

While we waited for summer...

According to the met office, Scotland had the sunniest April since 1929, but the second wettest spring since 1910, which included snowfall almost into June: in their own terms, “a fairly unexceptional spring overall”... Spring in the Flows is not just the time where plants and wildlife (slowly) emerge; it is also the start of a new field season for the researchers, students and staff members. This edition of the Flow Country Newsletter provides updates on progress on various projects and other news from the far North. We would like to thank everyone for their contribution, and hope to see you up here over the summer!



Looking west from the Cross Lochs on a sunny April day, during a scoping visit with Ainoa Fernandez Pravia (JHI/UHI PhD student), Mark Hancock (RSPB) and Kenny Boyd (ERI/UHI). Photo credit: Roxane Andersen.

Project updates

The Dyke Forest Flux Tower



In 2012, the issue was raised that flux measurements in the Flow Country – chamber-based and existing Eddy Covariance towers – were not capturing the GHG balance from above the canopy. It was then decided that the Flow Country Research Hub would take steps to fill that gap. Through the Green Stimulus Programme (now Peatland Action) and support from SNH, we were able to secure enough funding to buy all the equipment to set up LiCOR system to measure CO₂ fluxes from the top of a 20m mast.

After a delayed start, the Forest Flux Tower is now finally being installed and getting ready to start collecting data in the Dyke Forest, thanks to the hard work of Rebecca McKenzie (ERI) and guidance from Matthew Saunders (Trinity College Dublin) and Graham Hambley (U. St Andrews). Installing the sensors, which

sit above the canopy at a height of 18.5m, has been somewhat challenging!

We are now hoping to be able to run simultaneously the Eddy Covariance towers within open (the Cross Lochs tower), restored (Lonielist and/or Talaheel) and forested (Dyke) areas of blanket bog to make a valid comparison between all sites – as far as CO₂ emissions are concerned. *Roxane Andersen (ERI)*



Flows to the Future Project update

The most visible sign of progress with the HLF supported Flows to the Future project is the recently completed viewing tower, the Flows Lookout. You can see it from the train as you pass Forsinard, but better still, come and visit and get a bird's eye view of the bog. There are fantastic views of a typical pool system and the Flow Country landscape beyond. It also provides shelter for visitors and school groups – often much needed at Forsinard. Funding was provided by ERDF, the Highland Council, SNH and RSPB as part of the HLF supported project.

Meanwhile behind the scenes things are inching forward on the proposed field centre. We are currently in the tendering process and will be appointing a contractor soon. There is at last now a functioning bridge to the building site, so that's progress.



Engineering students from Punjabi visited the Flow Country and had a look up from the viewing tower in June. Photo credit: Paul Turner.

We are also producing a website, which will be for the Flow Country as a whole, not just the project. It will of course include information on the importance of the peatlands, as well as information on research – links to those universities and organisations involved in research and also a database of research. Contractors have been appointed and we are working on the content just now. Work has also just started on the digital model, which will allow people to travel through the Flow Country remotely.

Do get in touch if you want to find out more about any aspect of the project or get involved. Keep in touch via www.facebook.com/flowstothefuture or www.twitter.com/peatlandflows. Caroline Eccles, Flows to the Future Project Manager (caroline.eccles@rspb.org.uk)

RSPB project update

For the RSPB's common scoter research team the third season of sampling at Forsinard is now in full swing. At the moment invertebrate sampling is being carried out using coloniser traps, grab sampling and different netting techniques and visual counts. The most abundant invertebrates belong to the order Ephemeroptera (mayfly nymphs) and Trichoptera (caddis fly larvae), alongside water beetles and mites, fly larvae (Diptera), leeches (Hirudinae) and oligochaete worms. In the winter these invertebrates will be identified and the data converted to biomass. Camera traps have been set up near the shoreline of lochs in order to give us information about birds and mammals that use in the shallow zones. So far the camera traps have recorded a range of wildlife, including birds such as herons, greenshank, teal and widgeon and mammals such as red deer and otter (not to mention the occasional dubious looking researcher!). Shona Rüesch and Paul Stagg (RSPB).



Camera traps captured a number of visitors to the lochs in the Flow Country

Leeds Pools project 24h campaign

Researchers from the University of Leeds returned at the end of June to carry out another intensive fieldwork campaign for the ongoing pools project. Ed Turner and Andy Baird were joined this year by Joseph Holden and Gemma Dooling, and together with Rebecca McKenzie from ERI Thurso, conducted GHG flux measurements from both natural and artificial pool surfaces over full 24 hour cycles. This data will feed in to the much larger dataset that has been collected every two weeks since summer 2013 to help the research team understand the carbon cycle in both natural and artificial pool systems. *Ed Turner (U. Leeds)*



Other news and announcements

PhD opportunity in the Flow Country

A new Flow Country based project, “Quantifying carbon accumulation and loss in afforested peatlands” has recently been awarded funding from the Leverhulme Trust. The project, led by Richard Payne (U. York) will take the form of a PhD studentship starting in October 2015 and will involve collaboration with Roxane Andersen (ERI), Dmitri Mauquoy (U. Aberdeen) and Russell Anderson (Forest Research). A combination of approaches including tephrochronology, traditional forestry measures and remote sensing will be used to evaluate the impact of afforestation and restoration on carbon stocks.

For more information, please contact Richard Payne (richard.payne@york.ac.uk) or see his [blog post](#).

From the Flow Country to New Zealand...



Joss Ratcliffe (UHI) successfully completed his MSc by Research degree and defended his thesis “Carbon Accumulation Rates over the Holocene in Flow Country Peatlands and the Direct Comparison of Open and Afforested Peatland Carbon Stocks Using Tephrochronology” in April. The project “The Flow Country peatlands: using the past to inform the future” was co-funded by the Royal Society, the British Ecological Society and the Carnegie Trust for the Universities of Scotland. Joss’ project was an exciting new collaboration led by Richard Payne (U. York) which involved Roxane Andersen (ERI), Dmitri Mauquoy (U. Aberdeen), Russell Anderson (Forest Research) and Anthony Newton (U. Edinburgh), and which also counted on support from RSPB especially for the site selection and some of the field work. Highlights from the project include new records for tephtras in the North of Scotland, the first estimation of afforested vs open changes in carbon stocks and new long-term carbon accumulation profiles for the Flow Country.

His work and aspirations were also highlighted by the International Peat Society, as Joss was one of 5 winners for the IPS Allan Robertson Grant, which recognises excellence and potential in young researchers. Congratulations to Joss, and good luck with his upcoming PhD in New-Zealand, where he will continue to research tephtras, carbon and restored peatlands. *Roxane Andersen (ERI)*

Flow Country Research Conference: reminder

The third *Flow Country Research Conference: taking stock* will be held in Thurso from the **27th-30th of October 2015**. Registration opened in May and preparation is well underway! Details about the programme and content will be updated regularly on the [webpage](#). For any information, contact conference.flows@uhi.ac.uk.

The next edition of the newsletter will come out in September, please email your contributions to Roxane Andersen (roxane.andersen@uhi.ac.uk) before the Friday 18th of September 2015.