

Eden
Rivers Trust



In Full Flow 2019

Welcome to the second Eden Rivers Trust review, showcasing the highlights of our work in 2019.

With the huge uncertainty we face in 2020, it's been a pleasure to look back on all we achieved over the past year and I hope you feel the same as you read this report.

Once again, we bring you news of our three main programmes; Protect, Improve and Connect. We start with how these programmes are helping to safeguard Eden's natural capital and the ecosystem services it provides. These are topics that have come into sharp relief over the last year in our role leading the development of the Eden Catchment Plan. At the same time, protecting and improving the UK's natural capital has been rising up the government's agenda, so it's important that we are in step with that.

Our volunteers and supporters continue to play a critical role, particularly with our tree planting efforts; placing native trees in the right places, where they protect rivers, store carbon and improve biodiversity. With a new grant secured from the National Lottery Heritage Fund for 2020/21 to enable citizens to Act for Eden's Rivers, these opportunities will only increase.

Next year Eden Rivers Trust will be 25 years young; each year we add to our impressive back catalogue of projects, and each year small pieces of this exquisite catchment are changed for the better. We also face new challenges, try new ways of working and continue to grow and learn. We remain tremendously grateful to all those who help us in these endeavours. Thank you.

Elizabeth Radford
CEO



The natural value of Eden

The high-quality wildlife habitats, water and soils of the Eden Valley are its natural assets - often called **natural capital**. These assets provide **ecosystem services**; services provided by nature and not paid for 'at the till' that contribute towards making human life both possible and worth living.

These services include:

- **Improving water quality.**
- **Managing water to provide flood protection.**
- **Ensuring water supplies in drought.**
- **Storing and absorbing carbon.**
- **Providing healthy ecological networks.**
- **Providing recreational and spiritual fulfilment.**

Eden's natural capital assets, and their ability to provide these services have been degraded over time through unsustainable human activity, exacerbated by climate change.

Action is needed to revitalise these assets and secure the 'free' natural services we take for granted. Eden Rivers Trust's work contributes to this revitalisation as we act to restore natural processes on land and in the water, to benefit the lakes, rivers and tributaries of the Eden catchment.

...and how we will improve and protect our natural assets

Woodlands



THEY:

- Provide habitat for numerous species.
- Absorb water through trees' leaves and roots and store it internally.
- Slow surface water flow.
- Increase soil infiltration rates.
- Absorb and store carbon as they grow, and
- Filter water by removing nutrients.

CHALLENGE: Woodlands only cover 10% of Eden.

WE WILL: Plant more trees in appropriate places:

- By the river/on the floodplain - to increase biodiversity, shading and water temperature regulation and to help slow the flow.
- Next to existing woodlands to expand and connect them creating corridors for wildlife.
- On slopes and in the uplands (never on peat) to reduce soil erosion and slow the flow of water.

Natural wiggling rivers



THEY:

- Sustain a greater variety of habitats and species than straightened rivers.
- Slow the flow of water.
- Let water spill onto its connected floodplain rather than pushing water downstream towards communities.
- Allow wetlands to develop; providing biodiversity as well as holding and slowing flood water.

CHALLENGE: There are many historically straightened river channels in Eden.

WE WILL: Restore straightened river channels and reconnect them with their floodplains.

Natural riverbanks



THEY:

- Are a natural filter for excess nutrients and sediment found in run-off from fields.
- Slow the flow of water and dissipate flood energy.
- Prevent erosion.
- Provide shade for fish and habitats for many creatures, e.g. field voles which are food for birds of prey.
- Improve biodiversity and create connectivity between habitats along riverbanks.

CHALLENGE: Many of Eden's riverbanks are overgrazed and have little or no natural vegetation.

WE WILL: Restore riverbank habitat:

plant wildflowers, shrubs and trees, install fencing, install large woody debris to provide cover and habitat.

Wetlands



THEY:

- Are natural water filters - sediment and other pollutants settle here.
- Absorb nutrients through vegetation.
- Store and slow water during high flows.
- Absorb carbon in their sediments, and
- Provide additional wildlife habitat.

CHALLENGE: Wetlands make up only 3% of the UK but are home to around 10% of all UK species.

WE WILL: Encourage the development of wetlands either through natural processes or by creating them ourselves.

Hedgerows



THEY:

- Shelter and support a myriad of species such as birds, mammals, pollinators and predators of crop pests.
- Are effective physical barriers that reduce surface water flow, increase water infiltration into the soil and slow the flow.
- Prevent fertiliser and pesticide drift.
- Shelter livestock, and
- Help ensure valuable soil stays in the fields.

CHALLENGE: Many of Eden's hedgerows have been lost through neglect, damage by machinery and loss of ground flora through competition by nutrient-loving, crops nourished by artificial fertiliser and slurry.

WE WILL: Fill hedge gaps, reinstate hedgerows and identify new locations for kested hedgerows and protect all from grazing, fertiliser and pesticides.

Healthy soils



THEY:

- Support all life♥.
- Retain and store carbon.
- Reduce surface water - water infiltrates deeper if soil is well aerated, and
- Support good populations of important soil organisms that ensure soil fertility.

CHALLENGE: Almost 4 million hectares of soil are at risk of compaction in England and Wales, affecting soil fertility and our water resources.

WE WILL: Work with Eden's farmers and landowners to make water-friendly farming a way of life.



Connect

We connect people with rivers – increasing understanding of how rivers work, encouraging people's enjoyment of our amazing wildlife and special places, and inspiring them to take action and help care for Eden's rivers.

2019 highlights



77 people enjoyed 14 Eden River Rambles



5-year Cherish Eden project completed with nearly **29,000 people engaged, 13,000 hours** of volunteer time given, valued at £199,000 and **12 apprentices** trained



957 children from 20 schools and groups learnt about rivers



24 staff from 19 rivers trusts shared great work at our Marbles to Monsters day



35 Newton Rigg students spent **200 hours** learning how to mend our subsoilers and soil aeration machines



206 volunteers gave 153 days of time



73 people attended our first Supporters' Day

Coming up in 2020

Start of two-year Act for Eden's Rivers project funded by the National Lottery Heritage Fund

Completion of Eden River Rambles

Launch of our first Act for Eden's Rivers public campaign

ERT holds its first Volunteer Celebration Event

Launch of Willow and Eddy: Guardians of the Eden short film

40 young people Shout About Rivers in three artist-led projects

Programme continues bringing schools and communities together at local river conservation sites



Spotlight on ... The Adventurous Salmon

To mark the International Year of the Salmon in 2019, we enlisted the help of pupils from Robert Ferguson Primary School, Carlisle to create illustrations for The Adventurous Salmon, a brand-new children's picture book.

The book follows the epic 3,000 km journey undertaken by an intrepid wild Atlantic salmon; from Cumbria's tiny becks, down Eden's rivers and out to sea ... and then back again to the beck where it was born. Along the way, it introduces young readers to native wildlife found in the Eden, Copeland and West Cumbria areas. The story raises awareness of the challenges Cumbria's iconic salmon face in their fight for survival in our rivers.

The story was jointly created and written by Eden Rivers Trust's and West Cumbria Rivers Trust's Learning Coordinators, as a fun and interesting way to recap and reinforce some of the key learning points of our 'Rivers for Life' primary school programme.

Thanks to support from The National Lottery Heritage Fund, we were able to embark on a project with two year 5 classes from Robert Ferguson Primary School in Carlisle. The project combined learning about the river through creative workshops with illustrator, Clare Waring to develop a book that would be given out free to schools that we work with. Each child received a copy of the finished book that they worked so hard to contribute to.

You can buy your very own copy of The Adventurous Salmon by visiting our website <https://edenriverstrust.org.uk/school-children-make-the-adventurous-salmon-leap-off-the-page/>



photo: Stuart Walker Photography



Eden River Rambles

We firmly believe in the power of the great outdoors, and particularly activity alongside water to improve wellbeing, soothe the soul and boost both your physical and mental health.

Thanks to support from the National Lottery Heritage Fund, people from the Appleby area have been improving their fitness and learning about Eden's rivers in a series of guided Eden River Rambles around the southern end of the catchment. As well as enjoying fresh air, exercise and discovering new things about their local rivers, participants have met new people and, in many cases, made firm friends.

Every fortnight, up to ten participants explored a different part of Eden's river system, looking at the river with fresh eyes. They also considered how the river has inspired others, taking in some of the Eden Landmarks sculptures and poetry walks along the way.

Over the last eight months they have walked high up in the fells near the source of the Eden and downstream along Eden's becks and tributaries. They took the steamer across the vast expanse of Ullswater lake and marvelled at the winding, wide River Eden at Armathwaite... all rounded off with a visit to the local café!



Eden River Ramblers putting their best foot forward





Improve

We work to improve the natural processes on land as well as in the river, nurturing wildlife habitats, reducing flood risk and providing cleaner water.

2019 highlights



18 projects completed that protect **37ha** of river and riverside habitat from grazing



4 wetland scrapes and ponds created for biodiversity and flood water storage. **Over 10,000 wetland plants** planted



3,840 trees planted to slow the flow of water and provide habitat



3.4km of fencing built to protect riverbanks as well as new mains and solar powered stock watering systems



750m more river created in three becks by 're-rigging' to slow the flow and create better places for nature to swim freely



200 acres of land aerated using ERT machines to improve the health of soils



1.15km of hedgerows planted using native species

Coming up in 2020

Complete river restoration in 5 target areas on the Leith, Lyvennet and Eamont sub catchments

Launch of Revitalising Eden: The Eden Catchment Plan

Work starts to slow the flow and improve biodiversity in Croglin Water and Gamblesby Beck as part of the Fellfoot Forward Landscape Partnership programme and Environment Agency (EA) Slow the Flow programme

Habitat and channel modification work starts in the Trout Beck area along with catchment-wide eradication of invasive non-native species

Launch of water-friendly farming programme in the Petteiril

Westmorland Dales NLHF and EA funded habitat improvement works on the Lyvennet and Scandal beck



Cairn Beck NFM features



Spotlight on ...

A natural approach to flood management

Since Storm Desmond, interest has grown in finding other ways to reduce the risk of flooding to properties, rather than just relying on traditional flood defences.

In the Cairn Beck catchment (east of Carlisle) we have been using a mix of computer modelling, farm walkovers and landowner engagement to identify potential sites to install natural flood management (NFM) measures that will improve the river and landscape, whilst providing additional protection for communities at risk of flooding.

Upstream of Warwick Bridge, close to Cumwhitton, a stretch of the Cairn Beck had been artificially straightened more than 150 years ago. As a result, water moved more quickly through the area, potentially increasing flood risk downstream.

We worked with the landowner to turn a 0.5ha (5000m²) patch of featureless land into a wildlife oasis with a host of NFM features. This included a new, 200m long 'wiggled' (meandering) river channel that will work more effectively to hold water in the river and the floodplain, slowing its passage downstream towards vulnerable built-up areas.



Stage zero restoration

Usually, when we restore rivers, we re-wiggle straightened river channels by adding meanders. However, there is more than one way to restore a river!

In one of the first stage zero river restorations to take place in the UK, we worked with Lowther Estates to change the course of a straightened river channel where it entered a culvert under the M6.

We blocked a section of the culverted channel and created a new one that would allow the river to spill out into its natural floodplain. Over time, this will allow the river to behave as it would have done before any human interference, creating multiple channels, pools and riffles.

This cutting-edge project is now being monitored by Eden Rivers Trust (drone survey and ecological monitoring), Lancaster University (PhD and research project) as well as by undergraduate studies of flooding and water quality to add to our understanding of this emerging restoration technique.



New 'stage zero' river channel



Protect

We protect the Eden's unique and iconic biodiversity, ensuring our native plants and animals survive and thrive.

2019 highlights



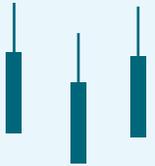
6 willow spiling volunteer events held to protect riverbanks



4 river clean-ups by volunteers to prevent plastic pollution affecting wildlife



9 new volunteers helped survey crayfish, fish and invertebrates across **16 sites**



765m of fencing installed and **1150 trees** planted on Briggie and Kirkland Becks



7 days spent by a determined band of volunteers to rid **2 areas** of Himalayan balsam, our most prolific alien invader



21 water samples collected to help track the spread of Signal crayfish and crayfish plague in the Caldew, Eden and Irthing

Coming up in 2020

Summer electro-fishing, invertebrates and crayfish surveys

Winter river clean-up volunteer days

Monitoring programme starts on 5 conservation project sites

Walkover surveys to monitor existing habitats and improvements we have made to them

Continue our partnership working with the Cumbria Beaver Group



Pupils from Appleby Primary planting trees at Flakebridge



Spotlight on ... TREEmendous Trees

Up and down the catchment, staff and a huge band of volunteers have been planting trees to help slow the flow of water. Our first BIG Eden Tree Plant saw 13,000 trees planted in the winter 2018/19 season alone.

From Dockray to Mallerstang, local people, companies and schools rolled up their sleeves to plant small woodlands of mixed native species that will, over time, create a rich bio-diverse habitat. These woodlands will also contribute towards mitigating the effects of flooding and sediment deposition downstream, whilst improving water quality upstream.

Towards the end of the year, Tania, our Learning Coordinator worked with two primary schools in the Trout Beck catchment where they learnt about TREEmendous Trees and how they are great for rivers and wildlife. 85 pupils from both schools then joined Eden Rivers Trust staff, volunteers and the local community to put what they've learnt into practice by planting 450 trees along buffer strips created along watercourses near their schools.

Demystifying rules and regulations for a healthier Eden

In their day-to-day roles as part of the Farming and Conservation team, Andy and Sarah spend a lot of time helping farmers and land managers understand and interpret the rules and regulations that affect the agricultural sector and the environment. The Farming Rules for Water introduced in 2018 is one such regulation that directly affects the water quality of our rivers.

The challenging weather in 2019 really focused attention on these new rules. Persistent rain put pressure on ground conditions and quickly filled up uncovered slurry stores. This led to some farmers making attempts to spread slurry and digestate in unfavourable conditions, breaching the rules.

Our team worked with regulatory agencies to help farmers and land managers understand their responsibilities regarding the rules and find solutions to issues as they arose. This involved looking into the availability of grants to manage water more effectively on the farm and investigating the possibility of permission to allow spreading on low risk land to ease the pressure on slurry stores.

Additionally, they have worked hard to raise the profile of The Farming Rules for Water among the farming community; arranging meetings between groups of farmers and the regulatory agencies. This work is ongoing; Andy and Sarah are committed to supporting all involved to ensure the water in Eden's rivers remains clean and clear.



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

Making it happen

The power of partnership

As a charity, we depend on financial support from donations and grants, but equally crucial to making our work happen are our partners, supporters and volunteers. All are essential in maintaining a strong, sustainable organisation.

All of our work involves partnership, this can be with statutory bodies, landowners, farmers, artists, schools, flood groups, other Rivers Trusts and many more.

A stronger organisation looking towards the future

In 2019 we welcomed two new trustees into the organisation; Mark Barrow – a local land agent, and Alex Bennett – a corporate fundraiser who works for a national charity that provides outdoor engagement activities for young people. These appointments have added diversity, strength and depth to the Board.

We have started to run six-monthly staff and trustee development days where we get together for field visits to ERT projects sites and/or to plan our approach to large issues such as climate change or the delivery of the Eden Catchment Plan.



Spotlight on ...

Lottery Funded Landscape Partnerships

Landscape Partnerships is a National Lottery Heritage Fund programme. These schemes pull together the energy and enthusiasm of numerous local and national partners to focus attention and activities on the conservation of natural and cultural heritage in a particular area of the UK. We are very fortunate to have two of these schemes running in the Eden, and Eden Rivers Trust is involved in both of them.

The first is Westmorland Dales Landscape Partnership. Led by the Friends of the Lake District, this programme aims to unlock and reveal the hidden heritage of the Westmorland Dales, enabling more people to connect with, enjoy and benefit from this inspirational landscape. The Westmorland Dales is the newest part of the Yorkshire Dales National Park where it joins with the Lake District.

We are undertaking a series of projects in the Upper Lyvennet and Scandal Beck area – restoring natural river processes (re-meandering straightened channels), improving riverside habitat and slowing the flow of water to mitigate against flooding.

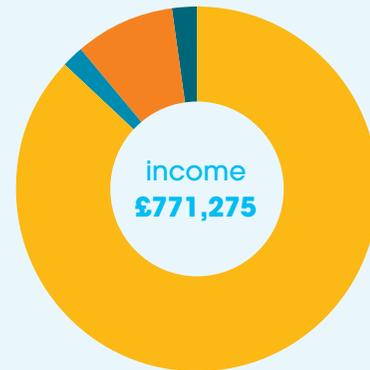
We are also part of the Fellfoot Forward Landscape Partnership. Led by the North Pennines AONB Partnership this aims to conserve, enhance and celebrate the natural and cultural heritage of the Eden fellside from Melmerby to Hallbankgate. It will allow access to heritage sites and promote a clearer understanding of its significant cultural history.

We will be working on two projects. Better Becks will improve the tributaries of the Eden in the Gelt, Cairn Beck, Croglin, Raven and Glassonby sub-catchments, working with natural processes to improve water quality and river habitats, as well as introducing natural flood management measures. To accompany this work, our Next Generation learning programme will involve working with four schools and their communities in these sub-catchments.



Our money and how it is spent

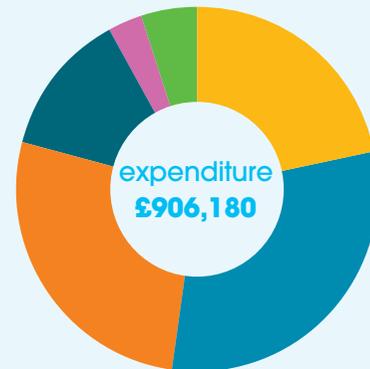
Grants 88%
Donations and legacies* 9%
Charitable trusts 2%
Interest 2%



*Donations and Legacies includes income from Enforcement Undertakings. These 'donations' are in lieu of fines from pollution incidents.

In 2019, £906,180 was spent on protecting, improving and advocating for the River Eden and its catchment.

Improve - RRS 31%
Improve - NFM 27%
Connect - 22%
Improve - Farming 13%
Protect - 5%
Improve - Partnerships 3%



Your voluntary donations are invaluable because they allow us the freedom to embark on other important activities throughout the catchment that are not covered by statutory grant funds.

Make rivers part of your life

Become an Eden Rivers Trust volunteer,

Attend one of our events,

Donate – support our work with a one-off donation or set up a regular gift,

Work with us – if you're a landowner interested in finding out more about undertaking river restoration, NFM or water-friendly farming on your land, please get in touch!

Remember us in your Will.

Find out how by browsing the *Get involved* pages at:
www.edenriverstrust.org.uk



Our supporters

Our Supporters come in many forms; from those who regularly donate funds - the 'Friends of Eden Rivers Trust', to the volunteers who give their time, brain and muscle power in the field and in the office, to those who provide support and advice on emerging conservation, engagement and governance issues.

In 2019, ERT volunteers gave 153 days in the field and office, in addition to the many hours given by our own trustees – who are also volunteers.

On behalf of the staff and trustees of Eden Rivers Trust we are grateful for all of the support we have received in 2019.

Organisations

Appleby Town Council, Carlisle Youth Zone, Catchment Sensitive Farming (Natural England), Conquer Lakes, Coop Insurance and colleagues, Cumbria Beaver Partnership, Cumbria Community Foundation, Cumbria County Council, Cumbria Strategic Flood Partnership, Custard Graphic Design (Clare Waring), Design by Day, EC Graham Charitable Settlement, Eden Demonstration Test Catchment Project, Eden District Council, Eden Catchment Management Group, Eden and Carlisle's Schools: Appleby Primary, Austin Friars, Kirkby Stephen Primary, Long Marton Primary, Lowther Endowed Primary, St. Michaels CE Primary, Norman Street Primary, Newman Catholic, Robert Ferguson Primary, Rockcliffe Primary, Shap Primary, Stainton Primary, Temple Sowerby Primary, Trinity School, Warwick Bridge Primary. Environment Agency, Fellfoot Forward Landscape Partnership, Gorgeous Media (Janine Bebbington), Lancaster University, Llama Karma Café, Lowther Estates, Marks and Spencer (Carlisle), NACRO, National Lottery Heritage Fund, Natural England, Newcastle University, Newton Rigg College, North West Regional Flood and Coastal Committee, PLUS3K, Sainsbury's Penrith, The Oglesby Charitable Trust, The Ploughlands Settlement Fund, River Eden District Fishing Association, Penrith Anglers, Westmorland Dales Landscape Partnership, Westons Cider, Woodmatters (Ro Thomas), Ullswater Community Catchment Group (Danny Teasdale), United Utilities, The Woodland Trust.

Individuals

Friends of Eden Rivers Trust and Eden Riparian Owners, the Riverfly volunteers, Mr Chris Addison, Mr Robert Addison, Ms Caitlin Asquith, Mr and Mrs Philip and Rosie Blanchard, Mr Chris Bell, Mr Andrew Bellas, Mr Matthew Blair, Mr David Bliss, Mr Bob Bradney, Ms Georgia Burns, Mr Richard Carruthers, Mr Stephen Dargue, Mr Andrew Fox, Mr John Gibson, Mr Patryk Gruba, Mr Toby Hadley, Mr Pete Hamilton, Mr Alex Hampton, Mrs Anne Harley, Mr Brian Harrison, Mr Neil Hodgson, Mr Gary Hope, Messers Philip and Derrick Horn, Mr Charles Lowther, Mr Jim Lowther, Mr Martyn Lyall, Mr Richard Metcalfe-Gibson, Mr George Morton, Mr Tim Nicholson, Dr Sim Reaney, The Rebanks Family, Mr George Robinson, Mr David Robley, Mr Nick Rogers, Mrs Ann Sandell, Mrs Madeleine Scott, Mr David Smith, Mr Jimmy Stobart, Mr Simon Thomas, Mrs Jane Thursby, Mr Andy Tomlinson, Mr Rob Udale, Mr and Mrs Carl and Ruth Walters, Mrs Elizabeth Warburton, Ms Anne Westerberg, Mrs Penny Wright.

We remember David Hodgkiss, a valued supporter of Eden Rivers Trust who passed away recently.

Front cover: Rod Ireland Photography

Eden Rivers Trust

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The Eden Catchment

