



Short recap

The workshop was partly combined with the SedNet sediment quality workgroup meeting. This summary includes the joined session discussions.

How can we enhance sediment risk assessment, and what strategies can we adopt for future sediment use if EQS standards become stricter?

Carmen Casado from the Ecotox Centre in Switzerland explained how the Environmental Quality Standard (EQS) for TBT in sediments within the Water Framework Directive (WFD) was derived. Maja Karrasch from the Hamburg Port Authority explained the observed trends in TBT concentrations in both the port sediments, at the sediment reallocation site and at the reference sites in the North Sea. Julia Gebert from the TU Delft concluded the session with an assessment of the TBT leaching from a sediment application site.

Bringing together the scientific background on how standards are derived and what their practical implementation means for sediment managers is the main reason to have this joined workshop. The presentations with detailed information will be uploaded to the SedNet website.

In short, the discussion was that:

- Yes, the motivation to set a TBT EQS standard in sediment was justified. There are observed ecotoxicological impacts at TBT water concentrations below the reporting limit of some of the EU member states.
- No, the implementation in a total sediment TBT EQS concentration is too rigid. The observed impacts in bioassays show a declining trend and leachability (and therefore the ecological risk) of TBT leaching declined strongly over time.

The takeaway message is that (sediment) standards are needed, but also need to be permanently updated with insights based on the observed effects. In this regard the Beneficial Use (BU) of sediments is challenging, since rigid standards can restrict the use of sediments with low risks, while a local effect assessment means that the application of sediment with TBT can differ as function of the type of application, sediment properties and local conditions at the application site.

The exploration of other emerging substances in sediments, particularly those associated with the energy transition. Susanne Heise gave an overview on what is known about emerging substances in relation to the energy transition. A group of elements which are widely used in the energy transition are the rare earth elements. But also, alkali metals like Lithium (Li) are used. Their behaviour in interaction with organisms is different, and research on the potential impact on both the environment and human health is still in its infancy. By accelerating the research on the potential impacts, we can still influence the way in which those elements are released to the environment.

Arjan Wijdeveld discussed the different legal frameworks for water and sediment quality in the USA and EU. What we can learn in Europe from the USA legislation is to hold the polluter responsible for the cost of clean-up of sediment. While in the EU, the advantage is that the water framework directive takes a more holistic approach on the overall state and improvement of the water body health. There is not one simple solution, like the struggle many EU countries now have with PFAS as an emerging substance (not associated with the energy transition).

What SedNet can do is help with the development of a broad set of tools to evaluate BU of sediments. The SedNet conference paper "Beneficial use of sediments, tools, pilot sites and measuring techniques developed and used within seven European Union INTERREG projects" demonstrated the development and use of some of those tools and was recently published in JSS (<https://rdcu.be/dJbaS>).

Actions

Combining multiple SedNet workgroups in a joined meeting is something to repeat. There are cross-cutting issues and lessons to be learned. We have not set a date for a new combined meeting, but the SedNet 2025 conference is a good platform.

From the CE workgroup, we will support the CEDA website on case studies on beneficial use of sediments (<https://dredging.org/resources/ceda-publications-online/beneficial-use-of-sediments-case-studies>) as a platform to share knowledge gained from BU.

While publication is up to members, we encourage CE workgroup partners to publish their findings in scientific journals.

We will try to hold the next meeting (in 2026) in Italy to have a balanced view of CE of sediments in Europe.