

Restoring the Marches Mosses

Restoring Marches Mosses BogLIFE Project (LIFE15NAT/UK/000786)

The Marches Mosses are Fenn's, Whixall and Bettisfield Mosses and Wem Moss National Nature Reserves in North Wales and Shropshire. Collectively, the Mosses form the third-largest lowland raised peatbog in the UK. Lowland raised peatbogs ('mire') are one of the rarest habitats on earth, and over 96% have been destroyed over the last several centuries through peat cutting, agriculture and drainage.

Formed at least 10,000 years ago, peatbogs are a major store of carbon, helping to mitigate the effects of climate change while providing homes for a wide range of wildlife, many not seen outside this habitat.

Shropshire Wildlife Trust, Natural England and Natural Resources Wales are working to restore 2,500 acres of the Marches Mosses and surrounding peat edge ('lagg') with the goal of making them healthy, functioning eco-systems once again.

We are working to remove invasive scrub and trees, retain more rainwater on the centre of the Mosses, recreate bog on marginal fields, control air and water pollution and continue the clean-up of the former scrapyard site on the edge of Whixall Moss. We also want to make the Marches Mosses more accessible to visitors by improving interpretation and access, installing a wheelchair-accessible bird hide, running a volunteering programme and holding community events.

What are the issues?



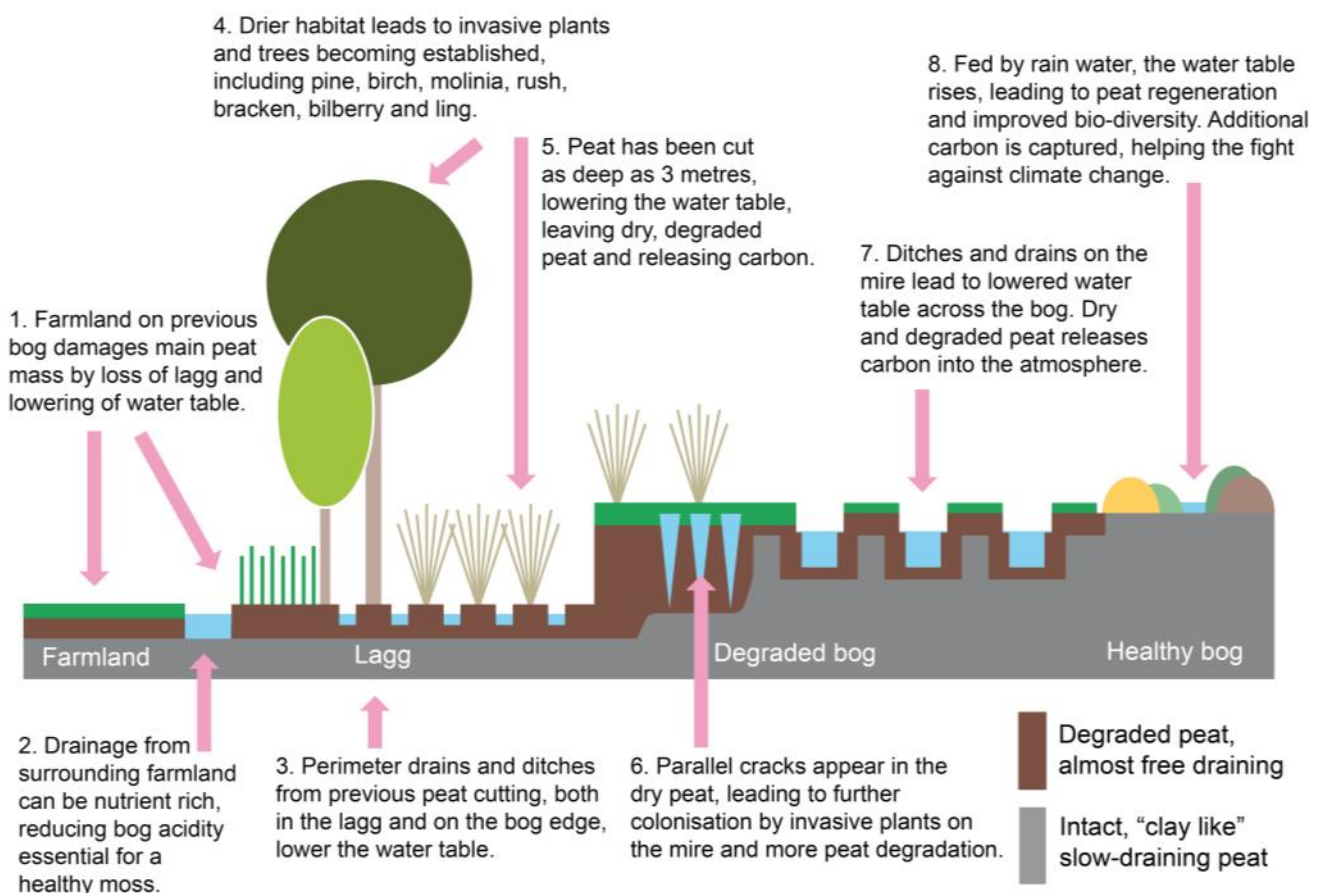
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Why is the peat so important?

The Marches Mosses are beautiful, tranquil places that are full of wildlife and intriguing to visit. They are also vital for the health of the planet as we try to lessen the impact of carbon emissions on climate change:

- ✈ Peatland is 90% water. Peat bogs work to slow the flow of rainfall through the landscape, thus helping to prevent local flooding.
- ✈ Global peatlands contain at least 550 gigatonnes of carbon—more than twice the carbon stored in all the forests in the world.
- ✈ Peat forms at a very slow rate, so any loss of peat, including for garden compost, takes hundreds of years to rebuild.
- ✈ Peatlands cover just 3% of the world's surface, yet hold nearly 30% of soil carbon, keeping the carbon out of the earth's atmosphere.
- ✈ Peat that is drained and therefore dries out releases stored carbon into the earth's atmosphere, thus adding to the climate crisis.
- ✈ The cold, waterlogged, acidic conditions of peatlands create an ideal habitat for a unique set of flora and fauna to thrive.

What's wrong with the peat?

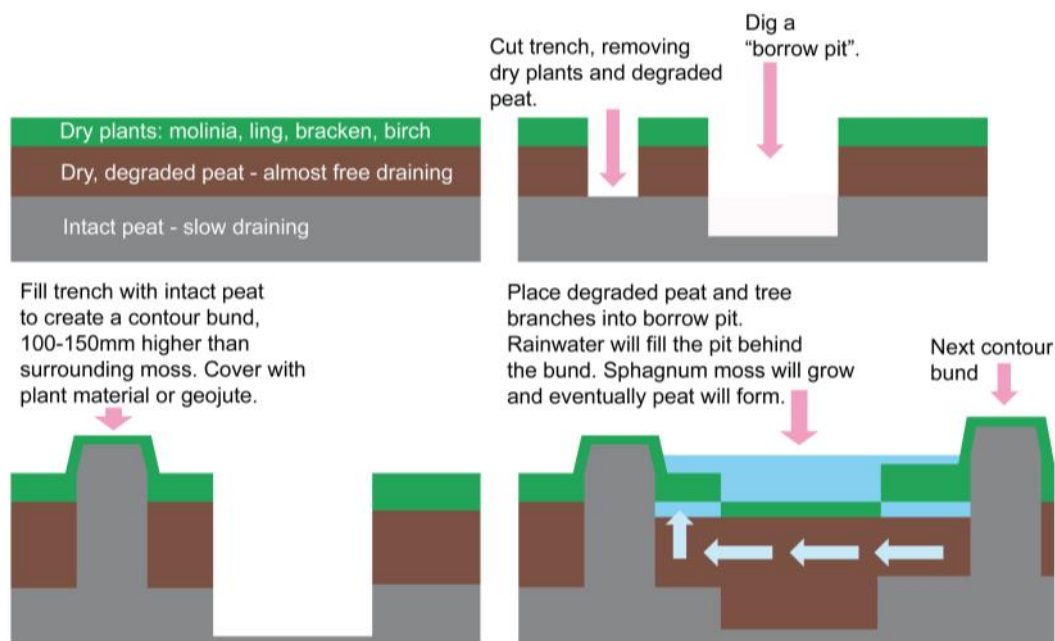


How are we fixing the Mosses?

Repair the drainage

The most important element in fixing the Marches Mosses is water. Drainage of water away from the Mosses over the last few hundred years or so has badly damaged the bog and its ability to regenerate, and thus help to store water and carbon.

To regain control of the water ('hydrology') on the site, we are working to divert large drains in ways that protect the surrounding area and to block up a myriad of smaller drains. We are creating cells (small dams) through a new technique called cell bunding that will capture the rainwater needed for *Sphagnum* moss growth that will acidify the bog and create more peat, explained in the diagram below.



Reduce nutrient pollution



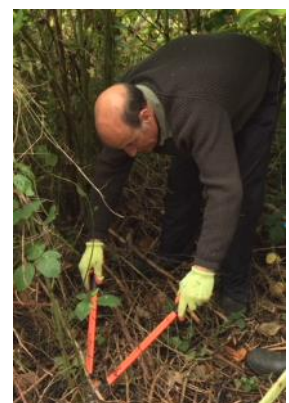
The site is affected by air, and to a lesser extent, water and land based pollution. Ammonia in the air speeds up the spread of invasive plants such as purple moor grass and reduces the acidity of the mire.

The project is monitoring pollution levels and working with local land owners and communities to begin to reduce the sources of pollution.

Remove invasive species

Project staff are working with volunteers to remove invasive species. The Marches Mosses have a serious problem with purple moor grass, which smothers the special bog species, preventing their growth. Silver birch saplings also cause problems by drawing water and drying out the bog.

Trees and grasses are wonderful in the right place. While trees capture lots of carbon, the peat bog captures even more and left undisturbed, stores it over millennia. As the bog gets wetter and more acidic, these species will be less able to regrow.



Bog edge developments

The scrapyards on the south end of Fenn's and Whixall Mosses had been a pollution risk for around 60 years. Shropshire Wildlife Trust purchased the scrapyards in 2016 with the help of Natural England and the Esmée Fairbairn Foundation, and began clearing the site in 2018. Over 100 truckloads of waste metals and hazardous materials and around 50,000 tyres have been removed from the site.

Contaminated ground at the site will be covered with turf. After this, the area will be left to develop into woodland.

The Trust also purchased the fields across the Llangollen Canal from the Mosses. Here visitors can see birds such as curlew and lapwing, which use both the fields and the Mosses for feeding and nesting.

A wheelchair-accessible bird hide is planned at the fields. This will increase access to the Mosses, as bird watchers can cross the nearby Morris' Bridge to visit the peatbog.



Experiencing the Mosses



Currently around 10,000 people visit the mosses each year. By 2021, we hope to increase this and do so sustainably. We'll do this by attracting people from the surrounding area as well as promoting tourism, including boaters passing the Mosses on the Llangollen Canal. We will work with local partners to spread the word about the benefits of visiting the Mosses.

Visitors can already follow several trails to experience the beauty, open sky and tranquillity of the Mosses – an antidote to the bustle of urban life. Beyond that, we will continue to develop ways to engage with thousands of people during the project and beyond.

This will include a schedule of public events and training courses aimed at visitors, local residents and academics. We will also encourage volunteering to help with the restoration. By working with ten local primary schools, we will develop a heritage learning programme focusing on the Mosses. Approximately 400 school children will experience the Mosses and the work we are doing to restore it. In addition to these on-site events, we will use traditional and digital communications to reach over 5,000 people with information about how important peatbogs are and provide updates on the Mosses restoration project.

Volunteer with us

We are looking for volunteers to help with a wide range of projects, from habitat management to wildlife surveys and water monitoring. We run volunteer work parties every Thursday and have ad hoc opportunities at other times. No previous experience is necessary, so get in touch if you're interested in having a chat about volunteering.

For further information visit www.themesandmosses.co.uk
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