

Sphagnum reintroduction

Lessons from MoorLIFE and other projects

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Moors for the Future Partnership



MoorLIFE/ MMU *Sphagnum* seminar



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Aims

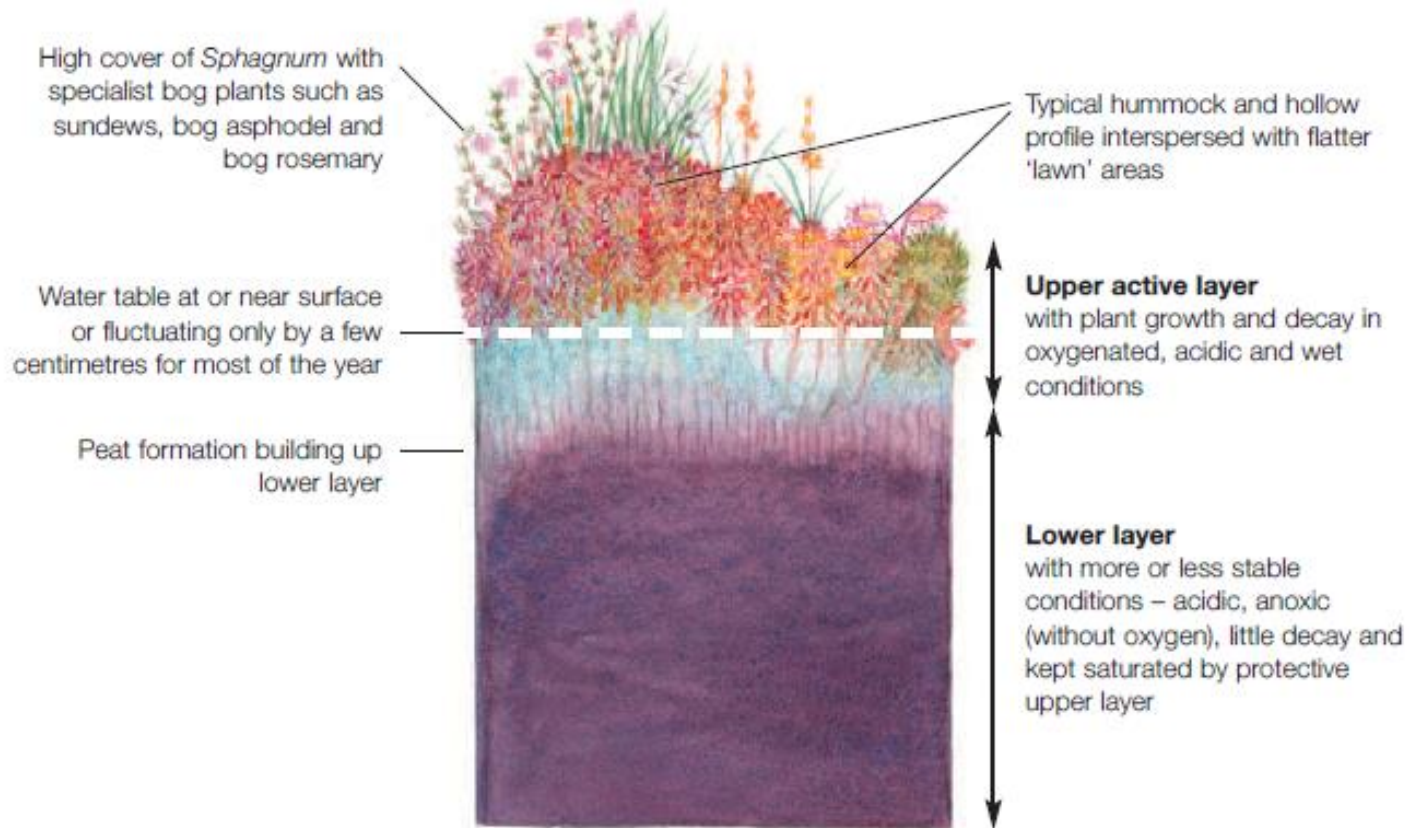
- Why is *Sphagnum* important?
- Put *Sphagnum* reintroduction into context – why are we where we are?
- What work is currently being done and what are we currently doing at a landscape scale
- What are the challenges and opportunities over the next 10-20 years?
- 2 workshops – focussing on current conservation actions and research and monitoring activities and questions

Why is *Sphagnum* important?

- Blanket bogs in the UK are *Sphagnum*

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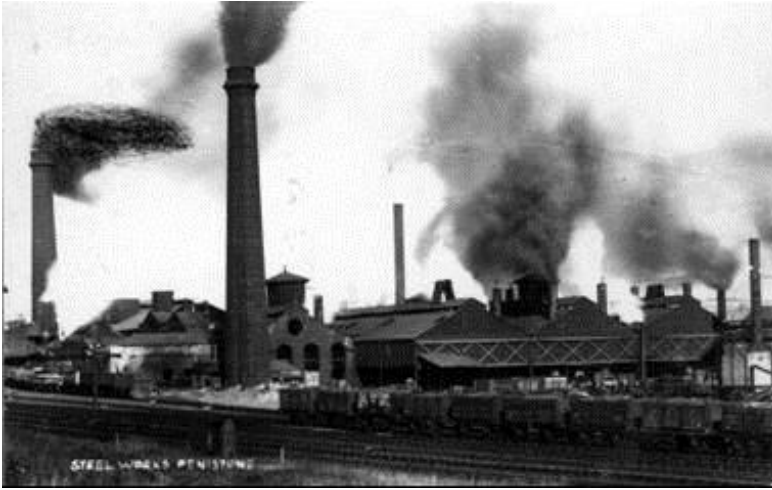
- Blanket bogs in the UK are *Sphagnum*



Why is *Sphagnum* important?

- **Blanket bogs in the UK are *Sphagnum***
- Blanket bog is a rarer habitat than tropical rainforest
- More carbon stored in UK's peat than in all forests in UK, France and Germany
- Intact moors act as a filter for drinking water – Peak District and South Pennines supply drinking water to about 10 million people
- Intact moors slow the flow of rainfall into streams and rivers – beneficial for flooding and drought alleviation
- Industrial pollutants are stored within the peat

Why do we need to reintroduce it?





Why do we need to reintroduce it?

2008 MFFP report:

“Past damage probably main factor preventing recovery in South Pennines”

**How are people reintroducing
Sphagnum?**

The bottom of the slide features decorative wavy lines in shades of purple and blue.

Sphagnum rich brash

- Lots of bare peat sites use heather brash for stabilisation – is *Sphagnum* introduced when this is cut from *Sphagnum* rich areas?




Sphagnum fragments

- Small pieces of plant material added
- Requires suitable source of material
- More susceptible to drying out, works well in wet areas
- Can be mulched with brash
- Commonly used in cut-over raised bog restoration

Sphagnum fragments



Whole *Sphagnum* plants - hummocks

- Collect material in handfuls and transplant whole handful to form new colony
 - Can be within sites or moving from one site to another
 - Can be done with flush or hummock forming species
 - Requires sustainable source of material
- 

Whole *Sphagnum* plants - hummocks



Sphagnum propagation

- Developed by Micropropagation Services, through discussions with MFF and MMU, due to absence of material in Dark Peak
- Requires very small amount of source material, bulked up through micro-propagation
- Most expensive techniques
- Any species or combination possible
- Beads, slime and plugs to date

Sphagnum propagation



Manchester
Metropolitan
University



The **co-operative** foundation

Sphagnum seminar – Barriers to progress

1. Where are the sources of *Sphagnum*, including what is the impact of collection on donor sites and how much can be taken? Where can *Sphagnum* be collected from for adding to protected sites?
2. Coping with the long timescales for changes to become apparent
3. What is the end point we want? What trajectory will the vegetation on a site follow?
4. Will there be long term funding as re-establishing *Sphagnum* to a large area will be a long term project?
5. Can this be done at a very large scale with little follow-up possible?
6. What impact will a *Sphagnum* sward have on water quality or flows?
7. How can we show the importance to *Sphagnum* to private owners and tenants?
8. How can we make the public aware of the importance of *Sphagnum*?

What are MFFP doing?



MoorLIFE *Sphagnum*

- Bead application – Black Hill, Bleaklow, Rishworth Common, Turley Holes
- Plug plants – Bleaklow
- *Sphagnum* rich brash – Rishworth Common
- Hummocks – Bleaklow
- *Sphagnum cuspidatum* fragments – Bleaklow
- Applied to over 900 hectares



Other MFFP *Sphagnum*

Catchment Restoration Fund

- What impact does *Sphagnum* dominated sward have on water quality and flow?

Sphagnum / *Molinia* trials

- 2012 – NE requested development of techniques for diversifying *Molinia* grassland with *Sphagnum*

Other MFFP *Sphagnum*

Raising awareness

Field guide to *Sphagnum* mosses in bogs

Introduction. This guide aims to introduce some of the more typical bog species, designed for people who have no previous knowledge of the subject. First look at the diagram showing the main parts of a *Sphagnum* plant on the back of this guide. Then look at the photos, text and colour charts of each species to check the key features against those found on your plant. This guide does not cover all *Sphagnum* species in the UK and is not designed for use by surveyors. For more accurate identification a hand lens or microscope is needed.

Using colour to recognise *Sphagnum* species. Most species vary in colour. Typical colours for each species are shown in the colour charts on the left hand side of each species box, with the most common colours at the top. When growing in shade all species tend to be green. When dried out, green species may look bleached and red species may look brown. Lift a single shoot up to see the true colour below. All species can be darker when waterlogged.

Sphagnum capillifolium

- Forms hummocks or carpets, or in small patches. Capitulum often like a pine-cone.
- Dark wine-red to green. Other similar red species occur. Common in many habitats.
- An important peat-forming species, but more tolerant of drying than *S. papillosum* and *S. magellanicum*.

Sphagnum subnitens

- Similar size and shape to *S. capillifolium*. Loose hummocks or small patches.
- Brick-red or salmon pink to green. Centre of capitulum often green with red 'hairs' around edges.
- In several habitats, but not usually abundant in bogs in good condition.

Sphagnum fuscum

- Similar size and shape to *S. capillifolium*. Forms hummocks.
- Brown like ginger biscuit or nicotine. No red.
- In wet bogs or at high altitudes. Very rare in England and Wales. Occasional in Scotland.
- An important peat-forming species in northern countries.

Sphagnum fallax

- Variable in shape, in extensive carpets or small patches.
- Mostly green, or with mustard colours. Similar to several other green species.
- The most weedy *Sphagnum*, tolerant of some pollution. Very common in many habitats.

Sphagnum cuspidatum

- Larger than most species, with very long, narrow leaves, looking 'fishy' when floating.
- Mossy-looking (like wet fur) when lifted out of water.
- Cleanly green, sometimes with mustard colours.
- Often in pools or drains.

Sphagnum fimbriatum

- In loose carpets and patches, with long, thin, drooping branches.
- Green or whitish-green.
- Stem leaves form a fringed 'ruff' at stem apex (visible with a hand lens).
- In several habitats, but not abundant in bogs in good condition.

Sphagnum tenellum

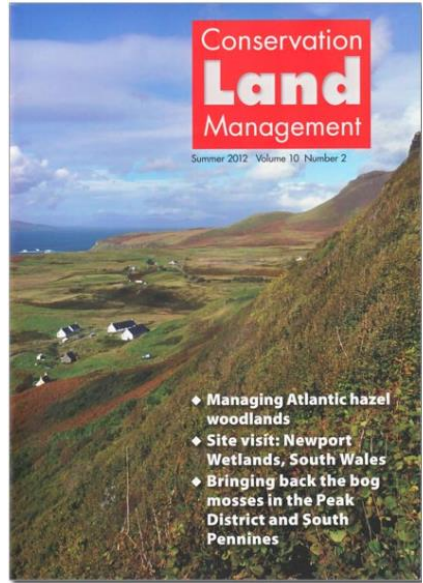
- Very small species. In carpets or mixed with other species.
- Livid, bright green or orange.
- Leaves at branch ends sometimes stick out like crab's claws.
- In wet bogs, on edges of bog pools, on recovering wet peat and in wet heath.

Sphagnum dentriculatum

- Variable in shape, usually in patches or carpets.
- Upper branches often curved like a 'cow's horns'.
- Green or yellowish, sometimes dark copper.
- In bog pools, drains and flushes.



New App



FSC Field Guide

Articles and publications



Thank you

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Moors for the Future Partnership

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