United Utilities' SCaMP Project - monitoring the effects of blanket bog restoration over a decade.

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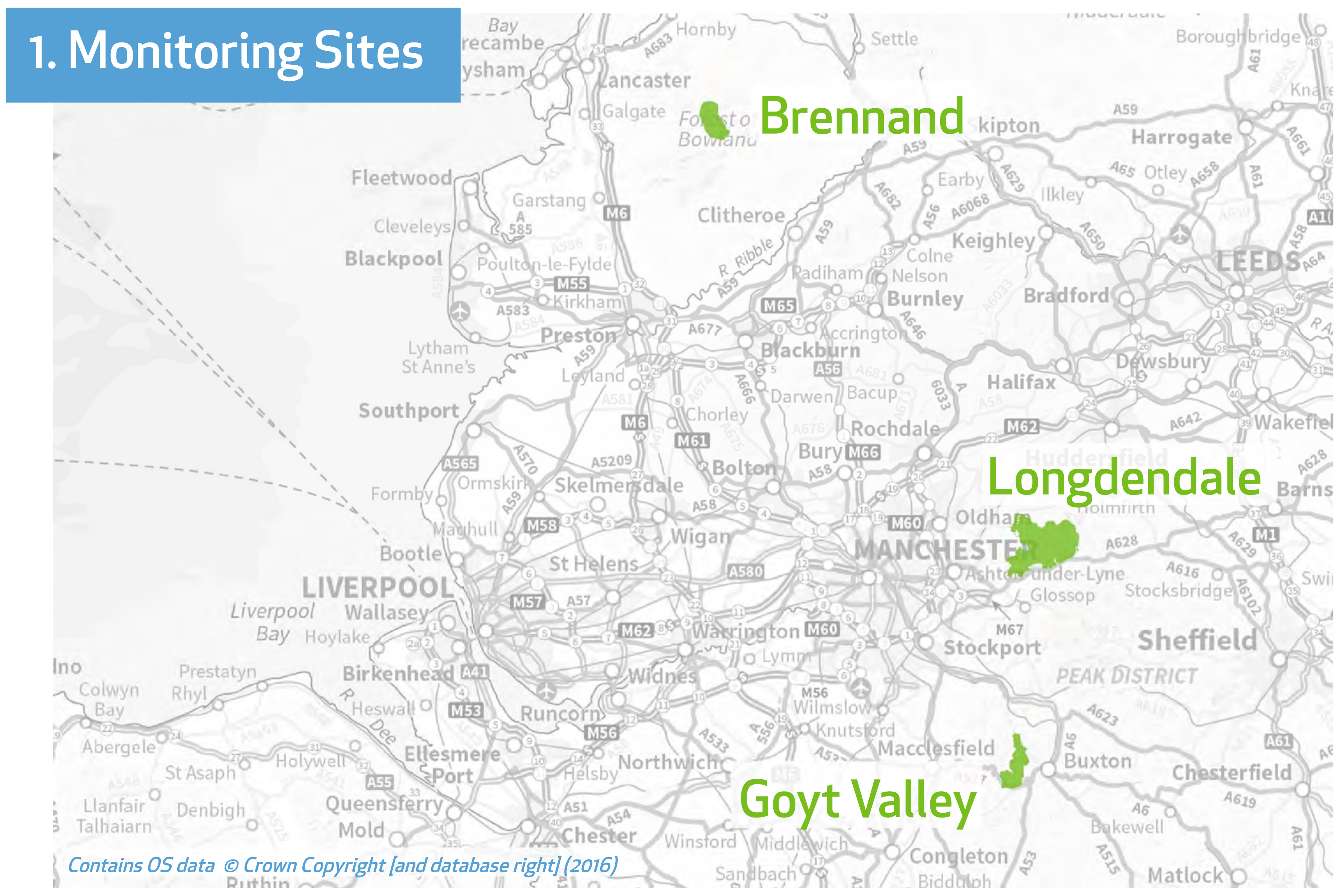
United Utilities' Sustainable Catchment Management Programme (SCaMP) aims to improve catchment quality for nature conservation, raw drinking water and carbon retention via implementation of a suite of habitat restoration measures e.g. grip blocking and bare peat restoration.

Monitored over a 10-year period, and set to continue to 2020, the results form a significant dataset for the analysis and interpretation of the effects of restoration on peat groundwater levels, water colour production/release and vegetation. Data from the SCaMP catchments in the North-West of England are presented and discussed.

1. Monitoring Sites



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2. Restoration Measures

Prior to restoration there were extensive areas of bare peat, significant numbers of artificial drains ('grips'), eroding gullies, and the vegetation was in poor condition.

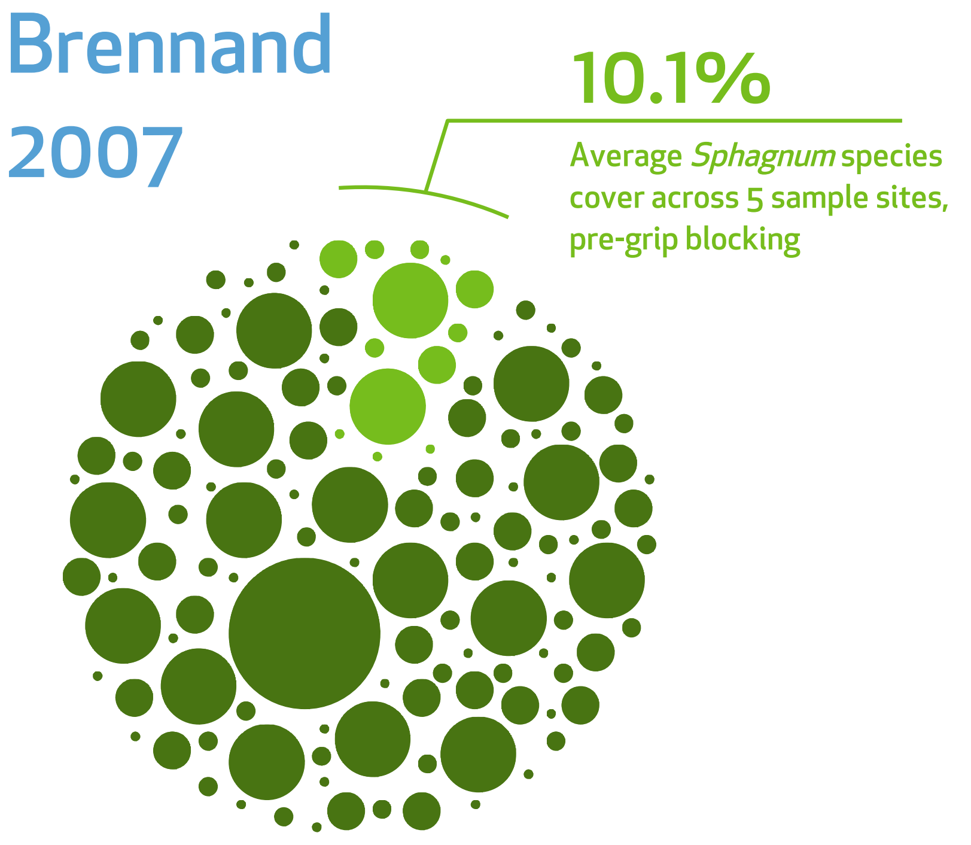
Restoration took the form of grip and gully blocking, reseeding with a 'nurse crop' of grasses, applying heather brash and using geotextile to stabilise bare pear areas.

3. Bare Peat Restoration Effects

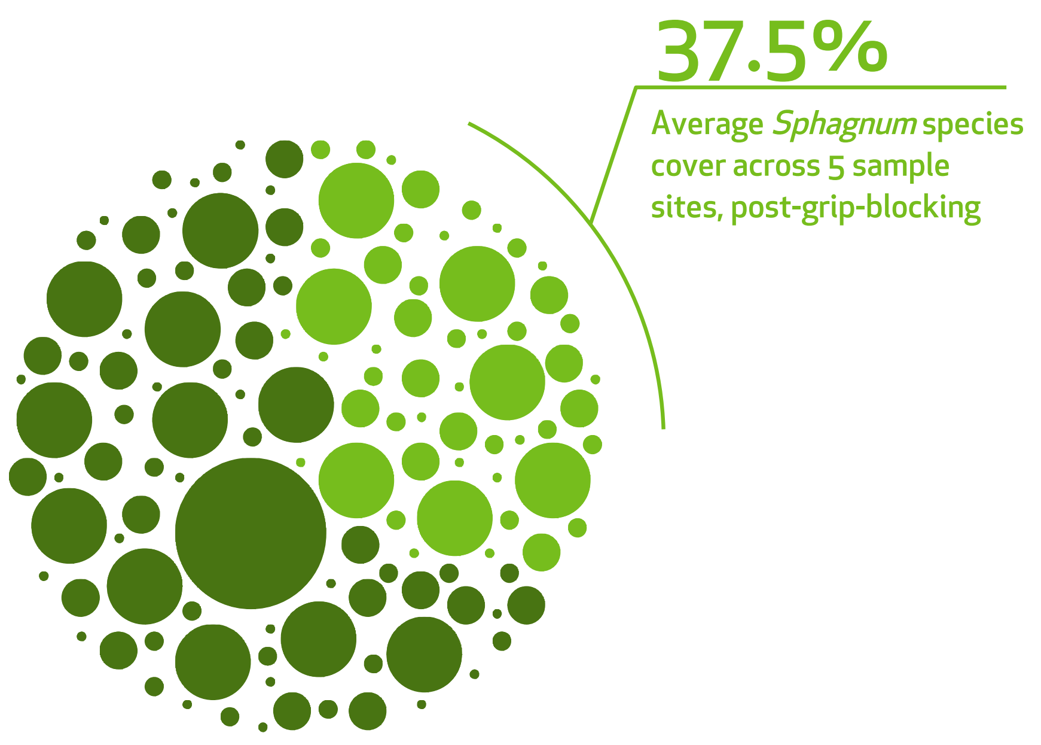
- Slowing the flow
- Structural changes and improvements to peat body
- Some observed re-wetting over time
- Restoration of hydrological function
- Vegetation changes and some improvements
- Raw water colour – stabilisation in rate of colour production and release, also some increases.
- Turbidity reductions/stabilisations

4. Grip Blocking Effects

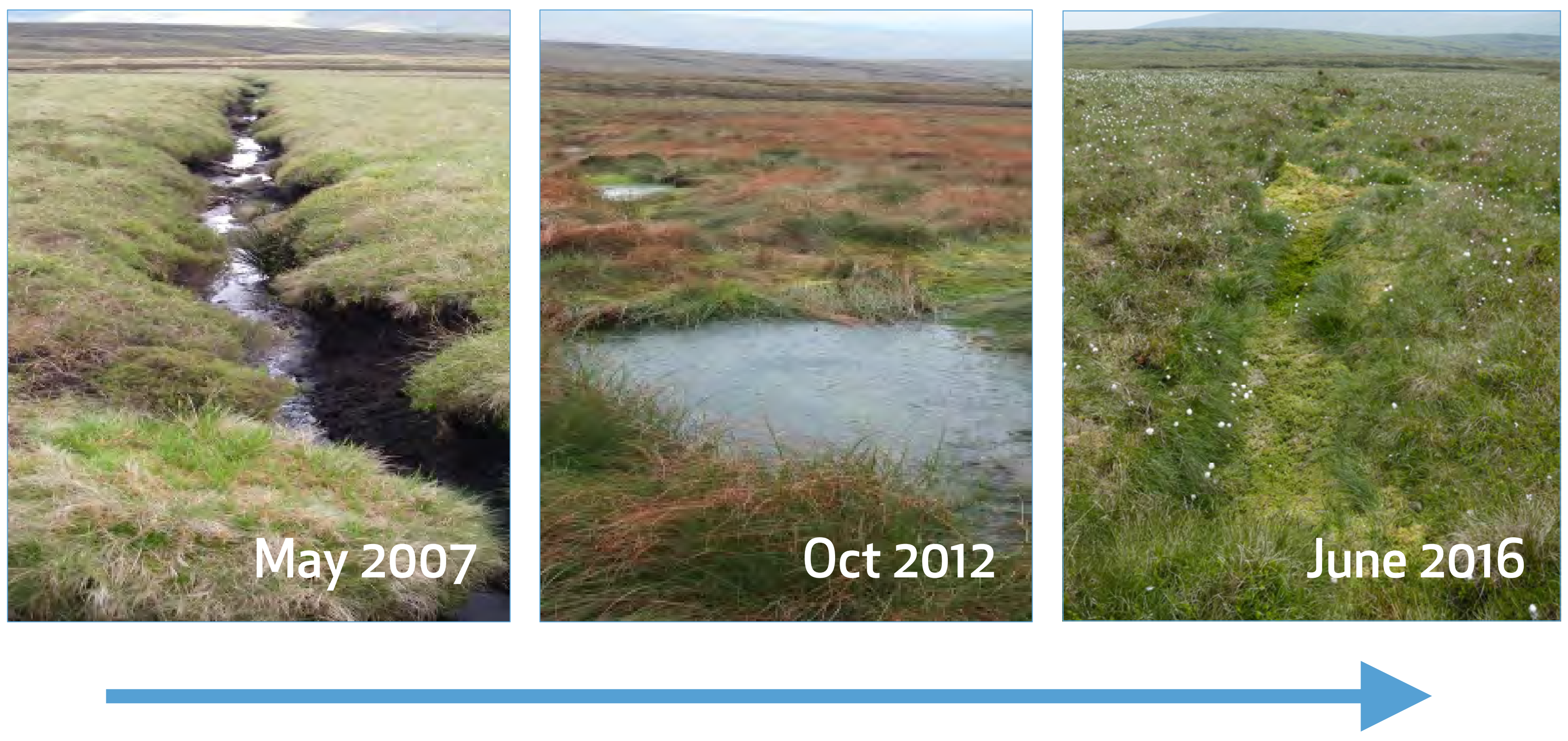
Brennand 2007



Brennand 2014



- Slowing the flow
- Re-wetting of peat body
- Restoration of hydrological function
- Vegetation changes and improvements
- Raw water colour – changes in rate of colour production and release, including reductions
- Turbidity reductions/ stabilisations



Hydrological and ecological restoration trajectory

5. Results

- Significant reductions in bare peat and increases in vegetation cover were identified.
- *Sphagnum* cover is increasing where present, responding more quickly if greater cover remains.
- Removing/reducing grazing and burning alone results in positive change, in some areas.
- Stabilising bare peat is important in re-vegetation of bare peat.
- Nurse crop treatment is effective in promoting re-vegetation.
- Additional heather brash and geojute encourages more rapid re-vegetation of slopes, geojute is important on steeper slopes.
- Water quality is improving with reductions in colour (and turbidity), although colour is still problematic on severely eroded catchments.
- Peat water levels are generally increasing and stabilising, except where severe degradation has occurred.

United Utilities SCaMP Website
http://www.unitedutilities.com/corporate/responsibility/environment/catchment-management/

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