# An initial assessment of sediment and water quality in the post-industrial Clyde catchment, Glasgow, UK

**S. Lass-Evans[1], F.M. Fordyce[1], N. Breward[2], D.G. Jones[2], & T.R. Lister[2]**

***[1]British Geological Survey, West Mains Road, Edinburgh, EH9 3LA, UK (e-mail: Sollsan@bgs.ac.uk)***
***[2]British Geological Survey, Keyworth, Nottingham, NH12 5GG, UK***

Contamination of river sediments and waters from urban and industrial processes is of concern as many substances, including heavy metals, are toxic to aquatic life in high concentration and can have a detrimental effect on biodiversity. In order to assess the sediment/water quality of the post-industrial Clyde catchment, the British Geological Survey has surveyed 118 urban stream sediment and 122 water samples from all tributaries draining into the River Clyde within the Glasgow City Council administrative area. Similarly, 71 sediment and eight water samples were collected from the Inner Clyde Estuary, extending to Greenock/Helensburgh. Samples were analysed for approximately 60 inorganic and organic substances.

The current project aims to integrate and interpret these two datasets in order to identify contaminant distribution in the Clyde catchment and to improve understanding of the processes controlling pollutant migration through the river system into the estuary.

Initial assessments reveal that concentrations of Cr, Cu and Zn in tributary water samples range from 0.25 to 903, 0.5 to 9.99 and 1 to 177 μg/L respectively, while <2mm-sediments show values up to 2345, 911 and 2001 mg/kg respectively. The estuary water samples contain Cr, Cu and Zn concentrations up to 6, 10 and 17.5 μg/L respectively. Estuarine <2mm-sediment concentrations of Cr, Cu and Zn are high in the urban area (up to 635, 201 and 639 mg/kg, respectively), lower in the middle estuary (23-144, 4-19 and 21-99 mg/kg respectively) and higher again in the outer estuary (131-357, 24-79 and 120-264, respectively) mainly due to grain-size differences.