The influence of the annual invasive plant, Impatiens glandulifera, on the sediment dynamics of inland watercourses in temperate regions

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Impatiens glandulifera (Common English Name - Himalayan Balsam) is a non native annual and highly invasive plant that was introduced into parts of Europe from the Himalaya during the nineteenth century as a colourful adornment to parks and gardens. This Plant colonises areas along the river banks, preferably wet, depositional sites, and displaces natural vegetation. The plant is killed by cold weather. The leaves area of riverbank previously occupied by the plant extremely vulnerable to soil erosion until new plant germinates in the following spring.

Research work undertaken in the northwest Switzerland and the soutwestern United Kingdom established s link between accelerated soil erosion caused by Impatiens glandulifera and its detrimental impact on native biodiversity of riparian zone of river catchment area. This study focuees on the potential impact of such erosion on sediment quality. A priory reasoning suggests that the preference of Impatiens glandulifera on young depsotional sites near watercourses affects sediment quality.

In this study, the results of a soil quality analysis along Impatiens glandulifera-contaminated river banks is presented. Soil physical and chemical properties are compared to non-affected sites to assess the potential impact of preferential erosion on water quality. In addtiion, soil surface profile (SSP) measuring based on by erosion pins, a micro profile bridge and a digital calliper at different selected locations along the riparian zone of river catchment area is used to determine erosion rates and determine sediment transfer from the riparian zone into the rivers.