



# BogLIFE

## Bringing Lowland Raised Bogs to Life

### Mid-Project Success Stories

We are supposed to talk about the weather in the UK aren't we? It's what we do best! Well, autumn has well and truly arrived this week, with the blustery wind typical of this time of year. Thankfully though, it waited until after we'd delivered the Humberhead Peatlands mid-project workshop and the Cumbria BogLIFE mid-project conference though! Both events were blessed with great weather and the sun shone for us on the site visits.

Read on for summaries of both events, with a link to the Cumbria BogLIFE conference proceedings on Dropbox. Richard Lindsay (University of East London) commented on the Cumbria 'Restoring Peatlands' Conference on twitter: "Excellent conference, really tackling fundamental issues". We'll take that! High praise indeed ☺.

This issue also includes some exciting updates and discoveries from our monitoring officers too.



The rare, but *highly distinctive*, 'BogLIFE conference cake bog-bush cricket'. This is the only specimen of its type ever recorded. (Guy Broome)

**LIFE+** These projects are being generously supported by the European Union's LIFE+ Nature and Biodiversity Programme, which is the funding instrument for the environment. Funding is awarded to best practice, innovative demonstration projects that contribute to the objectives of **Natura 2000** - a network of the very best areas for wildlife across Europe.



# Humberhead LIFE project “That’s LIFE” Mid-Term Workshop

Over seventy delegates attended the Humber head Peatlands mid-term workshop on Tuesday 27<sup>th</sup> September. The event was held at the Thorne Rugby Club and delegates enjoyed talks, a poster display and practical on site demonstrations with more discussion.

The day started with a warm welcome from the Humber Team Leader, Paul Duncan, who introduced delegates to the guest speaker, Dr Roger Meade. Dr Meade’s talk, entitled “Climbing Everest”, was an informative presentation on the recent history of Thorne and Hatfield Moors. This spanned its designation as a SSSI in 1970 to the eventual purchase of the site in 2004, its designation as a National Nature Reserve and the long road to recovery leading to the LIFE Project in 2014.

The audience split into four groups and travelled by minibus to Thorne Moors. The delegates were treated to a rare spectacle of seeing five cranes as they travelled down Limestone road on the Moors to their disembarking points. By rotation, each group was given the opportunity to listen and then discuss the actions being carried out under the LIFE project.



Lucy Ryan, University of York, talking about nightjars

Particular emphasis was given to four broad action categories, invertebrate monitoring led by Dr Richard Smith and Claire Hayden, nightjar monitoring led by Lucy Ryan and Bryan Wainwright, hydrology led by Tim Kohler and scrub clearance led by Ed Brightman and Lukas Rowe. With military precision, the groups toured each discussion venue before clambering aboard the waiting minibuses for the journey back to Thorne Rugby Club.



Ed Brightman, discussing restoration techniques

It was particularly pleasing to see two former Site Managers on the day and hear their comments on the progress with the restoration works, not forgetting that there is much more to do, and how the journey has well and truly begun.



The all-important tea and cake!

At the end of the workshop the delegates were treated to very welcome tea and cakes, before a roundup summary was given by Natural England Area Manager, Robert Burnett. A great deal of important networking took place during the day with new contacts forged and old contacts rejuvenated.

Proceedings will be published at the end of December on [www.humberheadpeatlands.org.uk](http://www.humberheadpeatlands.org.uk)

David Hargreaves, Humberhead LIFE Project Manager





# Cumbria BogLIFE: Restoring Peatlands - The Development of Best Practice Techniques #boglifeconf

One requirement for LIFE nature projects is to share experience and knowledge and many include a requirement to host a mid-project event. Cumbria BogLIFE held a mid-project conference during the first week of October and based it around 'Restoring Peatlands – The Development of Best Practice Techniques'.

The main aim of the conference was clear from the very start; to demonstrate many of the practical peatland restoration techniques that had been developed over the last 30 years both in Cumbria and throughout the UK and Europe. It proved that there was a clear appetite for such a 'catch-up' within the peatland world as the conference booked up fully within weeks.

Over three days, around 120 delegates were offered a stimulating mix of formal presentations, interactive workshops, site visits, a BogLIFE cake and even a sit-down formal meal!

Rob Stoneman (Yorkshire Wildlife Trust), Richard Lindsay (University of East London) and Chris Dean (Moors for the Future) were invited to open each day with their views of how far we have come with peatland restoration within the UK, the challenges that still face us not just on a UK scale but on a global scale and Moors for the Future celebrated just what successes we can all strive to achieve.



Rob Stoneman, keynote speaker (T Crockett, NE)

The conference started off with speakers showcasing restoration work from some of the most innovative projects in the UK. Cumbria BogLIFE presented the challenges associated with establishing peat forming vegetation on former milled bog at Bolton Fell Moss and how landscape scale rhododendron and tree cover has been removed successfully at Roudsea Mosses.



David Harpley, Cumbria Wildlife Trust - can you make out the sundews on his tie? (Guy Broome)

Cumbria Wildlife Trust and Natural England presented landscape scale restoration peatland projects on Foulshaw Moss and Fenns and Whixall Mosses respectively, and the Humberhead Peatland LIFE Project showed how many years of work have achieved real differences on the most extensive body of damaged peatland in England. Natural Resource Wales described the uniqueness of their raised bogs sites and alluded to the real issues facing many peatland managers in the future – funding.

From Scotland, Forest Research (Scotland) presented work they have been carrying out on afforested sites to assess the suitability and success of cell-bunding and Scottish Natural Heritage gave an overview of their recent works within the Action for Peatland Fund. **Contd....**



# ...Restoring Peatlands Conference continued

It is not often that peatland professionals get the opportunity to experience projects outside the UK so it was with great pleasure to present a platform for speakers heading up large-scale restoration projects within the Baltic regions, Sweden and on the largest raised bog in western European lowlands located in Denmark.



Kristofer Paulsson, Sweden LIFE to Ad(d)Mire gets to grips with a map of Bolton Fell Moss (Guy Broome)

The conference clearly identified that there is significant uncertainty towards securing future funding for our peatlands. Many discussions evolved around the emphasis on gathering robust monitoring data that can really help towards demonstrate our successes and underpinning the case for future funding. Bringing people with us, supporting and appreciating peatlands and our work was also seen as paramount and we all can play a part in public engagement. There was particularly great interest from delegates with new attitudes to gaining funding, including the IUCN peatland Carbon Code and the Natural Capital and ecosystem services approaches.



Richard Lindsay taking a peat core at Glasheen Moss NNR

## Conference Proceedings –

All the proceedings from the Cumbria BogLIFE 'Restoring Peatlands' Conference can be found online here:

[Conference Proceedings](#)

This information will be available for download until January 2017.

## Event Evaluation Questionnaire!

For those attendees who haven't yet done it – please can we remind you to complete and return our Event Evaluation Questionnaire?

Please [click here to download](#) the questionnaire. Once completed, please return to us at [cumbria.boglife@naturalengland.org.uk](mailto:cumbria.boglife@naturalengland.org.uk)

Look out for the similar events over the next few years as Cumbria BogLIFE, Humberhead Peatlands and the new LIFE projects; Marches Mosses LIFE and MoorLIFE 2020 disseminate their experience, knowledge and strengthen out peatland networks. Watch this space...

John Dunbavin, Cumbria BogLIFE Project Manager



And there was cake! Seemingly the most popular tweet of #boglifeconf .....





# Humberhead Peatlands Monitoring Update

## Invertebrate monitoring and a surprise rediscovery

Field sampling of beetles, flies and spiders continued in 2016. The aim was to measure the initial effects of scrub clearance and water level changes on the peatland invertebrate fauna, following baseline sampling in 2015. This was achieved by two, fortnight long periods of trapping in late May and July. Samples will be sorted during the autumn – a lengthy process!

A welcome surprise this summer was the rediscovery of the Sundew plume moth *Buckleria paludum* on Thorne Moors, its most northerly site in Britain. It had not been seen since 1891. The caterpillars of this peatland specialist feed on sundews, of which *Drosera rotundifolia* exists only in a restricted area on Thorne. The moth has probably survived, undetected, as there are no suitable habitats nearby for colonisation. It may well persist on other English bogs that only possess old records of the species.



Round-leaved sundew © Richard Smith



Sundew plume moth © Richard Smith

## Nightjar Nesting and Foraging Behaviour

In issue 2, PhD student Lucy Ryan, of the University of York, spoke of her plans for studying nightjar in the 2016 field season. After an extremely intense few months of night shifts, which saw birds tagged on Thorne Moors for the first time, the results are just in.

Lucy and Natural England Volunteers succeeded in tagging 21 birds, from which they recovered 11 tags. Data from these tags shine a light on the birds' nocturnal behaviour, contributing to our understanding of how nightjars use the peatlands in relation to restoration. Some birds foraged up to 4km away from the nature reserve, but most moved less than 1km away. Initial observations suggest that birds on Hatfield foraged more widely than those on Thorne Moors. Lucy will be exploring the reasons for these differences over the coming winter.

## Water level monitoring

A major monitoring goal is to understand how restoration is changing groundwater levels, in relation to the peat surface. This autumn we're downloading 2 years of baseline data from 27 monitoring points on Thorne and Hatfield Moors. The water level monitoring networks are also being extended with 22 new data loggers on each site, to be installed over the winter.

On the Humberhead Peatlands, we are observing a complex mosaic of water levels across compartments. Basins were formed where industrial milling removed much of the peat surface. Here, water can be too deep over winter but it is a challenge to keep these areas wet in summer.

Richard Smith, Monitoring Officer



# Cumbria BogLIFE: Monitoring Update

The Cumbria BogLIFE project provides an opportunity to study the response of a rare habitat to a unique form of management – restoration works to re-establish peat-forming conditions on degraded lowland raised bogs. The restoration techniques used in this project have been recently developed and include the very newest tools and practices. Monitoring changes in site hydrology, ecology and carbon following restoration is important for gauging the success of the project. In this issue we provide an update on some of the ongoing monitoring work, and some of the work which is just starting.

A key aspect of the monitoring work is to understand water levels across Bolton Fell Moss. Recent developments include detailed measurements of water levels all across the site. Through using data-loggers we are able to measure water levels 24 hours a day. They operate through the worst weather and help tell us how the peat bog is responding to the restoration work.

We are also starting new monitoring work looking at how much carbon is being lost from the peat. We will look at the amount of dissolved organic carbon and particulate organic carbon at discharge points around Bolton Fell Moss. This is important as the amount of dissolved organic carbon in surface water seems to be increasing across lots of sites. If true this might mean less carbon is being stored in the peat – which is very important for mitigating against climate change. However it is also potentially important for water companies, who can spend large amount of money removing organic carbon from drinking supplies. If peat restoration helps to reduce the amount of carbon being lost, then it is potentially good news for everyone.



Bolton Fell Moss with greenhouse gas monitoring locations marked by orange cylinders.



How much carbon dioxide is being released from this area of peat with very minimal plant community? Attaching chambers to collect greenhouse gas emissions from these orange cylinders will help us to know.

But carbon is also lost in other ways from peat bogs, for example through the release of carbon dioxide and methane to the atmosphere. These are greenhouse gasses and can contribute to climate change. We have just installed equipment which will allow us to measure how much carbon dioxide and methane is being released from different areas of Bolton Fell Moss (see pictures). We want to know whether restored peat bogs have reduced emissions of carbon dioxide and methane.

Hopefully together this monitoring work will tell us how restoration of Bolton Fell Moss is bringing back the rare plant community found on bogs, and whether the restored bogs store more carbon and stop it being lost from the site.





## Contact Us and Keep in Touch



Four spotted chaser © Guy Broome

### Humberhead Peatlands

David Hargreaves, Project Manager  
[david.hargreaves@naturalengland.org.uk](mailto:david.hargreaves@naturalengland.org.uk)

Ed Brightman, Project Supervisor (restoration)  
[edward.brightman@naturalengland.org.uk](mailto:edward.brightman@naturalengland.org.uk)

Richard Smith, Monitoring Officer  
[richard.smith@naturalengland.org.uk](mailto:richard.smith@naturalengland.org.uk)



[www.facebook.com/humberheadpeatlands](http://www.facebook.com/humberheadpeatlands)



@NEYorksNLincs

[www.gov.uk/government/publications/humberhead-peatlands-restoration-life-project](http://www.gov.uk/government/publications/humberhead-peatlands-restoration-life-project)

Restoring Humberhead Peatlands LIFE+ Project (LIFE13 NAT/UK/000451)



Marsh oblique barred © Guy Broome

### Cumbria BogLIFE

John Dunbavin, Project Manager  
[john.dunbavin@naturalengland.org.uk](mailto:john.dunbavin@naturalengland.org.uk)

Alasdair Brock, Senior Reserves Manager (restoration)  
[alasdair.brock@naturalengland.org.uk](mailto:alasdair.brock@naturalengland.org.uk)

Andy Cole, Monitoring Officer  
[andrew.cole@naturalengland.org.uk](mailto:andrew.cole@naturalengland.org.uk)



[www.facebook.com/cumbriasnrs](http://www.facebook.com/cumbriasnrs)



@NECumbria

[www.gov.uk/government/publications/cumbrian-bogs-life-project](http://www.gov.uk/government/publications/cumbrian-bogs-life-project)

Restoration of degraded lowland raised bogs on three Cumbrian SSSIs/SACs (LIFE 13 NAT/UK/000443)

For general BogLIFE Newsletter enquiries, or to be added to our mailing list please contact:

Gemma Blackburn, Cumbria BogLIFE Project Support Officer  
[cumbria.boglife@naturalengland.org.uk](mailto:cumbria.boglife@naturalengland.org.uk)

