Moors for the Future Monitoring Programme: Delivering long term landscape scale monitoring through smaller scale projects
Who are we? Peak District Moorlands
History of MFF’s Monitoring Programme

2003 – 2006
Initial Lottery Funded Project
- Focus on Baseline Data and Cultural Heritage
- Monitoring of Restoration Actions

2006 – 2010
End of lottery funding.
Core Funding continued – Research works conducted through smaller scale projects where funding available
Focus on previous sites and data

2010 – 2015
Monitoring on EU MoorLIFE Restoration Works
- Vegetation (Biodiversity)
  - Carbon
Making Space for Water: Water Tables/ Flood risk/ Water samples

*Plus further smaller scale projects*
Why do we monitor?

- “centre of Research Excellence”

- compliance Monitoring (completion of works)

- investigate the effectiveness of works (and secondary eco system services)

- inform future works (evidence based restoration)

- project communications

- provide access to funding by evidencing future bids
What do we monitor?

<table>
<thead>
<tr>
<th>Project</th>
<th>Focus / Ecosystem service</th>
<th>Academic Collaboration</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>MoorLIFE</td>
<td>Biodiversity (Sphagnum)</td>
<td>Manchester</td>
<td>2015</td>
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<tr>
<td>Kinder Catchment</td>
<td>Water Quality (storms)</td>
<td>Manchester</td>
<td>2015</td>
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<td>Making Space for Water</td>
<td>Flood risk</td>
<td>Manchester &amp; Durham</td>
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<td>Upper Derwent Water Quality</td>
<td>Water quality</td>
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<td>Woodhead Water</td>
<td>Flood risk, water quality</td>
<td>Manchester</td>
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<td>Dark Peak NIA Monitoring</td>
<td>Biodiversity</td>
<td>Sheffield</td>
<td>2015</td>
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<td>Ashop CRF</td>
<td>Flood risk, water quality</td>
<td>Manchester</td>
<td>2015</td>
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<tr>
<td>Community Science Project</td>
<td>Biodiversity</td>
<td>York</td>
<td>2017</td>
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</table>
How do we monitor?

**FIXED POINT PHOTOGRAPHY**

![Fixed Point Photography](image1)

![Fixed Point Photography](image2)

![Fixed Point Photography](image3)

![Fixed Point Photography](image4)

![Fixed Point Photography](image5)

![Fixed Point Photography](image6)

![Fixed Point Photography](image7)
How do we monitor?

BACK TO BASICS: Vegetation Quadrats, Peat Depth, Dipwells and Water Quality
How do we monitor?
How do we monitor?

TECHNICAL EQUIPMENT: Rain Gauges, Data Loggers, Flumes, Weather Stations et al
How do we monitor?
Who pays: Ecosystem Services
### Ecosystem Services: evidential linkage of projects

<table>
<thead>
<tr>
<th>Ecosystem Service</th>
<th>MSW</th>
<th>KC</th>
<th>ML</th>
<th>WW</th>
<th>CRF</th>
<th>NIA</th>
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Spatial Linking of Projects

[Map showing spatial linking of projects]
Temporal Linkages of Projects

<table>
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<tbody>
<tr>
<td>Sites</td>
<td>Joseph Patch, Shining Clough, Sykes Moor</td>
<td>Joseph Patch, Shining Clough, Sykes Moor, Shelf Moss, Shelf Moss 3</td>
<td>Joseph Patch, Shining Clough, Sykes Moor, Shelf Moor, Shelf Moor 2, Shelf Moor 3</td>
<td>Joseph Patch, Shining Clough, Sykes Moor, Shelf Moor, Shelf Moor 2, Shelf Moor 3, Black Hill</td>
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<tr>
<td>Sampling type</td>
<td>Fixed Quadrats Stratified by slope and aspect</td>
<td>Random Quadrats Stratified by slope and aspect</td>
<td>Random Quadrats</td>
<td>Fixed Quadrats Stratified sampling on Grid design</td>
</tr>
<tr>
<td>Quadrat Size</td>
<td>0.25m²</td>
<td>0.5m²</td>
<td>0.25m²</td>
<td>0.5m² (2008) 2m² (2010 – 2012)</td>
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<tr>
<td>Surveyors</td>
<td>Specialist Botanists</td>
<td>Specialist Botanists</td>
<td>Volunteers</td>
<td>MFF contract staff and casual workers</td>
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<tr>
<td>Project Objective</td>
<td>Evaluate germination and survival success of sown grasses</td>
<td>Assess effects of restoration treatments on vegetation composition</td>
<td>Monitor vegetation succession</td>
<td>Monitor vegetation succession and effects of maintenance treatments of vegetation composition and structure</td>
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<tr>
<td>Funding</td>
<td>HLF</td>
<td>HLF</td>
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<td>2010 – 2015 EU Life</td>
</tr>
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![Graph showing mean percentage cover of quadrats over time](image)
Problems Encountered

Monitoring Timescales
Problems Encountered

Equipment Maintenance
Problems Encountered

Weather Conditions
Problems Encountered

Access
Problems Encountered

Communication
Other issues Encountered

Consistency over the long term

Long term impact of works (Sphagnum establishment)

Live stock/ walkers/ vandalism

Equipment installation, removal and servicing

Equipment Maintenance

Field Conditions

Accounting for weather

Communications

Initial and continued access
Other issues Encountered

Cost of ‘Volunteers’
Managing Volunteers
Skills of monitoring teams

Record Keeping and storage – of works and monitoring
Obtaining Baseline data
Ensuring longevity

Data storage

Staff cover (budget for holidays/ sickness/ field kit)

Funding Requirements – expectation management
The way forward

Integration of Monitoring at Bid Stage

Research Facilitation

Identification of potential future research and monitoring- eg student research projects

Remote sensing/ data recording: to appropriately monitor at the new enlarged scale

Private Land Project

Lottery Funded ‘Community Monitoring Project’
Thank you and please remember to visit:

www.moorsforthefuture.org.uk/moorlife