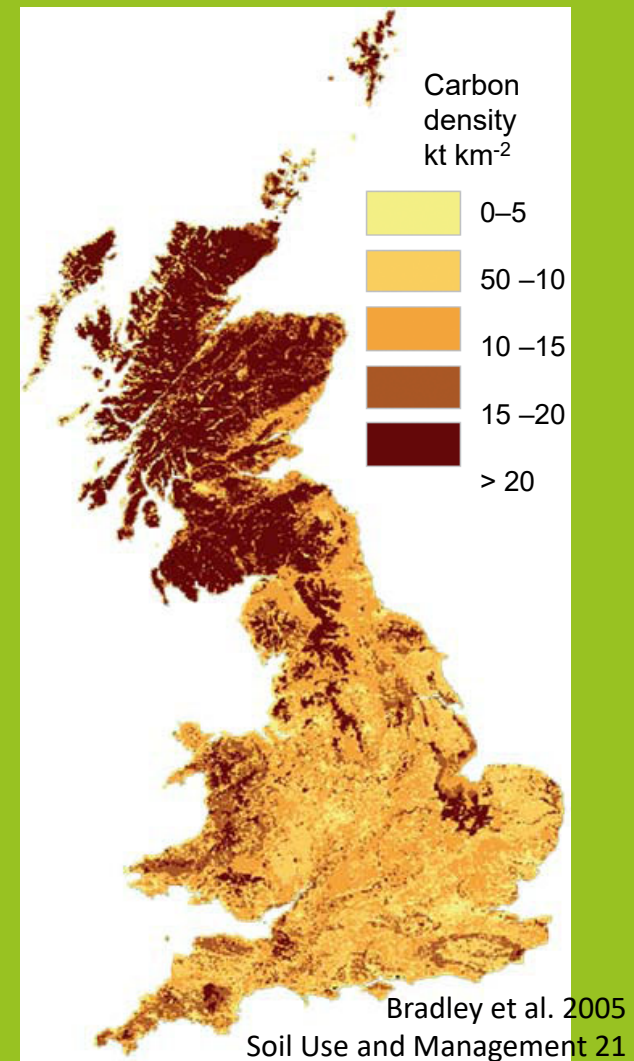


# How and why do we need to change our management of peat?

Dr Chris Field  
Manchester Metropolitan University

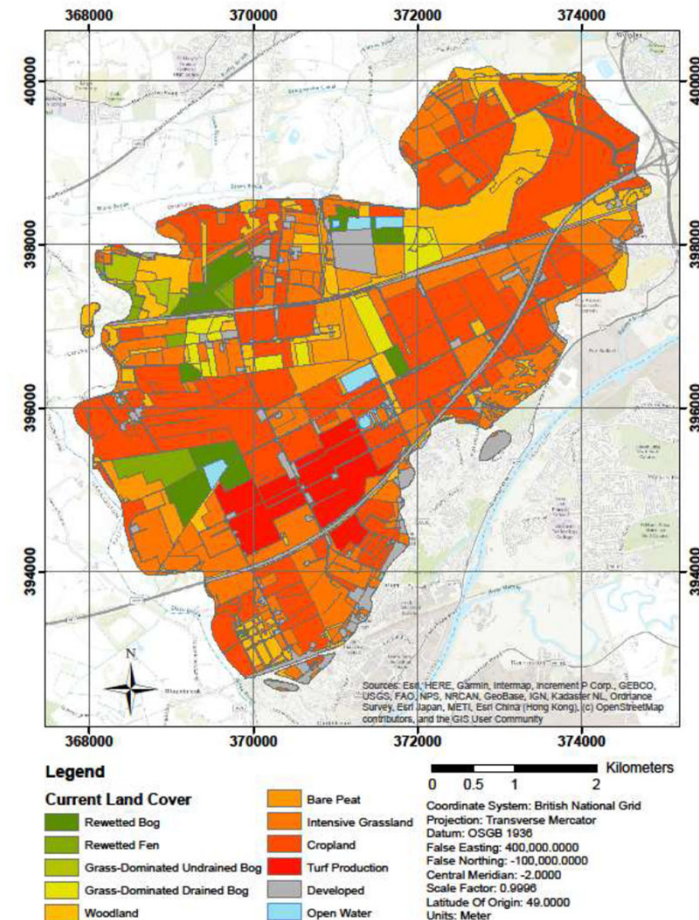
# Peatlands and carbon

- Despite covering just 3% of global land surface, peatlands store approximately 42% of all soil carbon (IUCN, 2017)
- In the UK peat covers 12% of land area and stores around 20 years of UK CO<sub>2</sub> emissions
- Significant peatlands exist across Lancashire and the north west
- Many of our peatlands are degraded due to air pollution, over-grazing, fire and land management
- At 6% of man's GHG emissions, peatland CO<sub>2</sub> losses are twice that of aviation!



# Peatlands and Manchester

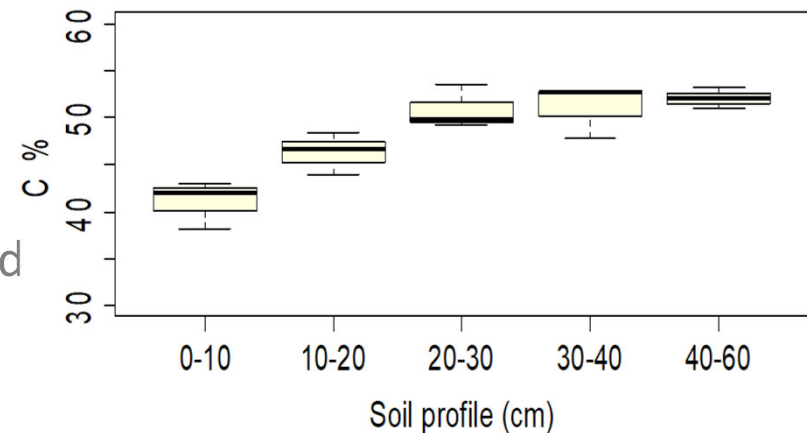
- There are over 12,000 ha of upland peat and over 5,000 ha of lowland peat in Greater Manchester
- The estimated carbon storage of Manchester's peatlands is around 5 million tons (18 million tonnes of CO<sub>2</sub>)
- Combined they emit over 180,000 tonnes of carbon dioxide every year
- A majority of these emissions come from agricultural land



Map showing land use on Chat Moss

# Peatlands store carbon

- Peatlands are formed under wet conditions
- Plants decompose slower than they grow
- When we drain peatlands to use them for agriculture much of carbon stored is returned to the atmosphere
- If we re-wet peatlands and add wetland plants this process is halted and they start to actively store carbon from the atmosphere again
- To meet our 2038 carbon neutral target we must restore or change the management of between 50 and 75% of Manchester's peatlands



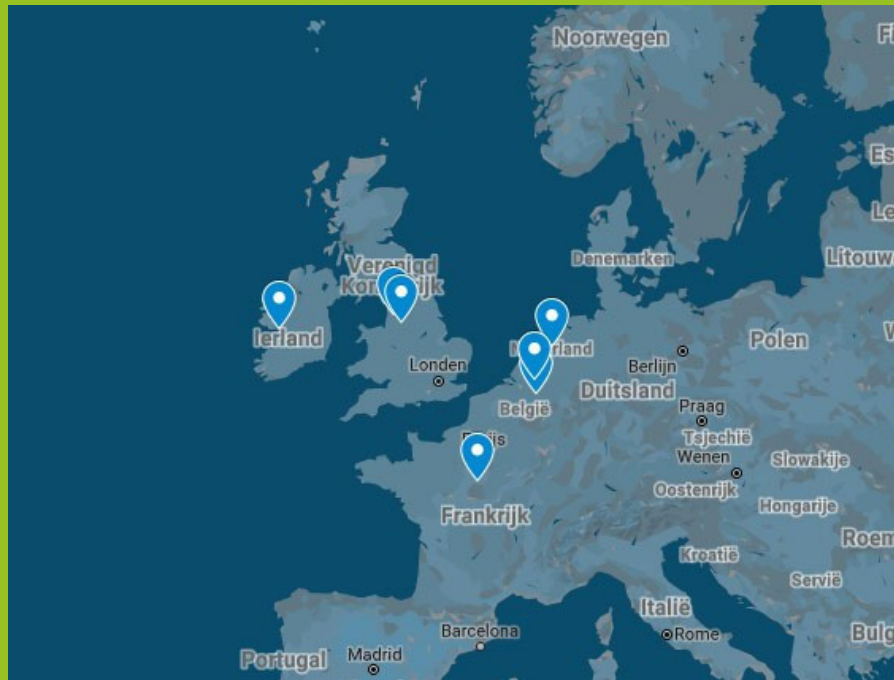
Winmarleigh Moss , almost 20% of the carbon in the upper soil has been lost since drainage in 1990



# Care-Peat 2019-2022

## 7 pilot sites across 5 countries

In Belgium, The Netherlands, France, Ireland and United Kingdom



**To reduce C-emissions and restore C-storage capacity of different types of peatland**

1. Development of reliable measuring methods and predictive models of C-fluxes in peatlands as base for a decision making tool
2. Identify sustainable socio-economic models... and policies to promote peatland restoration
3. Demonstrating new techniques and methods to restore and improve C-sequestration in peatlands



Lancashire  
Manchester  
North Merseyside





# Care-Peat pilot sites – at each we monitor the carbon benefits

Cloncrow Bog, IE



Black Creek, BE



Peat Pits, NL



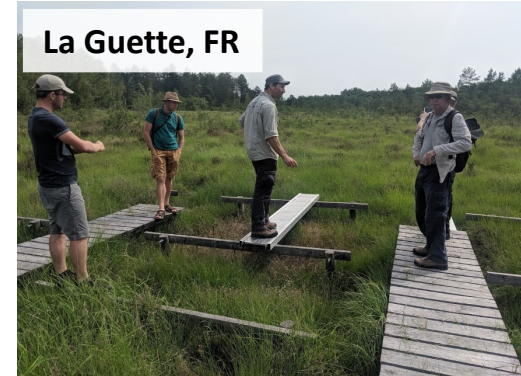
Winmarleigh Moss, UK



Little Woollen Moss, UK



La Guette, FR



# Little Woolden and Winmarleigh Mosses, UK

1. Restore former extracted peatland with *Sphagnum* and 'Companion planting' to accelerate carbon storage
2. 'Carbon farm' on former, drained agricultural land
  - Raise water table and plant *Sphagnum* moss
  - Benefits to SSSI from rewetting buffer land
  - Demonstration site for carbon offsetting in land



# Summary

- Peatlands are huge carbon stores
- Human pressures and current management means these carbon stores are sources of carbon dioxide emissions
- It is 'easy' to reduce these emissions but we need the policy and economic enablers
- Restoration of peatlands is seen as key in achieving carbon targets