Peatland Programme conference 2023 workshop summary:

Lowlands and uplands: cross-pollinating ideas

Context and aims

UK peatlands are often distinguished and categorised by lowland and upland locations. While peat is formed by the anaerobic, waterlogged conditions in a humus-rich soil preventing decomposition in each case, there are some notable distinctions between mire types in formation processes, hydrology, ecology and current management/restoration.

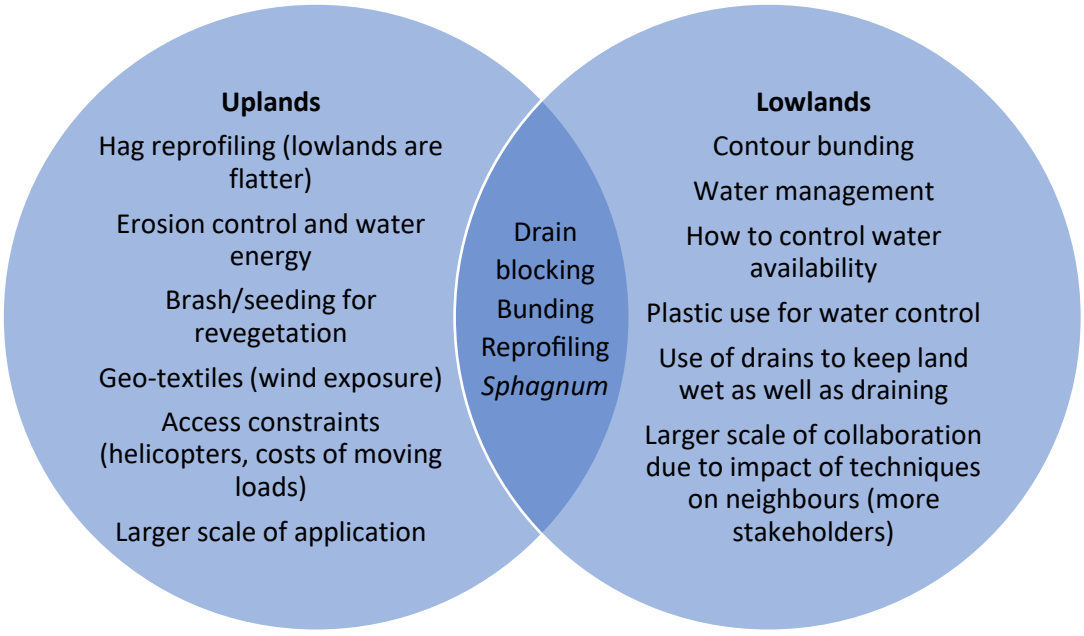
For peatland restoration practitioners, (upland and lowland), the aim can often be described as 'how do we make degraded peat active once again, sequestrating carbon rather than losing it?'; or perhaps 'how can we get more *Sphagnum* moss to grow here?'

What can upland and lowland peat practitioners learn from each other's work - are there synergies to exploit? Is there sufficient cross-pollination of techniques and approaches from lowland to upland and back down again? Or do we need to be more careful, as we learn more about our mires, to treat them distinctly and separately?

This Natural England-led workshop explored these questions by identifying topics for the attendees to consider and respond to in smaller discussion groups.

Summary of discussions

1. Application of techniques



2. What does good look like?

Theme	Thoughts
Hydrology	• Is your site retaining a suitable level of water? • Is this water level stable?
Biodiversity	• Indicator species: habitat specific / seasonally driven. • Progress towards a 'natural' state – do classifications restrict progress? • Restoration to reestablish *Sphagnum* indicator species should be expectation in fen habitats as much as 'upland' blanket bog.
Land management	• Grazing regimes – are they appropriate? • Burning.
Value	• Valued by people / community engaged – equally in 'upland' and 'lowland' contexts.
Water quality	• Nutrient levels and sediment.
Land use	• Paludiculture potential for nutrient uptake in fens. • Agriculture is associated with lowlands. Need to reduce cultivation and direct drilling and use cover crops to avoid 'fen blow'. 'Frost heave' in blanket bog context. • Fewer competing land uses in uplands provides more opportunity for a return to natural processes / low intervention.
Sustainable approaches	• What will 'good' look like in the future? When is it enough? • Resilience. • Prevent degradation and enable sequestration.

3. Aims of restoration, including additional benefits

Theme	Thoughts
Dependencies	• Can original ecosystem be restored? What was it? • Climate change resilience. Is this possible in future climate scenarios? • What's possible on the site? • Scale. • Constraints, e.g., development, existing land use (opportunity cost).
Land ownership	• Uplands: large scale. • Lowlands: neighbouring farmers, additional constraints. Is it financially viable?
Land use	• Lowlands: feels like a compromise. • Not just agricultural peat, but other habitats that are less productive and could have greater gains.
Additional benefits	• Public access: treated differently in uplands and lowlands. Is this due to remoteness? • Additional, specific habitat creation for species, e.g., pools, benefit dragonflies, water voles, amphibians, otters, fish. • Wider catchment enhancement and connectivity. • Climate resilience.
Integrated catchment management	• Needs more consideration. • Water management across area: water quality / sediment loading, flood risk reduction. • Biodiverse edges and additions: 'stepping stones.' • Valuing connectivity. • Measurement.

Education and engagement	• Enthusing people about bogs: seeing and exploring local bogs, their history and biodiversity. • Farmers/commoners and landowners: facilitating their learning to allow access to grants/other funding schemes.

4. Attitudes to risk (innovation versus doing nothing)

Theme	**Thoughts**
Innovation	• Requirement for knowledge sharing, particularly when things haven't worked. Evidence base of things that have worked but not what hasn't worked. Whose role is it to bring knowledge sharing together? • Lowlands: higher risk of losing peat entirely due to high degradation rate and combatting long history of drainage. Leads to more innovation than upland moors, where a more 'textbook' approach doesn't lend itself to dealing with unique sites. • Is there more caution in upland sites?
Fire risk	• Fire service recommends burning to prevent wildfire (targeted fire breaks and fuel breaks). Need to address hydrology to decrease fire risk.
Barriers	• Resistance to change from traditional management. • Inconsistent advice from statutory bodies, e.g., use of sheep fleeces and no-fence collars. • Example from Peak District: desire to be innovative blocked by NE consenting process – is the evidence threshold on protected sites set too high? • Timescales: some interventions need to be monitored for 25 years. Monitoring is often not included in findings or knowledge shared properly. • Many different opinions about best techniques. • Landowner views can depend on costs and impacts on productivity.
Economics	• Lowlands: existing grants don't make restoration worthwhile. • Uplands: require private finance to offset opportunity cost.
Adaptability	• Need to be adaptable on each site: set prescriptions, e.g., for techniques, won't always work and may need to be rectified/challenged.

5. Historic environment

Theme	**Thoughts**
Space	• Large-scale blanket bog restoration: lots of space so easier to avoid historic features. • Lower altitudes: less space, limited opportunity for buffering/avoiding, e.g., 5ha fields, south-west tin mining constraints. • Red/orange/green categories for extent of buffer (Yorkshire context). • Less archaeology in uplands than lowlands.
Perception	• Higher altitudes: assumption has been that rewetting is a positive for historic features. • Lowland, e.g., Flag Fen: rewetting may be damaging if drying has already occurred and prevents access for excavation. Is this specific to low altitudes?

	• Why can't we restore on 'historic' 30-year-old peat cuttings in England, but in Northern Ireland they do?
Community engagement	• Fen landscape: archaeology as a hook for engaging communities – potential for learning in upland setting / blanket bog. • Powerful tool for connecting people with the value of their peatlands.
Cost	• Cost of an HEA and a Watching Brief is prohibitively expensive for peat restoration but affordable for property developers.