



**Canal &
River Trust**
Making life better by water

Issue 20 Autumn/Winter 2024

Waterfront

The Canal & River Trust Magazine



The perfect storm

Discover how you can help us
weather winter emergencies

Remembering Rolt

Celebrating the life of a man who kept
canals alive for us all

Legacies that last

Find out how gifts in Wills support
amazing work on our canals.

Welcome

Reflecting on the stories in the latest edition of Waterfront, there's no escaping the amazing connection canals make between our past, present and future. Whether we're looking ahead to another winter of work on our canals, or celebrating the people who built them, rescued them or are working hard to maintain them today, it's clear that our canals have left us a history to be proud of. They also give us a live and present challenge to keep canals alive today and exciting opportunities to reinvent how we care for our canals in years to come.

Nowhere encapsulates that challenge better than Anderton Boat Lift, where we're proud to report that we've begun to carry out extensive survey works as well as some immediate minor repair works, thanks to your incredible contribution to our fundraising appeal, especially those of you who donated last Autumn.

Right now, we're looking to build on your kind support by securing funding from our philanthropy partners for a full restoration beginning next year. But it's wonderful to know that work is already underway, thanks to you.

It's all part of our ongoing works to protect 2,000 miles of canals. And with the quieter months of winter just around the corner, we'll be working on 159 sites to repair, maintain and care for hundreds of locks, bridges, towpaths, tunnels and aqueducts. As the name implies, we prepare for these works months, even years ahead, knowing that a given structure needs an upgrade. But we also need to undertake emergency repairs on the network.

And as our latest appeal explains, in an era of climate change, we need to step up to more of these unexpected challenges each year than ever before, especially given that our fragile canals are so old. With our limited funding increasingly stretched, we urgently need your help to quickly respond whenever, and wherever emergencies happen. So please give as much as you can. And thank you, as always, for all the support you're giving to our canals at this vital time in their history.

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Marple reflections

Many thanks to our Friend, Maureen Jones from Stockport, who kindly sent us this wonderful image from their daily walk along the Peak Forest Canal. As you can also see from Linda Shuttleworth's story about L.T.C. Rolt in this issue, we're always happy to share Friends' story ideas and images in Waterfront, so please keep them coming by dropping your ideas to supportercare@canalrivertrust.org.uk



Cygnet rescue

Every day, across our network, our volunteers make a wonderful contribution to our canals with small acts of kindness. Not least Bill from Bath, who rescued this swan cygnet in June after it was separated from its mother and washed down the overspill system into the bottom of a lock pound. Thanks to a hire boat crew going back up the lock flight it was given a cruise through the city, before being reunited with mum, back at the top lock. Happy days!

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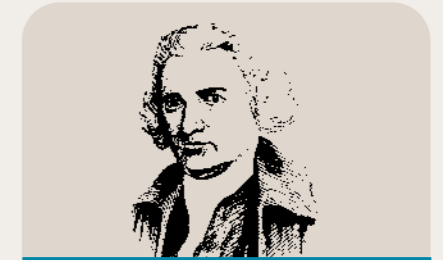
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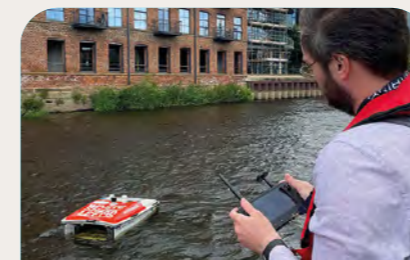
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The perfect storm

As the climate changes, more storms and extreme weather events are affecting our 2,000 miles of 250-year-old canals. With repair costs rising and government support shrinking away, our charity faces the perfect storm this winter. But with your help, our teams can step up the challenge of canal emergencies, responding quickly to repair and restore the network, whatever challenges the winter weather brings.

“To give you some idea of scale, we allocated a budget of £6.9m for emergency works this year,” says Dean Davies, our head of direct services. “But after dealing with all these landslips, lock repairs and breach emergencies, we’ve already spent almost all of that budget and winter hasn’t even begun yet. Unless we

receive significant donations, we’ll need to defer planned works and reallocate these funds should any new emergencies occur.” Dean is talking Waterfront through just a selection of the many emergencies his team has dealt with in the last few months. And it’s not hard to see how quickly money is used up.

Landslips

On one of our busiest stretches, Easenhall Cutting, on the Oxford Canal, an estimated 4,000 tonnes of earth slipped after an exceptionally wet February this year. Dean says the remote location meant we had to build an access road across neighbouring fields before work could even begin. The work cost over a million pounds, yet by mid-May we managed to open the canal to navigation again. Restoring the towpath will cost hundreds of thousands more in the months to come.



Towpath repairs

At Blue Bank Lock in Leicester, we’ve repaired the towpath after torrential rain and floodwaters from the neighbouring River Soar completely washed it away. Repairs overseen by Asset Engineer, Sidney Pereira, have seen the canal’s wall reinforced with new sheet piling. The piling was backfilled with stone and thanks to help of the city council there’s a new towpath on top. Now it’s strong and safe for us all to use again.



Before

After

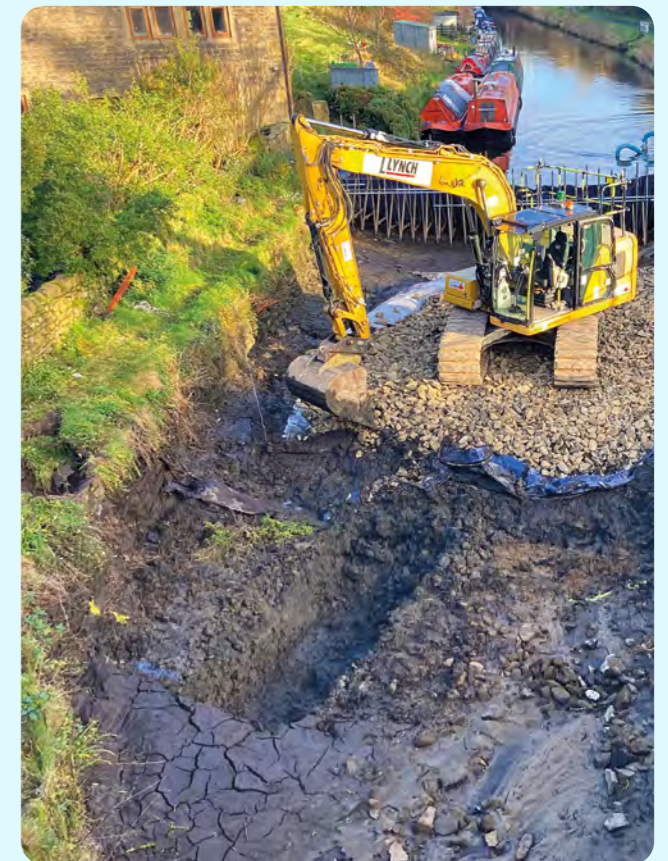
Lock repairs

They are always needed, but Dean says Lock Seven on the Marple flight of the Peak Forest Canal was particularly challenging: “It cost around £2m to complete. Winter storms and leaks washed away the fine soil behind the lock wall, leaving voids which caused the ground above to subside. This pushed the lock walls inwards and put them in danger of collapse. “You wouldn’t have this problem if you built this lock today because reinforced concrete would stop it from happening,” says Dean. “But this is a listed structure, and we had to put every stone back in place, exactly as we found it.”



Canal culverts and breaches

There are thousands of culverts under our canals”, says Dean. “These storm drains allow rainwater to escape from one side to another. But again, they are generally very old, built out of leaky brick, rather than concrete, and when they collapse, the canal above it can spring a leak. Then we have to quickly dam the canal to prevent flooding to nearby properties and repair both the culvert and canal as quickly as we can. We do risk-assess all our culverts and 90% of the time our judgements are correct, but after particularly heavy rain or flooding, not all these old structures stand up to the increased amount of water needing to pass through them, causing more erosion and damage to these already frail structures.”



“Going back over my 30 years, we’ve always had emergencies. But incidents are increasing as canals, long past their life expectancy, are now facing more climate challenges.”

Dean Davies

This is just a small selection of the many emergencies our charity deals with, especially during stormy winters. But there are so many repairs we need to make each year, that no amount of pre-planning can prepare us for. That’s why every penny of your support helps Dean and his team keep canals alive and working.

Please donate today to help us weather the storm at canalrivertrust.org.uk/perfectstorm

A winter of work ahead.



Andrew Bayliss, supervisor at our Stanley Ferry lock gate workshop has a busy winter ahead.

Every winter, when our canals and towpaths are quieter, we get busy delivering our larger planned maintenance works. We work in the colder months to minimise the impact on navigation across our network of 2,000 miles of canals. From replacing lock gates to repairing crumbling masonry or draining or dredging canals, this is the best time of year to get these major works done quickly, safely, and efficiently.

As you can imagine, shorter daylight hours don't always make for ideal working conditions, and carefully laid plans are often at the mercy of rain, wind or snow. But by hook or by crook, we aim to deliver the entire programme between November and April, before the busier summer boating season starts again. This year we're planning repairs at 159 sites. Here's just a few of the places we'll be especially busy, including some very special wonders of the waterways.

Caen Hill Locks

Arguably one of the most impressive lock flights anywhere on our waterways, Caen Hill was engineer John Rennie's solution to climbing the very steep hill in Devizes. Having only been restored to full use in 1990, some of the lock gates are now long past their 25-year lifetime. Between January and March we'll be closing the entire flight between Lock 33 near the bottom of the hill, and Lock 40 towards the top as we replace a series of lower lock gates and complete running repairs. See our stoppage notice: canalrivertrust.org.uk/notices/28218-lock-40-caen-hill-flight

“Our canals are as important now as they were at the height of the Industrial Revolution – but age and increasingly frequent and extreme weather events are taking their toll.

That's why our work to repair and maintain the canals is needed now more than ever. It's all part of our ongoing efforts to keep canals alive.”

Malcolm Horne,
Chief Infrastructure & Programmes Officer



The Burnley Straight Mile

This amazing embankment, built between 1797 and 1801 keeps the Leeds & Liverpool Canal flowing 60 feet above the town of Burnley. It's a critical piece of infrastructure to keep the canal navigable, and one that we must keep safe for everyone who lives and works nearby. That's why we'll be draining the canal from Finsley Gate to the Yorkshire Street Aqueduct. We'll be inspecting the historic wash walls and clay lining for leaks, making repairs and cleaning up the canal.

Hatton Flight

The infamous 'Stairway to Heaven' in the Warwickshire countryside is a worthy rival to Caen Hill's crown. Lock 40 in the middle of the flight needs particular attention, so we'll be damming it off, replacing the lock ladder and top and bottom gates.

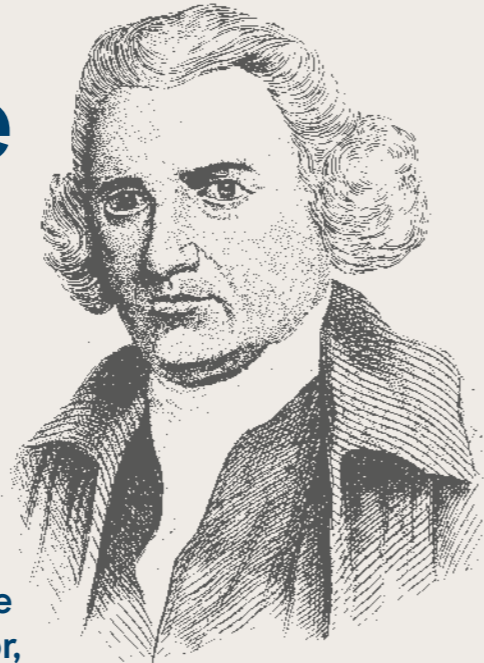


Acton's Lock and Braunston Lock

On the busy Regent's Canal in London, we'll be repairing an especially important lock in Haggerston, East London close to the junction with the Hertford Union. Meanwhile, out in the heart of the English countryside, Lock 3 on the Grand Union Canal near the famous Braunston Marina, urgently needs two new lock gates, a new ladder and repairs to the lock chamber.



Celebrating the father of civil engineering



This year marks the 300th anniversary of the birth of John Smeaton, often referred to as the 'father of civil engineering'. A tireless innovator, Smeaton was responsible for some of the most impressive engineering feats of the age, not least the Calder & Hebble Navigation. We take a look back at his remarkable life.

Born in 1724 in Austhorpe near Leeds, Smeaton got his first big break after moving to London and catching the eye of the Royal Society, where he was elected as a Fellow in 1753. Soon after, he received his first major engineering commission, tasked with designing the third Eddystone Lighthouse in Cornwall.

With the first lighthouse swept away in a storm and the second destroyed by fire, Smeaton resolved to make his next incarnation as sturdy as possible, employing a number of groundbreaking building techniques. He used dovetailed blocks of Portland stone to combat the pounding of the waves and devised a new type of concrete for underwater construction, a derivative of which is still widely used in buildings today.

The Eddystone Lighthouse earned Smeaton widespread acclaim, making him one of the most sought-after engineers of the latter half of the 18th century. Soon he set his sights on his next great challenge, the Calder & Hebble Navigation.

Running for 21.5 miles from Wakefield to Sowerby Bridge, the waterway was originally

conceived as a means of ferrying coal from local mines to feed the region's burgeoning textile industry. With Smeaton at the helm, work got underway in 1759, and over the next 11 years he oversaw extensive dredging, six miles of cuts, and the construction of 26 locks.

The Calder & Hebble opened in 1770, becoming a vital trade link and fuelling the growth of industry in Yorkshire for the next one hundred years.

By his death in 1792, Smeaton was regarded as one of the most influential engineers of the age, having coined the term 'civil engineering' and founding the Society of Civil Engineers.

Today, winding lazily through the foothills of the Pennines, the Calder & Hebble is a popular spot for recreation and relaxation, the working narrowboats of Smeaton's day replaced with pleasure craft, paddleboards and kayaks.

We hope to build on his remarkable legacy, honouring his memory by keeping our canals and waterways alive for generations to come.



The Boxing Day floods of 2015 were so severe that Smeaton's Elland Bridge could not be saved and had to be carefully demolished.



The bridge was rebuilt using modern civil engineering techniques, it kept its character with every numbered brick from the original put back in its place.

By his death in 1792, Smeaton was regarded as one of the most influential engineers of the age, having coined the term 'civil engineering' and founding the Society of Civil Engineers.

Common terns come back to Brent Reservoir

Thanks to everyone who donated to our crowdfunder earlier in the year, new islands made from recycled plastic are now providing a much-needed haven for vulnerable common terns at Brent Reservoir near Wembley. Ecologists hope the floating rafts, which mimic natural nesting habitats, will encourage the birds to return in even greater numbers to the waters at Brent Reservoir.

Built in 1835 to supply water to the Grand Union Canal, Brent Reservoir is a tranquil oasis in the heart of London, frequented by walkers, cyclists and boaters. Known affectionately as the Welsh Harp, the reservoir is a Site of Special Scientific Interest (SSSI), providing vital habitats for a rich array of plants and wildlife.

Until recently, it was a popular nesting site for the common tern, a beautiful silvery-grey and white bird that arrives on our shores in April before departing again in September for wintering grounds in Western and Southern Africa. Normally only found on our coasts, their adoption of the Welsh Harp gives city dwellers a rare chance to enjoy seeing these delicate seabirds.

As ecologist, Liberty Spicer, explains: **“Common terns have amber conservation status, which means they’re recovering rather than endangered, and numbers are picking up across most of**

the UK; but they’re a bit sparser than they used to be in the South-East, and they’re definitely declining here at Brent.”

In the 1980s, members of the Welsh Harp Conservation Group built a number of wooden rafts to provide safe nesting sites for breeding pairs. Unfortunately, over time, the purpose-built timber islands deteriorated, and as the new millennium wore on, common tern populations at Brent began to dwindle. “In the past, over 40 breeding pairs have been present at Brent Reservoir,” says Ben McMillan, one of our ecologists for London and South-East, “but in 2023, only two birds successfully reared chicks, which is really concerning.”

Earlier this year, to address this alarming trend as part of a series of environmental improvements at the reservoir, we installed 14 new tern rafts. Made from recycled plastic, with a top layer of shingle to imitate the terns’ natural nesting habitat, the new islands are far more durable than the wooden ones they’re replacing. “The islands will provide a safe space for the birds,” says Ben, “protecting them from flooding and predators and hopefully improving their breeding success.”

Early signs at Brent are encouraging, with one breeding pair already taking up residence. “It’s great that they’re returning,” says Liberty, “and now there’s better nesting provision for them, hopefully, we’ll see a real upturn in numbers. Back in July, the first chick was hatched. Let’s hope it’s the first of many.”



“Common terns typically make open nests on beaches which make them vulnerable to predators and high tides. These rafts have a shingle base to mimic the beach, but provide protection from both those threats.”

Liberty Spicer, Ecologist



Shining the spotlight on Digbeth

Digbeth in Birmingham is getting the star treatment, thanks to an exciting Community Roots project. It's spearheaded by community engagement officer, Nick Cleaver, who hopes to revitalise seven miles of the Grand Union Canal thanks to support from players of People's Postcode Lottery.

The aim is to improve the locks, towpaths and environment to bring more boat traffic, life and vitality into the UK's second city. Birmingham has always been a hive of art and culture and is now becoming a go-to location for some of TV and film's biggest hitters. Creator and writer, Steven Knight, of *Peaky Blinders* fame has recently set up his new studio in Digbeth and the BBC has just announced a move to nearby Typhoo Basin.

"I like to call it Brummie-Wood," laughs Nick. "It's become a real mecca for the entertainment industry, and there's all sorts of people moving in." The influx of TV, film and media companies will inevitably bring in more visitors, with more people on the towpath and boats on the water. But unfortunately, some parts of the canal are still a little unloved. "There's a lot of invasive buddleia, and it's generally a little underused" says Nick.

"But we're only halfway through year one and I would hope that in year two we can get canal

adoptions going, and maybe even apply for 'Green Flag' status as a measure of the better quality of outdoor space it will provide."

Nick and the team are already working with students from nearby Joseph Chamberlain College to remove invasive plants in the canal, while volunteers from a drugs and alcohol recovery centre are hard at work litter-picking, painting and maintaining the towpath around Camp Hill Locks. A local community group in Digbeth has even

plans to buy a skiff to help rid the canal of floating rubbish.

"What's nice about the area is that it's a complete melting pot of students, young professionals, heavy industry, creative people, big corporates, community arts projects and the LGBTQ+ community," says Nick. "I'm trying to energise everybody to do something together to make the canal better.

The boating community are key because they are the best eyes and ears we have on the canal and the best measure of the difference we're making. At the moment, it's pretty rare to see a boat in Digbeth, and I'd like to change that."



Local group 'Uplift' get busy on the towpath.

Volunteers clear overgrown vegetation from the canal in Digbeth.



"Digbeth is the next big regeneration area for Birmingham, and obviously, the canal runs right through it. We want to be part of changing perceptions of the area."

Nick Cleaver,
Community Engagement Officer

Remembering a true pioneer.

As you'd expect, historic Chester is the home of many plaques, but one might surprise you. Located south of the River Dee in the suburb of Handbridge, it marks the birthplace of L.T.C. Rolt, a founding father of the canal restoration movement. Fifty years since his death, our Friend Linda Shuttleworth, celebrates the life of this remarkable figure.



Born in Chester in 1910, Lionel Thomas Caswell Rolt spent his formative years in Gloucestershire after the family moved into a cottage in the village of Stanley Pontlarge. At 18, he began an engineering apprenticeship at Kerr, Stuart & Co in Stoke on Trent, which would change his life forever.

It was here, working alongside his uncle, Kyrle Willans, that his passion for the canals and waterways was born. When Kyrle acquired a wooden horse-drawn narrow boat called *Cressy*, it stirred something in Rolt, and in 1939, with his marriage to first wife, Angela, fast approaching, he bought the converted houseboat from his uncle for £100. It would be the couple's home for the next 12 years.

With the outbreak of the Second World War, the pair's plans for a nomadic life aboard were put on hold. After a brief stint working for Rolls Royce, assembling Merlin engines for Spitfires and Hurricanes, Rolt took a post in the Ministry of Supply, mooring *Cressy* at Tardebrigge in the Midlands. It was here he penned his first book, *Narrow Boat*, recounting the experience of his first few months living and travelling on the canals. Published in 1944, it was an immediate success, kickstarting Rolt's career as an author.

After the war, Rolt and Angela resumed their life aboard, and in 1946, growing increasingly frustrated with the challenges of travelling on the neglected canals, Rolt helped to form the Inland Waterways Association (IWA), throwing himself into saving and restoring the waterways. A champion of the traditional working boatman, Rolt often clashed with fellow members of the IWA, some of whom argued for more modern commercial traffic and others who saw pleasure cruising as the future of the canals.

In 1948, as relations with the IWA soured, Rolt resigned as secretary. At the same time, his 12-year marriage to Angela was failing, and ever the wanderer, in 1951, she left to travel the country with Billy Smart's Circus. There would soon be a new love in Rolt's life, Sonia South, one of the 'Idle Women' who worked the canals during the Second World War. They married, renovating Rolt's childhood home in Stanley Pontlarge in Gloucestershire, and raising two sons. Rolt spent his remaining years writing influential works on canals, railways, and the industrial past. A tireless campaigner, he never stopped lobbying to restore the canals and improve the lot of working boatmen.

There's a second plaque in Chester dedicated to Rolt, displayed on the turnover bridge by the dry dock at the canal basin. The inscription reads: "His energy and the influence of his writings, extending into the wide and varied sphere of what became Industrial Archaeology, continue to enrich the lives of many." A fitting tribute to an extraordinary man.

Written by Linda Shuttleworth



A wooden horse-drawn narrow boat *Cressy* converted into a houseboat by Rolt



Rolt and his first wife, Angela, lived onboard *Cressy* for 12 years



Rolt helped to form the Inland Waterways Association (IWA) to save and restore canals

These images courtesy of National Waterways Archive, Canal and River Trust

21st Century canal technology

In Waterfront, we often celebrate the genius of the original canal engineers, and those pioneers are still inspiring the trailblazing engineers of today. No more so than in Yorkshire and the North East, where we're delighted to be working with many bright minds, all using modern technology to give our canals a future.



Tackling plastic pollution with Waste Shark



Right now, we're helping a local project use our waterways in Leeds city centre to test a remote controlled 'Waste Shark' robot that can scoop up to 500kg of plastic litter from the canal surface per day. Inspired by the open mouth of a Whale Shark, it can gobble up plastic the size of a discarded traffic cone.

Equipped with GPS, a camera and collision avoidance technology, the device has huge potential to help clear the waste that collects around the city centre lock gates after heavy rain and flood events. In another first, the project will also collect weekly data to show how much plastic waste is prevented from reaching the sea and being digested by wildlife.



Improving lock gears with 3D metal printing

Meanwhile on the Rochdale Canal, mining technology company Weir Minerals are helping to solve a long-standing issue with worn-out and misaligned Victorian-era lock gears. When Weir joined us for a corporate volunteering event, a lively discussion soon developed about the potential of 3D metal printing to replace the old cast iron mechanisms.

"When the old lock gears jam, it can leave paddles open, wasting water and prompting expensive and time-consuming callouts for our operatives," explains volunteer team leader, Andrew Leatherbarrow. "We're also running out of spares, and replacing the eight different kinds of gears on the canal is difficult and expensive, using traditional one-off sandbox castings."

"But Weir suggested that 3D design technology could create precise new gears that are much easier to manufacture and maintain. They scanned our current gears to create a computer model, and then 3D printed plastic prototypes that we could test and check on actual locks. Right now, we're in the process of creating 3D sand moulds for casting, but unlike the traditional methods this could allow us to produce 20-30 castings from the same mould."

Andrew explains that this 21st-century approach means we could produce many replacement lock gears, at a much lower cost. And because it's easier to flex the computer designs and moulds, many different types of gears can be produced. So potentially this technology could ultimately help to replace and improve lock gears right along the canal.

Securing navigation at Standedge Tunnel



It's easy to imagine how scary it would be to break down, fall in or lose lighting in the middle of a one and a half hour journey through the longest, deepest and highest canal tunnel in Britain. Our newly installed communication and safety system at Standedge Tunnel is helping to make navigation by narrowboats and even canoes (as you'll see on our back cover), reassuringly secure.

The new Wi-Fi mesh-based system keeps all craft in constant communication with our team. Alongside other electrical, safety and lighting improvements, we're ready for any emergency and can help people safely exit Standedge through the unused parallel tunnels running alongside. Looking ahead, a team from Bradford University are also planning to create a 3D model of the entire tunnel to help improve inspection, civil engineering works and conservation in years to come.



Legacies that last

In recent years, many more of you have kindly remembered us with a gift in your Will to make sure the long history of our canals continues to thrive into the future.

In the last year alone, gifts in Wills contributed an incredible half a million pounds to our work. Today, we'd like to remember and thank just some of those who have been so generous and show you the incredible impact this can make.

We track every penny of our income from gifts in Wills to ensure they make a lasting difference to our canals and rivers. We really appreciate it when people leave us a gift that can be used wherever it's needed most. But on occasion we also help when people ask us to use a gift in specific places. As you may remember reading in Waterfront, long-term Friend, **Barrie Barrett**, left over £120,000 in his Will last year to help protect the future of Jubilee Wood, a canalside woodland he loved, close to Caen Hill Locks.

Similarly, **Douglas Hulme** loved to walk along the River Weaver in Winsford, with his late wife Kathleen. His gift was allocated to improving the swing and fixed crossings at Newbridge, and we are working to install a bench close to their favourite spot.

The amazing contribution of **Di Skilbeck** MBE to our National Waterways Museum at Ellesmere Port will also never be forgotten by her fellow

volunteers. She left a generous gift to care for the collection, and repaint a trip boat, now renamed 'Diana Margaret' in her memory. The loss of **Ian Bagshaw** was just as keenly felt by the fellow volunteers helping to bring the Coventry Canal back to life. It's humbling that someone who gave so much to canals, wanted to give something back in his Will too.

Meanwhile, **Molly Brocklesby** wanted to protect canal heritage in Yorkshire, so we recently invited her daughter Nicky to Naburn Lock, on the River Ouse, to view the historic lamps that will be restored thanks to this generous gift. Similarly, **June Cottam** asked us to preserve canals near her home of Skipton, and four local bridges have now been repaired thanks to her generosity.

There's so many ways other legators helped us to protect wildlife on our canals. From creating eel screens on the Llangollen Canal so that endangered fish can reach spawning grounds upstream, to clearing invasive aquatic weeds. Wherever it goes, whatever it achieves, your gift helps to shape the future of canals.

£476,750
generously given.

£164,000
From the largest...

£254

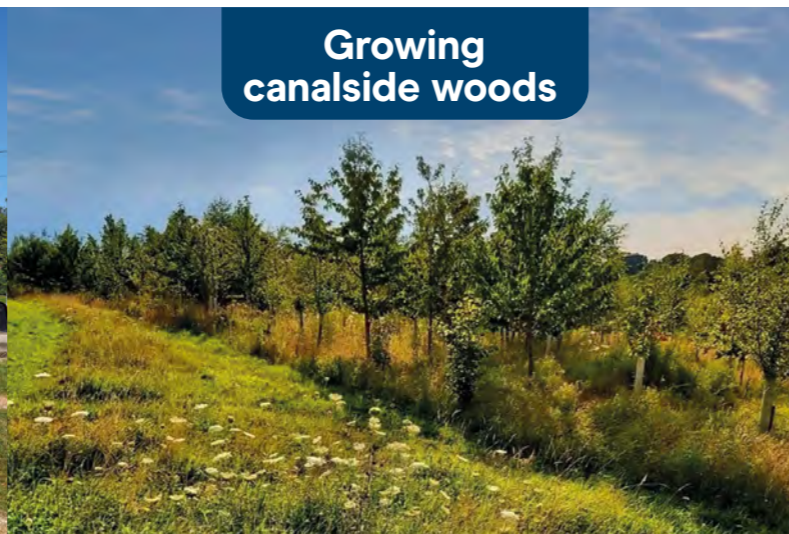
...to the smallest,
every gift helps
keep our canals alive.

Thank you so much for
gifts in Wills in 2023/24.

Find out more about the
legacy you can leave to canals at
canalrivertrust.org.uk/giftsinwills



Bringing history back to life



Growing canalside woods



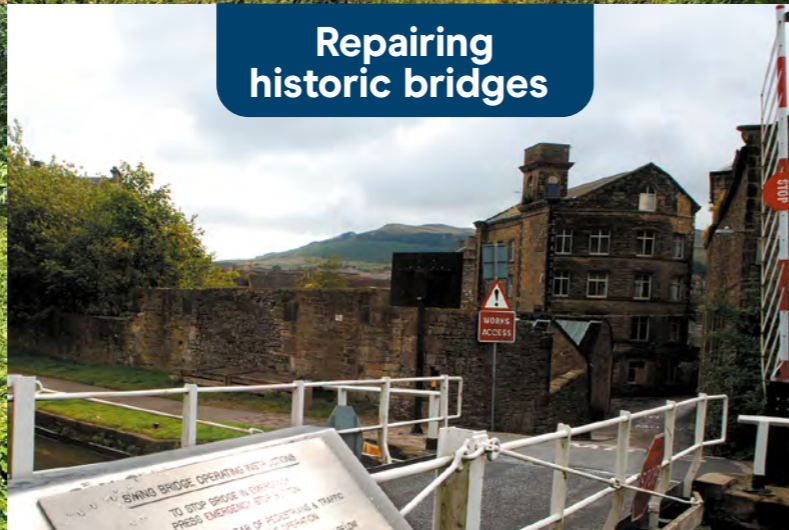
Restoring heritage boats



Celebrating favourite river spaces



Safeguarding native species



Repairing historic bridges



Protecting canal wildlife



Remembering much-loved volunteers

A peek behind the scenes

As we gear up for another winter of work on our canals, engineering documentary maker, Dr Mark Evans, reflects on what he discovered last winter as he filmed behind the scenes with our charity.

Covering everything from lock repairs to dredging works; bridge restorations and maintenance of the magnificent Tees Barrage, it's clear that his films were an eye-opener not just for viewers, but for Mark himself.

"Ever since I was young, servicing my Dad's Ford Capri and Transit Van at age eleven, I've found it interesting to take things apart and discover how they work. And that's what I do now as a filmmaker too. Essentially, we ask, 'Do you know how canals work? Or what it takes to keep them working? Let's go and find out!'

I call it emotional engineering. A classic car is just a lump of metal, leather and rubber, but when you tell the story of how it was built, who built it and why, the hairs suddenly stand up on the back of your neck. Getting to know the Canal & River Trust has been a joy, and I'm so glad I did."

So, what did Mark learn? He tells us: "For a start, I never thought that the canal system needs a constant supply of water from a network of 72 large reservoirs and a complex pumping station to keep it topped up and replenish what is lost in the thousands of locks. And then there's the sheer scale and size of the challenge to maintain 2,000 miles of canals. One figure I loved was that you have 1,589 locks that are opened 4 million times a year. It's staggering. Like painting the Forth Road Bridge, the job of maintaining this stuff is simply never-ending and the money that has to be poured in to make it work – I genuinely don't think most people have any idea how much it costs," says Mark passionately warming to this theme.

"We're all guilty of assuming things have always been here, so always will be. We wanted to get across that canals do huge good for millions of people but that unless we raise enough money to look after them, they will simply disappear. If people don't want that to happen, they need to support the charity and say to the government that canals are really important to us, and we need to prioritise them."

Mark's final reflections focus on both the past and future of canals. "The original canal engineers would be gobsmacked they lasted so long; chuffed that people were using them today in ways they never expected and fascinated by how far modern design and engineering has developed. And we shouldn't forget that the guy with a spade made a huge contribution. I loved hearing the story of how when they dug out canals, they'd drive the local cows down the channel to seal up the clay on the bottom. It's just a lovely vision to keep in your mind.

"As for the future, the challenge is to keep canals alive for another 250 years. That might mean doing things differently because a wetter, warmer world simply won't be the same. We might need to combine the heritage with more modern technology to give canals even greater longevity."

Watch Mark Evans behind the scenes at canalrivertrust.org.uk/behind-the-scenes

"We often see civil engineers as just people in hard hats and hi-vis.

I think it's important to show what an amazing job they do and explain why it takes so long, and costs so much."

Dr Mark Evans





Talking on the towpath

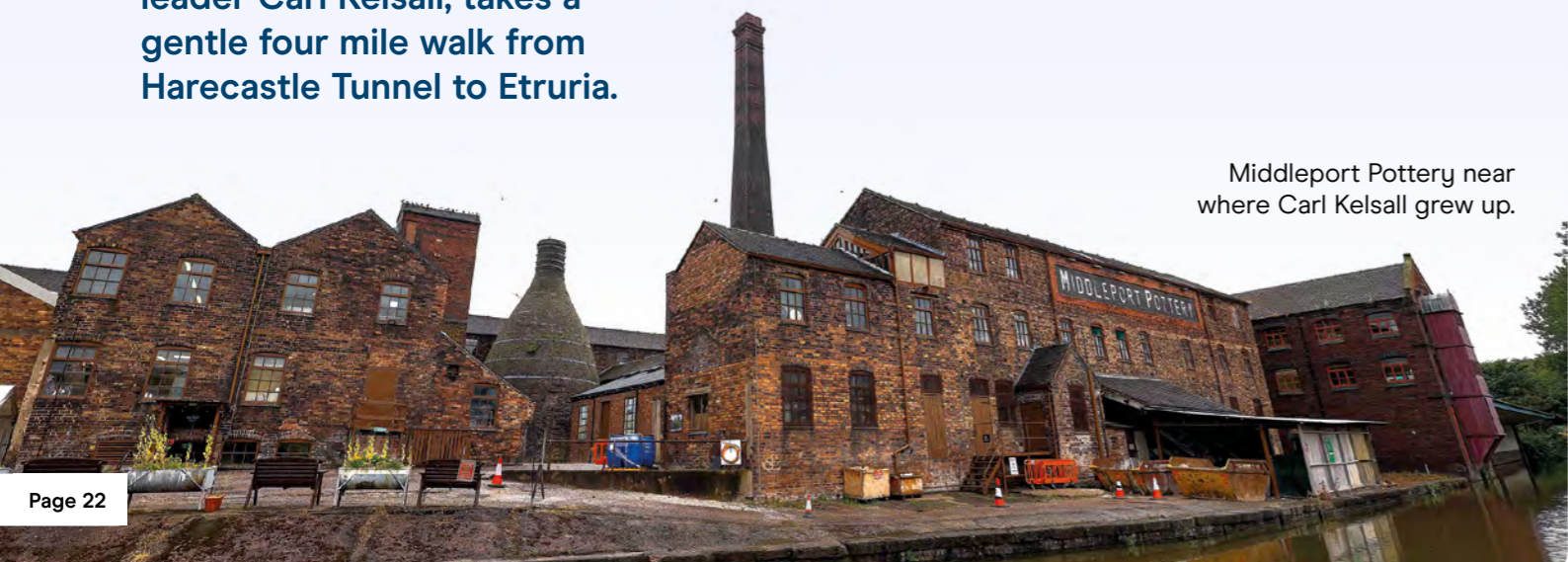
“For me, Middleport Pottery is home. I grew up in the two up, two down terraces behind the factory. Coming here takes you right back to being a kid.”

Carl Kelsall

Want to go back to where the golden age of industrial canals began? There’s no better place to start than the potteries of Stoke-on-Trent. It’s here that Wedgwood, Brindley, Telford and many others built the Trent & Mersey Canal to bring clay, coal, flint and salt to their factory doors and to transport finished pottery ware for sale around the world. Follow in our footsteps, as Waterfront, guided by proud local and volunteer leader Carl Kelsall, takes a gentle four mile walk from Harecastle Tunnel to Etruria.



Middleport Pottery near where Carl Kelsall grew up.



Vince

We start at the rusty, iron-ore infused waters of Harecastle Tunnel, where Carl’s volunteers give boaters like Vince safe passage. He tells us: “We live aboard – in my family we’ve always had a boat. I first steered when I was 7. I remember the 60s when this canal was a lot rougher than it is now. The team looking after this stretch are absolutely brilliant. Hand on heart, I won’t have a word said against them.”



Oliver and Josh

Moving on we come across young anglers from St. Peters Academy, who use our waterways with help from Stoke-on-Trent Angling Club and our Let’s Fish! programme. Teacher, Mr Manifold, explains: “I manage a behaviour unit which gives boys and girls enriching experiences, to teach them respect, values and life skills that help them through exams and into work. Fishing has an incredible calming effect; you can see the change, even on kids facing challenges.”



Louise and Victoria

Next we explore Burleigh’s at Middleport, the last working Victorian pottery in Britain. Louise and Victoria explain: “Peakay Blinders and The Great Pottery Throwdown were filmed here. We offer factory tours, open up a 1950s worker’s home on Harker Street and you can even get married in our bottle oven. This was the world’s first production line, and it flowed around the canal. Clay came in one end, and finished pottery came out the other, to be packed off to Liverpool.”



Vicki and Alex

Around the corner we meet the Middleport Matters team, an amazing local charity that Canal & River Trust partners with to make life better for local people. “This was a strong community, but when the potteries closed, and the terraces were condemned, it lost something of itself. Today, there’s still many problems but we’re bringing a new, diverse community back to the canal, back to the heritage and back together again, to say ‘we are Middleport and proud’.”



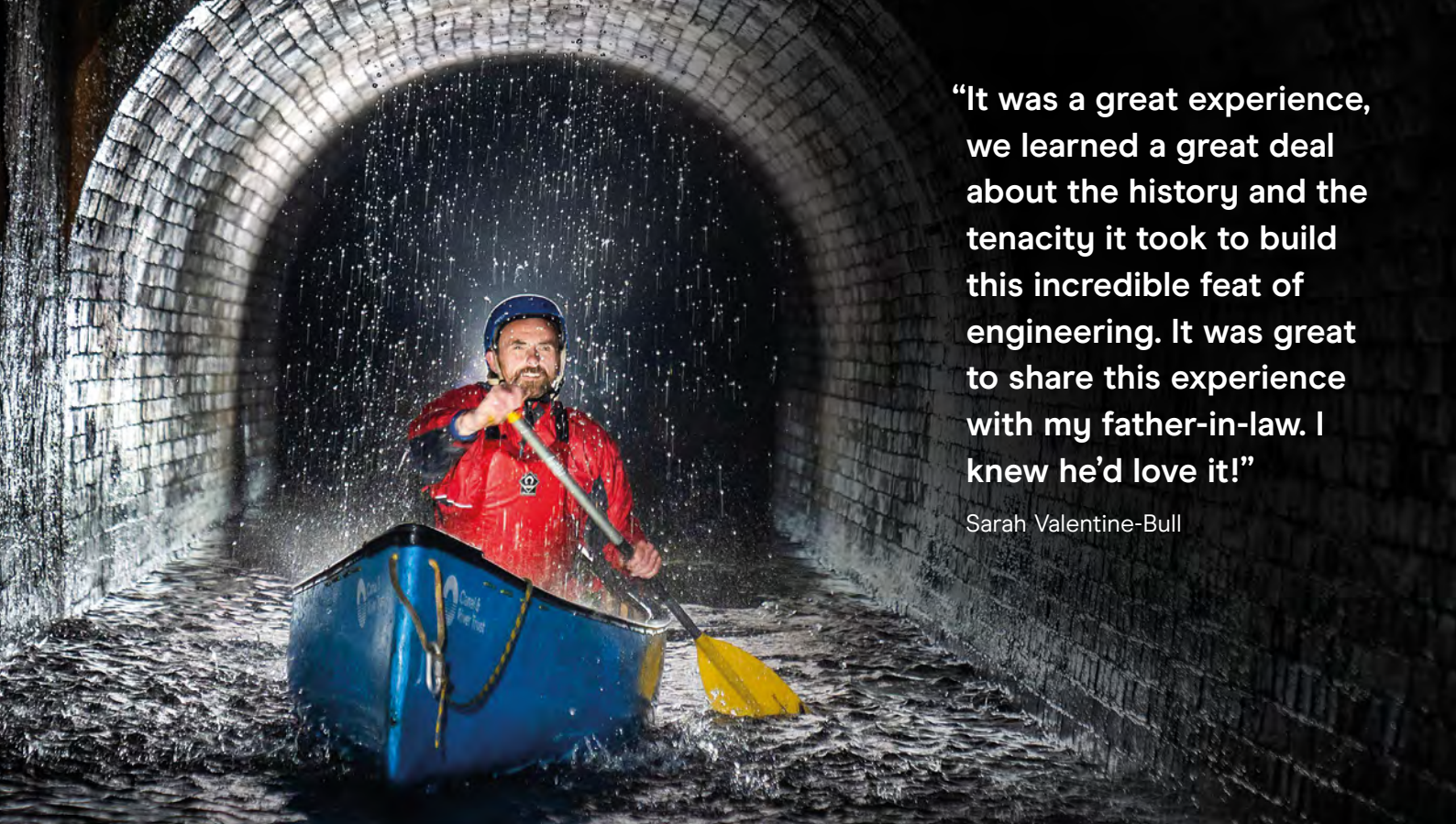
Chris Hrab

As we set off again, we come across waterways operative Chris Hrab, tackling a tree that’s fallen into the canal, hampering navigation: “We just got a call from a boater and 45 minutes later I’m here making it safe and clearing the towpath and navigation for our customers. In a typical day we could get around five call outs, covering everything from sudden sink holes to dead calves in the water. You never know what’s next!”



Anthony and Andrea

As we reach Etruria junction in the rain, Andrea greets us with a huge grin: “ ‘Buy a boat’ they said! ‘Live your best life’ they said!” she laughs, as dripping wet, she winds open yet another lock paddle. Anthony meanwhile is under cover at the tiller. “We love it here,” Andrea tells us, “despite the weather. This place is a little diamond. Don’t listen to anyone else, come and see it for yourself.”



“It was a great experience, we learned a great deal about the history and the tenacity it took to build this incredible feat of engineering. It was great to share this experience with my father-in-law. I knew he’d love it!”

Sarah Valentine-Bull

Paddling under the Pennines

This summer our charity offered adventurers a once in a lifetime experience with guided canoe trips through Standedge, the country’s longest, deepest and highest canal tunnel.

Over three long weekends this summer we gave hundreds of practiced paddlers their first-ever chance to take a two hour, three-and-a-half-mile trip underground. A paid-for experience, this helped to raise funds to keep our canals alive. The intrepid canoeists saw how, over 17 years, this amazing tunnel was dug 600 feet under the Pennines, using explosives, shovels, chisels, and bare hands.

Volunteer leader Gordon McMinn has been coordinating the trips and says: “We’ve run 18 trips this year and they’ve been hugely popular, selling out in just a few days. People already visit the tunnel on their narrowboats or our trip boat, but this offers another perspective.

It’s dark, you are low down in the water, it’s eerily quiet – all you can hear is the splashing of your paddles and the drip of water falling into the

tunnel. You can even touch the walls and get some understanding of what it was like to be one of the people who helped to build it.”

Gordon explains that he and his colleague, Andrew Leatherbarrow, had the idea after taking delivery of the new canoes for paddling taster sessions and litter picks outside the tunnel: “We’re both qualified outdoor instructors, so we thought we’d give it a try. That first time was a bit of an adrenaline rush. But we soon worked out how to take people through safely.”

With all this year’s trips sold-out, Gordon is planning more, watch this space and our website for details. Why not find out more about an experience that will certainly tick an item off your bucket list.

Search ‘Paddle Sports at Standedge’