

**Rhaglen Weithredu
Genedlaethol ar
Fawndiroedd Cymru**



Llywodraeth Cymru
Welsh Government

**National Peatland
Action Programme
Wales**

#AdferMawndirCymru
#NaturUwchCarbonIs

Cefnogi
NATUR
Supporting
NATURE

Lleihau
allyriant
CARBON
Reducing
CARBON
emissions

#HighNatureLowCarbon
#WalesPeatlandAction



Cyfoeth Naturiol Cymru
Natural Resources Wales

**Rhaglen Weithredu
Genedlaethol ar
Fawndiroedd
National Peatland Action
Programme**

**Methodoleg
Monitro
Monitoring
Methodology**

**Dr Peter Jones
Dr Rhoswen Leonard
Dr Esther Clews**



National Peatland Action Programme, 2020-2025



Cyfoeth Naturiol Cymru / Natural Resources Wales, 27 November 2020

[Natural Resources Wales / National Peatland Action Programme 2020-2025](#)

Argyfwng Natur Argyfwng Hinsawdd Nature Emergency Climate Change Emergency

6 priority action themes

- Peatland erosion
- Peatland drainage
- Sustainable management of degraded lowland and upland peatlands
- Afforested peatlands
- Hypermodified peatland

3 major cross-cutting themes

- National coordination
- Increasing stakeholder and wider engagement in peatland restoration
- National monitoring and activity capture

Peatland Programme – development of outcome metrics and monitoring

Outcomes we must evidence

Outline methodology

Current state of play

Use of EO for large-scale condition mapping*



Future project

Ecosystem change (habitat recovery), *area & quality*

Predicted changes in GHG emissions, *tCO₂eq/ha/yr*
(* denotes relevant Ecosystem change elements)

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Habitat condition mapping*

Fixed point vegetation sampling*

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GIS based activity recording platform.
Updated condition evidence improves GHG emissions reporting



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Hydrology Monitoring Strategy under development - to be trialled in 22/3 field season

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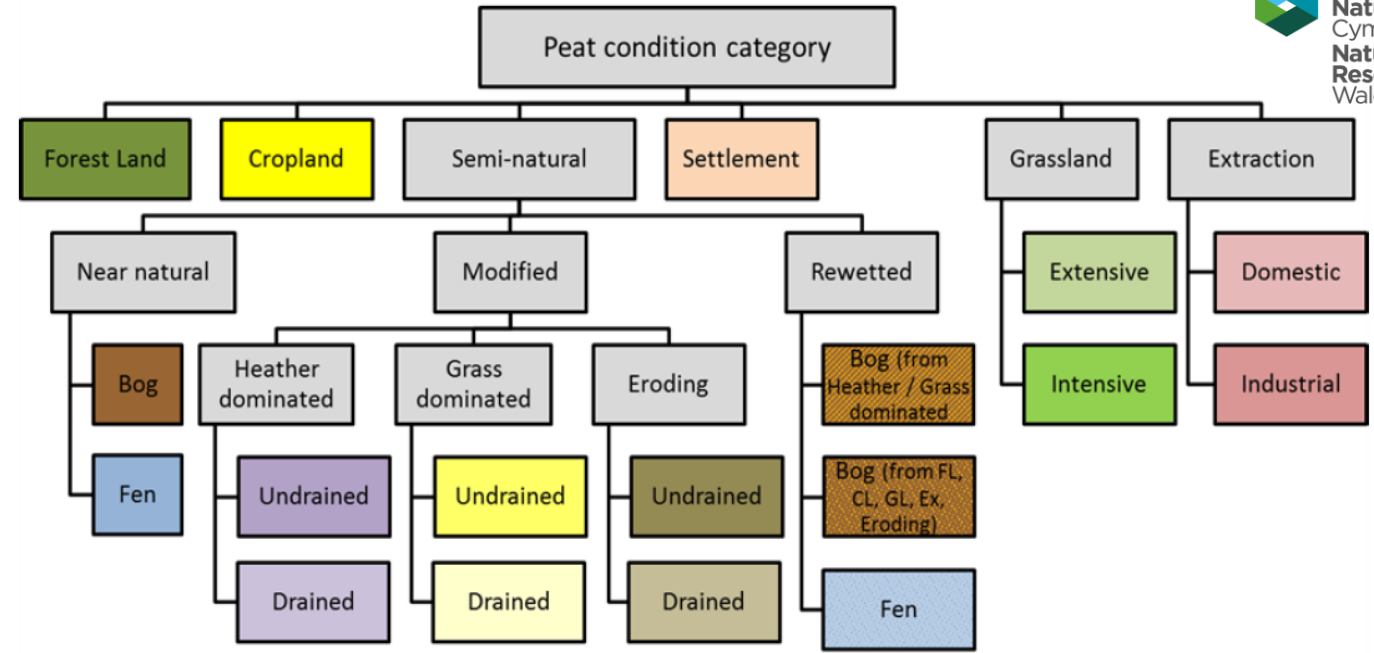
GIS based activity recording platform. Updated condition evidence improves GHG emissions reporting

Measured changes in emissions

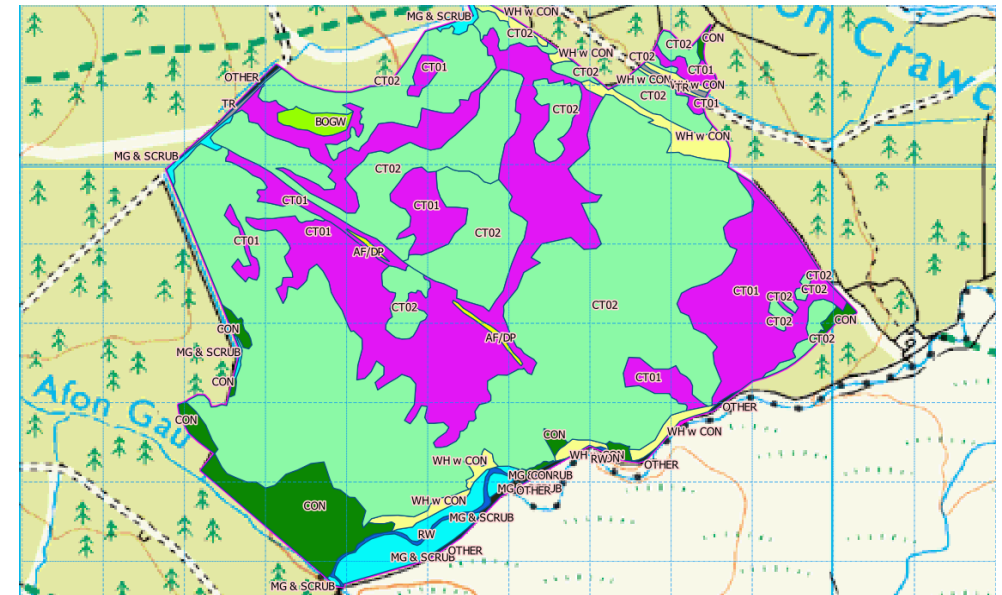
Academic networks, membership of GGAP and other projects, commissioned evidence

Principles of condition mapping

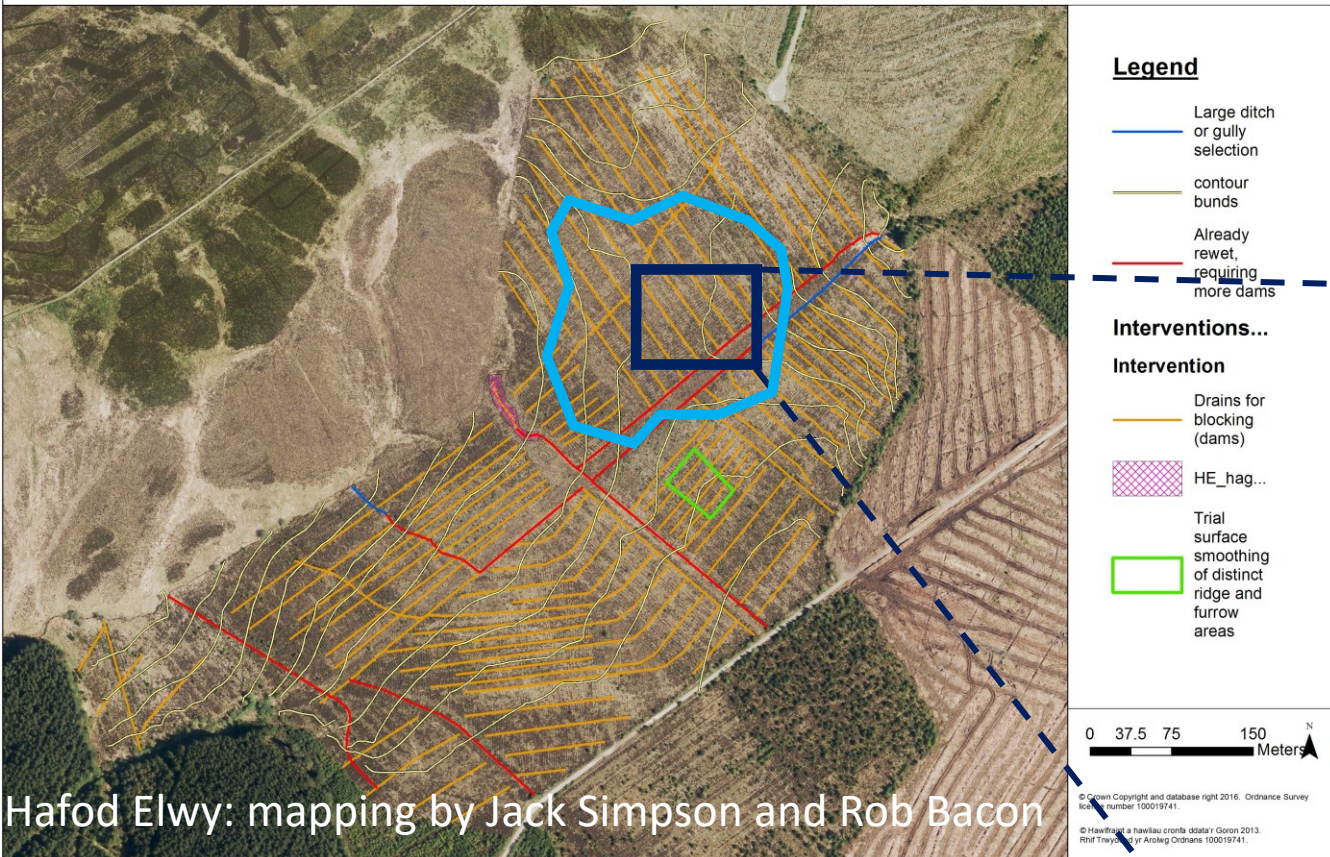
- Provides objective mapping of condition states for reporting restoration and for ground-truthing future EO outputs.
- Units nest within Tier 2 and Peatland Code categories.
- Units informative in terms of Site Condition Monitoring methodology.
- Interaction of condition type x planned restoration activity serves as basis for a stratified-random design for fixed point sampling.



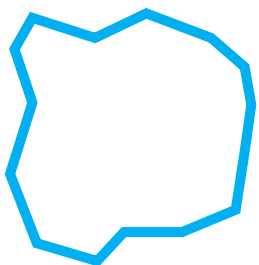
Mapping by
Alex Turner,
Eryri Ecological
Surveys



Stratified Random Design



Hafod Elwy: mapping by Jack Simpson and Rob Bacon



Condition type within a priority activity type/s (grip blocking & low contour bunding)

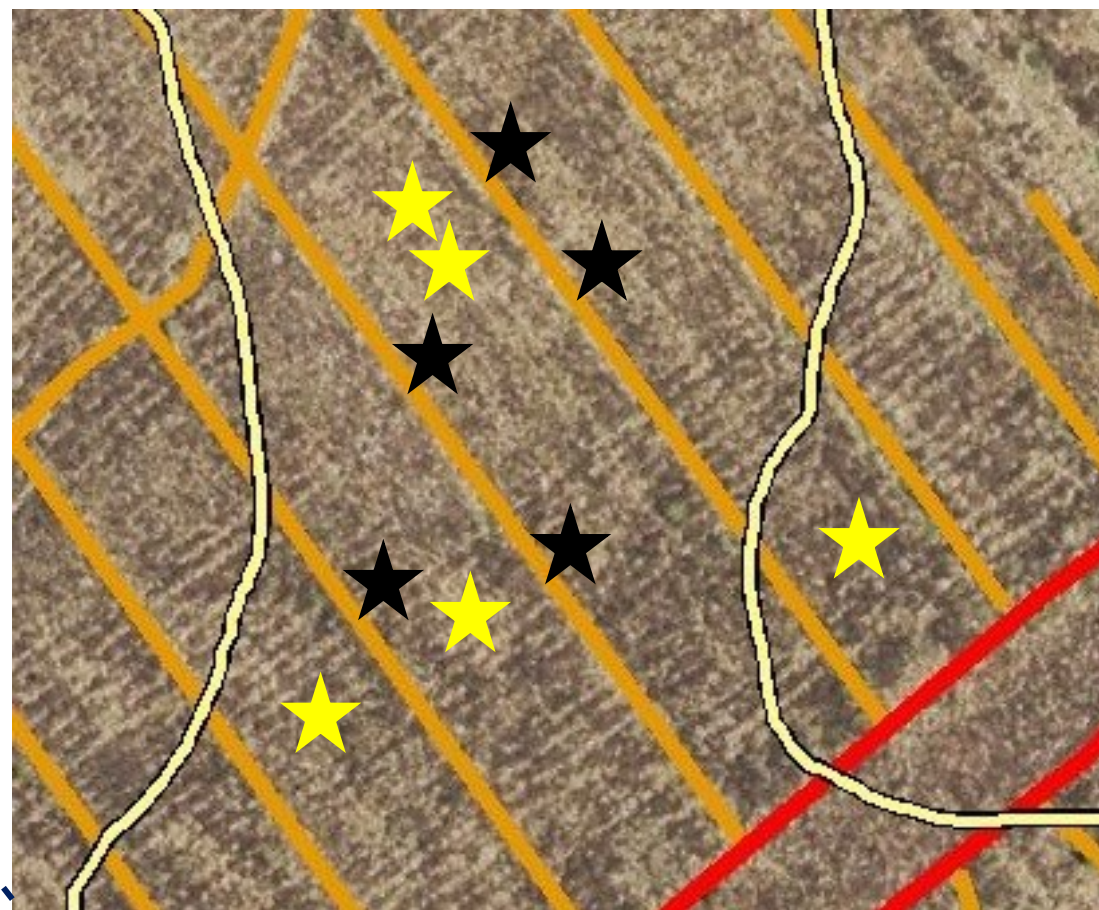


Background stratum x 10



Target stratum x 10

Quadrat Locations
(only half shown)



Fixed point vegetation sampling

- 2 x 2 or 4 x 4 m quadrats subdivided into 16 x 0.5 x 0.5 m cells.
- % cover and local frequency of all rooted taxa.
- Located at random points within chosen condition x activity types with decision rules guiding final location.
- 20 quadrats per combination.
- CSM attributes recorded.

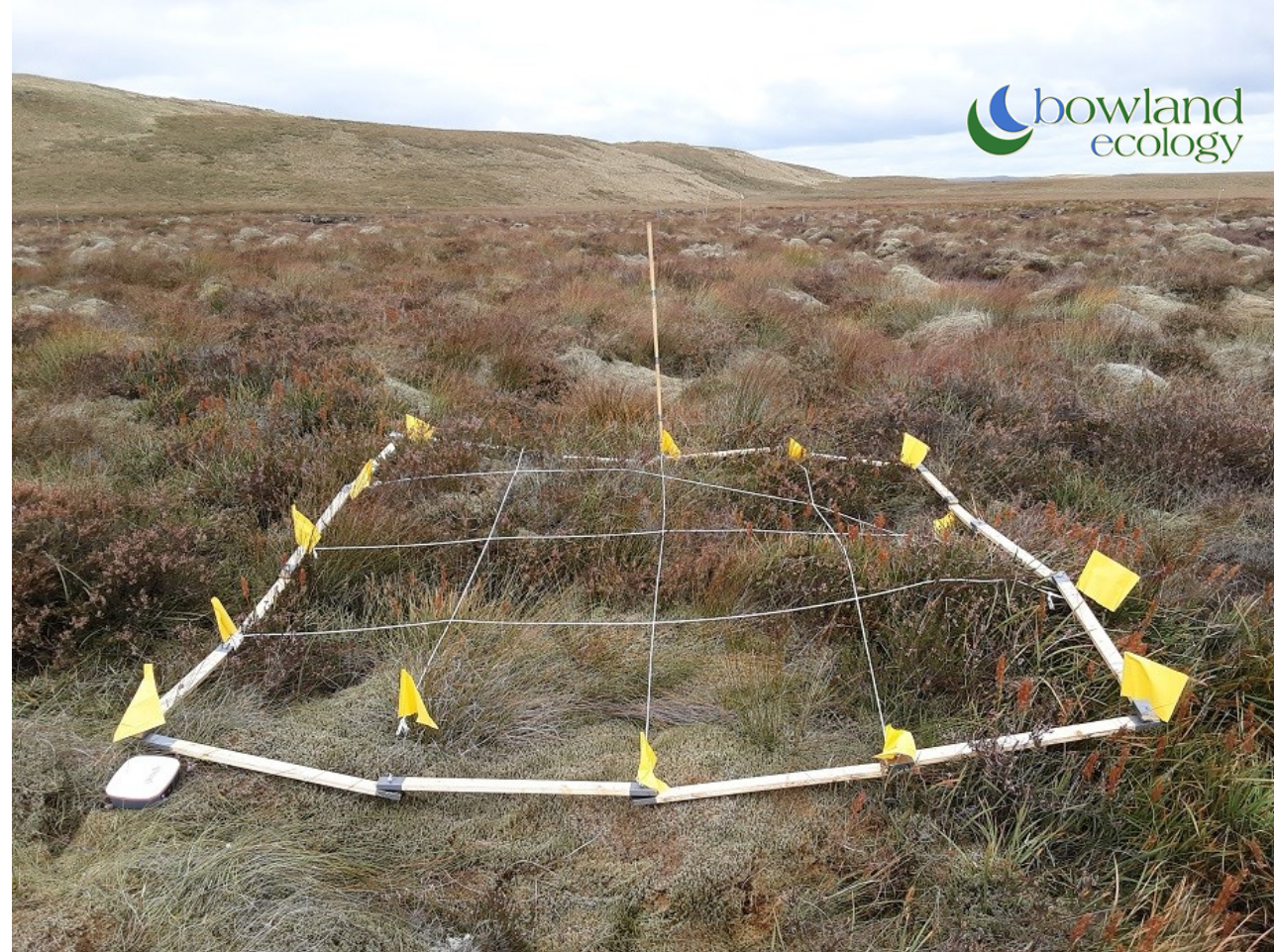
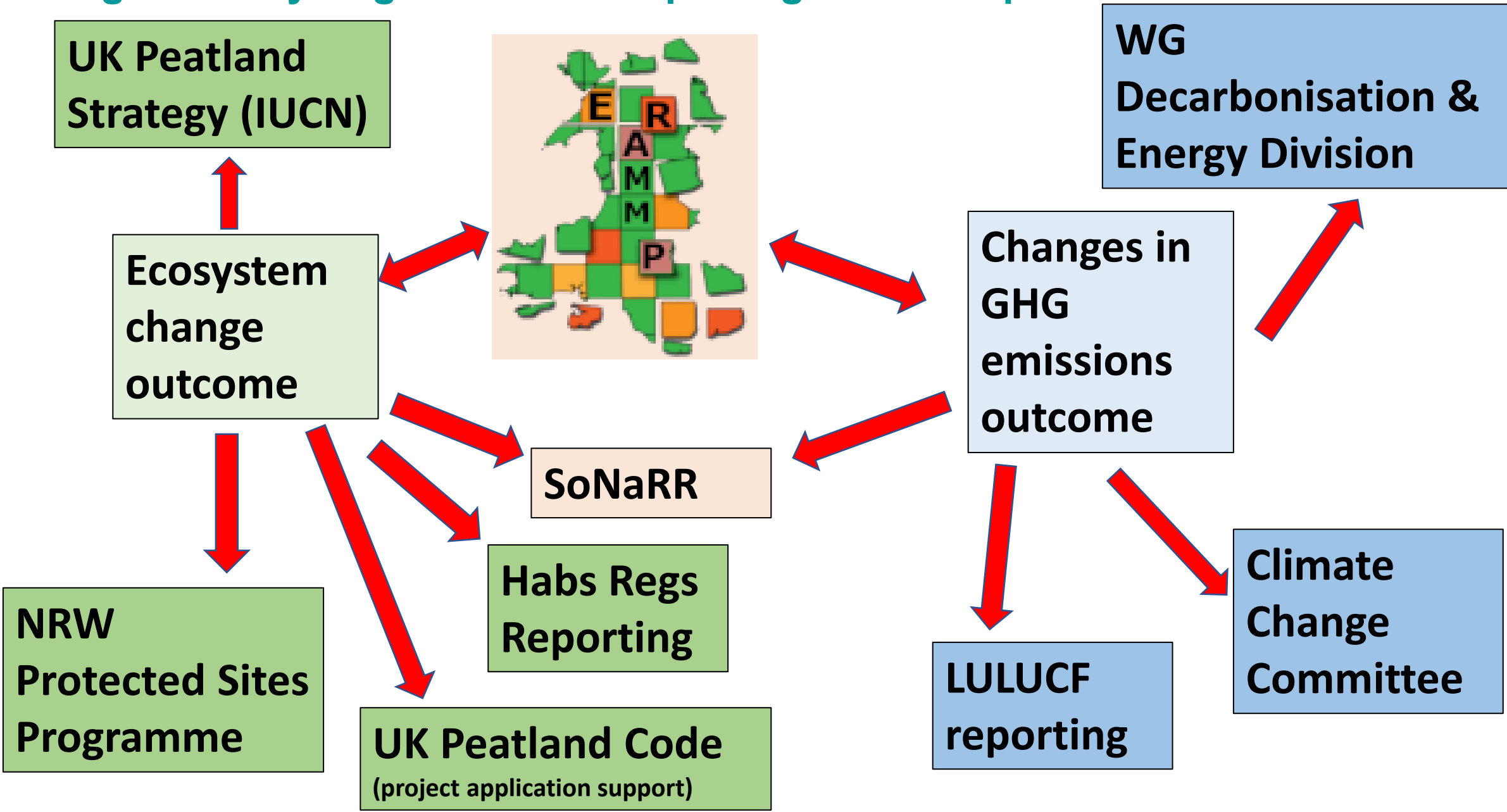


Photo: courtesy of Matt Clifford, Bowland Ecology.
Permanent plot at Llyn Gorast, Tywi Forest

Linkages and synergies to other reporting routes/requirements



Camau Nesaf... Next Steps...

- Evaluate how well we feel the methodology worked in practice in 2022 – feedback from Bowland Ecology and NPAP team.
- Comparison with the experiences of *Peatland Action* during the 2022 field season.
- Develop version 2 and offer to partners to trial in 2023.
- Review approach with the Wales peatland evidence and monitoring partnership.

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Contact & updates...

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 @PeatlandCymru
#WalesPeatlandAction
#AdferMawndirCymru