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Preventing land subsidence with waste products and sediments

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ABSTRACT

As part of the European Interreg IVA funded project 'Using sediment as a resource' USAR, The Regional Water Authority of Schieland and Krimpenerwaard (HHSK), The Netherlands will execute a pilot in which locally dredged sediment of high-organic composition will be upcycled, by blending it with other local waste products, e.g. green waste, animal manure and water purification deposits. This transforms the sediment into a valuable resource that can be used to elevate low-lying and sinking peatlands. Large areas of peatland in Dutch polders are compacting. This results in the last decades in sinking land elevation levels with big consequences for water management, bio diversity, economical and ecological utility, CO2 emissions etc. HHSK dredges yearly approx. 150.000 m3 from waterways at an average costs of €3.000.000. The HHSK pilot entails the first full-scale test of a promising concept, developed by Dutch engineers, called TopSurf. The pilot investigates prevention of land subsidence of the low lying peatlands at risk of flooding as well as improvement of the soil quality with at the same time a positive effect on the reduction of sediment landfill, the costs of dredging, CO2 output and disturbance for the environment (no/less transport needed).