



Summer 2020 Newsletter - Issue #5

Message from the Sullied Sediments Project Lead

From Jeanette Rotchell, Professor of Aquatic Toxicology, University of Hull

As we are all learning to adapt to the Covid-19 'new normal', I am pleased to report that the Sullied Sediments partners are resuming some of the activities that were suspended four months ago, albeit with changes to ensure that we are prioritising safety and wellbeing. A project extension granted by the Joint Secretariat in June has enabled us do this and we are now focused on completing our work by 31 December 2020.

Better Assessment

At the University of Hull, I have been able to re-open my lab so we are now building on the analysis of Watch List chemicals (WLC) in sediment completed earlier in year and performing sample extractions. The results of this analysis have been added to a massive database that we have been compiling over the past three years. More information about this database follows in the next section.

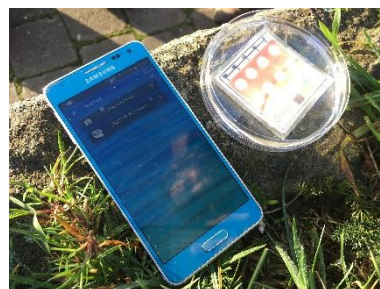
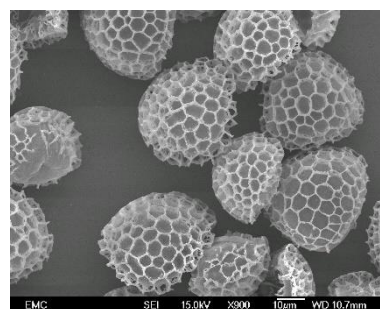
Better Treatment

Now that lab work has resumed, we are also analysing the real-world sewage trial samples with the sporopollenin capsules, as well as the organismal uptake work as part of a bioavailability study.

Better Prevention

Our partner, VMM (Flanders Environment Agency), has re-organised the RiverDip volunteer training workshop that was planned for March. This workshop will now take place on Monday, 12 October 2020, at 13:30 in Ghent, Belgium. Information about this workshop follows on page 4.

We are also resuming the production of a training video and guide, which had to be put on hold. These resources will be used to recruit and train volunteers and we plan on having them ready for October to give out at VMM's workshop and



to distribute to other organisations and groups who have already expressed interest in getting involved in the RiverDip programme.

In addition to this, our colleagues at the Hamburg University of Applied Sciences and Radboud University are exploring how they can share their research outputs with stakeholders, for example by using a webinar format or interactive websites. We are also planning an online showcase event that will enable us to share the project results in November. Details of these events will be announced in future editions of our newsletter and on our web space in the coming weeks.

Although many of our dissemination plans for this spring and summer have been disrupted by Covid-19, we have pulled together as a partnership to plan how we can deliver them differently, and possibly better. Using technology will give us the ability to reach more people, which in turn will hopefully allow us to create more impact through our project.



Project Outputs

The Sullied Sediments partners report regularly on a set of five outputs. How well we achieve against the targets for these outputs by the end of the project is a key measure of our collective success. We recently took stock of our progress and would like to share the results, which cover the period January 2017 through to September 2019.

<i>Number of sites managed using new solutions supporting long-term sustainability</i>	1 (target 6)
<i>Number of enterprises participating in cross-border, transnational or interregional research projects</i>	26 (target 6)
<i>Number of research institutions participating in cross-border, transnational or interregional research projects</i>	22 (target 6)
<i>Number of organizations/enterprises adopting new solutions by project end</i>	2 (target 4)
<i>Number of organizations/ enterprises informed about new solutions by project end</i>	36 (target 50)

We will continue to report on these outputs through to the end of the project. Based on this summary, we are on track to meet, if not exceed, them all.

Catchment Profiles and Sampling Database

The Sullied Sediments partnership is active in three river catchments in the North Sea Region: the Elbe, Humber and Scheldt. Over the next three issues, we will present overviews of these catchments to reflect the diversity and complexity of the water environment within the North Sea Region and to show the scale at which we are working. The map below identifies where the catchments are located.



Within each catchment, there are three red circles: these circles represent the nine sites where the sediment samples have been collected for analysis in the Better Assessment work package. Since 2017, our partners have carried out six rounds of sampling at these sites. Rarely has such an extensive study been undertaken. This activity has produced 54 sets of consistent data, containing information on chemical and biological quality, which is enabling us to look at regional, seasonal and geological differences in these watersheds, and to identify the stresses that we, as humans, expose our environment to. This database will provide water managers and regulators with new data that will be invaluable for decision making around water quality and sediment management.

A Profile of the Scheldt Catchment

By Lieven Bervoets and Hanne Hetjens, University of Antwerp

Its first 174km, from its spring up to the city of Ghent in Flanders, belong to the sub-catchment of the Upper Scheldt that is approximately 6000 km², of which 50 km² and 576 km², respectively, are situated in Flanders. Natural river areas remain only in the southern part and 82% of the water bodies within the catchment area are characterised as moderate to poor in terms of hydromorphology. Today, in total, about 60km of all watercourses in

the Scheldt catchment are used for navigation purposes and ships up to 1.350 tonnes (from the Walloon-Flemish boarder to Asper) and up to 2000 tonnes (from Asper to Gent) can navigate on the Upper Scheldt.

Only about 3.5% of the Flemish population, or approximately 216,000 residents, live in the Upper Scheldt. The open space in this sub-catchment is mainly dominated by agriculture and horticulture (67%) as well as grasslands (32%).

As the river is mainly fed by rain water and often affected by water overload in the lower regions, 34 dam installations and sluices have been constructed to regulate water levels throughout the year.

Despite slight improvements in recent years, mainly due to better regulation and improved waste water treatment, 73% of the water system is in poor ecological and chemical condition.

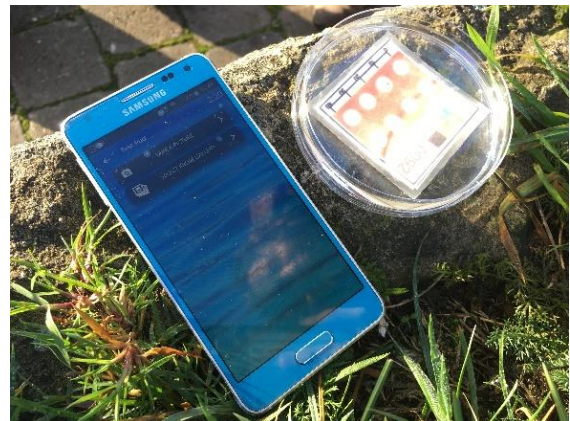


In the next issue, we will feature a profile of the Humber river basin district.



RiverDip Volunteer Workshops Resume in October

Our partner, VMM (The Flemish Environment Agency), has organised a workshop called "Use of the RiverDip app for determining phosphate" on Monday, 12 October 2020, from 13:30 to 16:30 in Ghent, Belgium. During the event, volunteers will receive an overview of the Sullied Sediments project, learn about phosphate in the Scheldt catchment and find out how to use the RiverDip 'dipstick' and app so that they can take phosphate measurements from their local waterway.



Mark Lorch, who leads the Better Prevention work package, will be delivering the workshop (in English). Registration is free but please note that attendance will be limited to 35.

For more information about the event, please visit our website:

<https://northsearegion.eu/sullied-sediments/events/sullied-sediments-riverdip-volunteer-training-workshop/>

And for a full description of our RiverDip volunteer programme, please visit our blog:

<https://wordpress.com/post/sulliedsediments.wordpress.com/490>

Addressing Change in the North Sea Region: Interreg North Sea Region Programme Annual Report Summary 2019

We were delighted to be featured in the Interreg North Sea Region Programme's 2019 Annual Report Summary, which was published in June 2020.

The article highlights the sampling campaign and database described above. It also refers to the tools that our partners are developing, including the innovative OMEGA framework, which was launched last year by Radboud University.

This tool shows how we can better manage the relationships between chemical, toxicological and ecological indicators while monitoring sediment quality. It is intended to be used by water managers to better understand both the causes and significance of the effects of pollution when they are undertaking environmental assessments.



In addition, our communication achievements in 2019 – which have been reported in the past two newsletters – were acknowledged with references to the publicity generated by the American Chemical Society's interest in the Better Treatment work package as well as the BBC's coverage of the RiverDip volunteer programme on regional television.

The Annual Report Summary and the full article on our project can be viewed here:
<https://northsearegion.eu/media/13836/citizen-summary-2019-28may2020.pdf>



Communications Update

With the delays caused by Covid-19 and the extension to our project, we have revised the publication schedule for our newsletter. Subsequent editions will be issued in September and November 2020 and then after we complete the project in early 2021.

This month, we have also refreshed our web space and blog so why not visit us online and find out more about our project at:

Web space: <http://northsearegion.eu/sullied-sediments>

Blog: <https://sulliedsediments.wordpress.com/>

Twitter: @SulliedSediment

NuReDrain Plans Three Webinars this Autumn

Our linked Interreg North Sea Region project, NuReDrain, is planning three webinars this autumn. Their project partnership will use these webinars to present their research results and provide more information about the filter systems that they have developed.

The webinars take place on three consecutive Fridays on the following dates:

18 September	Filter technologies for Phosphorus removal
25 September	Phosphorus recovery and nutrient removal modelling
2 October	Filter technologies for nitrogen removal



NuReDrain will confirm the final programme in August. For updates on the webinars, general news about the project or to sign up to the NuReDrain newsletter, please visit their web space at:

<https://northsearegion.eu/nuredrain/news/>



Sullied Sediments Partnership

Project Beneficiaries

Canal and River Trust
Ecoffa
East Riding of Yorkshire Council
Hamburg Port Authority
Hamburg University of Applied Sciences
Institut Dr Nowak
OVAM
Radboud University
Socotec UK
University of Antwerp
University of Hull
University of Leeds
VMM (Flanders Environment Agency)

Advisory Partners

East and North Yorkshire Waterways Partnership
Elbe Habitat Foundation
Environment Agency
Federal Institute of Hydrology
Foundation for Applied Water Research
Hamburg Ministry of the Environment and Energy
Northumbrian Water
River Hull Board
SedNet
Thames Water
Vlakwa
Yorkshire Water

For more information about the project, please contact our Project Coordinator, Annabel Hanson, at sullied.sediments@eastriding.gov.uk.

The Sullied Sediments project has been co-funded by the European Regional Development Fund through the Interreg VB North Sea Region Programme and is being delivered by the project beneficiaries listed above, who are based in the UK, Germany, Belgium and the Netherlands. Our advisory partners provide technical knowledge and expertise at annual and catchment meetings and on specific tasks. We are grateful for their ongoing input.