



Brightlingsea  
Harbour  
Commissioners

## International webinar Platform Baggernet 'Sediment as a resource' & final symposium of Interreg project 'Using Sediment As a Resource'

In cooperation with Dutch Regional Water Authority of Schieland and the Krimpenerwaard and international partners – October 8<sup>th</sup> 2020

'Using Sediment As a Resource' was the theme of Platform Baggernet's international webinar, which took place on Thursday October 8<sup>th</sup> 2020. The webinar was combined with the final symposium of the Interreg-project 'Using Sediment As a Resource' (USAR). In light of the COVID-19 pandemic the planned Baggernet/USAR conference in March 2020 unfortunately had to be cancelled. Instead, a webinar was organized.

The central focus of the webinar was sharing results of the USAR project, in which the Regional Water Authority of Schieland and the Krimpenerwaard (NL), Flemish Waterway (BE), ARMINES Research Centre (FR), Westcountry Rivers Trust (UK) and Brightlingsea Harbour Commissioners (UK) participate. The USAR partners identified, demonstrated, and tested new methods, and developed business models and tools that water managers need to apply this circular approach in practice.

### Opening

The webinar started with an interview with Agnes van Zoelen (board member) and Guido Verweij (project manager) of the Dutch Regional Water Authority of Schieland and the Krimpenerwaard, led by the chairman of Platform Baggernet: Paul Spaan. In this interview they commented on the status of the USAR project, their most important learning points and on matters that still need improvement regarding the concept Sediment as a Resource. Agnes stated for instance: 'our current legislation does not yet meet our current situation', which is an important aspect in enabling circularity in sediment management. They concluded with the following advice regarding the use of dredging as a resource for the audience: share knowledge and experiences with each other, work together, and just start!

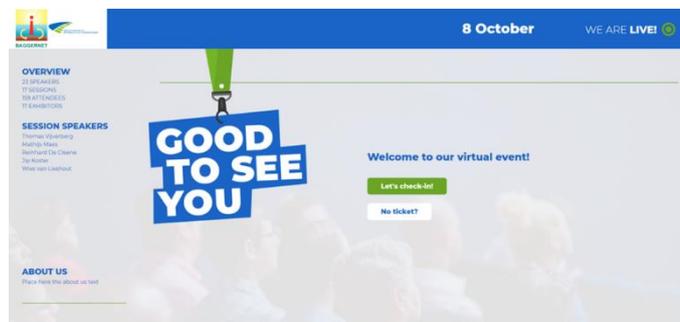


Figure 1 Welcome screen of webinar software by EventInsight ©

### Presentation WikiSed & Operational Sediment Management System

Two important outputs of the USAR project are WikiSed and Operational Sediment Management System. These software programs were first presented by Mahfoud Benzerzour and his coworkers, and later in the webinar also demonstrated in one of the workshops.

WikiSed is a free inventory catalogue, in which all documents about sediments are gathered. This numerical library platform is exclusively dedicated to sediments and their application, from treatment to its use as

resource. The name WikiSed has been chosen because everyone can add documents about sediments themselves. Before the documents become available online, they are validated by a scientific committee. The application is now available online via <http://wikised.phenixmat.com/>.

Mahfoud continued with an explanation of the difficulties in turning sediment, which is often still seen as waste, into new materials and products. The Operational Sediment Managements System (OSMS) aims to provide a solution to this problem. It is a numerical tool for water managers to make business cases and management decisions regarding the recycling of sediment. The purpose of the OSMS software is to propose an optimal solution that meets the different technical and environmental requirements at a lower cost.

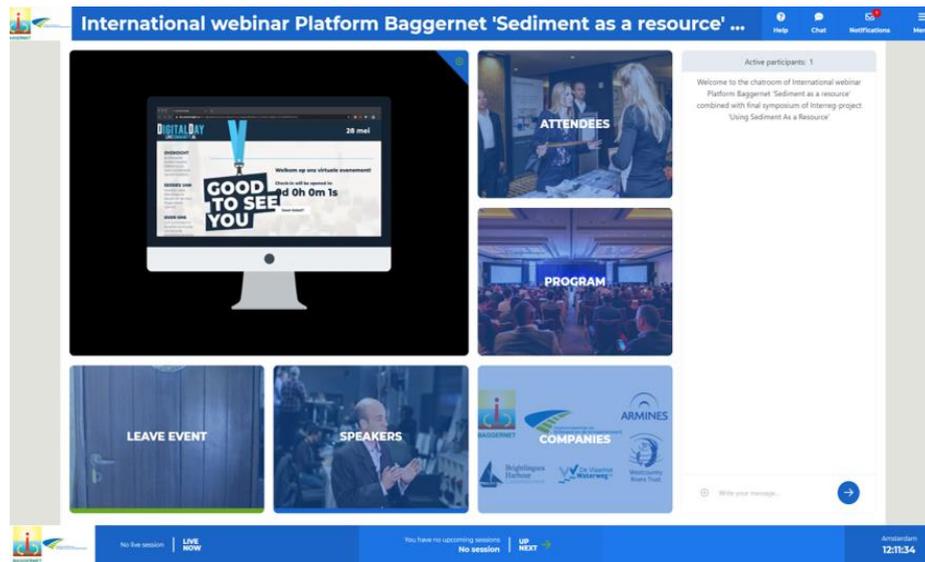


Figure 2 Virtual lobby including individual chatting possibilities with other attendees (EventInsight ©)

### Presentation Building with Nature

In one of the presentations William Coulet talked about the pilot project on Brightlingsea Harbour, situated on the Colne Estuary in Essex, UK. A video was shown with an overview of the project, presenting the outcomes and challenges. In this USAR project 35,000 cubic metres of sediment has been dredged from navigational channels in the harbour to maintain safe navigation. This sediment has been used to restore 3 hectares of saltmarsh, which had been lost due to erosion. The pilot project proved that waste sediment is suitable for habitat restoration. A big challenge during this nature-based project were the licences and permits, which requires attention in the future also. William ended the presentation with an invitation to the audience to visit the harbour, after the COVID-19 crisis, to learn more about the use of sediment as a resource.

### Presentation Recycling strategies for sediment

Simon Browning of Westcountry Rivers Trust focused in his presentation on the origin of sediment in waterways. The main purpose, he said, is to avoid sediment getting into waterways in the first place. This is especially true for polluted sediment. His advice to viewers was to use the online 'SCIMAP Diffuse Pollution Risk Mapping Tool', an online tool that can be used in all catchment areas to predict sediment erosion risk. The tool has been developed in another Interreg-project, by (amongst other parties) Durham University. Simon showed calculations for different land usages: agriculture, highways etc. The question that follows is how to avoid polluted runoff and/or fix problems that result from polluted runoff, in order to keep sediment as clean as possible.

### Presentation Beneficial use of contaminated sediment in embankment construction

Hans Stragier (The Flemish Waterway), Reinhard De Cleene (DEC) and Mathijs Maes (THV Ghent Dredging) gave a presentation about one of the USAR pilot projects: the Durme Valley project, led by the Flemish Waterway. In

this project sediment from the river Durme will be used for the renovation of flood area alongside the Durme. Furthermore, freshwater mud flats and marshes on the riverbanks will be restored. The project is now in the end of the design phase. The main objective of the design was to find a solution to make the polluted dredge sediment suitable for the construction of embankments. An important question was, which treatment could best be used.

### Subsession Innovation in Using Sediment As a Resource

William Coulet, hosted one of the workshops and opened his session with the question: What do we classify as innovation? After a short introduction, this question was addressed in the four presentations that followed on innovations in the reuse of dredged sediment. Each presentation was followed by several statements to which the audience could respond. The first speaker was Wies van Lieshout, co-founder of the start-up Waterweg. Waterweg develops tiles from the residual sediment of rivers and canals. Their goal is to develop a tile that allows water to pass through. In this they want to offer a climate adaptive solution to the problems of poor drainage and water nuisance in cities. The second speaker was Thomas Vijverberg from Boskalis, who presented the Marker Wadden project. In this project, natural islands are constructed with sand, clay, and silt from the Markermeer. On this new group of islands with natural banks, new nature is being developed for fish and birds as well as recreation. Innovative aspects of this project are that improvement of ecology was the main driver and that the islands are built with sediment of the lake itself, Thomas explained. The third presentation was about the clay ripening depot in Eems Dollard and was given by Luca Sittoni from Deltares. In this pilot project various ways of transforming silt into clay are investigated. Finally, a presentation was given by Jaap Flikweert from Royal HaskoningDHV, about the Bacton to Walcott sandscaping scheme. For this project Royal HaskoningDHV has adapted the Dutch 'Sand Engine' concept, an example of Building with Nature. In this scheme 1.5 million cubic metres of sand will be placed along the coast to protect a 5km stretch of the UK's east coast including the nationally critical Bacton Gas Terminal. After his presentation, Jaap discussed the use of innovative approaches for a topic as critical as coastal defence with the audience. The session ended with a call to the public: Lets innovate together to create a sustainable future!

### Subsession Circular economy: governance aspects

The workshop led by Yill Vogelesang-Havers was held in Dutch, because it was focused on the governance challenges and aspects of using sediment as a resource in The Netherlands. The session started with a presentation by Fred de Haan, project manager at Waternet. Together with Jip Koster (NETICS) he presented how Dutch regional water authorities are working together with STOWA to develop a model to compare dredging techniques and destinations of the dredged material. The model facilitates board members in making choices on a dredging project by presenting a 'sustainability label' for the project. In the second presentation Shakti Lieten (Witteveen+Bos) and Joyce Zuijdarn (Rijkswaterstaat) noted there seems to be a high potential to reuse sediment. A virtual market place in which supply and demand is more aligned can be helpful to bring this potential to practice. The extent to which the chemical composition of sediment should be an exclusion criterium on this market place is an important point of interest, and was also part of the discussion with the audience. The last presentation was held by Robert Pol on behalf of Van Aalsburg. He presented how they created artificial islands that are filled with sediment from the waterway itself. These laying fields contributed greatly to ecology and nature goals in the area. The subsession was concluded with polls for the audience to fill in, amongst other things concerning the cost and benefit of sustainable sediment management.

De kosten van de baggerketen blijken vaak belangrijkst te zijn bij de keuze van een baggerketen. Wat mag volgens u duurzaamheid kosten in de baggerketen?



### **Conclusion of the event and video registration**

Paul Spaan concluded the event by thanking all speakers, participants and organisers for their contribution to make the webinar a success. He announced that Baggernet will organise a next conference (on- or offline) in the spring of 2021, on the topic of environmentally friendly dredging materials.

*Most presentations and subsessions can be viewed online via the Youtube-links below (in blue).*

*Also, a 60-minute video registration / summary of the webinar was made. This will be available from Thursday October 22<sup>nd</sup> at 12.00PM CEST. See also the Youtube-links below (in orange).*

### **Full length videos of webinar:**

*Opening of the program: <https://youtu.be/U9eZxPCYYCE>*

*Presentation 1A / 2A by Westcountry Rivers Trust: <https://youtu.be/bDUF6qeV9XQ/>  
<https://youtu.be/kX0c1Rqdqq4>*

*Presentation 1B / 2B by Brightlingsea Harbour Commissioners: <https://youtu.be/bC4qR8X4was/>  
<https://youtu.be/MWQWRG76AD0>*

*Presentation 1C by Armines Research Centre: <https://youtu.be/E0tRPEW4xc>*

*Presentation 1D by De Vlaamse Waterweg: [https://youtu.be/tBJONXv6r\\_s](https://youtu.be/tBJONXv6r_s)*

*Subsession 1 'Innovations in using sediment as a resource': [https://youtu.be/\\_9wfwA\\_OTA](https://youtu.be/_9wfwA_OTA)*

*Subsession 3 'Governance aspects of taking the next step': <https://youtu.be/H0NuTkuKyys> (in Dutch)*

*Closing of the program: <https://youtu.be/pIYPHeFsBs8>*

### **Video registration / summary of the webinar:**

*Trailer of video registration (40 sec.): [https://youtu.be/\\_uH3xDV7Qzo](https://youtu.be/_uH3xDV7Qzo)*

*Video registration (1 hour): <https://youtu.be/p1f6BSVMx3E> (available from Thursday October 22<sup>nd</sup> at 12.00PM)*