

Pennine PeatLIFE

LIFE16 NAT/UK/000725

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Pennine PeatLIFE delivery partners

NORTH PENNINES
Area of Outstanding Natural Beauty



Yorkshire
Wildlife Trust



Pennine PeatLIFE is funded by



NORTHUMBRIAN
WATER *living water*



PENNINE
PeatLIFE



Pennine PeatLIFE is a € 6,502,760 blanket bog restoration project funded by the EU LIFE programme with match funding from Environment Agency, Northumbrian Water, United Utilities and Yorkshire Water.

Pennine PeatLIFE will be delivered over 4.5 years* by North Pennines AONB Partnership, Yorkshire Wildlife Trust and Forest of Bowland AONB.

Pennine PeatLIFE delivery partners



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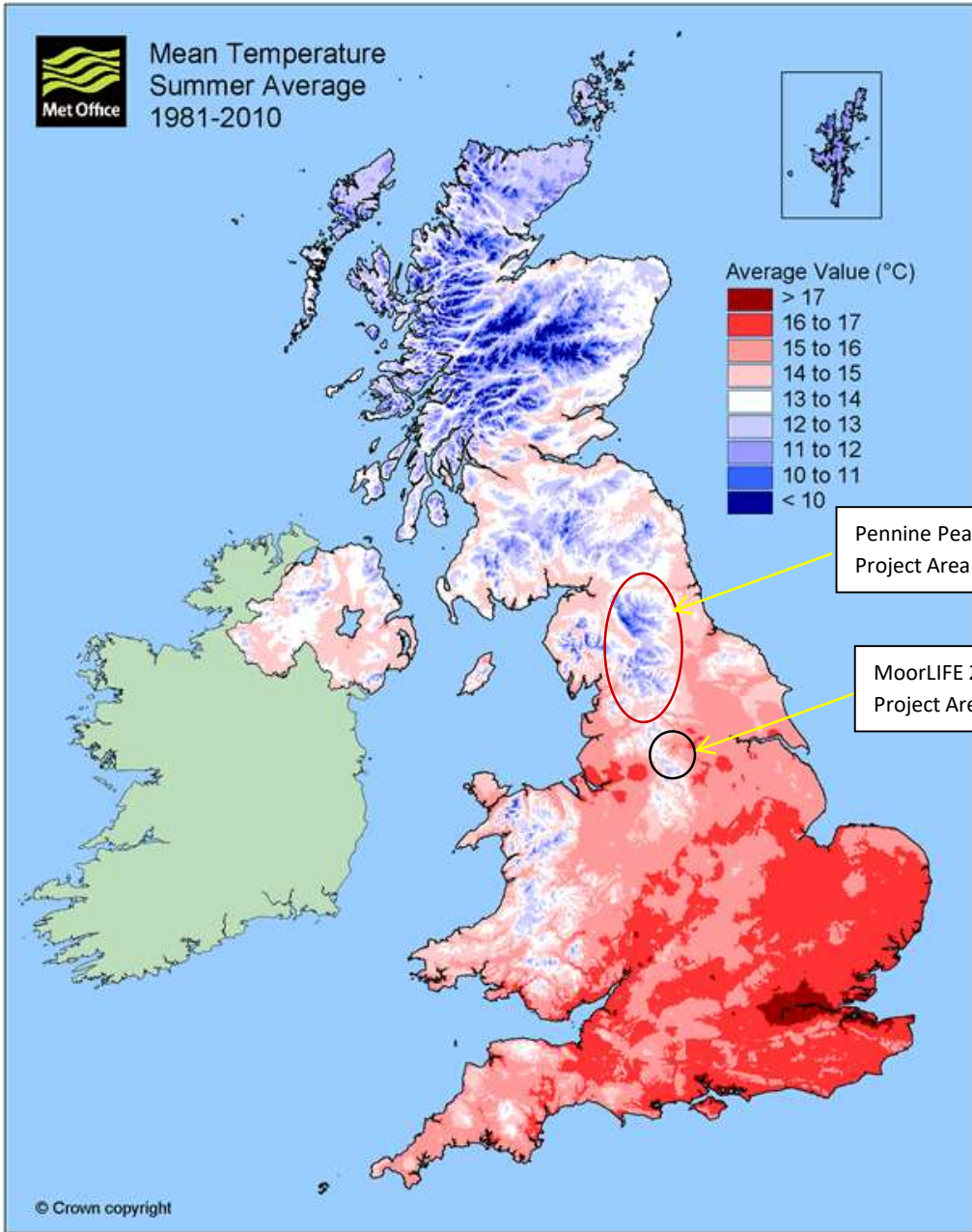


The aim of the Pennine PeatLIFE project is to demonstrate and evaluate geographically appropriate Blanket Bog restoration techniques suited to the harsher climatic environment of northern England and the development and showcasing of a financial payment for ecosystem services (PES) mechanism in the UK Peatland Code.

Pennine PeatLIFE objectives:

1. Demonstrating financially viable region-specific and sustainable *Sphagnum* based restoration techniques for re-activating 1353 ha of blanket bog in northern England.
2. Demonstrating through 'Concept to Contract' trials, the UK Peatland Code, as a viable payment for ecosystem services for upland peatlands.
3. Demonstrating new approaches using Unmanned Aerial Vehicles (UAV) to assess vegetation change as a proxy measure for monitoring change in ecosystem services benefits of blanket bog undergoing restoration and as a validation tool for the UK Peatland Code.
4. Disseminating the demonstration activities to policy makers, landowners and managers, government agencies, NGOs, and other key stakeholders in the UK and across the EU.





Isn't all Blanket Bog the same?

Wetter
Cloudier
Colder



There is a large expanse of Blanket Bog along the Pennine chain from the Peak District in the south to the Scottish border.

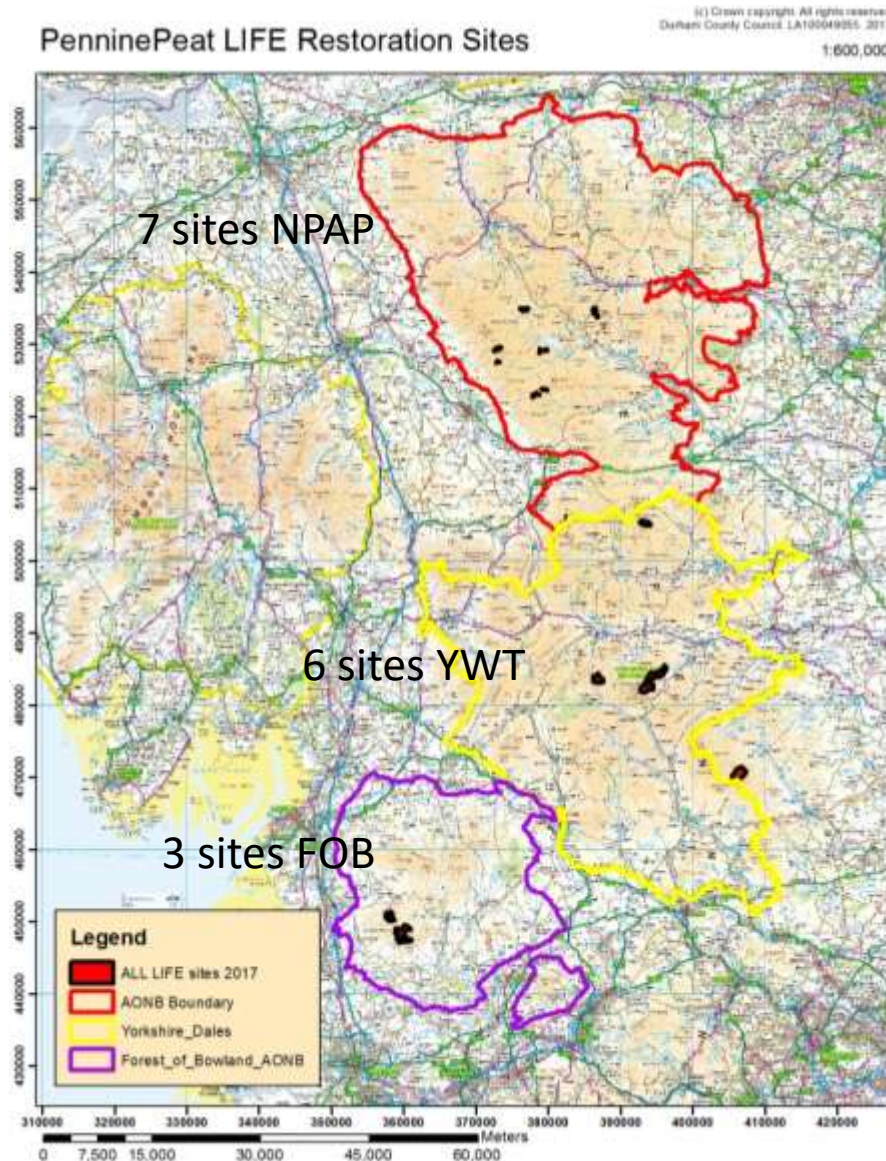
There are enough differences in biogeographical conditions along this range to impact the Blanket Bog's ecologic composition and condition.

The most cost effective and site effective restoration techniques for the Northern Pennines are different to those of the South Pennines area.

All Blanket Bog isn't the same.

Pennine PeatLIFE Objective 1:

Demonstrating financially viable region-specific and sustainable *Sphagnum* based restoration techniques for re-activating 1353 ha of blanket bog in northern England.



We will reactivate 1353 ha of badly damaged blanket bog on 16 sites in 3 protected areas by:

- 1) Reprofilling/blocking eroding gullies to restore hydrology;
- 2) Stabilising and revegetating degraded blanket bog using locally appropriate techniques – particularly *Sphagnum* re-colonisation;
- 3) Demonstrating the replicability, transferability and sustainability of the different types of *Sphagnum* inoculation techniques;
- 4) Carrying out ecological and financial assessments of *Sphagnum* harvest and supply including trials of cutting fragments and harvesting clumps.

Pennine PeatLIFE Objective 2:

Demonstrating through ‘Concept to Contract’ trials, the UK Peatland Code, as a viable payment for ecosystem services for upland peatlands.

We will:

- 1) Develop a process for linking land managers and other stakeholders to demonstrate the UK Peatland Code administrative procedures;
- 2) Draw up management plans and design documents and implementing administrative and accounting processes for each site;
- 3) Develop a prototype contract to demonstrate to land managers and ‘carbon buyers’ the mechanism of a legally binding Peatland Code agreement;
- 4) Develop and demonstrate a monitoring method for evaluating the ecosystem service benefits and financial viability of the Peatland Code.



**PEATLAND
CODE** 

IUCN National Committee
United Kingdom
Peatland Programme

**PENNINE
PeatLIFE**

Pennine PeatLIFE Objective 3:

Demonstrating new approaches using Unmanned Aerial Vehicles (UAV) to assess vegetation change as a proxy measure for monitoring change in ecosystem services benefits of blanket bog undergoing restoration and as a validation tool for the UK Peatland Code.

We will:

- 1) Use repeat high resolution UAV flights to assess and validate ecosystem services benefits of restoration;
- 2) Assess the viability of using UAV as a cost effective and viable monitoring tool for Peatland Code agreements.



Pennine PeatLIFE Objective 4:

Disseminating the demonstration activities to policy makers, landowners and managers, government agencies, NGOs, and other key stakeholders in the UK and across the EU.

We will:

1. Bring together past and present LIFE funded peatland projects from across the EU to review past work and to help develop a joined up and consistent approach to peatland restoration;
2. Establish a Pennine PeatLIFE website <http://penninepeatlife.org.uk/> and social media presence;
3. Develop a programme of local, regional, national and international workshops, demonstration events and press events to disseminate lessons learnt and best practice from the project;
4. Work with Eurosite to organise international knowledge exchanges on *Sphagnum* techniques and the UK Peatland Code;
5. Produce a series of reports and other accessible literature throughout the project culminating in a final report and recommendations for the future.



Pennine PeatLIFE Objective 1:

Demonstrating financially viable region-specific and sustainable *Sphagnum* based restoration techniques for re-activating 1353 ha of blanket bog in northern England.

Sphagnum trials

- 1) To demonstrate the viability or impact that harvesting *Sphagnum* has on blanket bog **donor sites** in the wetter, colder and high altitudes of the North Pennines.
- 2) Evaluate the most cost and time-effective methods of *Sphagnum* introduction and long term re-establishment of the sphagnum species.



Donor Site Assessment

- Sphagnum-rich brash donor sites (cutting)
- Sphagnum clump donor sites (handfuls 10% of area)
- Assessing
 - % *sphagnum* cover for each species present
 - % other non-*sphagnum* species change
 - *Sphagnum* species average height
 - % of bare pure peat
 - Number of clumps/hummocks present
 - Average diameter of clumps/hummocks present





Are these products cost effective?

Do they work?

Sphagnum Trials

2 Natural Products

1. Sphagnum rich brash
2. Hand harvested clumps
3. *S. Papillosum*, *S. Palustre*, *S. Capillifolium*



How do the products compare in price, time and success rates?

Sphagnum Trials - Monitoring

Temperature, aspect, altitude, gradients, peat depth, water table and species already present will be recorded in each plot.

The following parameters will then be measured:

- % *sphagnum* cover for each species present
- % other non-*sphagnum* species change
- *Sphagnum* species average height
- % of bare pure peat
- Number of clumps present
- Average diameter of clumps present
- Full costs of each treatment



Expected Results

1. 1353 ha of blanket bog (*7130) restored;
2. Avoided losses of 26 000 t/C02, plus 1 327.5 t/C02 sequestered after five years;
3. Wider stakeholder awareness as to the importance of peatlands;
4. A better methodology for the use of UAVs in restoration monitoring;
5. Detailed assessment of a PES mechanism - UK Peatland Code;
6. A UK and EU wide increase in the awareness of the UK Peatland Code;
7. Development of a legally binding contract for PES;



Results







2014



2016







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