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An Economic Analysis Tool for Assessing Benefits from Dredging Projects

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The EU Interreg-funded SURICATES projects aims to increase sediment use for erosion and flood protection by providing port and waterway managers with new large-scale solutions for sediment use. The management of dredged sediment is a major challenge globally for ports and waterways. As part of the SURICATES project, an economic modelling and analysis tool has been developed to inform stakeholders of the potential economic benefits associated with beneficially using dredged material. The model developed allows analysis of financial costs and benefits associated with the use of dredged sediment. It analyses the economic impacts of beneficial use of dredged sediment in terms of Gross Domestic Product (GDP) contribution and jobs created for sediment management projects in the SURICATES partner countries (Ireland, Scotland, France, and the Netherlands). The methods for estimating the direct/indirect/induced impacts on GDP and jobs created are based on industry specific Type I & Type II multipliers and coefficients, derived for each country using Symmetric Input- Output Tables with the economic impacts downscaled to NUTS2 and NUTS3 region levels using Simple Location Quotients (Carey & Johnson, 2014)ⁱ. The model is designed to cover complex processes involved in beneficial use of dredged sediment in erosion & flood protection scenarios including beach nourishment, dyke construction, land reclamation and wetland creation. The model allows the user to select the region where the dredging project is located, allowing the corresponding regional coefficients to be applied. Inputs include a wide range of relevant project specific processes and characteristics for dredging and placement operations. The model uses a range of pre-defined unit costs based on data gathered from a wide range of national and international sources. The model outputs include the direct, indirect and induced effect on GDP and jobs created. The model has been satisfactorily validated with application to completed dredging projects in Castletownbere, Co. Cork, Ireland and Falkirk Canal, Scotland.

ⁱ Carey M.A., Johnson T.G., 2014, 'Ireland's Input-Output Framework – Where Are the Regions?', *Bordlands*, Issue 4

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