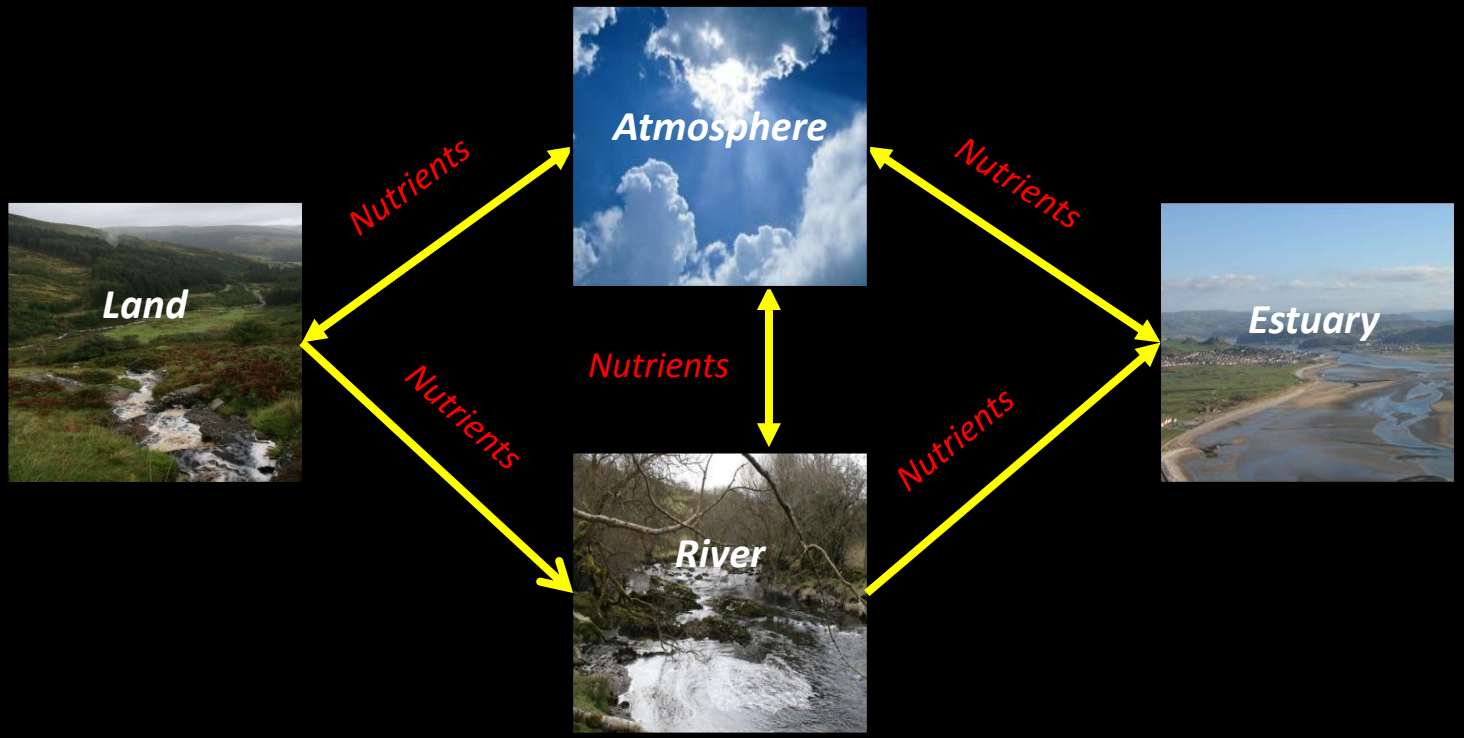
Macronutrients project

Terrestrial-Atmosphere exchange



NATURAL ENVIRONMENT RESEARCH COUNCIL
PRIFYSGOL BANGOR UNIVERSITY
Pond Conservation For Life in Fresh Waters
The James Hutton Institute
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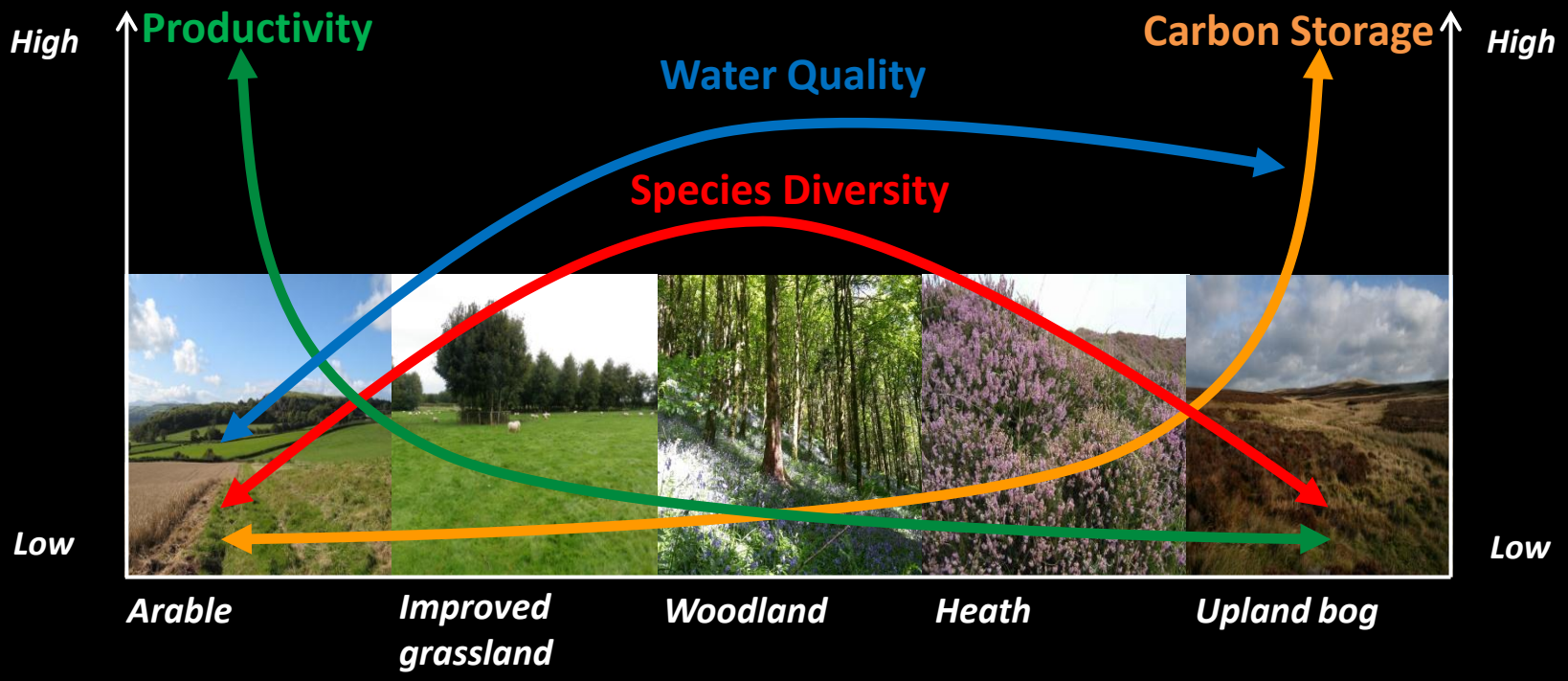
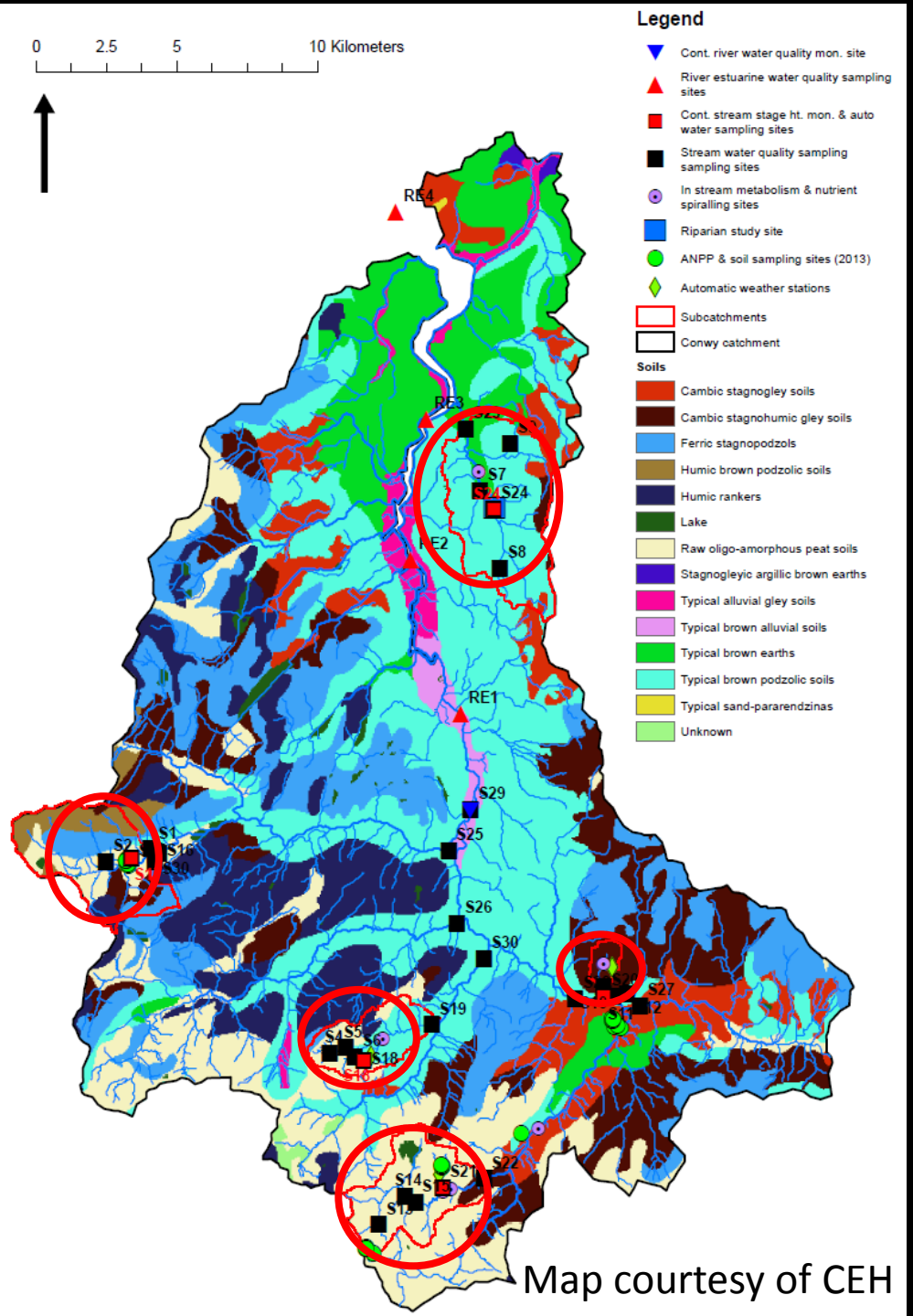
CEH Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL

Project objective



- Understand how habitats, and in turn nutrients flow, may be influenced by land-use change and climate.
- Want to find a “healthy” habitat management mix where productivity, C storage and species diversity are maintained.



Map courtesy of CEH

5 sub-catchments

1. **Nant-y-Brwn**
   Blanket bog

2. **Nant-y-coed**
   Improved grassland
   Cattle farm

3. **Glasgwm**
   Coniferous woodland

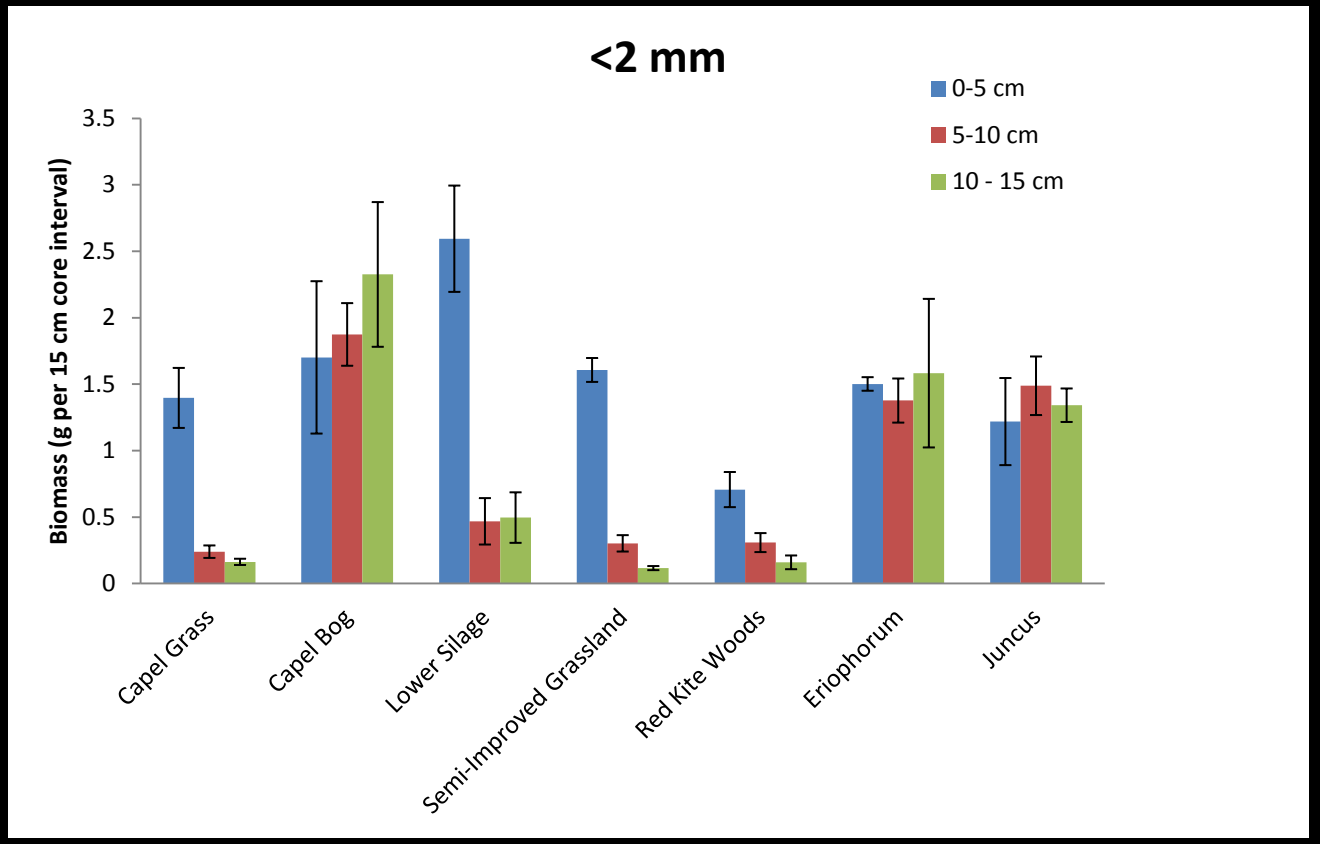
4. **Dyffryn Mymbyr**
   Poor fen (valley bog)
   Low-productivity acid grassland
   Some sheep grazing

5. **Hiraethlyn**
   Improved grassland
   Intensive agriculture

Work to date – ANPP

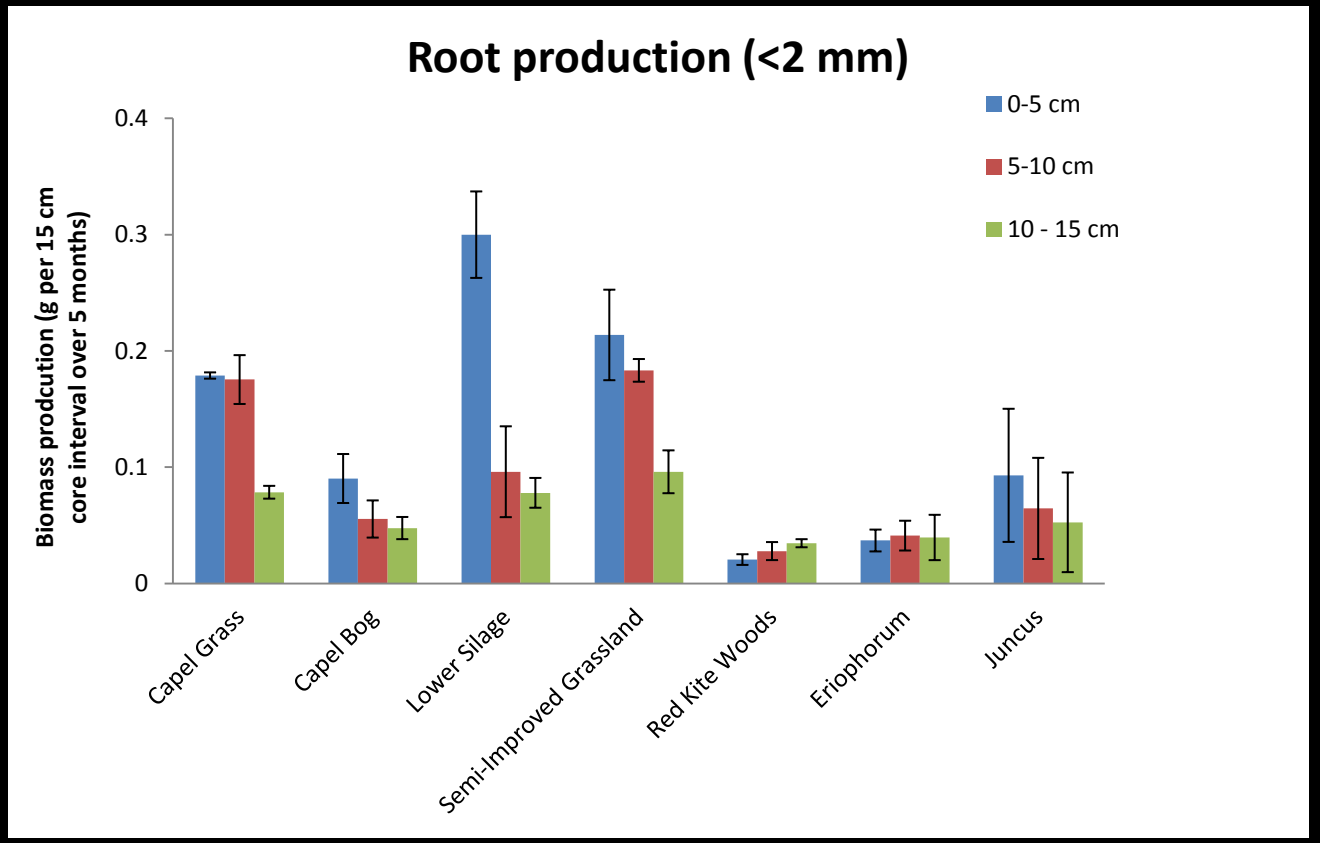
- Cages installed in 6 habitat types to measure above ground biomass
- Low-productivity acid grassland, poor fen (valley bog), semi-improved grassland, improved silage, blanket bog (2 plant types – Eriophorum and Juncus)

Work to date – Root biomass



- Root cores taken for root biomass (15 cm length)
- Roots washed and scanned for 0-5, 5-10 and 10-15 cm depth intervals
- Root diameter length classes and area determined
- In-growth root cores made and installed to be removed at the end of growing season

Work to date – Root production



- In-growth root cores filled with root-free soil and buried for 5 months
- Cores sampled at different depth intervals
- How can we link below-ground biomass with above-ground biomass?
- How does root data fit into current models for nutrient cycling?

Turf2Surf Project Team

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