

Can dredged canal sediments be used for flood defences as part of the Scottish Circular Economy?

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Scottish Canals and the University of Strathclyde have joined a consortium of 7 key European academic and industrial partners as part of the EU-funded Interreg NWE SURICATES Project - Sediment Uses as Resources in Circular And Territorial Economies (<http://www.nweurope.eu/projects/project-search/suricates-sediment-uses-as-resources-in-circular-and-territorial-economies/>). Within Europe some 200 x 10⁶ m³ of dredged sediment (equivalent to c. 80 x 10⁶ t dry weight) remain annually after operational and capital works at ports, harbours and waterways. Over 99% of EU marine sediment is dumped at sea, representing a lost opportunity to reuse or recycle materials for use in engineering works to prevent flood risk or erosion under climate change scenarios. Using a series of pilots and trials the SURICATES consortium will demonstrate the potential for safe and effective reuse options of this potential resource, including sediment nourishment, use in concrete, pozzolanic mixtures, or phyto-conditioning and bio-engineering of soil for restoration and reclamation.

Scotland's network of four operational canals divides roughly into two groups with different challenges for reuse or recycling: In the Highlands the Caledonian and Crinan Canals, immediate reuse of typically clean material is largely prevented by remoteness and the associated challenges of dewatering for transport, materials separation and the infrequency of any receiving engineering works; In contrast, in the Lowland Forth and Clyde or Union Canals, the legacy of industrial activity requires detailed testing, dewatering and recycling methods to be developed and treatment technologies to extract secondary feedstocks suitable for use from a linearly dispersed source.