

## What are peatlands?

Peatlands are nutrient-poor habitats usually located in upland regions of the UK. Covering just 3% of the world's surface peatlands hold 30% of all soil carbon. UK peatlands store more carbon than the forests of Britain, France and Germany combined.

Peatlands also:

- provide 40% of the UK's drinking water;
- help reduce flooding by slowing water flow in the uplands; and
- provide a unique habitat for wildlife such as dunlin and golden plover and strange plants such as the insect-eating Sundew.

Industrial pollution, overgrazing, burning and drainage have damaged 80% of our peatlands. This degradation releases large amounts of carbon contributing to climate change. Erosion of peat fills streams and reservoirs, increasing the cost of water treatment.



A previously restored blanket bog site in the North Pennines AONB

## Unmanned Aerial Vehicles (UAVs)

We use UAVs to complement traditional field work practices such as walk-overs and fixed point photography. Pennine PeatLIFE will utilise Twin Mapper drones to photograph project sites at a high resolution. This helps to map dendritic gullies accurately. UAVs allow us to capture detailed images, to assess damage to blanket bog and open up a new dimension of data analysis including better modelling of water flow paths, improved classification of bare peat areas and producing more accurate 3D landscape models. This will help shape future restoration work and will be used as a tool to monitor restored sites.



A UAV in action (above) and aerial imagery



# Pennine PeatLIFE

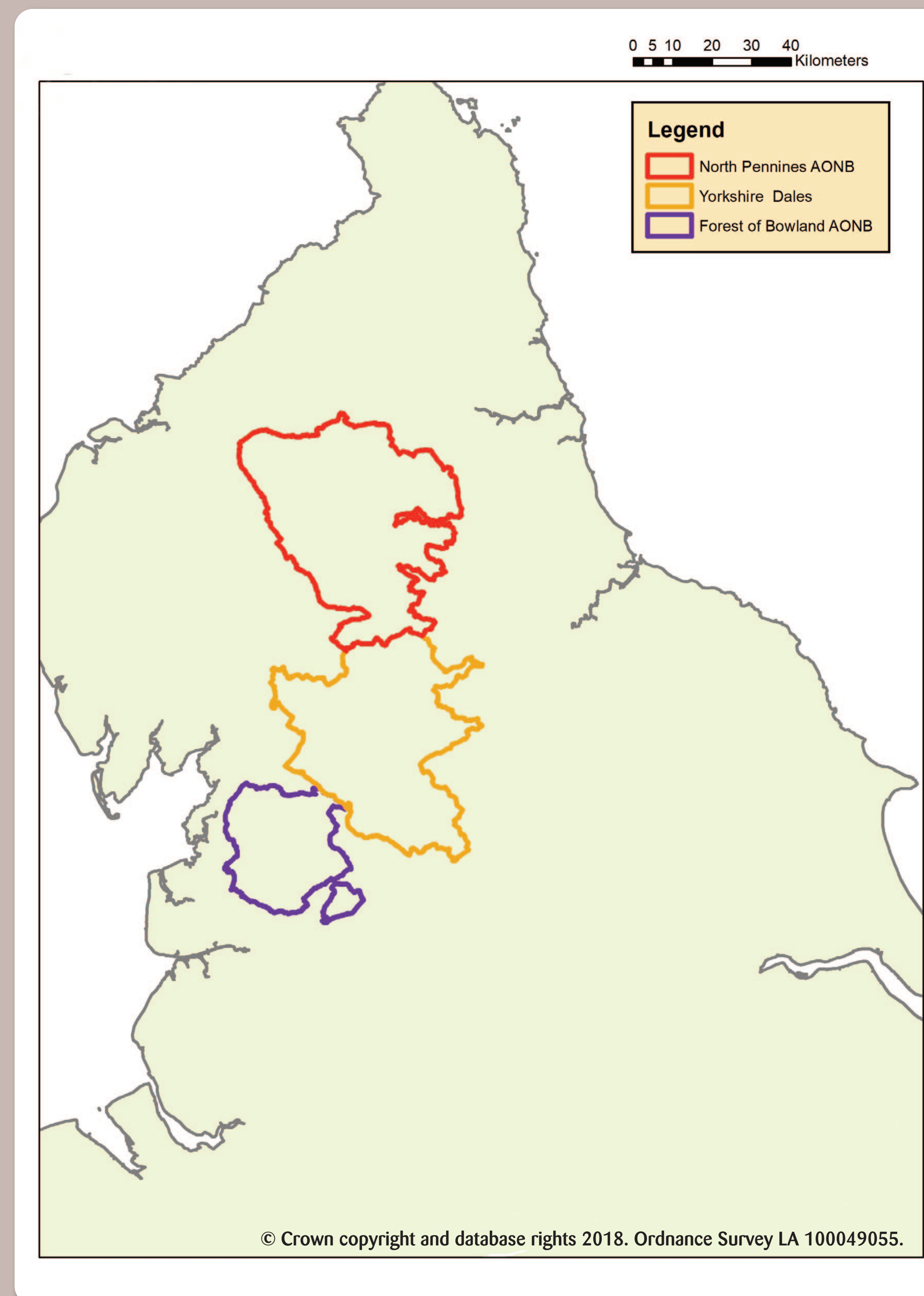
## Project background

Pennine PeatLIFE is an EU-funded project led by the North Pennines AONB Partnership in collaboration with the Yorkshire Wildlife Trust and the Forest of Bowland AONB. It is co-financed by Yorkshire Water, the Environment Agency, Northumbrian Water and United Utilities.

The project will restore 1,300 ha of degraded blanket bog across the North Pennines, Yorkshire Dales and Forest of Bowland.

The project will also:

- trial a payment for ecosystem services mechanism called the UK Peatland Code;
- use unmanned aerial vehicles (UAV) to monitor vegetation recovery;
- trial restoration techniques using sustainable *Sphagnum*; and
- disseminate results through international networks.



Map of the project area

## Engagement and communication

Pennine PeatLIFE operates over a large area and works with stakeholders including landowners, public authorities, water companies and conservation organisations to restore 1,300 hectares of eroding peat. We raise awareness through quarterly webinars, social media presence, scientific publications, volunteer activities and site visits.

## Sphagnum trials

In healthy bog systems, *Sphagnum* is an abundant and important peat-building component and is capable of holding double its own weight in water, helping to slow the flow on the hillside. The lower parts of *Sphagnum* plants accumulate over time in saturated conditions, forming peat. Unfortunately many UK blanket bogs have lost *Sphagnum* coverage, making its reintroduction essential. Methods used to reintroduce *Sphagnum* include:

- planting plug plants grown under greenhouse conditions;
- spreading fragments pellets or gel; and
- harvesting and transplanting clumps by hand, and spreading fragments by machine.



Recently planted Sphagnum clump (above) and established clump.

## Peatland Code

Pennine PeatLIFE will work with the International Union for Conservation of Nature UK (IUCN UK) Peatland Programme to trial and help develop the UK Peatland Code. The Peatland Code will complement public sector funding by:

- attracting private investment under corporate social responsibility initiatives;
- assuring carbon buyers that climate benefits are real, quantifiable and long term;
- demonstrating restoration techniques across the project area; and
- encouraging landowners and managers to adopt blanket bog conservation measures.



The Peatland Code will bring private investment into peatland restoration schemes

Pennine PeatLIFE delivery partners



**Yorkshire**  
Wildlife Trust



Pennine PeatLIFE is funded by

