



Welcome back to the Sixth Issue of the Source to Tap Newsletter

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Welcome aboard!

Welcome aboard!

We welcome our new Project Officer- Fionnuala Bonner to the Source to Tap team.



Fionnuala is no stranger to the river banks.

Get to know me:

I am Fionnuala Bonner and I have worked in many sections of environmental management, such as wastewater, drinking water, bathing water and landfills in my career with Donegal County [Council](#). In my most recent post I was a project officer for the Waterpro project funded through the Northern Periphery and Arctic Regions (NPA) Programme. This project trialled best management practices for agricultural and mining pollution across the NPA. In Ireland this involved the remediation of the environment using two systems, Integrated Constructed Wetlands and a Willow Plantation. While working on the Waterpro project I completed my Masters in Environmental Health and Safety.

What do you love about our rivers and lakes?

The rivers in the Erne and Derg catchments have many qualities. They not only support a large ecosystem, but also have natural beauty which we all enjoy. The rivers also support activities such as fishing which I enjoyed as a child.

If you could be a river creature, which would you be and why?

I would be an Otter, with not a care in the world paddling at the surface of the water, with a supply of food and my home nearby. This is the life!

As we welcome Fionnuala to the Source to Tap team we bid a farewell to Project Officer Patrick Gallagher. Thank you for your massive contribution to the project, we wish you well in your future endeavours. In addition to this we wish our Project Officer Lyndsey well as she swaps the wellies for the bibs and the bottles. We wish you all the happiness and luck in the world on your maternity leave.

Monitoring water quality through Covid-19

Lockdown presented Source to Tap with many challenges, including how to maintain the intensive water quality monitoring programme in the Derg and Finn catchments. This was particularly important during the first lockdown period in the Spring as MCPA applications in the catchment usually start around April and we were keen not to miss these. Social distancing during the collection of the samples was not a significant challenge. Sample storage and sufficient equipment, however, were more complex issues to overcome as analysis of the samples could not happen due to the labs being closed and so a solution needed to be found.

A review of other studies indicated that freezing the water samples was the most viable solution for ensuring no MCPA degradation before the labs could reopen. However, the annual increases after the winter period from daily to 24/7 (7-hourly frequency) sampling was planned for mid-March, which coincided with the closure of the labs. With two sites, each producing 24 samples per week, and no clear idea how long lockdown might last, the 24/7 sampling frequency would have translated into a very large freezer! Additionally, we had just four sets of bottles per site (i.e. four weeks-worth at the 24/7 frequency) and no time to order more.

We therefore made the decision to continue sampling both rivers once per

resolution but gave us capacity to take and store nearly four months of samples. Another advantage of this strategy was that, instead of someone needing to change the bottles once a week, the sites only needed to be visited once every 24 days, reducing the risks from Covid 19 for all involved. And so, armed with just empty bottles and a packed lunch (to avoid local shops), sampling continued throughout the lockdown period.

Luckily, shortly after deployment of the final sets of bottles, restrictions eased and the lab staff returned. Whilst they were catching up with the frozen samples, the very warm lockdown weather proved useful in that it had lowered the rivers enough that field staff could get in to replace the gauge board (see photo) that had broken off during a winter flood. By 30th June, we had freed up enough bottles to return to 24/7 sampling and we plan on continuing to visit the sites on a weekly until December, which means we will continue at the same frequency as in previous years.



With lockdown restrictions lifted and the river low enough, we could finally fix the gauge board.

Peat, sleep, restore afforested blanket bog, re-peat



Low peat bunds being constructed to form watertight cells which will return an area of afforested peat to blanket bog.

Since Covid restrictions were relaxed in June-July 2020, a lot has been happening in the Source to Tap Peat pilot. This pilot aims to trial different restoration techniques at a formerly afforested site at Tullychurry Forest near Belleek, restoring the degraded peat back to peatbog.

The Forest Service NI site at Tullychurry has been split into 3 sections with cell bunding trialled in one section, blocking of drains at another and forestry best practice at another section. After appointing contractors, a detailed survey of the site was carried out using handheld GPS and a drone, to produce a topographic model of the site. This information helped to determine the location of the cell bunds and the drains to be blocked which will help rewet the site.

Diggers arrived on site on 22nd October to start work on the cell bunded area. In this area a trench is dug, approximately 1m deep through the damaged top layer of peat and a low bund wall made from saturated peat is built up and compressed along 4 sides to form a watertight cell. As the site contains tree stumps and brash these must be avoided when building the bund walls. Despite difficult ground conditions, approximately 24 out of 130 bunds have been completed so far. Even though the cells have only just been created the photo below shows the cells retaining water already. Once the work is completed, monitoring using shallow groundwater piezometers will be carried out on the site to compare the recovery of the water table in each of the sections.

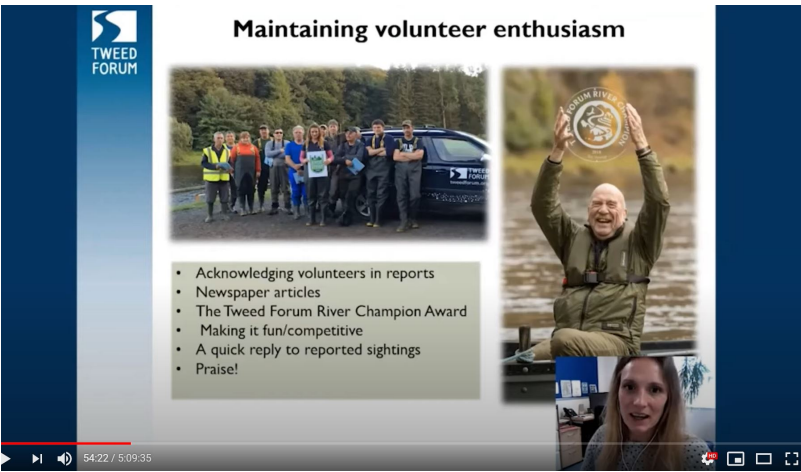


Some of the recently created cell bunds with some water in them after rainfall.

The Rivers Trust Conference Autumn 2020- Tending the Grassroots

This year, the Rivers Trust decided to embrace the opportunity of holding their first ever virtual conference and put together a programme of events specifically aimed at our on-the-ground employees, providing practical tips and sharing best practice to help other on-the-ground employees excel in their role.

The agenda included talks on Project Management and Volunteering, a panel discussion on Engaging with Farmers & Landowners, as well as some excellent external speakers discussing Equity, Diversity & Inclusion, and



Emily Iles from the Tweed Forum talking about the importance of volunteering.

To view the full conference recording - you can either watch the whole thing, or skip to the different talks by clicking the button below.

Watch the conference

Rush control demonstration events

This September we held 3 outdoor Rush Control Demonstration Events at 3 carparks throughout the Derg Catchment, Meenreagh Social Centre, Donegal; Blacktown Arms, Killen; and Garvagh Hall, Castlederg.

We publicly advertised the event in local press, radio and in local businesses, and personally invited farmers we are currently engaging with aswell as inviting new ones to attend the events.

Overall, we had 45 attendees who received information on rush control following best practice guidelines, the benefits of weed wiping instead of boom spraying and how to apply to the Land Incentive Scheme, (LIS). At each event there was a demonstration on how a weed-wiper works and the information was provided by 3 qualified weed-wiping contractors. Attendees had the opportunity to ask questions.



Attendees seeing how the weed-wiper works up close.

A flurry of activity in the farming community to support water quality

As we continue to navigate through the unknown path of Covid-19, we can offer some light and hope. If the pandemic has taught us anything it is that we have sought solace in wildlife and in the green spaces around us. It has also taught us the importance of nature, and improved access to it for people’s physical and mental health. It has taught us what is essential and what is non- essential. With that said farming was rightly recognised as a critical sector.

Pandemic or not, our farmers keep going. This has been reflected in the flurry of activity in our Source to Tap Land Incentive Scheme (LIS). With more part-time farmers at home and a good spell of weather this spring and summer a lot of great work was undertaken as part of the pilot LIS. We had lots of weed-wiping, rush topping, stock fencing and clean and dirty water separation projects completed as well as farm track improvements and solar powered troughs installed.

We hope to see the results of this great work reflected in our water quality monitoring data in terms of reductions in MCPA, colour and turbidity in the water in the next few months.

To-date 212 farm visits have been completed, with over 800 issues identified and from these over 103 farm businesses applied to the scheme. The most popular items identified in the applications were in relation to weed wiping and pesticide storage units with stock fencing coming in a close third.


At the minute we have fully committed the budget of the LIS, however future funds may become available and we encourage farmers and landowners to still contact us to arrange a farm visit. From this we can produce a Water Environment Management Plan (WEMP). Should further funds not become available a WEMP would be useful for farmers and landowners to help identify what could be done on their farm to not just protect water quality but make the farm business more sustainable and would be useful information if they wished to avail of other grant funding in the future.

We’d like to thank all of the farmers engaged in the LIS for playing their small part in helping to safeguard and improve water quality in the Derg catchment.





A 'before' and 'after' of some recent farm track improvements.


We have made the 5 units of our education programme available online with teacher notes and instructional videos. Each have been accompanied with audio notes to explain each slide.






Unit 1

Where Does Water Come From?







The Source to Tap project is supported by the European Union's INTERREG VA Programme, managed by the Special EU Programmes Body (SEUPB).

You can click the speaker symbol to hear the audio for each slide.

These topics cover:

Unit 1: Where does our water come from?

Pupils will learn about water and the water cycle and get the opportunity to create their own water cycle as a class.

Unit 2: How are our rivers formed?

In this unit pupils will learn about what a river is, how rivers are formed and the journey it makes. Pupils will also learn about catchments and about the Erne and Derg catchments that they live within.

Unit 3: What lives in our rivers?

Pupils will learn about the wildlife found in our rivers and learn about our riverbank habitats and learn about how food webs operate in these habitats.

Unit 4: How do rivers get polluted?

In this unit pupils will learn about pollution, the signs of pollution, pollution by agriculture. Pupils get to learn how to measure water quality and learn how it can affect river invertebrates.

Unit 5: How does water get from our rivers to our taps?

In this unit, pupils will gain an insight into the process of how our water is treated before it can be sent to our taps for drinking. The pupils will make their own Water Treatment Plant enabling them to see how water is treated before it is safe to drink.

In addition to this we will be offering virtual lessons via Zoom or similar technology.
You can book a virtual visit by emailing info@sourcetotap.eu

Press for school resources

circumstances of the COVID-19 restrictions, the fitting of mechanisms was initially delayed due to lockdown and some mechanisms could not be fitted until after the sites were harvested. However, despite this, there are now seven sites, which have been fitted with various measures to reduce sediment run-off from clear fell forestry sites. The aim of the forestry pilot is to trial various sediment reduction measures constructed using easily available, inexpensive materials, which could be used in addition to current forestry best practice to reduce sediment getting into watercourses. Measures fitted as part of the 2020 pilot include:

- Two sets of longitudinal log dams – one in a large stream and one in a large forestry drain. These types of dams are regularly used by forestry contractors to prevent erosion when plant is crossing rivers and the same approach is being tested to see how well it works in slowing the flow and allowing sediment to settle out in larger forest drains and rivers next to felled sites.



Log dam on a stream draining a Forest Service NI compartment.

- Brash dams and timber dams– in smaller drains that collect drainage from felled compartments



Brash dam in a small drain, draining a Forest Service NI compartment.



Timber dam in a small drain, draining a Forest Service NI compartment.

- Geotextile dams placed in a series of 2 dams along a small watercourse draining a forestry compartment, to slow the flow and allow the sediment to settle out. This follows on from the excellent results obtained at the pilot site in 2019 site where four geotextile dams were installed in series along a watercourse



A geotextile dam installed along a watercourse draining a Coillte site.

The photographs below show a cover crop installed at a Coillte site in 2020. This is a follow on from the learning in the 2019 cover crop pilot planted at a Forest Service site. This differs slightly because both sides of the stream running through the felled compartment have been planted with a cover crop, which is a mixture of native grasses (Yorkshire Fog, Highland Bent and Hard Fescue). The aim of the cover crop is to prevent the loss of soil from the freshly harvested compartment by binding the soil together.



Area where no cover crop has been sown.

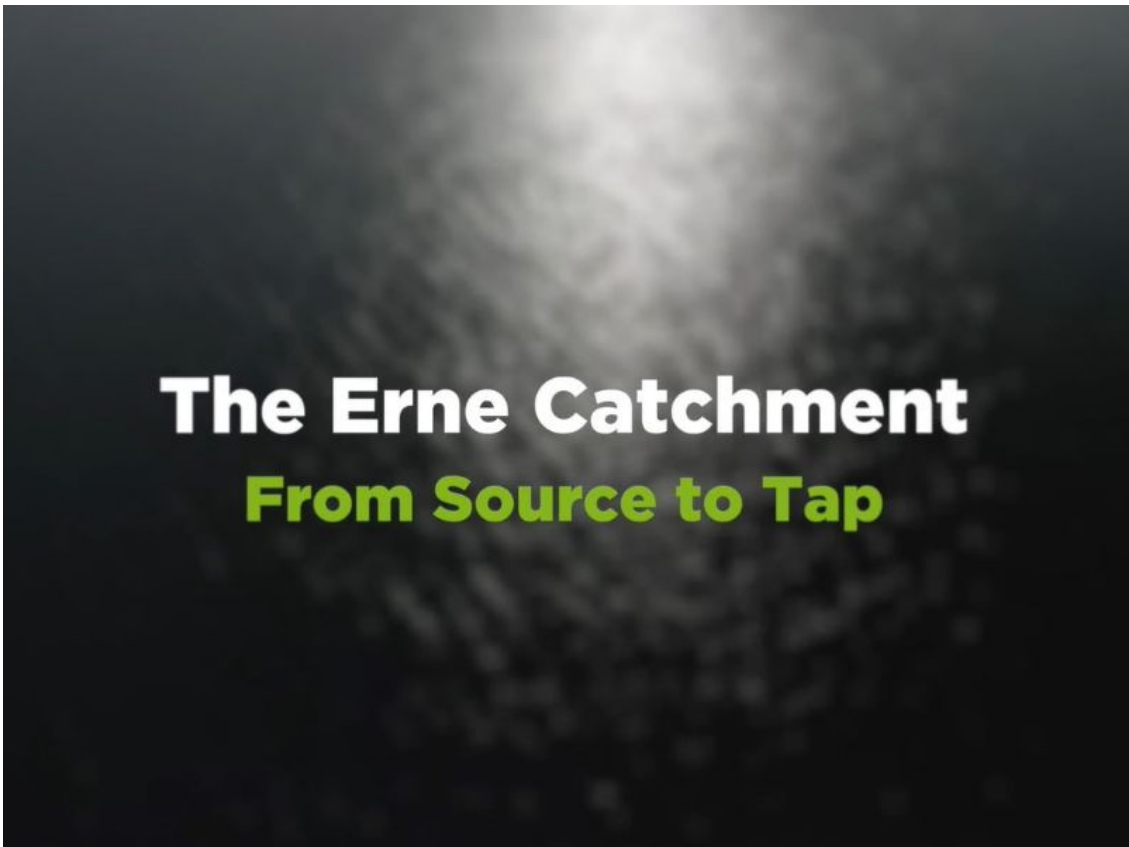


Area where cover crop has been sown showing growth 7 weeks later.

All measures were fitted by September 2020 and will be monitored on a monthly basis until March 2021 when results will be collated and analysed for reporting.

Drone videos of the Derg and Erne

To help us explain the Source to Tap story in each catchment we recently commissioned the production of two drone videos telling the story of water in the Erne and Derg catchments as it travels from Source to the Tap and the pressures it is under.





Our funders

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Our Partners



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