

# Intensive historical evaluation and sampling campaigns to validate potential sediment contamination hotspots related with (former) risk activities)

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**Introduction:** OVAM is actively involved in the development of a pragmatic sediment contamination policy based on source control. A methodology has been developed to identify sites with a high potential for causing sediment contamination based on (former) risk activities carried out.

**Methods:** In a first phase, a desk study was carried out. Based on previous research, emission figures and expert judgement, a list of (former) risk activities with a high potential for causing sediment contamination was drawn up. The study revealed the (former) industrial activities with the highest potential to cause sediment contamination.

This list of activities was combined with data from the regional soil register with information on which activities were carried out on which sites. This knowledge was translated in a phased selection approach in order to be able to select sites for sampling and to validate the identification method. The available data and criteria make it possible to prioritise potential hotspots or potentially degraded waterways in several ways: intrinsic (a gas plant always above a paper mill), historical (brownfields), size (large industrial sites), number of potentially polluting activities along the waterway, etc. The suspected sites and waterways were classified in to different scores.

In a second phase, historical evaluation and sampling campaigns were carried out to verify the results of the desk study and to evaluate and refine the different prioritisation methods. This validation of potential hotspot risk activities was carried out on more than 200 sites. In this step-by-step approach, an intensive historical desk study is combined with sampling in the field.

**Results:** The desk study and the validation study will provide insight into the impact of sediment contamination in Flanders and will help determine a policy strategy for contaminated sediments.

**Discussion:** Prioritising the sites based on scores makes it easy to identify top priorities and allows policy makers and decision-makers to consider aspects such as work load, budget and planning.

Because the method results in a geographical database, the information can be linked easily to other databases. For example, we can integrate our 'hotspots' in the sediment monitoring network and dredging database of the Flemish Environmental Agency (VMM). Conversely, our method can be verified and calibrated using the practical data of VMM.

The presentation provides insight in the methodology, the desk study, the priority criteria and the results of the intensive validation campaigns.