

## **Report on the Autumn 2013 meeting of the Scottish Freshwater Group**

The 91<sup>st</sup> meeting of the Scottish Freshwater Group, held jointly with the IBIS Project, took place on 24<sup>th</sup> October 2013 at the University of Stirling.

The day's chair Jennifer Dodd (University of Glasgow) introduced the IBIS Project, a partnership between the Loughs Agency, Queen's University Belfast and the University of Glasgow, supported by the EU's INTERREG IVA Programme: funding 70 years worth of applied postgraduate research at doctoral and masters level during 2011 – 2015 (<http://www.loughs-agency.org/ibis>). Following on, Colin Adams (University of Glasgow) provided a more in-depth overview of the IBIS Project and enthused with examples of the diversity of research being delivered within the theme of aquatic resource management. By this time, we were all eager to hear from the other IBIS Project speakers that morning. Elizabeth Clements (University of Glasgow) was up first, talking us through her results on the ecology of the freshwater pearl mussel (*Margaritifera margaritifera*) and interactions of the parasitic larval stage with salmonid fish. She concluded that the gills of brown trout (*Salmo trutta*) were the preferential host for glochidia in Scottish rivers. Julie Miller (University of Glasgow) then went onto tell us about her MRes research, which modelled the conservation limits of Atlantic salmon (*Salmo salar*) in the Foyle catchment, Ireland. It was then the turn of Matthew Newton, one of twelve PhD students funded by the IBIS Project, to deliver his research investigating the effects of in-stream barriers to the riverine migration of Atlantic salmon. He took us on a fascinating tour, via Google Earth, which simulated the fine-scale movements of one of the 132 radio telemetry tagged individuals and its attempts to pass a small scale riverine barrier. His work uncovers little-known fish avoidance behaviour and their return to downstream holding positions, with multiple unsuccessful attempts to pass weirs, despite the presence of fish passages. The whole room breathed a sigh of relief to hear that this particular fish did eventually manage to overcome the barrier (on its sixth attempt!) and migrate upstream to the spawning ground before heading out to sea. John Hume (University of Glasgow) finished off the morning session by steering our thoughts towards the main factors (e.g. types of hooks, anatomical location of hooks, bait type etc) associated with the incidence of fish mortality in catch and release fisheries management practice. For those wishing to learn more, the full report is available to public download (<http://ibis-eu-know.weebly.com/2013---catch-and-release-practices.html>).

After lunch and discussion around the posters, Ian Griffin (ECUS Ltd) kicked off the afternoon session by demonstrating the state-of-the-art of constructed wetlands and SuDS treatment train using case studies from Cartland Low Carbon Pilot Plant and The Barge, Runcorn compact SuDS. PhD student, Alan Law (University of Stirling) then gave us a delightful insight into beaver-plant interactions, from populations studied in Scotland and Sweden. He found that beaver created wetlands were characterised by a greater diversity of aquatic vegetation, through their selective foraging of tall and often dominant plant species (e.g. yellow flag iris). Then, Kendra Spence Cheruvellil (Michigan State University) talked us through landscape approaches for understanding cross-scale interactions and drivers of ecosystem state in lakes (Fig 1), showcasing an impressive long-term geospatial dataset derived from approximately 15,000 lakes spanning the USA ([www.csi-limnology.org](http://www.csi-limnology.org)). Ending the meeting, Janette MacDonald (James Hutton Institute) informed us about CREW's role in addressing current challenges in water management and their vision to integrate scientific expertise for supporting the development and implementation of water policy in Scotland, through capacity

building projects ([www.crew.ac.uk](http://www.crew.ac.uk)). You can register with CREW to receive alerts and notification of funding opportunities ([www.crew.ac.uk/register-expertise](http://www.crew.ac.uk/register-expertise)).

The next SFG meeting will be held on Thursday 27<sup>th</sup> March 2014. If you would like to receive further details please email Laurence Carvalho ([laca@ceh.ac.uk](mailto:laca@ceh.ac.uk)) or visit the SFG homepage ([http://www.ceh.ac.uk/sci\\_programmes/water/ScottishFreshwaterGroup.html](http://www.ceh.ac.uk/sci_programmes/water/ScottishFreshwaterGroup.html)). It is now also possible to receive SFG notifications via Facebook (Scottish Freshwater Group) or follow us on Twitter @Scottish\_FwGrp.

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Figure 1. Kendra Spence Cheruvellil discussing the concept of landscape limnology [photo credit – Laurence Carvalho]