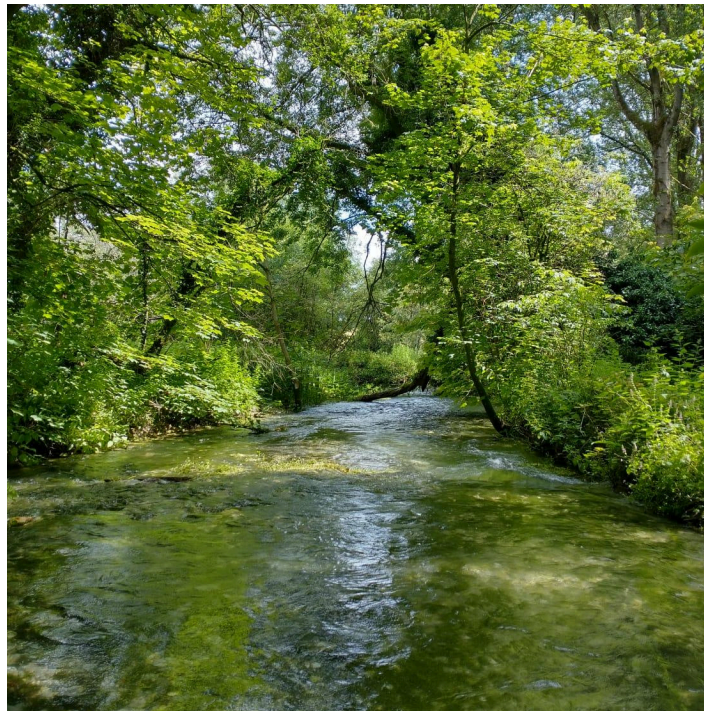
More than ever before, the Trust is working with people from contrasting communities in the single pursuit of educating and

inspiring changes which benefit rivers.

For decades septic tanks have been in the 'too difficult' box and yet are clearly a huge issue for water quality, especially in chalk stream headwaters. On page 8 we explain how reaching out to homeowners in key locations is expected to achieve great results.

The Trust has officially expanded its remit to the Isle of Wight and we have not wasted any time in getting involved in education work here (see page 11). We have all too often found it difficult to realise our vision of Healthy Rivers for Wildlife and People in urban areas and amongst older children - there are encouraging signs of progress through the Blue Influencers scheme, introduced on page 4.

This is only a taste of what Wessex Rivers Trust is doing – I am honoured to be involved in so much exciting work, which is a testament to both the dedication and momentum from the team, and the enduring difference our supporters make.



BLUE INFLUENCERS SCHEME

Amy Ellis, Blue Mentor

The Blue Influencers Scheme was launched in January 2024 bringing together 22 host organisations (including Wessex Rivers Trust) from across the country, and their Blue Mentors, to lead a youth-led environmental initiative.

The scheme is run and funded by The Ernest Cook Trust with match funding coming from the #iWill Fund. Wessex Rivers Trust's Blue Mentor will engage with young people, aged 10 – 14 years old, who do not have “easy access to nature” in projects within the Southampton and Eastleigh area, promoting healthy blue spaces. The Trust is very excited to be working with this age group, within these urban areas as we can see the huge potential benefit to the community as well as the young people.

Ed Ikin, CEO of The Ernest Cook Trust says, “Young people are often the most passionate about the environment and are very aware of the issues we face with climate change. The Blue Influencers Scheme gives them the funding, platform and tools they need to make positive changes to benefit their entire community”.

Throughout the scheme each group of young people will be given the chance to apply for funding, allowing them to produce a project that they are passionate about. The funding will then be granted by the Youth Advisory Board, who volunteer for The Ernest Cook Trust.

Projects could be almost anything that links young people positively to the river. Some examples:

- Producing awareness posters within school and the local community
- Producing short films promoting ways to help rivers
- Litter picks at the river or even in the school grounds
- Education events, within school, in the town centre or at the river
- Water testing on a regular basis
- Water saving in school (water butts, signs on taps, etc)
- Improving access to the river, such as steps, vegetation clearance or signage
- Coppicing, to allow light into the river
- Improving fishing access, leading to a better appreciation of wildlife
- The list is endless...



The Ernest Cook Trust Youth Advisory Board

Benefits to young people when working on the Blue Influencers Scheme could be:

- Increasing self-esteem
- Building local knowledge
- Connecting with nature
- Connecting with the community
- Helping natural spaces
- Increasing use of natural spaces
- Improving teamworking skills

So far, the Trust has worked with St Marks C of E School's Eco Club on a litter reduction campaign (watch this space for a song coming out on our social media), Polygon Special School for boys on river exploration involving litter picking, river dipping and magnet fishing and with very keen students from Freemantle Community Academy Trust who are working up a project as I type!

We will report back in the next issue showing what we have been up to!!

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REVIVING THE RIVER AVON

Matt Irvine, Senior Project Officer

The River Avon, a world-renowned chalk stream teeming with wildlife, is undergoing a transformative restoration thanks to investment from National Highways' Environment and Wellbeing Fund, topped up by monies from Natural England via their Conservation Enhancement Scheme (CES) and the Species Recovery programme (SRP). This ambitious project, led by Wessex Rivers Trust, focuses on the stretch between Durrington and Lord's Walk in Amesbury. Its aim? To rejuvenate this unique ecosystem, benefiting species like Atlantic salmon, water voles, and otters.

A Multi-Phase Effort

The project's journey began in 2022 with the completion of the design and permitting phase. The first phase of delivery, upstream of the A303, was undertaken in Autumn 2023. The second phase of works, downstream of the A303 have now been completed, in Autumn 2024, with additional tree works and fencing scheduled for spring and summer 2025.

To date, the project has achieved remarkable milestones:

- Creation of 400 metres of new chalk stream habitat, bypassing a significant weir that previously obstructed fish migration and opening up many miles of river upstream to migrating fish.
- Enhancements to 3km of existing main river channel, including the reinstatement of natural features.
- Establishment of several hectares of wet woodland habitat, alongside improved floodplain creation, a valuable addition to the river's biodiversity.

Restoring What Was Lost

In the 1960s, the building of the A303, including the installation of three new road bridges - two at Countess road and one for the new A303, dramatically altered the River Avon. The river was straightened, the riverbed was dredged, channels were blocked off and the riverbanks were cleared, devastating the natural chalk stream and floodplain habitat. The damage was compounded by additional barriers such as the sluices at Bowles Hatches, a concrete weir at Lord's Walk, and a syphon channel beneath the main river.



This restoration project is reversing decades of degradation by reinstating natural processes and habitat features essential for a healthy river. Biodiversity in the river channel and adjacent floodplain meadows stands to benefit immensely.

Key Interventions

Upstream of the A303, efforts have focused on:

- Reinstating a natural gravel riverbed, effectively “un-dredging” the river
- Introducing “fallen tree analogue” woody habitat features using timber from tree works
- “Skylighting” tree works to improve light conditions, promoting the growth of aquatic plants like Ranunculus.

Downstream, between the A303 and Amesbury Road bridges, the project has:

- Created a new channel bypassing the existing weir, establishing 400m of additional chalk stream habitat
- Infilling the old weir carrier and creating a backwater habitat
- Connected the river and floodplain
- Decommissioned the syphon channel and converting the woodland channel into a wet woodland backwater.

A Haven for Salmon

This restoration represents a significant improvement to the chalk stream’s SSSI (Site of Special Scientific Interest) and SAC (Special Area of Conservation) status, particularly for Atlantic salmon. Surveys highlight the project’s potential impact: while trout dominate upstream at a 90:10 ratio compared to salmon, downstream the ratio is closer to 50:50, indicating how obstructive the weir was to salmon migration. To fully maximise these benefits, more work is planned for 2025, including:

- Continue upstream tree works to enhance light conditions and boost macrophyte growth. Research by the Game and Wildlife Conservation Trust links macrophyte abundance to larger salmon smolts and, ultimately, higher adult salmon returns.
- Implement additional in-stream habitat improvements through Lord’s Walk. These enhancements, already consented under a Bespoke Flood Risk Activity Permit (FRAP) and Planning Permission, are crucial for aiding downstream salmon migration.

This project is a fantastic example of how targeted investment and collaborative efforts can breathe new life into our rivers.

Skylighting improved river access and macrophyte growth.



Improved Floodplain connection in new channel



Added gravel and wood to improve flow rates and provide cover and marginal areas.



Installed habitat features

WIDER WYLYE

Inspiring The Next Generation

Tracy Standish,
Senior Education Officer

Since the summer of 2022 our education team have been working with schools along the Wylde Valley, connecting the younger generation with their local river and one of the most revered chalk streams in southern England.

This work has been made possible by the five year (2020-25) £75,000 grant secured through Wessex Water's Biodiversity Partners Programme, with the Wider Wylde Strategy laying the foundations for positive change within the catchment.

Over three summers we've delivered 31 sessions to 10 different schools along the River Wylde, The Were (Swan River), the Chitterne Brook and the River Till. These sessions have seen us engage with 699 children and 90 accompanying adults.

We have taken invertebrates into school and covered water safety with Shrewton Primary School, and run riverbank sessions for pupils from Appleford School in both Berwick St James and Stapleford. We've encouraged children from Wylde Valley Primary School to see the stretch of the Chitterne Brook that runs through their grounds in a new light, catching invertebrates and discussing which have a greater sensitivity to pollution. We've worked with Heytesbury Primary School by the river and in school, taking invertebrates caught in the morning back to share with their younger pupils in the afternoon, and we've also 'borrowed' these for Sutton Veny Primary School where they unfortunately do not have a suitable river site within walking distance.



Wylde Valley Primary School



Heytesbury Primary School

We've also shared the River Wylde with Warminster schools, working with Minster Primary School, The Avenue Primary School, St George's Primary School and St John's Primary School at either Smallbrook Meadows or the Warminster Lake Pleasure Grounds, and connected with a local landowner in Crockerton to provide the Primary School's Year 2 pupils with a hands-on experience on their doorstep.

We hope that by increasing their connection with and understanding of nature, we can ensure the Wylde is cherished and protected for future generations.

REVAMP YOUR TANK

Septic Tank Upgrade Initiative Hampshire Avon Catchment

A project that brings Wiltshire Council and Wessex Rivers Trust together to preserve the Hampshire Avon Catchment and safeguard water quality has seen work on the ground start for the first time.

The Revamp your Tank scheme is an initiative with the aim of upgrading septic tanks to more efficient package treatment plants where they are most needed. It seeks to reduce nutrient-rich wastewater entering watercourses and, in turn, enhance the health of aquatic ecosystems for our wildlife and communities.

Wiltshire Council and Wessex Rivers Trust invited residents in the eligible areas of the Hampshire Avon catchment in Wiltshire to apply to have their tanks upgraded through the scheme. Since April 2024, close to 1,000 applications have been received. Applications are currently on pause until the first phase of PTP installations is complete over the coming months. Installation work on the first batch of projects is now underway.

Collectively, the two contractors working with the council and Wessex Rivers Trust on the project have already completed site survey visits at 240 out of the 277 household projects sites issued so far. Libra Utility Services Ltd has 23 projects already approved by the council for installation work to take place, whilst Willow Pumps Ltd has four projects approved, both with plenty more to follow.

Over the coming months, more projects will be issued to the contractors, and the scheme aims to begin two complex pilot projects involving new connections to Wessex Water's mains network and projects involving multiple property connections.

The scheme is financed by the Government's Local Nutrient Mitigation Fund which aims to unlock provision of planned new housing in Wiltshire. Additionally, the project has been covered by a Local Development Order (LDO), a process that helps accelerate the planning process by providing permitted development rights for specified types of development in defined locations. As such, the scheme has been able to progress at pace since the funding was awarded to the council in December 2023.

Septic tanks, commonly used in rural locations to separate liquid and solid waste, can inadvertently release nutrient rich wastewater into rivers when they are sited incorrectly or are malfunctioning. According to Environment Agency data, septic tanks are a contributory factor to water pollution in the Hampshire Avon catchment. The resulting high nutrient levels lead to algal blooms, obstructing light and causing oxygen depletion in waterways. This has detrimental effects on the entire river ecosystem, impacting crucial microhabitats for fish and insects.

To counteract this issue, a new law mandates the upgrade of old septic tanks discharging into surface water. The fortuitously timed funding and subsequent initiative, which compliments the new upgrade laws, promotes the replacement of septic tanks with more effective package treatment plants, tailored to each property's needs. These upgraded systems not only separate solids and liquids but also biologically treat effluent for safe discharge into watercourses.

In participating in this initiative, homeowners can actively contribute to preserving the health of our chalk streams in the Hampshire Avon catchment. Upgrading septic tanks not only benefits the environment but also supports the flourishing of plant and animal species that rely on clean and healthy river ecosystems.



INVASIVE NON-NATIVE SPECIES PROJECT

Test and Itchen Catchment

Courtney Brain, Test and Itchen
INNS Project Coordinator

The cold, wet, and stormy start to 2024 meant a later than planned start to our Invasive Non Native Species (INNS) based fieldwork in the Test and Itchen catchment. Thankfully our more than willing volunteers were ready for action in June to tackle establishing plants. We find removing the entire infestation is much more effective than removing the spring seedlings, and we only have the time to visit each site once in the growing season.

Fun with our INNS Volunteers

Despite the later than usual start to the season our volunteers have really shown us their muscle and determination to tackle these troublesome plants. With the support of our volunteers, we removed over 300 large buckets of invasive non native plants (notably Himalayan balsam and monkey flower) from 19 sites, totaling 14km of river – a top effort by all involved.

Biological control

As well as the hands-on physical removal of plants from the river, we continue to utilise biological control in the form of a North American weevil (*Stenopelmus rufinasus*) to tackle water fern. These little weevils eat their way through the duck-weed like water fern, which can dominate the slower flowing parts of the river, such as carrier channels and ditches. Weevils were released this summer on the lower Anton, middle Test and multiple reaches of the Itchen.

(Images Right) Guy helped clear huge amounts of Himalayan balsam on the lower Itchen on our first delivery day in late June. Here you can see the difference of clearing one of the dense infestations!



Woodmill Activity Centre - Before



Woodmill Activity Centre - After



These tried and tested weevils originally made their way to the UK as stowaways (most likely on the imported water fern!). They were first reported in the early 20th century and as such they are in fact considered a naturalised species in the UK. But that didn't mean it was exempt from the usual rigorous scientific testing and research to ensure it did not threaten native biodiversity before being approved by DEFRA for intentional release.

Planning ahead

In previous years we have aimed to survey in June and July to inform our on the ground INNS management in August. But given our increasingly unpredictable weather, surveying in August ensures we better capture all of our target invasive non-native plant species, followed by management actions in the following spring and summer season. Our 2024 summer surveys recorded 11 of our 14 target species over 18km of the Test and Itchen, with monkey flower, Himalayan balsam, and orange balsam being the most common. Himalayan balsam favours the clay-based tributaries of the lower Test and Itchen, whereas orange balsam and monkey flower are found throughout the chalky reaches upstream. Subject to funding, the Trust will focus our management actions this year in these key areas.



The volunteers at Stoke Park Farm cleared an incredible 250m of riverbank, so much so that we could actually see the river by the end of the day!

The Mink Network

Our steadily expanding river keeper-led mink monitoring and control network recorded and dispatched multiple non-native American mink from the catchment, helping reduce predation pressure on our native wildfowl, fish, and water vole populations. New rafts and traps were deployed on the lower Test and upper Itchen this winter.

OUR RIVER OUR WATER

On the Isle of Wight

Tracy Standish, Senior Education Officer and
Steffie Haynes, River Educator

During the summer of 2024, River Educator Steffie Haynes extended our education provision by delivering the “Our River, Our Water” (OROW) project on the Isle of Wight for the first time.

OROW is a collaboration between Southern Water and various Rivers Trusts in the South East. The project aims to spread awareness about water conservation and the importance of river ecosystems. It has a two-part educational offering, designed to connect young people with their local river.

With the Isle of Wight a new catchment for our education team, Steffie’s role initially involved contacting local primary schools and introducing them to our education work, finding suitable river sites for sessions which were safe for children to access and within walking distance of schools, and securing permission to use these sites by connecting with local landowners.

Once up and running, Steffie delivered the OROW project to a number of primary schools in and around Newport and Cowes, engaging with pupils and deepening their understanding of and care for the rare chalk streams and rivers on their doorstep.

Steffie’s delivery began with an interactive, in-school assembly/workshop where pupils learnt about the journey of a river from its source to the sea. The workshop covered river geomorphology and ecology, alongside the specific characteristics of their local river.





Pupils also explored the human impact on these waterways, particularly the issues arising from increased water demand. They were encouraged to reflect on their water usage at home and in school, and make pledges to conserve water.

The second part of the project involved a field session at a local river, where pupils participated in a river features and wildlife walk, explored chalk geology, and measured water flow. The highlight was river-dipping, where pupils collected and identified invertebrates from the river, bringing to life the concepts discussed in the classroom.

Such a hands-on experience fosters a deep connection with the local environment, with children much more likely to develop a lasting bond with the river and its wildlife if it is a local one. Towngate in Newport (on the Lukely Brook) and Pan Mill Meadows (on the River Medina) were the focus of the IOW sessions over the summer.



The project aligns well with key curriculum objectives at both Key Stage 1 (age 5 to 7 years) and Key Stage 2 (age 7 to 11 years). It offers a practical way to teach physical and human geography, including the water cycle, ecosystems, and the impact of human activities on natural resources. It also provides an opportunity for meaningful fieldwork.

During the summer term over 200 pupils from Hunnyhill Primary School, Summerfields Primary School, Newport Church of England Primary School and Gurnard Primary School took part in either an assembly/workshop, a riverbank session or both.

Of her delivery, Steffie said “It has been a joy to facilitate these sessions on behalf of Wessex Rivers Trust. Pupils expressed sheer delight and surprise at the life they discovered in the rivers on their doorstep and went away with a new-found appreciation for a familiar place.”

Towngate / St James St Duck Pond, Newport

We are looking forward to building upon Steffie’s hard work with more schools this coming summer.



A CONSERVATION ORGANISATION FELLING TREES!?

Andy Blincow,
Senior Project Manager

Large woody material, flow deflectors, brushwood berms, brash mattresses, fallen tree analogues, log jams, leaky dams... What do these often-baffling terms have in common? Trees!

It comes as a surprise to many that the instrument most favoured by a 'river practitioner' is not a planting spade or tray of wildflower plugs, but a trusty chainsaw. Perceived by most as a tool of destruction, the antithesis of environmental conservation, how can this instrument be used to achieve the biodiversity objectives of the Trust and our project funders? How can a conservation organisation justify the felling of trees?

Trees provide multiple ecosystem services, benefitting people and the environment. They provide habitat, capture carbon, regulate temperature and air pollution, and provide recreational, economic and aesthetic benefits. However, they are also a sustainable and abundant resource, providing timber and brash (foliage and branches) perfect for use in river restoration. In addition, management of riparian woodland is sometimes required to achieve favourable conditions for in-channel and bankside chalk stream biodiversity.

Fail to prepare, prepare to fail

Well before the chainsaw fires into life the Trust must undertake a range of surveys and permitting to ensure any negative impacts from tree works are avoided. Ecological constraints must be considered both during and in advance of works ensuring compliance with wildlife law, with particular focus on breeding birds and bat roosts. As a general rule, tree works are scheduled outside of the March-September bird nesting season to ensure that nests are not disturbed. This may mean phasing of works, with tree works scheduled over winter and in-channel works later in the year. Bat constraints cannot be dealt with by seasonal working and detailed surveys must be undertaken in advance to identify Potential Roost Features (PRFs) in trees, the planning and undertaking of which are supervised by an in-house Natural England licenced surveyor. Where potential features of conservation value are identified, these are mapped and the trees marked to avoid damage or disturbance.

A combination of poplar and overstood willow re-coppiced by the Trust's habitats team along the southern bank of a headwater chalkstream. This will allow much needed light to reach the channel, encouraging growth of marginal vegetation.



A number of permissions or consents may be required before tree works can legally proceed. Where works fall within a Site of Special Scientific Interest (SSSI), maps and method statements must be submitted, and specific consent be received from Natural England. In the instance that over 5 cubic metres of timber will be felled in a calendar quarter a felling licence is required from the Forestry Commission, also requiring the submission of maps and method statements and often requiring a site inspection. Should the works fall within a Conservation Area, a regular occurrence when working in picturesque landscapes, consent is required from the local authority to ensure no detriment is caused to the local landscape character. Larger projects requiring planning permission necessitate further surveys and permissions. The list goes on...

Shade reduction

Natural England, the government body responsible for managing statutory protected sites, such as the SSSI's and Special Areas of Conservation (SAC's) for which many of our chalk rivers are designated, recommend an approximate balance of light to shade of 70/30 over these precious freshwater systems*. Overshading by continuous tree canopy is shown to be detrimental to the abundance and diversity of chalk stream macrophyte communities.

Selective thinning or 'sky lighting' of riparian (bankside) trees can help achieve dappled shade conditions through previously overshadowed reaches. This often takes the form of openings cut into dense canopies, with particular focus on south facing river banks. Larger low value trees may be felled or, where previous management has been undertaken, species such as hazel or willow can be coppiced - cut to form low stools from which multiple stems can regrow.

*www.woodlandtrust.org.uk/media/1761/keeping-rivers-cool.pdf

The response of aquatic plant communities to increased light levels is often dramatic, with rapid colonisation from the natural seedbank combined with seeds and fragments of plants carried downstream. Often this action alone is enough to naturally narrow overwide silt-laden channels, resulting in a clean fast flowing central channel and wide diverse margins. However, localised shade reduction is regularly combined with the introduction of woody material within the river channel itself, as explained below.

Restoring Morphology

Historically, large woody debris (LWD) was seen as a nuisance: reducing conveyance, causing channel erosion, and blocking manmade structures, and as a result was routinely cleared as part of regular land drainage efforts. In more recent decades however, large woody material as it has been rebranded is now recognised as an important management tool for accelerating the rehabilitation of degraded watercourses and their floodplains, re-instating natural morphological processes previously lost to the drag line and ironically the chainsaw. Large wood can significantly influence river morphology and sediment dynamics and represents a key component of stream ecosystems.

Not only is large woody material an effective tool for river restoration, it is also often the cheapest and most sustainable approach, precluding the import of expensive machinery or materials. Certain species, such as willows, may be 'live hinged', retaining a strap between the stump and main stem, preventing the need for any artificial materials as the still-living tree roots into the bed and continues to grow - creating a living self-sustaining structure. Others may only require a handful of chestnut posts to secure them in place.

A previously straight and overwide reach of the River Test 're-wiggled' with wood. 9 months on, pool-riffle sequences are establishing and previously consolidated bed substrate in the centre of the channel is becoming scoured clean.



However, trees alone cannot cure all morphological ills. Where rivers are over-deepened by dredging or impounded by weirs and sluices, often the only solution is to address these underlying issues; for example, through 'bed raising' with gravels or alteration or removal of weirs. Realigned river channels may be reconnected with their natural floodplain. In some cases, the presence of large woody material, combined with a relaxed approach to management, can increase the ability of rivers to restore themselves, choosing their own pathways and channel shapes.

Improving Habitat Complexity

In addition to the benefits discussed above, utilising woody material for river restoration can provide multiple additional benefits over the use of hard engineered solutions or artificial materials. By taking a 'what would nature do' approach i.e. replicating wind-blown trees, we can maximise the abundance and diversity of habitat. Whilst it's well accepted that 'fish live in trees too', complexity of woody material creates many 'niches for species'*.

Inspection of a naturally fallen or artificially secured tree within a river channel will usually reveal changes in the make-up of the riverbed. Adjacent to the woody material, faster flows in the centre of the channel may result in scouring of the riverbed, cleaning the natural gravels and providing perfect conditions for salmon and trout to spawn. Whilst in the slack water immediately downstream of the woody material, fine sands and silts are deposited, creating ideal conditions for marginal plants to establish, and substrate for species such as burrowing mayfly and brook lamprey to inhabit. Often where river channels are historically modified or over-managed, these structures create islands of biodiversity in otherwise uniform environments.

*www.therrc.co.uk/MOT/References/WT_Fish_live_in_trees_too.pdf

Natural Flood Management (NFM)

Large woody material can also be an effective tool in the fight against flooding. Introducing large wood, either through felling or winching of bankside trees into the channel aims to achieve hydrological benefits through a reduction in downstream peak flows. This is achieved through a combination of increased channel roughness which reduces the efficiency of the channel to convey water, and through connection of the channel to the floodplain, allowing water to spill into floodplain during high flow conditions where it is stored on the land or in the soil, draining once peak flows reduce.

As opposed to the highly artificial 'leaky dams' previously favoured by NFM projects, there is a more recent shift towards naturalistic structures, comprising limbs or whole trees arranged and secured within channels or to disrupt overland flow pathways. Not only aesthetically appropriate, these are also demonstrated to achieve multiple benefits, including improving water quality, creating in-stream habitat and promoting new habitat formation - kick starting natural processes to restore more natural stream habitat and increasing drought resilience by holding back more water in the landscape.

Tree planting

The opposite to tree felling, tree planting is also important in achieving the Trust's objectives. Tree planting can be targeted where a lack of shade may be affecting water temperatures (the 'Keeping Rivers Cool' concept), to attenuate surface water run-off before it can reach the river channel and to create valuable wet woodland habitat. In addition, it provides a future supply of large woody material, replacing riparian trees lost naturally or artificially.

Whole trees with root plates attached winched into a drainage channel on the peripheries of the New Forest. Closely replicating storm damage, these structures will reduce conveyance, slowing flows and holding-back water upstream of communities at-risk of flooding.





A diseased ash tree felled into a perched (realigned to the valley side) winterbourne channel. The resulting log jam will encourage flows to breach into the adjacent floodplain, reconnecting the river with the landscape and creating new wetland habitats. Nature-like interventions such as these are low cost and quick to install.

FARMING AND RIVERS

Alex Deacon,
Catchment Partnership Manager

Farming plays a major role in determining the health of our rivers and the wider landscape. National figures indicate a high proportion of our rivers are failing environmental legislative standards (Water Framework Directive) due to issues associated with agricultural practices. However, this national picture doesn't always reflect our local landscapes in Wessex.

Our experience is that the overwhelming majority of the farming community we engage with care greatly about the health of the natural environment under their stewardship, with many doing what they can within their means to care for nature. Added to this, farmers know that healthy, fertile soils and clean water are key for farm productivity, and offer multiple benefits for nature. But with rising input costs, the constant drive to produce inflation-busting healthy and sustainable food, pressure from buyers, increasingly extreme weather, and a lack of access to suitable funds and uncertainty over the future, this is not easy!

With the growth of the 'Farmer Cluster' movement across the country, including over 15 groups now established in the Trust's area, we are continuing to build positive working relationships with many farmers. Several of these clusters are shaped around river catchments and have a particular focus on improving water quality.

With the support of our catchment management programme, Defra's Facilitation Funding, and the Farming in Protected Landscapes fund, we have delivered numerous riverbank sessions to help improve farmers' understanding of the current status of their local river's health, including actions for water quality and habitat.

Our local Angling Clubs have supported our engagement with farmers, including demonstrating links between river fly communities and water quality.





Robin (Wyle Valley Farmers) and Adie (Rothamsted Research) installing a sediment sampler in the upper Wyle.

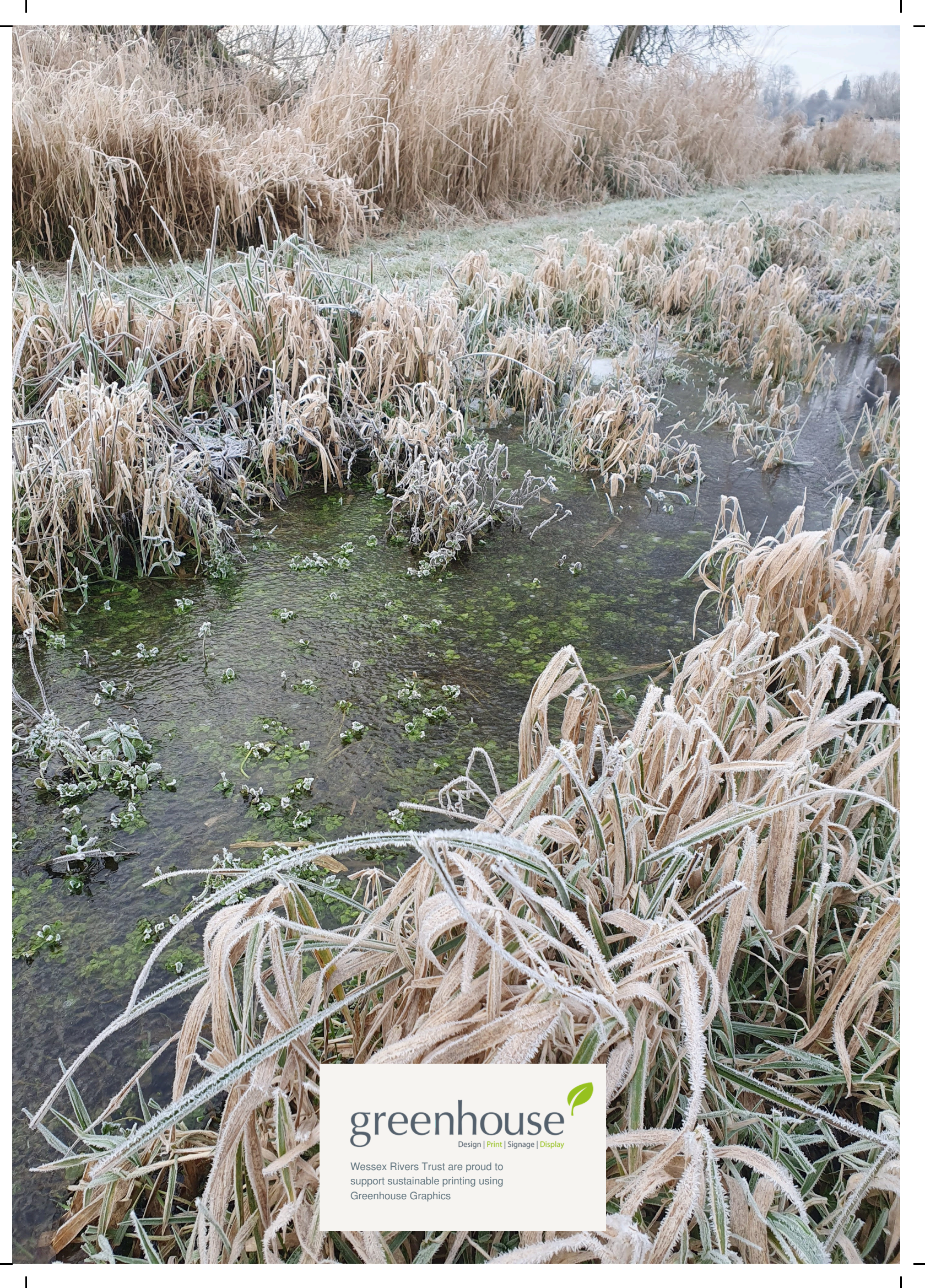
This has led to the development and delivery of multiple projects to improve river and floodplain habitat and reduce farm run-off to improve water quality. One of the headlines following our engagement has been the co-development of the Wyle Chalk Stream Landscape Recovery Project with the Wyle Valley Farmers and Wiltshire Wildlife Trust this year.

What is a Farmer Cluster? Farmer Clusters are collaborative farmer-led initiatives, each with their own set of environmental objectives determined by both the landscape they farm and their collective interests. By working together, farmers and land managers can work more cohesively together in their locality. This enables them to collectively deliver greater benefits for soil, water and wildlife at a landscape scale.

As well as project design and delivery, we are using our environmental monitoring experience to advise and support the delivery of a series of farmer-led river water quality monitoring and sediment source fingerprinting surveys to identify sources of land-based pollution, focusing on nutrient enrichment and soil runoff.

Although essential for plant growth, excess nutrients in our rivers and coastal environments can result in eutrophication and negative impacts on biodiversity. Nutrients and other pollutants bind easily to soil particles, whilst the physical impact of sediment clogging the natural gravel bed of the river can have an equally negative effect on aquatic life.

Working in partnership with the farmer groups on the Nadder, Wyle, and Ebble catchments, and with the support of Rothamsted Research, Game and Wildlife Conservation Trust, Salisbury & District Angling Club, we expect to see the results of the sediment and water quality monitoring over the next 12 or so months, with data used to inform priorities for farmers and wider land managers.



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