

Erosion modelling towards, and sediment transport modelling in unnavigable watercourses in Flanders, Belgium

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Abstract Antea Group and KULeuven were awarded a project in Flanders to identify the regions exporting high sediment loads to unnavigable watercourses and the sedimentation zones within them. Two types of models are applied: hydrological sediment export models (SEM) and hydraulic sediment transport models (STM). The influence of erosion control measures on sediment export as well as river engineering measures needs to be taken into account. A concept will be developed to connect the SEM and STM, enabling the sediment to be routed from upstream to the sedimentation zones. Results of the study will be used by the Flemish government to plan erosion control measures, estimate future sedimentation volumes, steer sedimentation and optimize river engineering and dredging works. Finally, model results could also be used to obtain better insights to the re-suspension risks of contaminated sediment in watercourses.

Key words sediment transport; erosion; sedimentation; hydrological model; hydraulic model; erosion control measures