

Action for the River Kennet

River talk

A PARTNERSHIP OF PEOPLE WHO CARE ABOUT THE KENNET & PANG

Let's go with the flow of nature, not against it

Rethinking the way we manage water

There is no doubt that our water environment is facing some big challenges. Carrying on with the business-as-usual model isn't a sustainable option and the way we manage this essential resource needs a radical refresh in the face of climate change, population growth and emerging knowledge about chemical and plastic pollution.

ARK, with the Rivers Trust, has long-championed nature-based solutions as part of the response to the challenges facing our environment and wider society. Tree and hedge planting, buffer strips alongside rivers, re-wiggled water courses, restored soils, sustainable drainage systems (SuDS) and restored wetlands can all play a vital role in storing and purifying precious water resources, reducing the risk of flood and providing space for nature. Policy and practice are gradually moving towards this new way of thinking, but progress is slow. What's more, actions are often



contradictory. For instance, on the one hand our local authority is championing SuDS in Schools, and on the other schools are resurfacing their grounds with impermeable tarmac.

In a changing climate, drought and flood events are becoming more common, exacerbated by population growth and ageing infrastructure assets. When implemented well, nature-based solutions can be used alongside more carbon-intensive and expensive grey infrastructure not

just to reduce the risk and impact of floods and drought, but to generate additional benefits such as improved water quality, biodiversity, and community health and wellbeing.

We need to move from enthusiasm for nature-based solutions in policy documents to creation of more projects on the ground. Sometimes this means trying something new and taking calculated

risks. It also means adapting existing processes for consenting and regulating, which is why we are pleased that the Rivers Trust is leading a national project to 'mainstream' nature-based solutions. We hope that this will enable ARK and other river trusts to spend more time building resilient rivers, amazing wetlands, beautiful rain gardens and working with farmers to create healthier soils, and less time convincing people that these things are a good idea.

Charlotte Hitchmough

News from the Chairman

A national disgrace

Our rivers are in a poor state and pollution, drought and overuse are making them worse. Raw sewage discharges are commonplace, along with agricultural pollution and a cocktail of chemicals the consequences of which we don't yet understand. Demand for water from businesses, agriculture and households is increasing, while climate change means we'll have up to 15% less of it by 2050. Chalk streams such as the river Kennet are particularly vulnerable.

To quote Charles Rangeley-Wilson, the speaker at last year's ARK AGM and chair of a national chalk streams group.

"It's really very simple: there are three things that go to make a healthy chalk stream: water quantity, water quality and good physical habitat. They are all interrelated, of course, and each one is shaped by the other."

ARK has worked for decades to maintain good physical habitat. We've successfully campaigned to reduce water abstraction and our recent focus has been on curbing pollution. But we aren't always successful. On our own we cannot fix a failing, if not broken, water industry.

There are many parts to that industry and they don't work effectively together. Investigating

Ofwat's regulatory role the House of Lords Industry and Regulators Committee recently acknowledged some improvements, such as linking executive pay to performance and increasing monitoring of storm overflows, but identified other areas of concern:

- Environmental accountability: Ofwat and the Environment Agency need to hold water companies accountable for environmental pollution.
- Infrastructure investment: Ofwat has failed to ensure that the companies invest adequately in water infrastructure.
- Balance: water companies have prioritized financial returns over environmental protection, operational performance and financial sustainability.
- Coordination: the government needs to develop a comprehensive strategy to address key issues in the water sector.

Meanwhile, the water industry has issued an unprecedented apology. Ruth Kelly, the chair of Water UK, said: *"The message from the water and sewage industry today is clear: we are sorry. More should have been done to address the issue of spillages sooner and the public is right to be upset about the current quality of our rivers and beaches."*



The biggest water company in our catchment, Thames Water, is in turmoil following the resignation of CEO Sarah Bentley and concern about the level of company debt, combined with its appalling performance on pollution and leakage.

ARK's role in all of this is to:

- draw attention to pollution when we or our supporters see it
- call out illegal or damaging activity by water companies and others
- challenge the Environment Agency to regulate effectively.

Meanwhile, our practical action on the ground will continue and we will collaborate with water companies and the Environment Agency where their actions and investment will improve our rivers.

Richard Clarke

Wetlands

Cleaning our streams and providing new habitats for nature



Aerial View of the new Wilton wetland, January 2023. Credit: Cain Bio Engineering

It was a busy autumn and winter of project delivery for the ARK team, working alongside our partners, contractors and ARK volunteers to construct and plant four new wetlands.

In October we returned to Chisbury Manor Farm on the Dun where the overspill from the Kennet & Avon canal immediately downstream of Thames Water's Great Bedwyn sewage treatment works has historically discharged directly into the River Dun. With help from the landowner, ARK volunteers and Countryside Contractors Ltd, we have been able to divert the overspill into a disused water-meadow carrier which joins the Dun approximately 800m further downstream. As well as rewetting a significant area of water meadow and wet woodland this will allow nutrients and other contaminants from the canal to be filtered

through natural vegetive processes rather than spilling directly into the river.

From the Dun we moved across in November to Maisey Farm on the Og to construct a series of scrapes designed to wet a significant area of land which historically would have had a much stronger connection to the flood plain. In addition to the infiltration and habitat benefits, the works included the addition of c 120m of inviting and interesting permissive public access to the new wetland space. The work was delivered with the help of contractors JPR Environmental and completed by the beginning of December, shortly before the heavens opened in earnest. When ARK's volunteers returned in March to plant up, the newly created wetland scrapes were brim-full and already playing host to a flock of lapwings.



Constructing the wetland at Fyfield, January 2023. Credit: Rupert Kelton ARK

The projects at Chisbury Manor Farm and Maisey Farm were funded by DEFRA's Farming in Protected Landscapes Project, which is being administered locally by the North Wessex Downs AONB.

It was a soggy start to 2023 when work began on a new wetland at Fyfield on the River Kennet. Heavy rainfall and high groundwater levels made it slow going for the contractors, Cain Bio Engineering, but fortunately the rain eased off and we were blessed with some cold and crisp winter weather for the remainder of the month. The newly formed wetland has been designed and funded in partnership with Amazon Web Services (AWS) to help intercept road run-off from the A4, thereby improving water-quality in the River Kennet as well as creating new seasonal wetland habitat.

In March this year volunteers from ARK and AWS joined forces to plant more than 10,000 plug plants at the newly created Fyfield wetland and a fourth constructed near the Kennet & Avon Canal at Wilton.

Rupert Kelton

Pollution alert!

Our rivers are serving up cocktails but sadly they are not refreshing.



The children's reaction when their River School day was disrupted by untreated sewage in the river. Credit: Anna Forbes, ARK

ARK made the news in June this year when we were forced to stop our usual river-school activity with Preshute and Great Bedwyn Schools because of untreated sewage in the river. The following day the CEO of Thames Water resigned and our cancelled school event was used again to illustrate the impact of sewage pollution on ordinary people's lives.

We knew there was a problem because, alerted by one of our members, we could see sewage spilling out of the manhole at Stonebridge, complete with rag and other detritus. We used the Rivers Trust real-time alerts map to see that Marlborough Sewage Treatment Works and the pumping

station at Pewsey Road Bridge were spilling.

Thames Water is the first company to make this information accessible, but it has shone a light on the scale and frequency of the problem. Despite three pollution entry points in a small area, no ecologist from Thames Water or the Environment Agency (EA) visited the site. For Thames Water this is 'just a network issue' and for the EA it was a Category 3 incident so they 'didn't attend as we had multiple Category 1 and 2 incidents to deal with on that day which took priority, ...due to limited resources we cannot attend all incidents and have to prioritise those which are the highest risk to the environment.

However we did follow procedure which was to report it to Thames Water to manage their asset and ensured we got feedback of the root cause and how they dealt with it.'

The uncomfortable truth is that these frequent low-level pollution incidents are usually legal and are not challenged – but it's impossible to imagine that the thousands of hours of untreated sewage discharged into the river has had no cumulative impact.

A further difficult truth is that runoff from land is as much of a problem. The river turned brown in June, not from sewage but from sediment. Finding and fixing all these diffuse sources takes painstaking detective



This summer the Kennet turned brown with pollution from multiple sources.
Credit: Anna Forbes, ARK

work, or blanket changes in land management. There is some good news here, with farmers building wetlands, buffer strips and improving tracks, but there is a long way to go.

Compounding the problem is the fact that highways agencies and local authorities still regard rivers as part of the drainage network. They actively promote and maintain road drainage straight to rivers. Now we know more about the impact of car tyres (the average tyre loses 4kg of toxic microplastic material through its lifespan) on air and water quality this is a practice that must stop.

Combined with heavy metals and hydrocarbons, the water draining from our roads is a toxic mess. There are tools including nature-like constructed wetlands and engineered 'downstream defenders' which can be deployed to catch and separate this polluted runoff before it reaches the river. ARK have built two wetlands for this job in the upper Kennet, and Hungerford Town and Manor campaigned to get a separator installed at

Eddington but it should not be left to environmental NGOs to sort this out.

New research conducted by The Rivers Trust and Wildlife and Countryside Link revealed that toxic chemical mixtures were found at more than 1,600 river and groundwater sites in England. The Kennet is no exception, with toxic mixtures found both in the river and in groundwater at all sites. You can explore the interactive map by going to the Chemical Cocktail Campaign page of The Rivers Trust website (www.riverstrust.org/chemical-cocktail-campaign).

These Chemical Cocktails have worrying implications for wildlife and potentially our own health, so ARK are joining the Rivers Trust in demanding urgent action.

You can add your name to the petition on the same Rivers Trust Chemical Cocktail webpage.

We want tougher controls on the chemicals allowed to be produced and sold in the UK, including a ban

Exciting News



We will soon be launching a brand-new range of ARK-branded merchandise, initially trialling a small range of clothing, including this stylish T-shirt. All of the items will be available to order via our website, so please do keep an eye out for more details!

on the most hazardous ones, as well as better research and monitoring so we know what's in our waters and how to tackle the harmful impact it is having for communities and nature.

What can we do?

As consumers we can make choices and deliberately select non-toxic products. I challenge you to look under your sink and see how many products have this symbol



or the words 'toxic to aquatic life' on them. Knowing that our sewage often flows untreated to the river should any of us be using those?

Charlotte Hitchmough



Annual Members Riverbank Walk Sunday 1 October

Our walk to thank members for their support is back! This time we will be walking from the east side of Marlborough to Axford and back (9km/6 miles) and it will be a fantastic opportunity to enjoy the chalk stream, take in the wildlife and see some of our recent habitat improvements.

The walk will begin between 1–2pm just before the drive to Elcot Mill off Elcot Lane, Marlborough (What3Words: poem.vibes.baseballs) and everyone needs to be off the land by 6pm. Homemade cakes, tea, coffee and cold drinks will be for sale from the fishing hut at Werg, with all the proceeds helping support our projects.

A map will be provided and our volunteer marshals will be dotted at points along the way to help you stick to the arrowed route. Sturdy footwear is recommended and the walk is unfortunately not suitable for pushchairs. Strictly no dogs and children must be accompanied by a responsible adult.

Limited car parking will be available at your own risk at Marlborough Tiles, Elcot Lane, Marlborough, SN8 2AY, so car-sharing is recommended.

Finally, we extend our grateful thanks to the riparian landowners who have given their generous permission for us to walk along their private banks.

Anna Forbes



Kennet Valley Wetland Reserve

Creating a new space for the people and wildlife of Hungerford

The Town and Manor of Hungerford has bought 40 acres (16 hectares) of land on the edge of Hungerford, between Charnham Park and the River Kennet. The aim now is to restore this area of ancient water meadow and create a wetland in Hungerford. It will be somewhere for people to enjoy the mental and physical benefits of being out in nature, with free entry, accessible boardwalks and an Education and Information Centre. It will also be a place that supports a richly diverse bird and wildlife population, the environment and reduces the impact of flooding and drought.

This is a Hungerford Town and Manor Project, which would bring great benefit to the Kennet Valley, and they are looking for funding. ARK fully support this project and hope to play an active part in the education centre as it develops.

Around £170,000 has already been committed by the Town and Manor including the purchase of the 40-acre site, but more is needed to develop the project.

Double your donation!

If you'd like to contribute, you can do so through the Good Exchange fundraising website (<https://tinyurl.com/hungerfordwetland-donations>) which will match-fund donations, effectively doubling any donation you can give.

If you'd like to know more about the Town and Manor of Hungerford's Kennet Valley Wetland Reserve, please visit <https://townandmanor.co.uk/wetland-reserve> or email wetland@townandmanor.co.uk

Julie Parker

Rainwater harvesting for farmers

Capturing water from their roofs is an all-round winner



Harvesting rainwater can save livestock farmers £31–£100 a cow a year on water from the mains. Credit: Richard Stanton

ARK is fortunate to have the opportunity to work with farmers to help them to reduce the impact of their farm businesses on the water environment. This year they asked us to provide advice on rainwater harvesting. In our catchment some farms use mains water and some have their own boreholes into the aquifer. Both kinds of water comes from the same underground aquifer source but water provided by the water company has been treated before it reaches the farm and is charged per unit, whilst water direct from the aquifer has only the pumping and any local treatment costs associated with it. As the cost of both water and electricity increases, there is an economic driver to collect and use rain that lands on the roofs of farm buildings instead.

At an event kindly hosted by Ramsbury Estates, rainwater

harvesting expert Ross Cherrington from West Country Rivers Trust talked through the options and potential savings, benefits and grant funding available to farms. By making the most of the water that falls from the sky, farms can also reduce the amount of dirty water running across their farmyards, so there is a double benefit from reduced pollution and less pressure on drainage networks. More benefits come from using water that's better for crops, and more effective for mixing into chemical spray because it reduces the concentrations required for them to be effective.

We followed up the event with one-to-one visits and bespoke advice, and look forward to seeing rainwater harvesting tanks springing up across the valley in the very near future.

Charlotte Hitchmough

Six reasons why harvesting farm rainwater makes sense

- It's cheaper than mains water.
- It reduces demand on boreholes in times of drought
- It cut down the demand for mains water, so protects chalk streams in summer
- It improves pesticide efficacy, especially with Glyphosate
- It can reduce water pollution from yard runoff
- It saves unnecessary carbon costs of treatment and pumping by water companies.

A barn roof measuring 20m x 20m could collect around 280m³ over a year, with more than 10,000 litres of water harvested in a typical summer storm. That means an annual saving of around £442 in water bills.

Great Green Bedwyn

New ways to manage rainwater to reduce sewer overflows



One of Great Green Bedwyn's new rain planters hard at work on a rainy summer's day. Credit: ARK

Over the summer we have made a great start on our community rain gardens project at Great Bedwyn.

The aim is to demonstrate that there are other ways to manage rainwater than relying on undersized drains that can't manage storms without causing flooding or pollution. In Canada they call this approach 'flowers not floods'. It's also an opportunity to raise awareness of water use, particularly outdoors, and to encourage households to swap from mains water to rainwater for watering their gardens.

ARK has teamed up with Great Green Bedwyn and the project includes a mix of public buildings and private homes.

At the doctors' surgery we have built a lovely rain garden at the

front of the building, which takes rainwater from 60m² roof, and at the back of the building we have created a 2,000-litre harvesting system from two recycled IBCs (Intermediate Bulk Containers) kindly donated by Potts Partnership. The garden is managed by the amazing Linda Fry and is a tranquil oasis on the High Street. The rain garden plants have all been chosen for their ability to tolerate wet and dry conditions. We are looking forward to seeing it fill out over the next few years.

At Great Bedwyn Primary School we have teamed up with Sustainable Drainage experts, Robert Bray Landscape Architects who are designing a scheme to remove rain from as much of the 60m² school roof as possible. We look forward to seeing those designs over the next few weeks.



The newly planted rain garden at the Great Bedwyn doctors' surgery. Credit: ARK

The Village Hall is another large roof space, and we are working with the committee to create a mixture of rain gardens and rain planters to manage roof water and a 'swale and hedge' to manage overland flow from the cricket pitch.

Already in place are the rain-water planters on Farm Lane, and we will have completed site visits and reports for 20 village properties by the time this article goes to press. The projects' principal funder is Thames Water, which enables us to offer practical support to build rain gardens, rain planters and water butts, with the aim of removing a total of 2,000m² of runoff area from the sewer network across the village.

Water butts

Installing a water butt is the simplest thing that anyone can do to contribute to better water management. Water butts serve two distinct purposes. The most obvious is to collect water when it rains that you can use later to water the garden or wash the car.

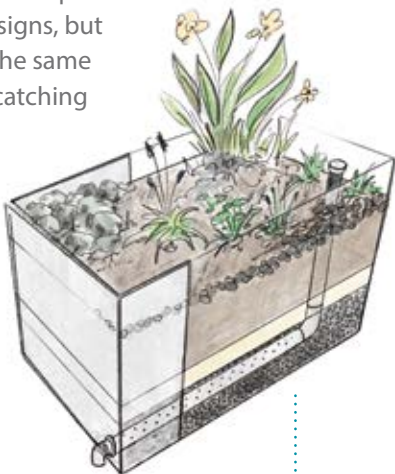


The second is to capture a portion of every rain event and then release it slowly. This is called attenuation and helps to ensure that drains can cope with the amount of water they receive by managing the rate it arrives in the sewer. To do this the water butt needs to have some empty space at the start of a storm. If every water butt is full at the start of each storm they won't be able to perform this function, so these are some of the options:

- Create a leaky water butt that empties slowly after every storm. Do this by drilling a small hole at the base to gently let the water leak back to the drain.
- Create a combination water butt that stores water and also provides some attenuation. Do this by drilling an extra outlet about 2/3 of the way up to allow water to overflow either into a planter, out to a rain garden or back to the drain. There are products called 'SuDS water butts' specifically designed for this purpose but it's easy to convert a standard butt.
- Create an actively managed water butt. You can do a DIY version of this by connecting an irrigation timer to the tap on a standard water butt, so that it empties for an amount of time each day. This could be through a perforated hose, to a drip irrigation system, or just a normal hose to a flower bed.

Rain Planters

Rain planters are decorative features, full of plants that add biodiversity and naturally filter rainwater before releasing it slowly to the drain or on to a rain garden or lawn. The planter is connected to a downpipe from the roof, keeping the plants well-watered and holding some of the water in a reservoir at the base of the planter. There are many designs, but they follow the same principle of catching water and releasing it slowly. An advantage over rain gardens is they can be placed right next to buildings.



Rain Gardens

Rain gardens are the most effective way to manage rain fall and the least expensive to construct. Essentially they are flowerbeds dug out in a dish shape to allow them to collect and infiltrate rainwater during storms. By using plants that tolerate inundation as well as drought they need little maintenance and add lots of biodiversity and beauty to any garden. Unlike a rain planter they need to be 3m from the house and in smaller gardens this can be a challenge, but if you have the space they are the best solution.

The project is funded by Thames Water, Department of Education, Great Green Bedwyn, ARK and Great Bedwyn Primary School.

Mia Ridler & Charlotte Hitchmough

Removing Barriers

Allowing chalk streams to flow again



The Shalbourne fish pass before construction. Credits: Rupert Kelton ARK and Cain Bio Engineering

Like most rivers in the UK the Kennet, the Pang and their tributaries are littered with weirs, sluices, culverts and other man-made structures. Many, like those associated with mills or water meadows, are legacies of historic activity and no longer serve their intended purpose. Others, such as gauging weirs form part of the modern infrastructure of our river systems.

Whatever their past or present purpose, these structures have two major impacts on our river systems. Firstly, they alter the natural form and function of the river and can severely degrade habitats, particularly through the reaches immediately upstream but also by blocking the transportation of valuable riverbed material downstream through the rest of the catchment. Structures in the

channel rob the river of its natural gradient, impound flows and interrupt the natural pool and riffle sequence. This creates uniform laminar flows, more akin to those in a canal than a river. This in turn causes sediment to drop out of the water column, in the process smothering spawning habitat and gradually accumulating unwanted nutrients and contaminants.

Secondly, these structures act as barriers to the free passage of fish and other aquatic species. All fish need to be able to move freely to feed, breed and find refuge. Some species in the Kennet, like the European eel, require access to and from the sea. Others like barbel can have home ranges of up to fifteen miles, while the brown trout needs to be able to move upstream to access spawning habitat. The distribution of weirs and sluices

throughout the Kennet and Pang catchment has fragmented habitats and left fish populations isolated and vulnerable to pollution and predation.

Action to identify and address these issues continues to be a priority for ARK and since last autumn the team have been busy delivering fish-passage solutions and scoping up more plans for the months ahead.

The ideal solution is to completely remove the structure as this simultaneously removes the barrier to fish passage and restores the natural form and function of the river. For example, this coming September ARK are due to remove a weir on the river Enborne in a joint project with the Wild Trout Trust.

However, complete removal is often neither feasible nor practicable.



The Shalbourne fish pass during and after construction. Credits: Rupert Kelton ARK and Cain Bio Engineering



Weirs have become an intrinsic and valued part of our landscape and are often located in built-up areas where their removal would increase the risk of flood and limit access to the riverbanks. In some circumstances the partial removal of a structure can still deliver benefits. ARK are currently working up plans with the Environment Agency, Canal and Rivers Trust and contractors, Five Rivers, to explore the potential for 'notching' County Weir, the most downstream barrier on the river Kennet.

The project has also explored options for lighting the St Giles Mill Stream that bypasses County Weir but is culverted underneath the Oracle shopping centre and Bridge Street roundabout, making it dark and uninviting for fish to explore. ARK have been in contact with Southampton University and a PhD researcher exploring lighting of culverts to improve fish passage. It is hoped that a combination of weir notching and culvert lighting could provide a cost-effective way of helping fish to move between the Thames and Kennet.

Where barriers cannot be removed or altered it is still possible to

engineer a solution that will help improve fish passage. However, this does not resolve the fundamental impact the structure is having on the natural form and function of the river. The alternatives to barrier removal are the creation of bypasses that enables fish to swim around the structure or the installation of a technical fish pass which is typically attached to the existing structure and creates the specific flow conditions for fish movements. In February this year ARK have been on site with contractors, Cain Bio Engineering, on the river Shalbourne delivering a nature-like easement designed to allow fish to bypass an old mill structure and swim freely upstream for the first time in centuries.

The project involved using the existing bypass channel for the mill and creating a series of six 200mm high-gravel and rock ramps descending in a downstream direction for approximately 65m. The driest February in 30 years allowed the works to be successfully completed in March 2023.

At the same time ARK were also working with local contractors, D G Rhodes, to install a larinier fish pass at Bearwater on the River Dun in Hungerford. The technical fish pass was designed and fabricated by Fishtek and now provides a route for fish to move freely through the Dun at Hungerford.

During the winter months ARK also carried out walkover surveys on the Pang and the Enborne where we have identified more barriers with the potential to be removed. We look forward to working with riparian owners and other stakeholders to find solutions and funding that will enable this to happen and to deliver further improvement to fish passage and the wider ecology of the river.

Rupert Kelton

ARK People

Gareth Harris



As a professional ecologist I coordinate the Wiltshire Mammal and Wiltshire Bat Groups where my work focuses on water vole, otter, hazel dormouse, harvest mouse and rare bats. For ARK I regularly deliver harvest mouse survey training, provide advice on bats, and seek their input to local land management improvements.

Geoff Harvey



Following retirement, I looked for volunteering opportunities which combined my love of the outdoors with a contribution to the community. Volunteering with ARK offers this and so much more. Working in beautiful places so few have the opportunity to visit is a real privilege and as an outdoor gym – what's not to like?

Phil Siddorn



Over many years I've enjoyed fishing – sea, coarse and game – across the UK but nothing quite compares to the beauty of a southern chalk stream. I'm fortunate to have fished on the Kennet for more than 20 years and volunteering for ARK has enabled me to put something back into this beautiful ecosystem.

Adam Whitby



As a youngster, it was a treat to come and fish the Kennet. I am now privileged to walk its banks every day while striving to better its habitat. It's great to join a community of river keepers, volunteers and charities who all make the health of the river their highest priority.

Dates for Your Diary

Sunday 1 October

An exclusive opportunity to enjoy a riverbank walk along stunning stretches of the River Kennet between the east end of Marlborough to the village of Axford and back again, with tea and cakes on the way.

See page 6 for all the details.

Wednesday 29 November

ARK will be holding its 2023 AGM at the Marlborough Football Club in Elcot Lane, Marlborough at 6.30pm. Put the date into your diaries and keep an eye on the ARK website for further details nearer the time.



Learn how you can support ARK every time you shop online just visit:

www.easyfundraising.org.uk/arkactionfortheriverkennet

Websites Worth Visiting

To check up on the latest discharges of sewage visit Thames Water's online storm overflow map and zoom in to your own local area. To report a new pollution incident just ring Thames Water's dedicated pollution hotline on **0800 316 9800**.



To access the map please visit:
www.thameswater.co.uk/edm-map



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Members of ARK receive a copy of this newsletter either by mail or email.

If you'd like to find out more about ARK, volunteering opportunities or membership please visit our website at www.riverkennet.org or email anna@riverkennet.org

We hope you have enjoyed this newsletter and if you have any comments or ideas for future issues, do please pass them on!

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