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Full name (surname first): Green, Philip Christopher

Student ID number: 422565

College/Department: Geography and Environmental Sciences

Full title of thesis/dissertation: Modelling water and sediment chemistry in urban canals using chironomid pupal exuviae

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Full name (surname first): Green, Philip Christopher

School/Department: Geography And Environmental Sciences

Full title of thesis/dissertation: Modelling water and sediment chemistry in urban canals using chironomid pupal exuviae

Degree: PhD

Date of submission: 7 May 2010

Date of award of degree (**leave blank**):

Abstract (not to exceed 200 words - any continuation sheets must contain the author's full name and full title of the thesis/dissertation):

This study has four principal aims. The first was to classify chironomid assemblages in canals using pupal exuviae. The second was to understand the distribution of species, their ecology and function. The third was to find indicator taxa which were suitable to classify canals in terms of water and sediment chemistry. The fourth was to analyze potential boundaries between Water Framework Directive (WFD) classes and develop a method to calculate ecological quality ratios that will support the objectives of the WFD. Calibrated chironomid-based inference models were constructed and these were used successfully to predict water and sediment chemistry parameters.

This study found that there was potential to apply this tool to the requirements of the WFD and define ecological potential of canals through comparison of observed to reference EQRs (Ecological Quality Ratio). This was despite the fact that the study was conducted within a small geographical area.

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