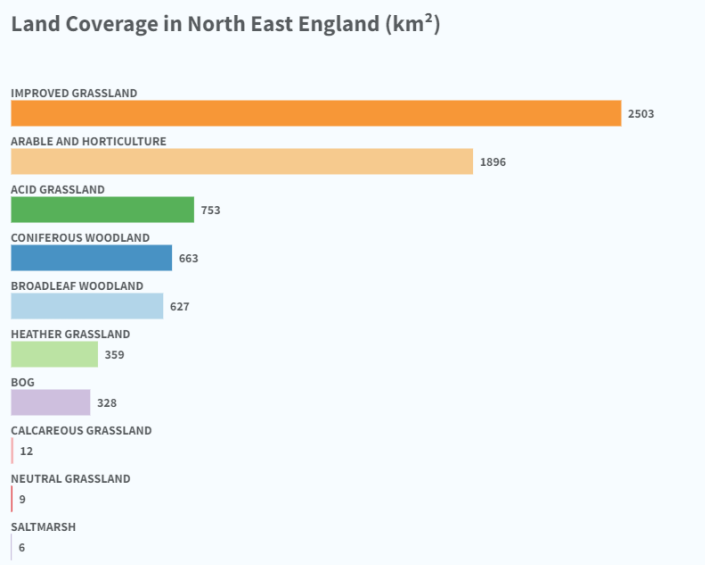


# Counting carbon in North East England: Searching for the evidence required to tackle the climate crisis

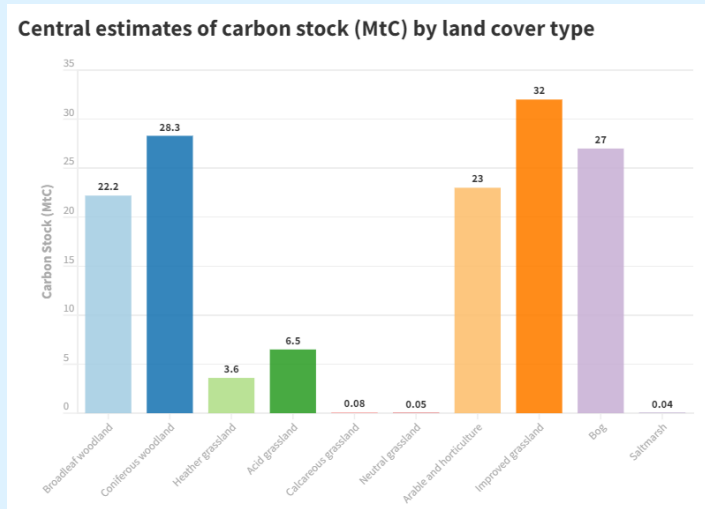


Working with NEECCo in a new pilot project, Groundwork NE & Cumbria collaborated in partnership with Northumbria University to count the carbon locked up in the habitats and land cover types of the North East. This project supports NEECCo's promise to respond to the climate emergency by empowering the region with knowledge and resources to deliver change. Improving our understanding of carbon sequestration and storage is imperative if we are to meet the goals in the Paris climate agreement, and in North East England this understanding will need to be at the heart of decision making on land management in the environment.

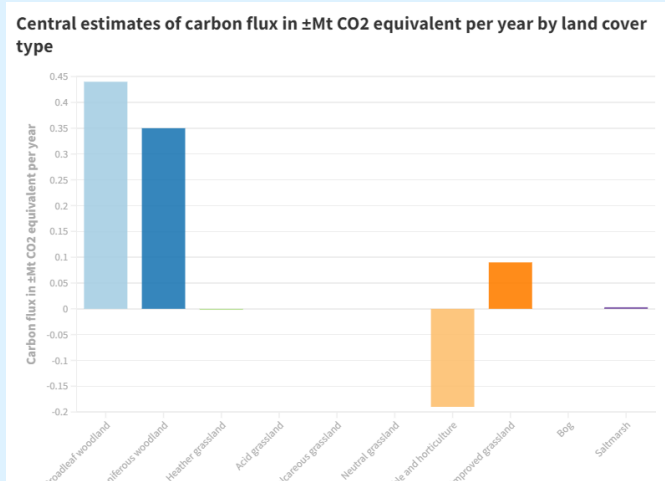
The project began by generating estimates of the coverage of each land use type across North-East England, per square kilometre. Coverage is mostly made up of improved grassland (35.0%), Arable and horticulture (25.5%), and acid grassland (10.5%).



The project then used these coverages to estimate the carbon stock associated with each cover type in the North-East. Central estimates suggest that the North-East contains at least 143 Megatonnes of Carbon (MtC), with the three largest carbon stocks being improved grassland (32 MtC), coniferous woodland (28.3 MtC), and bog (27.0 MtC).



The project also reported on carbon flux, although here the data are more limited. The cover types where we can be certain sequestration is taking place are broadleaf woodland, coniferous woodland and saltmarsh, which in the North East are responsible for the removal of 0.44 (range 0.13 to 0.82), 0.35 (range 0.17 to 0.61) and 0.003 (range 0.001 to 0.005) Mt CO<sub>2</sub> equivalent from the atmosphere per year. Central estimates for bog, and acid, neutral, and calcareous land types were not available, and so do not appear on the graph.



We would emphasise that the uncertainty ranges for carbon stock and flux are large - demonstrating the urgent need for better data to strengthen understanding and key-decision making.

### Conclusions:

- The cover types with the most carbon stock were bog, coniferous woodland, broadleaf woodland, improved grassland, and arable, yet there were wide uncertainty ranges associated with all estimates.
- Data on carbon flux by land cover type were more uncertain than stock. We could only be certain sequestration was taking place in only three cover types (of ten total).
- Better data on both carbon stock and carbon flux of key cover types, alongside more localised information on management history and environmental conditions, are required if we are to base land management decisions on sound environmental evidence.

