IUCN National Committee United Kingdom

Peatland Programme

‘Investing in Peatlands: Demonstrating Success’

Joint Symposium
British Ecological Society & IUCN UK Peatland Programme
26-28 June 2012
Bangor University

Conference outputs from workshops and plenary discussion

Conference: key suggestions for actions

Peatlands are priority ecosystems for action under international agreements such as those dealing with climate change, biodiversity and water. The IUCN UK Conference 'Investing in Peatlands – Demonstrating Success' on 26-28 June 2012 brought together over 230 delegates with representatives from science, policy and land management, to discuss the ecological, social and economic importance of peatlands and peatland restoration.

Through plenary presentations and workshops, participants considered how peatland restoration can safeguard biodiversity and deliver ecosystem services, such as climate and water regulation or preserving knowledge archives, and how challenges in knowledge gaps may be addressed. Participants discussed how socio-economic tools can help embed peatland conservation in practice and policy, and considered how an ecosystem approach can be applied in peatland restoration to integrate conservation, business and policy. The conference showcased a range of highly successful restoration partnerships, and launched a new publication, Peatland Restoration: Demonstrating Success.

Presenters came from landscape scale peatland restoration projects, research institutions, government and non-government organisations and industry. The conference held six workshops on key peatland issues identified in the IUCN UK Commission of Inquiry on Peatlands.

1) Restoring Blanket Bog Peatlands
2) Restoring Fen Peatlands
3) Restoring Asian Peatland
4) Restoration for water regulation benefits
5) Restoration for carbon benefits
6) Connecting with people

The workshops identified priority actions to help deliver peatland objectives. Participants also had the opportunity to engage in a range of field trips to local peatland restoration sites.

This was a joint British Ecological Society/IUCN symposium, organised by the IUCN UK Peatland Programme and supported by the Country Council for Wales, CEH Bangor, Anglesey and Llyn Fens LIFE Project, the Wildlife Trusts and the Royal Society for the Protection of Birds.

The conference presentations and posters can be downloaded from http://www.iucn-uk-peatlandprogramme.org/resources.

Main actions

1. **Develop more widespread monitoring and survey of peatlands**. Improve understanding of the benefits of restoration through coordinated and integrated effort across different sectors (eg water, carbon, nature conservation) with long term funding. Key role for IUCN UK PP to provide a web based portal to share information and demonstrate good practice in the UK and internationally.

2. **Provide dedicated funding for sustainable management.of fens** and develop better understanding of both social and ecological requirements to ensure natural capital is protected and enhanced,

3. **Learn lessons from Asian peatland work and build international knowledge exchange** on management and restoration with IUCN providing an overview and sharing good practice for input to high level policy.

4. **Ensure the water benefits of peatlands, including nutrient retention, are reflected in action under the Water Framework Directive** with more research on links between peatland management and water quality. Ensure International sharing of research and guidance on peatland management .

5. **Develop a Peatland Code** encompassing carbon, biodiversity and water, with these benefits bundled into one funding package. Coordinate survey and monitoring to help develop vegetation based proxies for carbon accounting.

6. **Develop communications work on peatlands** in a way that connects with people and raises awareness of their importance. Identify peatland stories that can be used to convey messages. Recognise audience concerns and desires and utilise a variety of communication methods including the arts and citizen science.

.

Workshop Session One:
Restoring Blanket Bog Peatlands- evidence based conservation

Chair: Katherine Hearn, Adviser on Nature Conservation (North), National Trust

Discussion One:
How is evidence/ science informing policy and practice and vice versa?

a) Main areas of work in last 5 years

- Previously a lot of evidence concerned biodiversity. Now very much widened to hydrology, GHG, etc. Much excellent work on these
- This new emphasis driven by Water Co funding, Ecosystem Services / NEA emphasis
- Excellent new sophisticated mapping techniques (LiDAR, mapping of ecosystems services; mapping to prioritise restoration sites, peat depth, remote sensing, geophysical survey, etc.).
- Climate change scenarios now incorporated into evidence as a matter of course
- Much more on the techniques e.g. tree removal, mulching, re-vegetation, nurse crops use, etc. as well as a major area of hydrology.
- We regret lack of basic info on management actions from earlier decades, e.g. 1970s. 1980s.

b) What gaps are there?

- Want more representative monitoring – most is aimed at the most degraded sites. Need more reference sites
- Need more integration with palaeoarchaeology which can inform the reference base. Need the historic environment of peatland to be worked on more.
- Impacts on grazing on blanket bog still a gap, surprisingly (acceptable limits, different stock types, etc.)
- Information on soil enzymes and microbial activity needed.

c) Timescales for evidence gathering

- Many examples in the conference about danger of acting on short term results, and post-restoration 'spikes'. Need long term monitoring.
    - i.e. well over 3 years (eg. 10 years and for new sphagnum cover to develop hydrological integrity)
    - 40 years for Border Mire project to 'finish'
    - 28 years at least for bare peat to colonise in Canada
    - 9 years for bare peat to colonise to bona fide bog vegetation in Peak District.
    - 100-200 years is good timescale?

Discussion Two:
Can we get hold of the evidence we need?

a) **How is it collected and disseminated?**
   - Project partnerships
   - Conference like this one, site visits
   - Management manuals
   - Experts
   - IUCN technical reviews
   - Etc

b) **What mechanisms are needed for sharing / disseminating evidence?**
   - More of above!
   - More international networking
   - Mapping and sharing info on blanket bog worldwide
   - Apply findings from well-understood blanket bogs to less well understood fens
   - Link between socieities, e.g. IPS
   - More training, especially on basic hydrology and carbon

Discussion Three:
What are the main needs in the next (3)-5-100 years?

a) **Policy needs**
   - These proxies will be needed for a Carbon Code or carbon trading.
   - New agri-enviro schemes to reward for carbon management and eco-services delivery. We are still waiting.
   - Realistic assessment of the timescales involved in peatland work
   - Strong governmental support for monitoring and research
   - Universal funding of monitoring and research by the funding bodies 'We don't fund survey' should not be uttered!

b) **Evidence Science needs**
   - Better integration of bi /hydro /GHG evidence and monitoring and science and using this to develop proxies. This will enable us to extrapolate better from site to sire and use predictively and have simpler monitoring programme in places of great benefit to practitioners, potentially.
   - Impacts on grazing on peatlands
   - Work on soil enzymes, microbes and other soil/peat attributes
   - As called for in NE's recent call for evidence
     - Vehicle impact on peat
     - Restoring dry heather – dominated blanket bog

    - Science of 'Coal Burns'
- Monitoring of land-use impacts of restoration particularly those of relevance to farmers e.g. liver fluke, ticks, and for example impacts of different land-users on carbon stores (ley grass, fertiliser, etc.)

c) Practice need

- Coordination of monitoring
- Basic hydrology and soil training
- Better integration between biological/hydrological. GHG expertise
- Better sharing of expert knowledge with practitioners
- Practitioners will be able to interpret data with more confidence
- More of the excellent work we have heard about and better sharing (including failures!)

3 smart actions

1) Develop the proxies referred to; spread monitoring more widely, integrate and link the different, disciplines to cover all ecosystem services.

2) Capitalise on the excellent UK expertise in blanket bog restoration we have heard about and link in with other countries globally. Use IUCN portal to promote and disseminate all the info:

a. Conference – virtual and actual

b. Publications (loads…)

c. Peatland framework

d. Expert groups and expert workshops

e. Etc

3) Develop agro-scheme to reward land owners for delivery of ecosystems services including management to store carbon.

Conclusion

- Integration monitoring (GHG, water, veg, bio, archalol and developing proxies
- Capitalising on UK expertise, capturing more global work using IUCN peat Portal for expert GPS, conference, etc.
- Targeted argi schemes land might and carbon/peat more on sheep (and ticks!)

Workshop Session Two:
Restoring Fen Peatlands – science, practice and sustainable development.

Chair: Peter Jones, Peatland Ecologist, Countryside Council for Wales

Discussion One:
Ensuring we understand the ecological requirements of fen ecosystems and how to protect and restore them?

- Need greater understanding of hydrology and link with vegetation for long-term/successful management/restoration outcome.
- Monitoring = too simplistic for wetlands
- Time scales too short – hyrology/veg bioD/ c-build-up- operate on different time-scales
- Management technique comparisons are often lacking.
- Bring together different specialist – how ledge e.g. hydrology/veg/ chemical to assess sites, don't always need large detailed projects. Need exchange of data and knowledge between experts.
- Lots of pressure to report favourable conservation status
- Huge range of hydrological issues.

Discussion Two:
How do we deliver effective conservation of fens and sustainable rural development and agriculture?

- Recognize context where fen conservation and agricultural use (will be situations where they can be compatible – e.g. grazing).
- CAP
    - Will it include conservation? Grazing
    - What will the aims be?
    - Ecosystem services
    - Drainage?
- In theory have mechanisms for conservation grazing levels on fens, but in practice difficult to achieve.
- Type of agriculture surrounding fen wetlands – East Anglia – lack of grazing
- Flexibly between conservation and farming community to experiment on fens – grazing spp/levels/timing within Agri Environment scheme (example debs NE – all fen/limestone grazing in Cumbria mosaic)
- Support, money, advice
- Landscape scale – network of sites.
- Build trust and perception – requires time as often starting from a position of mis-trust.
- Education, re-connect with old methods of grazing wetlands. Demonstration areas

- Instead of held wisdom – need to drain land to graze it, change stock to graze wetland
- Animal conditioning
- Facilitation role – skilled project office – support farmers
- Wealth of materials e.g. bedding, fodder
- Instead of buying in bedding and viewing local fens as waste land, change view as resource to be 'sustainably harvested'
- Link farming aim/practice with aim of site conservation – owner buy I for long-term success
- Sound science – base-line data – veg and hydrology
- Inventory – resource and condition

1) Catchment/landscape level approach
   a. Cf. old ESA – used to work but time scale too short
2) Suitable flexibility funding scheme supported by skilled facilitator
3) Grazing support
   a. Link land management and conservation outcomes
   b. Existing mechanism not sufficient.

Conclusion

- Sustainable Management
- Dedicated funding streams
- Source protection zones / catchment level
- Grazing support
- Understanding ecological requirements
- Fens potentially complex
- Need a better assessment tool kit
- Surveys still needed – need more
- Understanding of resource can still be poor

Workshop Session Three:
Restoring Asian Peatland – biofuels, wildfires and other threats.

Chair: Susan Page, Head of Geography, University of Leicester

Discussion One:
ASEAN Peatland management Initiative – how can we share experience?

- Work with local NGOs and local scientist
- Make info easily available
- Community engagement
- Increase awareness of importance of tropical peatlands in SE Asia
- Use 2016 Peat Congress in Sarawak to raise awareness.

Discussion Two:
What are the main threats and opportunities to restoration in the tropics?

- Burning
- Flooding
- Subsidence
- Poverty
- Inaction
- Engage with IUCN

Discussion Three:
Case studies of successful restoration

- Documentation of research and findings
- Information transfer between north and south
- Need for more protected areas?
- Protect degraded areas so they can be restored.

Conclusion

- Many threats (fire, flood, poverty) but also many opportunities (for restoration, poverty reduction, etc)
- Document and disseminate case studies, research findings (in appropriate language) and enable more North – South dialogue = peat portal
- Community engagement – raising profile of peatland value and needs for regeneration
- Engage IUCN, RAMSAR and others in the top-level policy debate on SEA peatland management and restoration.
- 2016 – IPS SARWARK conference: opportunity to make top level announcement on action for SE peatlands e.g. conservation designation degraded and intact peatland.

Workshop Session Four:
Restoration for water regulation benefits – policy framework, evidence and business needs

Chair: Harriet Orr, Research Expert, Environment Agency England and Wales.

Scene setting presentations
Upland land management and WFD – Harriet Orr
Impacts of peatland restoration on storm flows and water quality - Tim Allott et al
Plant species and DOC response to restoration of fens – Nina Menichino et al
Restoration of peatlands to mitigate pollution – Dominic Zak et al
Synergies between peatland rehabilitation and WFD – Michael Trepel

Discussion One:
'Can the Water Framework Directive be a driver for peatland restoration?'

- Research across Europe should be shared by producing a synthesis of the nutrient retention properties of different types of peatlands
- Produce a review of the role of constructed wetlands in helping manage water quality and nutrient issues in natural wetlands
- Research needed to quantify the nutrient flux from headwater and catchment peatlands to coast (National Ecosystem Assessment contains some useful data
- **Nutrient retention on land** could be a unifying theme for wetland restoration
- Remove damaged and nutrient rich peat surface material (so called 'Peat muck') and use in horticulture / soil improvement part of sustainable intensification of agriculture.
- Upland run off from peatlands could impact on stream power downstream and is another impact on water body status to take into account
- Value of peatlands often not recognised
- Need to develop link between evidence from peat restoration projects and water body status in adjoining and downstream areas to improve evidence base
- Need European level guidance on wetland restoration to meet WFD targets:
    - for different types e.g. fens, mires, ground water dependant moors, etc
    - that can be interpreted by individuals countries and different user groups
    - WQ and flow should be included
    - Case studies are imp.
- Need clear information on obtaining grants to help achieve WFD

Discussion Two:

'How to develop the briefing note – Catchment management using payments for ecosystem services to restore and maintain upland peat' (aka: Spreading the cost of the WFD via payments for ecosystem services in uplands)

The briefing note is based on the outcomes of a workshop by water@leeds and NERC's Valuing Nature Network which brought together over 70 individuals from around 40

organisations including water companies, academics and NGOs. It is to inform strategic and policy decisions on climate change, biodiversity, water and agriculture to inform potential development of Payments for Ecosystem Services (PES) to fund sustainable land management for economic benefit.

- Positive support for the briefing, suggestions for other organisational support
- Title to emphasise holistic catchment management not 'narrow' focus of WFD
- Make more of potential economic benefits and savings
- Agreed that the note will raise awareness of issues and inform policy development
- Use note to raise awareness of peatlands value to a wider audience
- Water security is very important and the contributions of peat uplands to this, including resilience to extreme climatic events could be included
- Although long term investment is needed there was concern that short term benefits may not be apparent due to the nature of these systems – however to incentivise initial schemes a longer term appreciation is needed
- Note should be taken to the devolved government level – expected interest in South Wales and at local authority level – Local Government Association could potentially be involved, also the Association of Local Government Ecologists
- Association of National Park Authorities – another key potential supporter?
- Planning also an important aspect related to biodiversity offsets (section 106 agreements)
- Reference carbon benefits, C code / GHG emissions and multiple benefits including potential to save water customers money

- At the 'Investing in Peatlands – Demonstrating Success symposium 26th – 28th June 2012*' we aim to revise this note and gain endorsement from delegates and wider organisation. With this in view we welcome feedback and modifications on the note, and support for it's content and circulation.
- We see this as a positive next step to support the findings of the Commission of Inquiry on Peatlands, carried out by the IUCN UK Peatland Programme which reported in October 2011.

Sub group – ' Development of the briefing note – **Catchment management using payments for ecosystem services to restore and maintain upland peat** (aka: Spreading the cost of the WFD via payments for ecosystem services in uplands)

The briefing note is based on the outcomes of a workshop by water@leeds and NERC's Valuing Nature Network which brought together over 70 individuals from around 40 organisations including water companies, academics and NGOs.

It is to inform strategic and policy decisions on climate change, biodiversity, water and agriculture to inform potential development of Payments for Ecosystem Services (PES) to fund sustainable land management for economic benefit.

Key points of discussion

1) Overall very positive support for the briefing, and good suggestions for wider support
2) Title needs to emphasise holistic catchment management rather than 'narrow' focus of WFD
3) Make more of potential economic benefits and savings

- All supported the development of the briefing note and suggested additional organisations who may add their support
- All agreed that the note was a useful approach to raising awareness of issues and informing policy decisions
- WFD term would be better replaced by 'holistic catchment management' which encompasses wider interests
- Use of the note to further raise awareness of the value of peatlands to a wider audience was suggested
- Water security is very important and the contributions of peat uplands to this, including resilience to extreme climatic events could be included
- Although long term investment is needed there was concern that short term benefits may not be apparent due to the nature of these systems – however to incentivise initial schemes a longer term appreciation is needed
- This should be taken to the devolved government level – expected interest in South Wales and at local authority level – Local Government Association could potentially be involved, also the Association of Local Government Ecologists
- Association of National Park Authorities – another key potential supporter?
- Planning also an important aspect related to biodiversity offsets (section 106 agreements)
- Reference carbon benefits, C code / GHG emissions and multiple benefits including potential to save water customers money

---

Conclusion:

1. Produce a synthesis of nutrient retention properties of different types of peat (examples are available across Europe)
2. Need better EU guidance on peatland role in delivering WFD
3. Circulate PES note more widely across UK

Workshop Session Five:
Restoration for carbon benefits – science, policy markets

Chair: Mark Reed, University of Aberdeen

Discussion One:
Applying the GEST approach in the UK:

- We need to coordinate and collaborate on the collection of data re: GHG fluxes/water table/vegetation and identify knowledge gaps
- We need to create Greenhouse Gas Emission Site Types (GESTs) for UK peatland vegetation, to provide cost-effective proxies for GHG fluxes utilising remotely sensed data on vegetation composition change at regional and national scales. Given potential problems of accessing raw data, a meta-analysis needs to rely on existing published data on the relationship between GHG flux changes, water table depths and vegetation composition
- The group estimated that building on existing work (e.g. by Crighton Carbon Centre and elsewhere), it may be possible to complete this work within 3 months, with the support of a science panel providing access to relevant secondary sources
- It may be possible to supplement this work with some vegetation surveys for some sites where there is good recent data on water table depths and GHG fluxes changes

Discussion Two:
Opportunities for regional markets:

- Need to build regional identity and local ownership through regional/local champions and education. If you can 'individualise' peatland areas sufficiently, price becomes less relevant
- Ultimate objective is re-wetting then this delivers GHG, biodiversity and water benefits. To general public biodiversity and water benefits are likely to mean more to them than carbon. So how do you bring in harder to quantify benefits in parallel instead of just marketing carbon? A good starting point is secondary published data and expert knowledge
- N2O is currently conservatively excluded under the Verified Carbon Standard, but N2O might be more important in UK – meta data required to assess its importance.

Discussion Three:
Peatland carbon Code Route Map

- Drafted Route map makes sense and provides good summary of the options
- Need to identify bundled benefits – carbon biodiversity and water
- Good to proceed first with a non marketed route
- Carbon savings sold on Voluntary markets can also be accounted for under national GHG inventory
- Opportunities exist for funding good condition peatlands

- Taking a 50 year accounting period is best – any longer then we may have to account for risk of climate change impacts on carbon

Conclusion:

- Peatland Code (as opposed to Carbon Code)
- Explore opportunities to bundle carbon with co-benefits of peatland restoration
- Need to develop Greenhouse Gas Emission Site Types (GESTs) for the UK to cost-effectively monitor GHG flux changes resulting from peatland restoration. This work could be done relatively quickly and cost-effectively (see above)

Workshop Session Six:
Connecting with people – raising awareness of the importance of Peatlands

Chairs: Pat Thompson, Uplands Policy Officer, RSPB

The aim of the workshop was to stimulate debate about how we raise awareness of the importance of our peatlands and to develop thinking on what we need to do to get society and decision-makers more involved in our work. The workshop started with some thought provoking presentations:

Liz Lewis-Reddy (Montgomeryshire Wildlife Trust) – The Pumlumon Project: A Landscape for Life
Craig Bullock (University College Dublin) – Peatlands: Their value as to the local and wider community as fuel, habitats and carbon stores
Louise Turner (Moors for the Future Partnership) – Connecting with people
Mark Boyd (The Royal Society for the Protection of Birds) – We need to talk about peat

Key points to emerge from the presentations:
We are engaging with people through a variety of activities across the UK. Whilst there are pockets of good practice across our work, the education community is not well connected, often stretched and largely failing to engage with enough people in a meaningful way. Increasingly we are talking about peatlands in the context of their wider value to society (ecosystem services) e.g. amenity, biodiversity, importance in context of climate change.
Some overarching principles emerged from the talk by Mark Boyd.

Retain the big picture; Be ambitious; Believe that change can happen; Help people learn to love peatlands; Engage people by engaging with their agenda; Don't underestimate ignorance; Keep information flowing; Watch the language – avoid jargon; The audience is always right; Employ storytellers (Trust them to talk about what's interesting); Sell lifestyle and benefits; Focus on extremes, not the middle ground; Be public; Stay positive

The workshop session focused on three specific areas, with all participants spending some time on each topic. The **key conclusions** from the workshops were:
To connect with people and raise awareness of the importance of peatlands - we need to:

- Understand different agendas
- Tell cross-cutting stories (e.g. biodiversity, history (archaeology, culture), , leisure, ecosystem services
- Use the right language
- Be public and stay positive

How can we make peatlands relevant to people?

- Education is critical – invest in it!
- Understand audience concerns
- Take care with language
- Don't ignore utilitarian/financial arguments – e.g. impacts of grips and grip blocking for livestock
- Connect with people through the arts (e.g. music, storytelling), through the past (archaeology, cultural heritage)

- Inform leisure user or user groups
- Reach out to younger audiences - be innovative about how we tell stories (e.g. Horrible histories of bogs); Make most of amazing wildlife (dragonflies), colours (mosses) etc
- Seek emotional connection (e.g. responsibility, fear of losing peatlands, chance to give something back, quality of life issue)
- Put peatlands in global context

How does the ecosystem services concept[1] help us connect with people?

- The currency of ecosystem services provides an opportunity to talk to people about the societal benefits of healthy peatlands and to talk more rationally about costs/benefits (e.g. healthy peatlands cut your water bill) and trade offs
- Be mindful of ecosystem services that don't sit comfortably with peatland agenda (e.g. peat cutting/turbary rights); Note that rights are legitimate and must be given due weighting
- The opportunity to connect with people may depend on where you are working – but a great many people are reliant on vital peatland ecosystem services like climate regulation, water provisioning and as a place for access/recreation etc
- Don't underplay the cultural services. Try to connect with people through a variety of ways. Seek to make emotional (even spiritual) connections. What do they see, hear and smell? How do they feel?
- Encourage active connection with the peatland landscape through range of engagement opportunities with the landscape e.g. getting involved in practical work
- Use wider ecosystem service rationale to articulate the global significance (polar bear syndrome) of these special habitats
- Be mindful of language and jargon!

Note[1] – not everyone knew what ecosystem services were

What is the role of the citizen science?

- A really valuable tool!
- Make connection - a key tool to facilitate engagement, thereby raising participation, awareness, commitment etc
- Can help connect people to otherwise remote issues (e.g. peatlands) and make issues more accessible and relevant
- Capture imagination/tap into curiosity; increase commitment through understanding; helps participants to learn/appreciate wildlife (peatlands)
- Whatever we want it to be – at varying levels for a variety of audiences (e.g. age, culture); can be cheap and cheerful; take part at your level e.g. as much or as little as you like
- Help people see/appreciate the bigger connection and the interconnectedness of social, economic and environmental agendas
- Cross cutting – link environmental and cultural issues (past and present)
- Reach out to others – spread the word. Celebrate participation and success.