

Learning Update by Ruth — Washing Nets and Big Ideas

While developing the Strategy we've been doing a lot of thinking: about what we're doing, why we're doing it, who we're doing it with, and where the main emphasis of our work should lie in the next five years. During these musings, I've found myself coming back again and again to all the connections between the education programme and the wider conservation and survey work of the Trust. Not only are we lucky to look after a river which stretches through the centre of the city and is on the doorsteps of many schools, but we also have a wonderful opportunity to connect our river with real world learning about environmental and conservation issues. With such an important need for people to understand what is happening with climate change, as well as reconnecting with the natural world, this has the potential for a wealth of valuable learning opportunities, from primary learners to senior stage high school.

Many of you will already know that we partnered with Napier University on a long-term study of treatments for the invasive giant hogweed. The study took 47 quadrats to compare treatments to eradicate the plant, from spraying full and half doses of the pesticide glyphosate to digging up the plant. Volunteers and staff then surveyed the quadrats for potential increases in biodiversity subsequent to the reduction in hogweed. This study has now become part of our Advanced Higher Biology field study skill course and our young biologists regularly trudge along to quadrat 11 to conduct a mock version of the study to assess percentage cover, using ground elder or butterbur. What they comment on - as I rummage about in the undergrowth - is how difficult it must be to find the overgrown quadrat square every year and how long it must have taken to conduct the survey!

At the Trust we've become very interested in eels recently, and our volunteers have made some amazing straw-spun eel ropes to help this amazing fish get over barriers, such as weirs. We have also used this as a resource for primary school learners to teach them about the wonder of animal migration in general and eels in particular, making card eel puppets. I start the session in front of a map of the world and tell my own story of migration, from my home in Somerset to the United States for 15 years and now to Scotland. I ask the class if any of them have moved with their families across countries. Every class in Edinburgh has countless amazing stories of families moving between different cultures across the globe. We collect together the stories and trace the path of the families on the map. Then I tell the story of the eels who drift as larvae from the Sargasso Sea to Europe, including up the Water of Leith, before returning many years later as silver eels for their journey back to the Sargasso Sea. The children love eels and I just love seeing them making a connection between their own lives and the life of a fish.



These are just a couple of examples of the ways in which our conservation work connects to our educational programming. We also have wonderful partnerships with local schools who come out every year to help us manage our meadows, hopefully building up, class by class, a sense of connection and protectiveness in the community towards their local wild space.

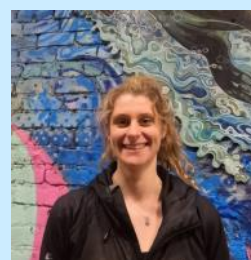
Washing up river-dipping nets; holding the hand of a nervous pupil; looking for tangles in a tape measure; and sticking hands in moist wellies or waders to pull out sweetie wrappers and to check if they are dry enough to send out with a group the next day – these are some of the daily tasks in my role as outdoor learning officer at the Water of Leith Conservation Trust. But I spend a lot of my time thinking, too – there is so much going on at the Trust that it's impossible as an educator ever to be short of ideas. There's always a new idea or something to muse on when you're washing those nets.

Who's Who – new staff at the Centre and on the river

We bade a fond farewell to Charlotte and Sandie in April and June, so there are now some new faces at the Trust. We've welcomed Michael as a Trainee Ranger, Hannah as a Conservation Officer, Gillian as a Visitor Centre Officer and Pamela to help with accounts and bookkeeping. They have all settled in well and are bringing fresh perspectives and ideas to the Trust.



Michael



Hannah



Gillian

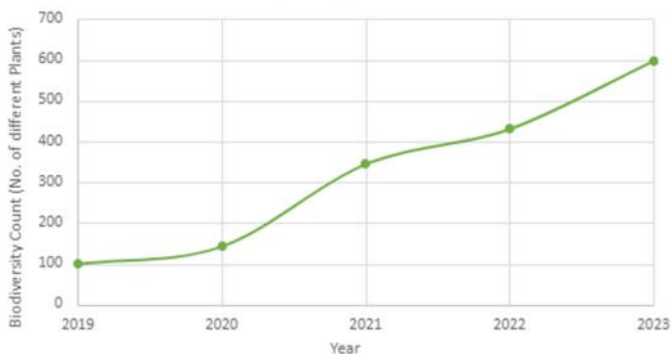
Meadow Surveys — the results are in

For the last four years, our dedicated volunteers have been steadily collecting data on each of our wildflower meadows. This information is invaluable, showing what species we have in each of our meadows and if biodiversity is increasing or decreasing year on year. These eight wildflower meadows are vital for pollinators, and they support a nature corridor along the Water of Leith for bees and butterflies to travel, as well as supporting other wildlife around the city and boosting diversity in the riparian strips next to the river. We have meadows in Balerno, Juniper Green, The Dells, Slateford, Balgreen, Belford, Bonnington & Leith.

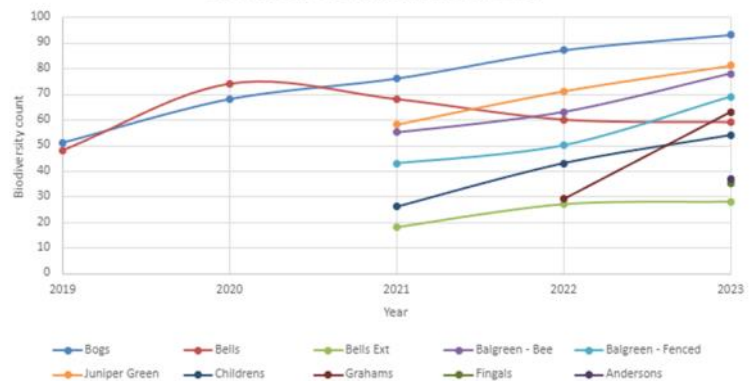
When recording started in 2019, we surveyed our two largest and oldest meadows; Bogs Mill Meadow and Bells Mill Meadow. From there, not only has overall biodiversity increased but we have added six other wildflower meadow sites which we now survey and manage, greatly increasing the nature connectivity.

From 2019, the overall diversity of wildflowers and grasses along the Water of Leith has increased every year (Figure 1). This increase is partly due to an increase in the number of survey sites. However, when we break down the result to individual sites, we can see that all but one site has increased in plant diversity every year since surveying began (Figure 2).

Plant diversity along the Water of Leith



Biodiversity at each wildflower meadow



We have recorded species such as *white clover*, *meadow vetchling* and *tansy* which have been present every year. Species we have only seen in the last few years include *tufted vetch* and *common spotted orchid* and this year we have added 147 new species of wildflowers and grasses to our survey lists. This year we have also surveyed two more smaller gardens at Fingal's Boat in Leith and Anderson Place in Bonnington, so this information can be used and added to the library of data indicating the state of nature connectivity along the river, as well as giving us a greater understanding of the ecosystem at a local level.

The increase in diversity is largely due to the careful management of the meadows. This management is ongoing and includes a cut-and-rake regime. Our volunteers use the traditional scything technique to cut the meadows and rake off cut vegetation. This naturally lowers the nutrients in the soil, allowing wildflowers to colonise and prevent other plants such as creeping thistle and butterbur from becoming dominant. At times we have also planted plugs which helps to increase the diversity of the wildflower meadows, giving some plants a helping hand to become established.

The data collected in our wildflower surveys helps to inform how we manage these meadows moving forward; if we need to adapt our management style or use different techniques to increase or stabilise biodiversity. As we can see from our data, the diversity at Bells Mill Meadow has decreased. This is due to increased trampling by dogs enjoying the open space, so we used fencing to protect the meadow area from further trampling. Therefore, this coming autumn we will be planting some more wildflower plugs and seeds in the meadow to help plants become more established and encourage an upward trend in diversity again.

All of this information, expertise and data collection comes thanks to our tremendous team of dedicated volunteers. Come rain or shine, they are out with plant ID books and hand lenses, identifying and recording the plants present in our wildflower gardens. All this has helped to dramatically increase nature connectivity along the Water of Leith. These meadows are vital for wildlife to travel through Edinburgh and help to maintain a resilient ecosystem.



Autumn and Winter Events

For details and information on how to book visit
www.waterofleith.org.uk/whats-on/

Autumn Guided Walk - 1.30pm

Sunday 15th October Rotten with Kat

Join Kat in the Dells for this hands on exploration of the fascinating world of fungus, detritivores & decomposition

Winter Talks at the Visitor Centre

Due to limited space at the Centre please book a space.

Monday 9th October – AGM and Members Evening 7.30pm. Members and guests only

Monday 13th November – 7.30pm **Scottish Water: When Nature Calls**

During this talk, Scottish Water will explain how the network operates, their plans to transform how they deliver their services and their campaigns to reduce the risk of litter ending up in the environment. Adam and Catherine from Corporate Affairs will be on hand to take questions and facilitate discussions.

Monday 22nd January – 7.30pm **Spotting Urban Wildlife on the Water of Leith**

Wildlife photographer, Tom Kelly, presents a photo talk on his 3 year journey photographing the urban wildlife of Edinburgh. Over this period, Tom has walked over 3,000 miles on the Water of Leith, with a camera in his hand. In his talk, Tom describes this journey and he also shares plenty tips and insights on how to spot more wildlife.

Children's Half Term Events

Fun activities for 4 to 10 year olds. Booking essential.
£7 per child, accompanying Adult Free
1.30pm to 3.30pm

Tues 17th October **Autumn Exploration.**

Seasonal fun & games with Kat looking at what happens at this rotten time of year.

Thurs 19th October **Wonderful Water & River Dipping**

What lives in the river and how do we enjoy and protect the watery world?

Walkway Update

It is with great pleasure that we report the Flexipave path upgrading project from Balerno to the Union Canal and Slateford is now complete and open to all. We think it is a huge improvement. There is also great news about the bridges in the Dells which have been out of action for a number of years: Redhall Bridge has been completely re-done and is now open and we understand the 'Pipe bridge' on the east bank will hopefully get underway this winter.

Well-done Fern!

We would like to thank one of our young volunteers, Fern, who completed the 21mile 'Kilt Walk' in September in aid of our work. She raised a massive £570 which we plan to spend on fun new items for the Visitor Centre, such as games for our Friday Socials, a rainbow parachute and equipment for learning sessions

Scottish Water and the Water of Leith

In advance of their talk on 13th November, Adam and Catherine explain what all the Scottish Water works along the river are about — they are currently working in the Slateford / Longstone area.

In 2021, Scottish Water launched its 'Improving Urban Water's Routemap' which sets out to significantly reduce sewer-related debris and improve water quality in Scotland's rivers and burns by increasing monitoring and reducing overflows.

In the Water of Leith, 10 projects to upgrade Combined Sewer Overflows (CSO) in the upper reaches of the river have been delivered over the past three years. The Routemap highlights a further 24 'high priority' CSOs for potential investment. Scottish Water are committed to improving Scotland's aquatic environment, however, we cannot do this alone. Achieving these outcomes will also require support from the public, community groups and regulators.

Upgrading CSOs can be very disruptive, as many of these assets are in difficult-to-reach places. We need the support of everyone in order to implement the most sustainable options at an affordable price for the Scottish public. Every year, Scottish Water teams attend over 36,000 blockages in drains and sewers, which could cause flooding in homes and neighbourhoods, and/or pollute rivers, burns and coastal waters. 80% of these blockages are caused by people flushing the wrong items down the toilet, or pouring fats, oil and grease down the sink.

Scottish Water's **Nature Calls** campaign calls for a ban on wipes that contain plastic and asks customers to only flush (toilet) paper, pee and poo while disposing of all other items in the bin

Volunteers with the Trust know all too well how wipes and dressings linger following a flood event. It's not nice work cleaning up after blockages which overflow into the river.



For more information or to subscribe to our blog visit www.waterofleith.org.uk

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