

BSG conference attendance grant: Society for Freshwater Sciences Annual Meeting 2018

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Society for Freshwater Sciences (SFS)

A generous grant from the British Society for Geomorphology allowed me to attend the Society for Freshwater Sciences Annual Meeting in Detroit, Michigan, USA on 20-24 May 2018. I gave an oral presentation in the Invertebrates contributed session. The SFS is the premier organisation for aquatic scientists and the international meeting was attended by over 1000 delegates.

Presentation summary

Excessive fine sediment delivery can cause serious deleterious effects to riverine systems (e.g. increasing turbidity, clogging the river bed, smothering aquatic insects). There has been a drive to employ biomonitoring practices, instead of physical methods of measuring fine sediment, in these highly dynamic systems. A systematic literature review, carried out as part of my PhD, which examined the response of macroinvertebrates to different gradients of fine sediment pollution, found that there was a wealth of evidence relating to organismal response to sediment associated contaminants, but indicated a distinct absence of studies which considered the direct and physical effects of fine sediment (e.g. clogging, abrasion) at the organism level.

A successful BSG Postgraduate Research Grant allowed this to be explored further. Using the funding, a recirculating flume experiment was set up to investigate physical damage on three different species of macroinvertebrate gills. Insect cadavers were exposed for eight hours to two concentrations of fine sediment (High/Low) and at two velocities (High/Low) and physical damage was assessed using a Scanning Electron Microscope. Gills from cadavers of different species were damaged to varying extents and responded differently to treatments in a way that suggested gill morphology and behavioural responses (such as avoidance) as key factors. These results demonstrate potential physical damage of fine sediment on invertebrates.



Figure 1 a still of my presentation



Figure 2 presenting in the Invertebrates session

Following my presentation, I received some interesting questions and ideas to develop the research further. Attending the conference provided a significant networking opportunity. I also enjoyed attending the designated postgraduate events including the mentor/mentee event.

Media Summary

I attended the Society for Freshwater Sciences annual meeting on 20-24 May 2018 in Detroit, USA. I gave an oral presentation of the results of experimental work looking at the direct physical effects of fine sediment on macroinvertebrates.