

### Fifty shades of gold...

*It's been a mild autumn in the Flows. Some of us lucky enough to spend a bit of time outside have been rewarded by the occasional spectacular sunrises and sunsets over the Flows, lighting the bog ablaze with shades of orange and gold under immense skies... giving a welcome break from horizontal showers, stormy wind gusts and dark nights. Winter is now here and the new year is just around the corner – a good time to look back, and take stock on the past months.*



*We are delighted with the amount of energy, hard work and enthusiasm that everyone brought to the Flows in 2014. We would like to take some time to **thank you** all for continued support and for your help in making the Flow Country Research Hub move forward. May 2015 bring more of the same!*

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### New faces in the Flows

#### Restoring peatlands for multiple benefits: meet new PhD student Noa



I am a biologist but I have always been very keen on entomology and conservation. I graduated from the University of Oviedo, Spain, and did a master in Wildlife Conservation at Napier University, Edinburgh. I have been lucky enough to work in a few different countries in diverse projects, mostly involving radio-tracking of wild animals. Here in Scotland I have worked for the Scottish Wildlife Trust as a Ranger and as an Osprey Protection Officer at Loch of the Lowes, Dunkeld. My PhD will be assessing peatland management and identifying trade-offs in restoration approaches for either carbon storage or biodiversity. It will be very exciting as it gives me the chance to work with invertebrates, and even though I am based at The James Hutton Institute in Aberdeen, I am sure I will be spending a fair amount of time at ERI in Thurso. *Ainoa Pravia, PhD Student.*

#### New appointment Forestry Commission Scotland

Forestry Commission Scotland has appointed Ian McKee as their new Open Habitats Ecologist, following the departure to RSPB of Jeff Waddell. Ian brings a wealth of open habitat restoration experience to the role and will be advising forest district staff across Scotland and leading the restoration of mires, dune systems and a wide variety of montane habitats across the National Estate. Ian works from the West Argyll Forest District. *Neil McInnes, Forestry Commission Scotland.*

## Project updates

### Pilot project: restoration and Salmon

A small pilot project was set up to capture the impact of management on redd sites used by Atlantic salmon. The project will compare sediment accumulation and water quality in artificial redds positioned upstream and downstream of forestry removal, from spawning to hatching season. Richard Taylor, a TCV apprentice based at Forsinard until February, has been setting up the sites and doing the monitoring, supervised by Neil Cowie (RSPB), Alan Youngson (ERI) and Roxane Andersen (ERI). *Roxane Andersen (ERI)*

### More restoration in the Flows!

North Highland Forest District and Forestry Commission Scotland were delighted to be awarded a further £275k of funding to add to Peatland restoration efforts on the National Forest Estate. The money will be used to remove unproductive woodland and repair hydrology on sites around the periphery of the Flows and takes this year's expenditure on peatland restoration to over £1m across 600 Ha. The total grant award across Scotland is seeing an impressive £1.6m of extra expenditure targeted at peatland restoration. NHFD are also working with Forest Research to undertake ongoing research on some PAF sites, with the latest project examining the effects of different restoration methods on a site where peat cracking is hampering restoration efforts. *Neil McInnes, Forestry Commission Scotland.*

### Forest-to-bog restoration management and water quality



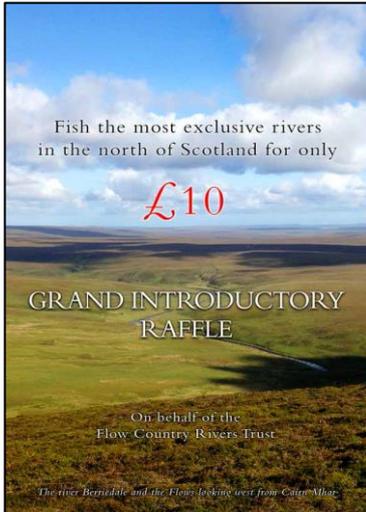
Restoration has now begun in Dyke plantation with forestry work ongoing in five of the research plots. Three teams of contractors are busy on site (covering standard and enhanced treatment methods — as well as mulching of the smaller trees). Meanwhile, in those areas not currently busy with contractors, the dipwell and water quality monitoring continues...

In the four different restoration treatments replicated throughout the Dyke Forest, the monitoring of the chemical water quality of stream and river ecosystems has also carried on (concentrations of nitrate, phosphate, zinc and aluminium which can be detrimental at too high concentrations to developmental stages of Atlantic salmon). Porewater quality is also being measured and will give insight into the in-situ changes in water chemistry within the bog, which is an important source of stream water.

Some of the most recent fieldwork has focused on collecting stream and river water samples where they receive drainage from restoration sites for water quality analysis, along with samples from undisturbed control streams for comparison. Harvesting and felling work began in October 2014 and since then sampling frequency was increased (every two weeks), but will go back to monthly in January. During the next few months sampling will also be done during high flow events, so hopefully there will be some good periods of rain coming in the near future! *Paul Stagg, RSPB & Paul Gaffney, ERI.*



Other news and announcements



**Introductory raffle for the Flow Country Rivers Trust**

The [Flow Country Rivers Trust](#) (FCRT) is a new charity registered in Scotland. Its purpose is to promote and support initiatives, including research and education, to further the conservation of freshwater species of fish and associated flora and fauna within the Flow Country. To support this and gain momentum, the FCRT is offering an exclusive grand introductory raffle ([details here](#)) that will be drawn on Friday the 6<sup>th</sup> of February 2015. Anybody can contribute and become a Friend of the Flow Country Rivers Trust for a year. *James Fleming, FCRT Chairman.*

**PhD Studentship opportunity in St Andrews**

Interested students are invited to apply for a [project](#) on “Measuring landscape carbon exchanges with low cost sensor networks”, which comes with additional CASE funding from the RSPB. The successful student, based in St Andrews University, will be further developing/applying a low cost alternative to Eddy Covariance, to be used for example in the restored blanket bogs of the Flow Country (Forsinard Reserve). This is very competitive scheme, and the deadline for applications is on the 2<sup>nd</sup> of February 2015 at 17:00. Details about the application process can be found [here](#). *Tim Hill (U. St Andrews)*



The next edition of the newsletter will come out in March, please email your contributions to Roxane Andersen ([roxane.andersen@uhi.ac.uk](mailto:roxane.andersen@uhi.ac.uk)) before the Friday 7<sup>th</sup> of March 2014.