

Sullied Sediments:

Sediment Assessment and Clean Up Pilots in Inland Waterways in the North Sea Region



Interreg
North Sea Region
Sullied Sediments

European Regional Development Fund



EUROPEAN UNION

Project Overview

Better Assessment, Better Treatment, Better Prevention



Many of the inland waterways in Europe are under threat due to the introduction of Watch List chemicals that are not currently regulated under the European Water Framework Directive. These chemicals are introduced into our waterways as a result of our day-to-day activities and through industry, and many have been shown to be harmful to the aquatic environment. Regardless of the source, they accumulate in the sediments in our rivers and canals.

Water regulators and managing authorities do not always know the levels, locations or impacts of these emerging pollutants. Nor do they have the tools to assess sediments confidently and make informed decisions

about their management. An interdisciplinary partnership of scientific experts, regulators and water managers, led by the University of Hull (UK), is developing and testing new tools and methods that will help them to overcome these challenges.

Through the implementation of these new tools and methods, the 'Sullied Sediments' project aims to empower water sector partners across the North Sea Region (NSR) to make better decisions with regard to the management, removal and disposal of sediments, thereby reducing economic costs to private and public sector organisations, and the impact of these pollutants on the environment.

We are also striving to reduce



the amount of unwanted chemicals entering the water system by raising awareness about what we, as consumers, are releasing into the environment through the use of common drugs and household products. This will include the involvement



of volunteers in a sediment sampling initiative across the region, which will inform and empower them as local water stewards.

'Sullied Sediments' has been co-funded by the European Regional Development Fund through the Interreg VB North Sea Region Programme with matched funding from the 13 partners involved.

➤ The Impact of our Project

The success of the 'Sullied Sediments' project will be based on its impact in the real world. In order to quantify this impact, the project partnership has identified three outcomes, or results, that we are working towards achieving. At the end of the project, we will report on how well we have delivered on these results to our funder.

Below is a table that states what our target results are and sets out how we will go about accomplishing them:

Result 1	Objective
10% reduction in the economic costs of dredged material management options in pilot sites. In the short term, this can be achieved by decreasing uncertainty in decision making on contaminated sediments.	Detect, measure and map selected Watch List chemicals in three NSR river catchments (sites have been selected to ensure different watercourse types and contamination issues are represented). Augment these chemical data with the biological effects and socio-economic impacts through an integrated approach that reduces uncertainty and risk for managers of sediments and waterways.
Result 2	Objective
25% reduction in the level of selected toxic Watch List chemicals from treated waste water entering the target watercourses in 2019 through a clean-up pilot compared to baseline levels determined at the project start.	Through an environmentally friendly approach, remove selected Watch List chemicals using derived sporopollenin exine capsules (SpECs) in the lab and then at selected wastewater treatment plants. Calculate the cost-benefit of recycling the removed chemicals in collaboration with another Sustainable NSR-funded project, NuReDrain, which is developing filtration systems for nutrient recovery from agricultural waters. Carry out an activity on 'end-of-waste' assessment for sediments.
Result 3	Objective
20% reduction in the level of selected toxic Watch List chemicals at waste water treatment plant inflows at selected sites through influencing citizen behaviour and consumer choices by the end of the project compared to baseline levels determined at the project start.	Map the presence of key Watch List chemicals in the catchment areas by involving citizens in a field sampling campaign, and drive a reduction in the usage of these chemicals and their arrival at waste water treatment plants through a parallel, targeted communications campaign with support from water companies

➤ Project Outputs

In addition to the project-level results, the 'Sullied Sediments' partnership hopes to have achieved the following outputs by the end of the project:

- 9** Sites will be managed using new solutions supporting long-term sustainability.
- 6** Enterprises will have participated in cross-border, transnational or interregional research projects.
- 6** Research institutions will have participated in cross-border, transnational or interregional research projects.
- 4** Organisations/enterprises will have adopted new solutions.
- 50** Organisations/enterprises will have been informed about the new solutions generated by the project.

➤ 'Sullied Sediments' Partnership

At the kick-off meeting in Amsterdam in January 2017, our project lead, Professor Jeanette Rotchell from the University of Hull, led partners through an exercise to agree a set of core values for the project. **Our core values are:**

- ▶ Transparency and accountability
- ▶ Awareness and respect for other partners
- ▶ Connectivity and transnational cooperation
- ▶ Informed curiosity and wider project perspective
- ▶ Goal-oriented and focused on milestones
- ▶ Positivity and fun
- ▶ Trust and integrity

The project beneficiaries (i.e. partners with budgets) include:



Canal and River Trust (UK)



Ecosa (Germany)



East Riding of Yorkshire Council (UK)



Hamburg Port Authority (Germany)



Hamburg University of Applied Sciences (Germany)



Institut Dr Nowak (Germany)



OVAM (Belgium)



Radboud University (The Netherlands)



Socotec UK (UK)



University of Antwerp (Belgium)



University of Hull (UK)



University of Leeds (UK)

FLANDERS ENVIRONMENT AGENCY



VMM (Belgium)

The project is also supported with advice, technical expertise and contacts provided by strategic partners who have been carefully selected to form our Advisory Group. **They include:**

- East and North Yorkshire Waterways Partnership (UK)
- Elbe Habitat Foundation (Germany)
- Environment Agency (UK)
- Federal Institute of Hydrology (Germany)
- Foundation for Applied Water Research (The Netherlands)
- Hamburg Ministry of the Environment and Energy (Germany)
- Northumbrian Water (UK)
- River Hull Board (UK)
- Sediment European Network Steering Group (European)
- Thames Water (UK)
- Vlakwa (Belgium)
- Yorkshire Water (UK)

> Stay Informed

We use a number of platforms to communicate about our project and partners including our website, Twitter feed and blog. To stay informed, please choose your preferred platform:



Visit our webpage: www.northsearegion.eu/sullied-sediments



Follow us on Twitter: @SulliedSediment



Join our blog: www.sulliedsediments.wordpress.com/

If you would like to subscribe to our newsletter, please contact the Project Coordinator at sullied.sediments@eastriding.gov.uk.

> Contact

The 'Sullied Sediments' project is managed by an executive project team comprising:



Project Lead - Professor Jeanette Rotchell

University of Hull - J.Rotchell@hull.ac.uk - +44 (0)1482 465333



Deputy Project Lead - Dr Andrew Boa

University of Hull - a.n.boa@hull.ac.uk - +44 (0) 1482 465022



Funding and Technical Advisor - Claire Watts

East Riding of Yorkshire Council - claire.watts@eastriding.gov.uk - +44 (0)1482 391618



Project Coordinator - Annabel Hanson

East and North Yorkshire Waterways Partnership c/o East Riding of Yorkshire Council
annabel.hanson@eastriding.gov.uk - +44 (0)1482 391678

If you would like more information about the project, please contact the Project Coordinator via email at sullied.sediments@eastriding.gov.uk in the first instance.

> Our Funder

Interreg North Sea Region (NSR) Programme

What can be done to stimulate sustainable, economic growth? How must society adjust to climate change? Are there ways to clean up our environment and manage resources more wisely?

The Interreg NSR programme is tackling these important questions. Through its support, the programme aims to support development and foster sustained economic growth across the region. They help enterprises, institutions, public administrations, NGOs and others to pool their expertise, share their experience and cooperate to develop realistic solutions to problems shared by organisations across the region.

> Sustainable NSR

The Interreg NSR programme provides funding and support in four thematic areas:



1. Thinking growth



3. Sustainable North Sea Region



2. Eco-innovation



4. Green transport and mobility

The 'Sullied Sediments' project has been co-funded under the third theme, Sustainable NSR. This theme is underpinned by two main objectives, which are **i)** to promote climate change adaptation, risk prevention and management and **ii)** to preserve and protect the environment and promote resource efficiency. Our project contributes to the latter through the development of new methods for the long-term sustainable management of North Sea ecosystems.

For more information about the Interreg NSR programme, visit their website:



www.northsearegion.eu/



Or follow their blog: www.northseablog.eu/



Acknowledgments

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