



Newsletter

Issue 2 Winter 2017

Cover image: Upper River Eden
December 2010

As we approach the end of 2017, there is no doubt that it has been a challenging and busy year at Eden Rivers Trust. This year's highlights included: all-new apprentices, bashing balsam, classroom critters & rivers, counting crayfish, marble run madness, rejuvenating rivers, rubbish-free rivers (with lots of help from volunteers and local residents), scooping out storage ponds, and (getting) serious about soils!

Partnership working is at the heart of how we operate at the trust, and we have been forging new relationships and developing existing ones. We continue to be involved in the Cumbria Strategic Floods Partnership in a number of ways.

We are host co-ordinator for the Eden Catchment Management Group, which enables action to be taken across the catchment that will reduce flood risks to communities and achieve wider environmental benefits. We have also developed an Eden Catchment Mapping Portal to aid informed decision-making by partners and be a useful resource for communities.

Internally, we welcomed our third cohort of Eden Apprentices, and have seen a number of staff changes at all levels, which inevitably takes time to bed in. We're very much looking forward to the arrival of Elizabeth as the new CEO of the Trust.

All that said, we have continued to deliver some great projects and outcomes for people and the health of Eden's rivers as you will see over the next few pages of this newsletter. None of this would be possible without the hard work and dedication of our staff and volunteers.

2018 promises to be even busier, with more river restoration and Natural Flood Management projects in the pipeline and the next round of Countryside Stewardship schemes opening in the New Year.

Eden Rivers Trust's Wonder World, a major exhibition at Tullie House Museum and Art Gallery, opens in the summer as part of our Cherish Eden programme which is supported by the Heritage Lottery Fund. Look out for further details of all these and more in future newsletters!



Staff and trustees taking a break
after talking rotational grazing with
farmer, Richard Carruthers

Introducing our new CEO

We are delighted to welcome Elizabeth Radford to the team in the newly-created role of Chief Executive Officer.

She joins the trust at a pivotal moment in the trust's life. Charities, such as ourselves, are operating in an increasingly uncertain world, where competition for funding is fierce.

The challenge we face over the coming months and years is to ensure that we remain financially resilient to allow us to continue to deliver our wide range of

innovative, practical conservation and community engagement projects.

Elizabeth brings a wealth of international conservation knowledge and senior level strategic and management experience to the trust.

Since graduating with a First in Botany from the University of Wales, and an MSc from Edinburgh University, Elizabeth has spent the last eighteen years developing, managing and sustaining large conservation projects

with multiple partners.

She has held senior positions at Plantlife International and most recently at RSPB, where she was Senior UK Overseas Territories Officer.

Charles Ecroyd, Chair of Trustees adds:

"Elizabeth's experience and skills will complement our existing staff and trustee expertise, placing us in a strong position to deliver our ambitious business strategy and plan."

“ I am thrilled to be joining Eden Rivers Trust - a committed and dynamic conservation organisation whose holistic, community-focused approach to river conservation I deeply admire.

I look forward to working with the Trust's existing and new partners and its many volunteers; to build on the innovation shown to date, and realise the continued improvement in health of all the rivers in the Eden catchment.

”



News in brief

Co-op Local Community Fund

We'd like to say a massive thank you to Co-op members in Carlisle. By choosing us as a cause in their Local Community Fund, every time they have bought Co-op branded products and services, they have raised money on our behalf!

We were delighted to receive a cheque for £3,983.58 at Denton Road Co-op on 25 November.

wheely-good effort!

Trustee, Rob Warburton and friends completed the gruelling Prudential Ride London 100 cycle ride back in July, raising £1,588 which will

benefit both Eden Rivers Trust and the Rob Stephenson Trust.

Thanks to everyone who took part - we hope you all weren't too saddle-sore the next day!

Join our Facilitation Fund Farmers' groups

If you farm in the River Lowther, Leith or Patteril sub-catchment, we'd like to invite you to join one of our farmers' groups.

See the article on page 8 for an insight into some of the expert talks and demonstrations the groups have enjoyed this year. Contact Alice or Matt for more details on 01768 866788.

Au revoir

We wish all the very best to our Acting Director, Jo Spencer who has announced that she is leaving the trust.

During her time at the trust, Jo has spearheaded the development of our business plan and led the HLF - supported project, Cherish Eden, including the development and delivery of our innovative community engagement programme. She was also responsible for the launch and continued success of our award-winning Apprentice Eden scheme.

Jo's can-do attitude and passion for putting people at the heart of all that we do will live on in trust!

A natural approach to river restoration

Since 2015, we have removed 3 weirs, opened up 25km of water to migratory species and more. Find out more about the ambitious river restoration programme behind this work

The Cumbria River Restoration Programme is a partnership project delivering innovative river restoration projects across catchments in Cumbria. The partners involved are Eden Rivers Trust, West Cumbria Rivers Trust, South Cumbria Rivers Trust, RSPB, National Trust, Environment Agency and Natural England.

Eden Rivers Trust is responsible for leading on the design and delivery of a restoration strategy for the Eden catchment, identifying and developing targeted projects aimed at restoring natural or near-natural river processes.

Natural processes include: lateral and horizontal migration of the river channel and erosion (making space for water to move and find its natural course along the valley floor), and transportation and deposition of course sediment within the river system.

They also include the establishment of natural vegetation zones along the river banks.

When combined, these processes all lead to:

1. An increase in habitat diversity, quantity and quality,
2. A physical slowing of the flow of water, plus increased natural storage capacity - which benefits both people, wildlife and society as a whole, leading to economic benefits and increased well-being and,
3. The creation of conditions that will naturally filter and oxygenate the water to improve its quality for all to enjoy.

A River Restoration Strategy for Eden

We are part-way through a six-year strategy that started in 2015, focusing on the River Eamont, River Lowther, River Leith, River Lyvennet and the River Caldew sub-catchments of the River Eden.

River restoration is a recognised form of natural flood management and is one of a number of methods we advocate to reduce flood risk to local communities by working with natural processes.

Our work programme is developed in partnership with a variety of landowners, catchment stakeholders and funding bodies.

The main types of work we are focused on are:

Removing man-made barriers, such as weirs to improve fish passage, connect habitats and reduce local flood risk,

Restoring sections of river to a natural course. This benefits both wildlife and people by creating and improving habitats, reducing flood impact downstream by slowing the flow of water and improving natural drainage on land.

Reconnecting floodplains to the river. Removing embankments increases the amount of natural flood water storage during heavy rain - slowing the flow of water and reducing scour damage from high river flows, all which help communities downstream. Floodplains reduce the amount of standing water left when floods recede and provide refuge and habitat for wildlife.

Assisting natural recovery. Removing historic revetment (such as stone or concrete banking, or built up earth) and fencing off riverbanks allows previously inhibited natural processes such as lateral migration and deposition to occur. This improves wildlife habitats and slows the flow of water.

Read on for a flavour of the wide variety of work undertaken this year:

River Lyvennet at Kemplee

The river had become disconnected from its floodplain, with fast-flowing water funnelling through a narrow river channel, eroding riverbanks and scouring the riverbed.

This resulted in poor conditions for wildlife and potentially created problems for communities downstream.

To solve this problem, we widened the river channel and reconnected the river with its floodplain by creating a gently sloping riverbank and floodplain.

To further improve conditions for wildlife, large stones were placed in the middle of the river to catch sediment, creating habitat for small fish and invertebrates and increasing 'roughness' in the river, slowing water down & oxygenating it.

Benefits:

- More storage of flood water upstream of communities – nearly two Olympic swimming pools' worth in the river channel alone,
- Slowing the flow of water downstream towards communities, potentially reducing flood risk, and
- Creating more favourable conditions for wildlife to thrive in this area.



A gently sloping bank that reconnects the River Lyvennet with its floodplain



Work underway to remove sections of the weir at Low Gardens



River Lowther at Low Gardens (Lonsdale Settled Estates)

A key aim of our river restoration strategy is to open up more of the Eden river system so that migratory species can move freely throughout and survive and thrive.

Usually we do this by completely removing a barrier (such as a weir), however, at Low Gardens, the situation was more complicated as the weir also supported a bridge. The solution was to cut out two sections to allow fish to gain access more easily.

Why here? The Lowther is a favoured river of our larger Atlantic Salmon, the ones who spend more than one winter at sea.

Benefits

- 25km of the River Lowther more accessible to all fish species,
- The bridge, which is a popular right of way, now has increased resilience to flooding.

River Eamont at Sockbridge

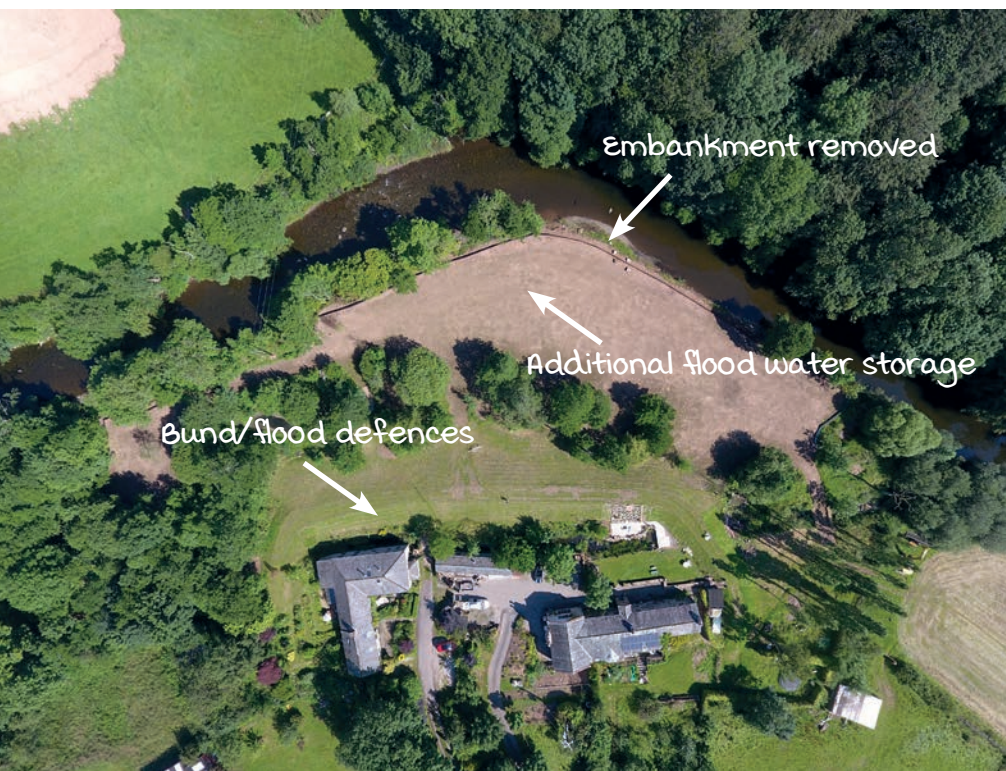
In its time, the property nearest to the river has been a mill (with a mill race constructed to provide water), a trout farm and now a private dwelling. Taking this history into account, it was no surprise that properties by the Eamont at Sockbridge were be prone to flooding. Some measures had previously been installed to try and reduce flood risk, but these were not sufficient. The river channel was narrow and deep, and had become disconnected from its floodplain.

Over the course of two years, we lowered the river embankment to reconnect the floodplain, built a new flood embankment set back from the river to protect the houses, filled in the old mill race, and installed flood resilience measures in properties, such as non-return valves in sewer pipes.

Benefits

- Additional flood water storage, equivalent to nearly 1.5 Olympic swimming pools, storing and slowing down water flowing downstream towards Eamont Bridge,
- Improved flood defences for immediate properties,
- Improved habitat for wildlife – river bed no longer ‘scoured’ by fast-flowing water in a narrow channel,
- Improved access to the river for people to enjoy.

We’d like to thank all of the landowners and tenants for their support this year, working with us to design and implement features that will make a real difference to the health of the river as well as making good use of their land.



Bund built to protect properties



Guide to river restoration terms

Slow the flow

Features such as meanders, rocks in rivers, and trees on floodplains all physically slow the flow of water reaching downstream.

Natural Flood Management (NFM)

This covers a range of techniques and features that use and/or replicate natural landscape features and processes to slow the flow of, store and/or filter water, reducing the extent and severity of flooding downstream. Examples include: planting more trees and hedges, installing leaky dams and storage ponds, river restoration, and soil aeration.

Natural processes

These include:

- erosion and deposition of coarse sediment in rivers which can all help to create habitats and reduce flooding,
- Lateral migration. River channels ‘move’ over time as a result of deposition and the meandering of the river. Rivers need space to move and find their natural course.

Habitat

The area that is inhabited by a particular species of animal, plant or other organism.

Weirs

A man-made structure within a moving water course design to divert some of the flow elsewhere. These are now largely redundant features within the UK, associated with historical mill industry. They can create a barrier to fish migrating up and downstream and may cause localised flooding.

Revetment

A man-made structure typically put in place to stop erosion of river banks. They inhibit natural processes and can contribute to increased flood risk downstream.

If you’re a landowner along one of the rivers listed in this article and would like to explore how river restoration could work on your land, please get in touch with us at office@edenrt.org



Inspiring the next generation to care for rivers

This year we launched 'Rivers for Life', a new two-day learning programme for Primary Schools in the catchment. The programme complements the work of our conservation team, whilst meeting the needs of schools through the National Curriculum.

It's designed so that children learn about their local rivers and the human impacts on them in a fun, engaging way.

588 children and 100 adults from 14 selected schools have taken part in the programme, which is carefully structured to take children on a journey of discovery.

It involves a variety of activities, both in the classroom and on the river. These include a fun game where pupils encounter 'Eden's Amazing Creatures', an experiment introducing the concepts of run-off and slowing the flow, and a field trip discovering wildlife through photography and river dipping - where children learn how to identify the creatures they have caught.

In two activity-packed days, students practice literacy and numeracy skills, unleash their creativity through art and photography, solve puzzles, conduct scientific experiments and get their feet wet out by the river experiencing how rivers work first-hand ... and best of all, there's MUD involved!

We are delighted that both the children and teachers have really enjoyed the programme, and learnt so much from it. We've been told that children have taken their new-found knowledge and ideas home to their families - just what we hoped for!

We think that the feedback they have given us speaks for itself. Here's a taster of it, and we hope you'll agree ...

“ The programme meets all of our curriculum targets and more – we gained so much knowledge – thank you!

The two days have been absolutely brilliant in terms of learning/action/enjoyment. The children have been inspired by true experts and we are very grateful for all that you have given them – more than we ever could!

Year 5 Class teacher,
Stanwix Primary, Carlisle.

“ The Rivers on maps activity was particularly enjoyed by the children, and the soil experiment. Definitely gained what I hoped they would. Such a lot of learning going on.

Year 5/6 Shap Primary

We are looking forward to a busy 2018, as we are again able to offer Rivers for Life free of charge to a number of schools located within the Trust's priority work areas.

If you like the sound of the programme and want to find out if your primary school is eligible, please get in touch with us at learning@edenrt.org



We asked Year 6 students from Austin Friars School what they learnt and thought about the Rivers for Life sessions. This is what they said ...

Tell us some facts about the Eden!

Lots of vegetation by the riverbank is good.

Having soil as a riverbed is bad because fish can't lay their eggs.

Did you know that fish can only lay their eggs in clean gravel? This is why slurry cannot enter the river...

I pledge never EVER to put slurry in a river!

Bare soil on the land is bad as the water flows to the river more quickly, and takes the soil with it.

Pick up any new skills?

I can identify what is good and bad for rivers.

I learned how to fish for minibeasts with a spoon.

What do you love about rivers?

My favourite part of the river is where it meanders.

I like the rapids.



What did you learn?

That fallen trees are good for rivers, because then the fish have somewhere to hide when a heron or bird comes to eat them.

What was the best bit of the two days?

When we got to look at the little creatures and fish using a microscope.

Taking photos of things at the river.
(Ed: lots of students enjoyed this)

Playing in the mud!

Finally, the children made river pledges - here are just a few:

I won't make the river straight

I won't run the tap for long

I will never put rubbish in the river

Digging deep to unlock the secrets of Eden's soils

The hidden wonders under our feet that could improve farm productivity and help natural flood management

Soil. Not the first thing that springs to mind when you think about river conservation, but how the brown stuff under our feet is managed could improve productivity, reduce the amount (and cost) of fertiliser spread on the land - great for the river and aquifers as it will improve water quality, and store and/or slow the flow of water before it reaches the river.

Unsurprisingly, it's a hot topic amongst our farmers' groups in the Leith / Lowther and Petteril Facilitation Fund areas too, and during 2017 they have heard from a range of experts on different aspects of soil health and management.

As well as running workshops to share and encourage water-friendly farming, we also have machinery available to borrow such as sward lifters and soil aerators. so that farmers can put these techniques into practice.



Danny Teasdale's verdict? It's a good vintage!

A short introduction to managing good soil health

Soil is a living thing

James Bretherton, soil specialist, Agscope notes that soil is a 'living' aerobic environment which has mineral, structural and biological components with a 'good' soil composed of 45% mineral, 25% water, 25% air and 5% organic matter.

Get to know your soil

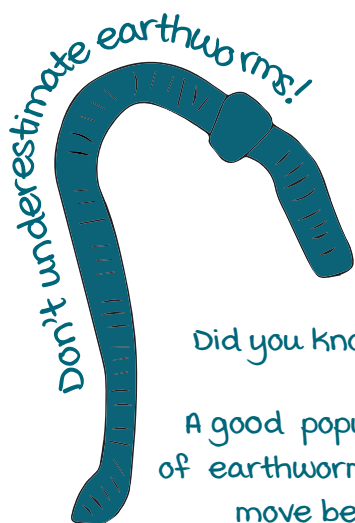
There are 13 types of soil in the Eden Valley alone! (<http://www.landis.org.uk/soilscales>)

The best way to find out which type of soil you are working with is to dig a pit, look at the soil, smell it (as demonstrated by Danny Teasdale above), and see what is growing and living in it. Does the structure allow good aerobic conditions; is there good root growth, are earthworms present?

A bit of simple science can make a real difference. Farmers can work out how much fertiliser they need to apply by:

- 1) working out the nutrient value of the soil,
- 2) checking what the crop requirement is for that soil as a result, then
- 3) subtracting the amount of nutrients in slurry and manure from the total crop requirement, which leaves the amount of fertiliser to be applied.

We work with Natural England's Catchment Sensitive Farming initiative to offer basic soil testing analysis and nutrient planning advice to our Facilitation Fund members so that they can understand what the required amount of nutrients are for their particular soils.



Did you know?

A good population of earthworms can move between 20-40 tonnes of soil/acre/yr, resulting in a four-fold increase in drainage!

Give it some air

Soil compaction, whether caused by flooding, livestock or machinery can reduce grass yields by up to 30% and increase the likelihood and speed of water running off the fields straight into the river.

Aerating the soil at the right time of year will encourage grass & crops to grow as it will have more 'pores' to hold more water (like a sponge). This will provide more storage during heavy rainfall – reducing flood peaks.



Cover it up

Bare soil in winter leaves top soil vulnerable to erosion. During winter rainfall, soils wash away into the river, taking nutrients with it. This will affect the quality and quantity of crops the following spring, and will adversely affect the water quality and aquatic life in the river.

Planting grass, hedgerows and trees will help to trap water and stop soil erosion.

Timing is everything

By using a simple rotational grazing system (see right) where animals are regularly and systematically moved to rested areas, farmers can produce more, better quality grass for their animals. This in turn reduces the quantity of feed that needs to be bought in. This all means that less phosphates are spread onto the land, which is good news for rivers!

Allowing animals to graze at the 'right time' in the plant's life cycle is critical to ensuring optimum grass growth and higher digestibility leading to improved weight gain by animals.

In ryegrass, for example, this is at the 2.5-3 leaf stage of growth. Why? As ryegrass can only support three leaves on every plant, if it is left longer, the fourth leaf will die, resulting in wastage. If allow to graze earlier, the plant will take longer to regrow as it pulls on its reserves.



Building the evidence - working with Lancaster University

For generations, landowners have worked with nature to improve their immediate environment by planting trees, woodland and hedgerows, while also reducing problems with their soil. These days, farmers are being asked to incorporate features into the landscape to help reduce the impact of floods and water-quality-issues that develop downstream.

Graduate researcher, Ethan Wallace, is undertaking a PhD project with Eden Rivers Trust that aims to quantify the value of trees, hedges and soil-improvement-practices in reducing the amount of overland-flow and nutrient-loss by using systematic field-measurements (including soil permeability and moisture) with modelling of the whole River Leith basin.



The European Agricultural Fund for Rural Development: Europe investing in rural areas. This project has received European Union funding under the Countryside Stewardship Scheme's Facilitation Fund.

The scheme is funded by the European Agricultural Fund for Rural Development (EAFRD) and is part of the Rural Development Programme for England (RDPE)



Simply marble-ous

Following Storm Desmond, we commissioned two artists to work with young people from flood-affected communities on a creative project to help them reconnect with their river

The original marble run sculpture was the brainchild of Cumbria-based artists, Charlie Whinney and Nick Greenall.

Charlie, a wood steam-bending specialist who creates large scale art installations around the world, and Nick, a digital media artist who works extensively with young people in Cumbria through his collective - Art Locates Me, joined forces for this special project. They worked with young people from Nacro and the Senior Youth Club based at Carlisle Youth Zone (which was flooded at the time).

Thanks to National Lottery players, Young people took part in a series of workshops; helping the artists create a massive sculpture of a river from locally-sourced Larch, Oak and Ash, whilst learning a wide range of skills,

from woodworking techniques to understanding natural river processes.

They considered the impact that rivers can have on theirs and other people's lives, explored the collections of Tullie House Museum and Art Gallery, and 10 young people gained their Bronze Arts Award.

The sculpture was unveiled at Tullie House on 25 October 2016, and was on show for a week before being hosted by The Inn on the Lake hotel in Glenridding, another community severely affected by Storm Desmond.

The story doesn't end here. The marble run was loved so much by everyone who came into contact with it that we wanted it to flow some more, spreading the message to communities throughout the catchment about the many ways natural river processes can benefit the river for people and wildlife.

With Charlie back on board, but this time with the brief of creating a kit version that we could swiftly install and take down again, mark #2 of Marble Run: River was ready to roll in time for the summer shows season.

Since then, over 800 people from ages 2 to 80+ have enjoyed the thrill of rolling a marble and tracking its journey to the sea.

It also made a guest appearance at Lakes Alive in Kendal, manned by our friends at South Cumbria Rivers Trust, and at the 2017 Rivers Trust Conference.

What is marble Run: River?

It is a beautiful, yet playful piece of kinetic art with sweeping lines that mirrors river processes linked to natural river flood management. It meanders, disrupts and 'slows the flow' of marbles as they journey downstream.

The original sculpture included words expressing people's experiences of the floods of December 2015 that devastated large parts of Cumbria, including Carlisle.

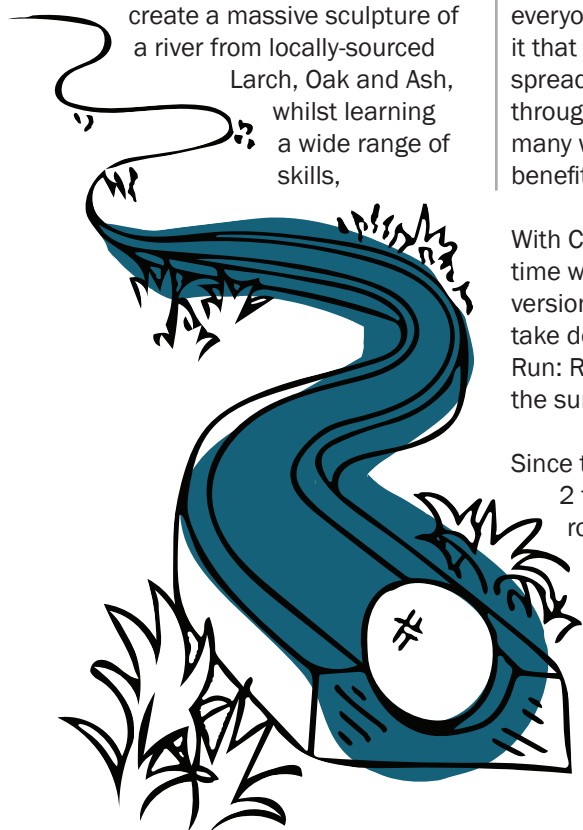
Very loosely based on the River Eden system, the idea is to roll a marble and watch its journey from source to sea as it winds its way through natural river features found in the upper, middle and lower courses of a river. These include: flood plains, rough sections of rivers, leaky dams, and meanders. Note the changes in speed of the water as a result of these features and what happens when too much water reaches narrow channels!

We love Marble Run as it explains our approach to Natural Flood Management and river restoration in a fun, interesting way ... and everybody loves a bit of marble rolling!

Look out for Marble Run: River at an event near you in 2018!



LOTTERY FUNDED



The big interview

Our latest batch of Eden Apprentices started in February 2017.

So, nearly a year into their apprenticeship, we talk to them to see how it has gone so far ...

What's been the best thing about being an apprentice?

Oliver (O): I enjoyed building and maintaining our leaky dams – you can see quite quickly what's changed as a result,

James (J): Working with other rivers trusts on the reed bank at Windermere,

Nathan (N): Got paid! *all laugh*

Courteney (C): Using the track barrow – it was good craic!

N: Yeah, I agree, making the path using the track barrow was good, you could see a real improvement in only a few days. Oh, and drilling holes in kerbstones in a tunnel to let fish through. We were bringing kerbstones back into the tunnel from the river using our trusty wheelbarrow ... with a flat tyre! (Ed: wheelbarrow now fixed!)

most useful skill you've learnt?

O: How to use a strimmer correctly and getting our tickets. (Tickets are gained when you learn practical handling skills such as using strimmers, chainsaws etc.) They're crucial for helping us to get a job after the apprenticeship ends.

N: Knowing that you need to slow a river down and not speed it up, not dredge it. Oh, and chopping down a tree and being able to chip it up.

C: I've just learnt loads by being here. I ended up here by accident really, after meeting Jane Davies (Outreach & Heritage Coordinator) whilst doing Marble Run and she encouraged me to apply!

You are all also Newton Rigg college students. Best bit of your student experience?

N: Discounted food ... (Ed: Nathan's food intake is legendary, and we have no idea where he puts it all)

C: ... and you get a free cheeseburger at McDonalds with a student card!

C: Learning where we stood with the Law when working outside and with people,

O: Has given me ideas for potential careers, and I have enjoyed meeting up with other apprentices on my course from different organisations,

J: We had a really good lecturer who was a deer stalker.

Any memorable moments?

C: Well, there were a couple of times when we thought we were lost ... doing a Discover Eden walk, I never thought I'd be so happy to see a church (at the end of the walk) I was ready to drop - thought we were lost and miles away.

N: And remember when we did a walkover survey in Dalston?

We couldn't find our way back so hitched up our trousers and walked across the river! (Ed: apologies to all wildlife traumatised by the sight of the apprentices hairy knees)

C: Getting stuck in the mud. Oliver came to my rescue (although told not to) and got stuck himself!

O: I got free pretty quickly though!

For me, it's got to be belting out 'Sweet Caroline' at the top of our voices with the windows down in the Land Rover on the way back from Keswick, they were the best times,

N: Courteney saying at the start, "You'll never see me coming in without make-up ..."

C: ... Yeah, and look at me now, not a scrap on!

What's next?

O: Australia for six months,

N: Learning more skills. I'm looking for another practical course such as joinery, to add to my mechanics and conservation management skills as I want to be an all-rounder,

C: I'm thinking about going on to study to be a teacher,

J: I like working in conservation so would like to do something like that.





We send them to all the most glamorous locations! Improving access for fish with South Cumbria Rivers Trust



Courteney makes a friend!

Out & about with the Apprentices



Hedgerow maintenance



What a load of rubbish!
River clean up in Carlisle



Electrofishing surveys

Apprentice Eden is supported by





Hunting down hedgerows

Hedgerows are becoming an essential component of the Natural Flood Management toolbox.

As well as slowing the flow of water from the hillsides to the river (potentially reducing flood peaks), and trapping water through their leaves and roots, they provide habitat for wildlife such as insects, mammals and birds.

There are benefits for farmers too, such as offering shelter for livestock and reducing loss of nutrient-rich soil through surface water run-off.

We're looking for volunteers to help identify potential sites in the Lowther & Leith sub-catchments where hedgerows could be planted.

Designed to be completed in the comfort of your own home, at your own pace, all you need is a computer and an internet connection.

You will complete a survey using Google Earth and Environment Agency published data to identify suitable places where there are walls (like the photo above), fences, or no existing boundaries where hedgerows could be created or restored.

There's a step-by-step video tutorial and written guide to help you get started.

What better way to help protect our rivers during the long winter nights?!

Interested?

Sign up now by:
emailing Susie Grainger at
susie@edenrt.org
or call her on 01768 866788



LOTTERY FUNDED

Exploring Eden online

This autumn saw the launch of a set of brand-new online resources for secondary schools to support their teaching of river topics.

We worked with local secondary schools to create a range of free resources for use from Year 7 all the way to 6th Form.

These were created using ArcGIS - a Geographical Information System used by professionals that is designed to capture, store, manipulate, analyse, manage and present spatial or geographic data.

Lucy Butler, GIS specialist at The Rivers Trust helped us to create:

Story Maps, full of photos and information about the features of the riverscape and the human interest stories behind events that have affected the Eden catchment, and

Web-mapping resources, containing published data from sources such as the Environment Agency that students can investigate in order to complete tasks and answer questions.

There's support for teachers as well in the form of teachers' notes and video tutorials.

Follow the link to take a look at all of the resources

[ArcGIS Schools' Resources >>](#)

Teachers' notes

Journey down the River Eden

An ArcGIS web-based Story Map focused on the River Eden

What is ArcGIS?

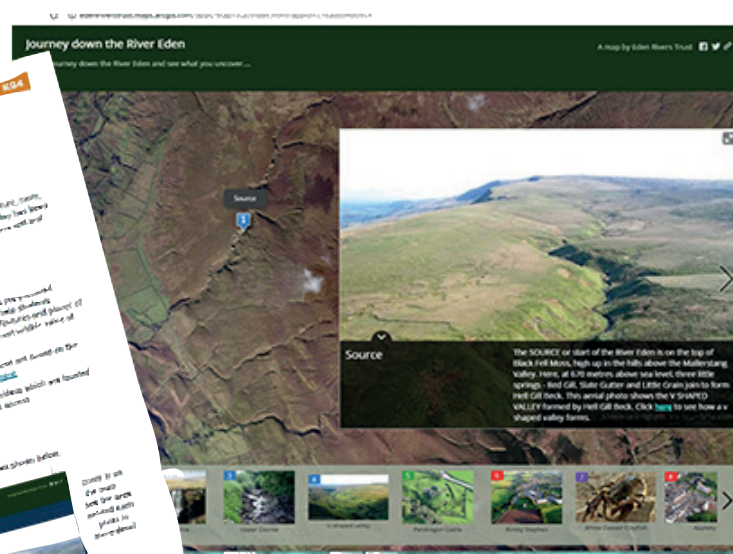
ArcGIS is a Geographical Information System (GIS) used by professionals and designed to capture, store, manipulate, analyse, manage and present spatial or geographic data.

Summary

Students will follow the route of the River Eden from Source to Sea using the ArcGIS web-based Story Map. The Story Map includes information about the features of the riverscape and the human interest stories behind events that have affected the Eden catchment, and

Follow the Story Map

When you open the Story Map you will be presented with a set of screens showing the route of the River Eden from Source to Sea.





Rubbish-free rivers

It is estimated 6.4 million tonnes of litter enters the sea annually, according to the National Academy of Sciences in the USA.

Undoubtedly, some of that litter will have found its way there via our rivers.

We need your help!

Can you tell us where the grot-spots in the Eden catchment are where litter is a blight on our rivers?

We will choose the messiest areas and mobilise work parties, in conjunction with local residents and community groups, to clean them up over the winter months.

Email office@edenrt.org by 15th January 2018 with the following information:

- Location,
- A picture or two of the rubbish found there, and
- Tell us why this stretch of river deserves to be chosen for a clean-up.

Together we can make Eden's rivers
clean and healthy for all!

Events

Last Thursday of every month Volunteer River Action Day

This is your chance to get some fresh air, do a bit of graft, and end the day knowing that you've made a real difference to the health of

Come along and meet the team, find out more about our work or get stuck in with a volunteer project!

the river and landscape of the Eden Valley.

There will be something different to do each month. Over the winter we focus on river clean-ups (litter picks) and tree and hedge planting.

Look on our website or on our Facebook page to see what's coming up, or call 01768 866788 for more information.

That's all for this issue

The next Eden Rivers Trust newsletter is due to hit inboxes in March. In the meantime, you can keep up to date with all the latest news from Eden Rivers Trust via social media:



This newsletter has been brought to you by:

Eden Rivers Trust
Dunmail Building,
Newton Rigg college
Penrith CA11 0AH

Contact us on
01768 866788

office@edenrt.org
www.edenriverstrust.org.uk

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