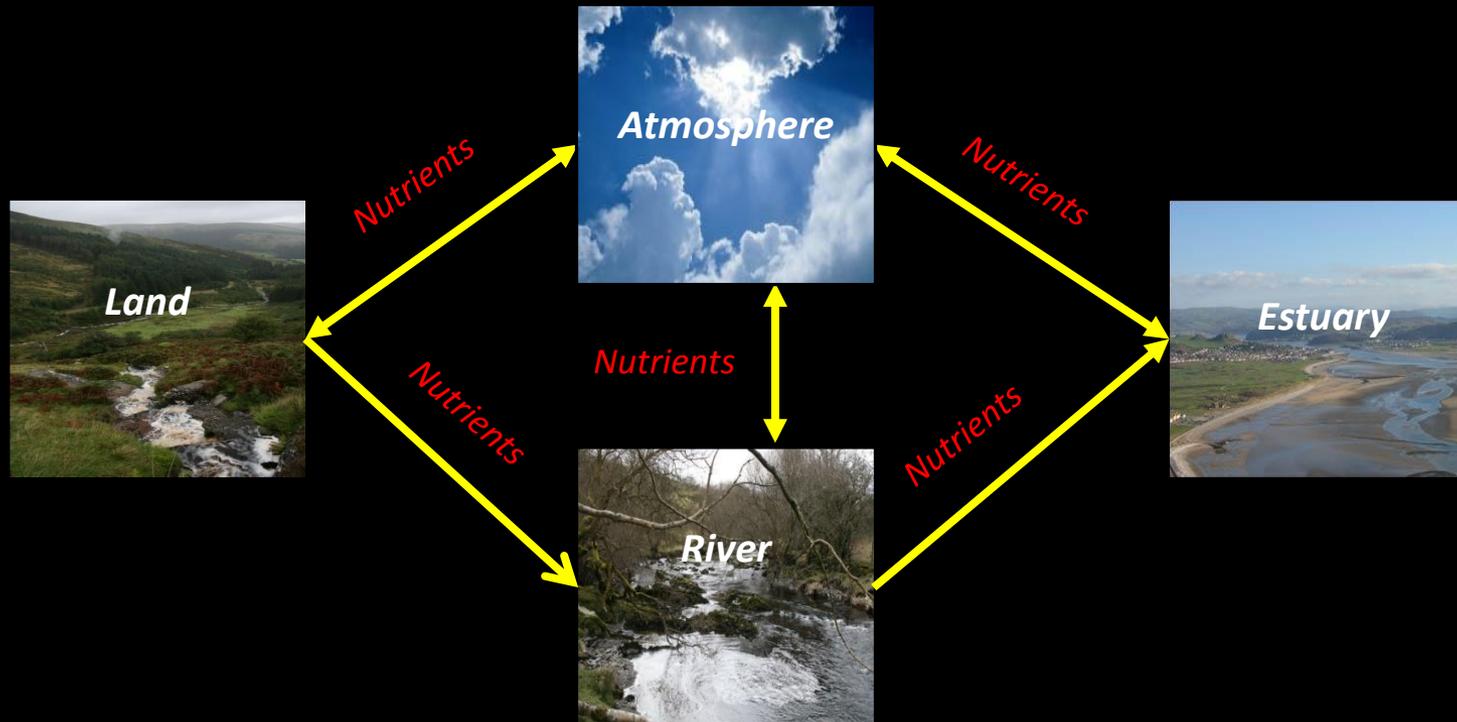
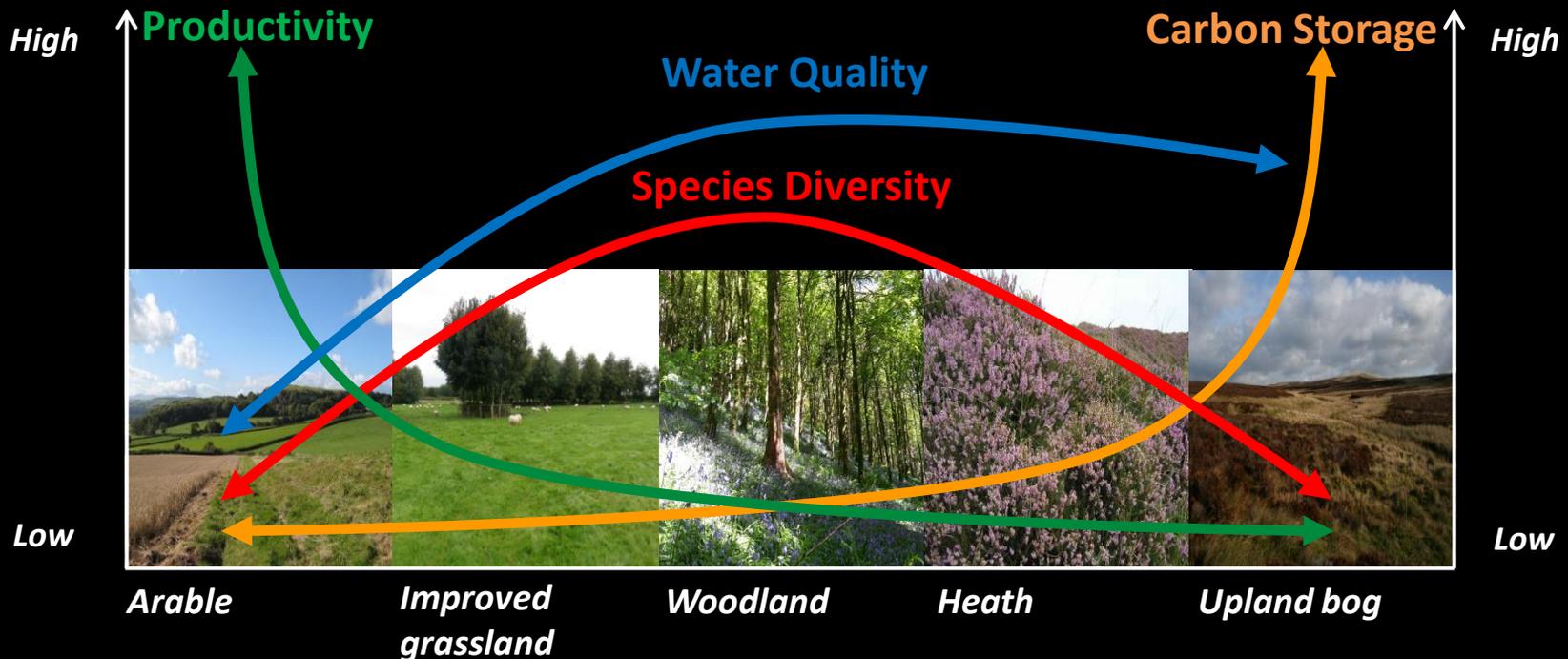


Macronutrients project

Terrestrial-Atmosphere exchange



Project objective



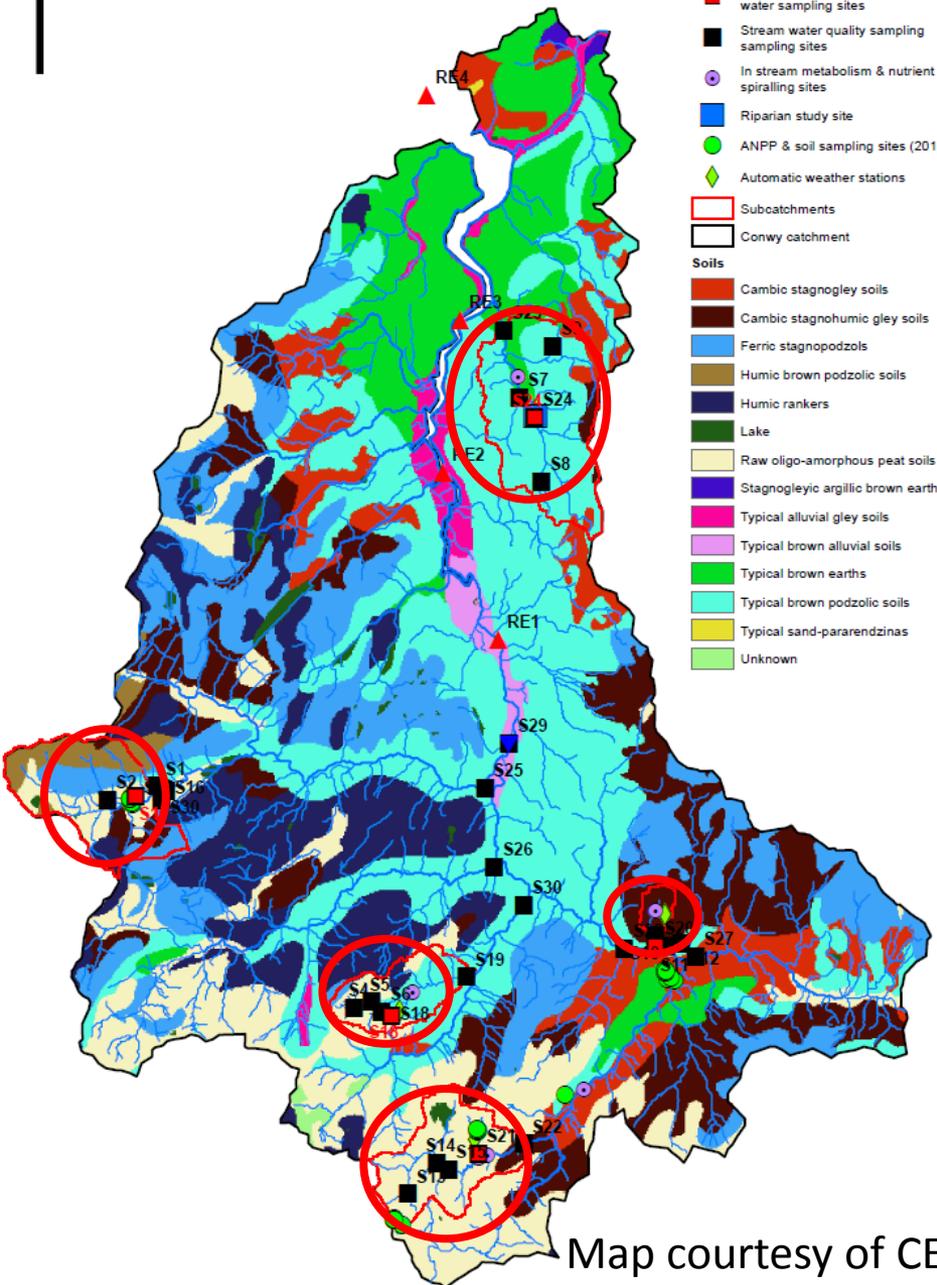
- Understand how habitats, and in turn nutrients flow, may be influenced by land-use change and climate.
- Want to find a “healthy” habitat management mix where productivity, C storage and species diversity are maintained.

0 2.5 5 10 Kilometers



Legend

- ▼ Cont. river water quality mon. site
- ▲ River estuarine water quality sampling sites
- Cont. stream stage ht. mon. & auto water sampling sites
- Stream water quality sampling sites
- In stream metabolism & nutrient spiralling sites
- Riparian study site
- ANPP & soil sampling sites (2013)
- ◆ Automatic weather stations
- Subcatchments
- Conwy catchment
- Soils**
- Cambic stagnogley soils
- Cambic stagnohumic gley soils
- Ferric stagnopodzols
- Humic brown podzolic soils
- Humic rankers
- Lake
- Raw oligo-amorphous peat soils
- Stagnogleyic argillic brown earths
- Typical alluvial gley soils
- Typical brown alluvial soils
- Typical brown earths
- Typical brown podzolic soils
- Typical sand-pararendzinas
- Unknown



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

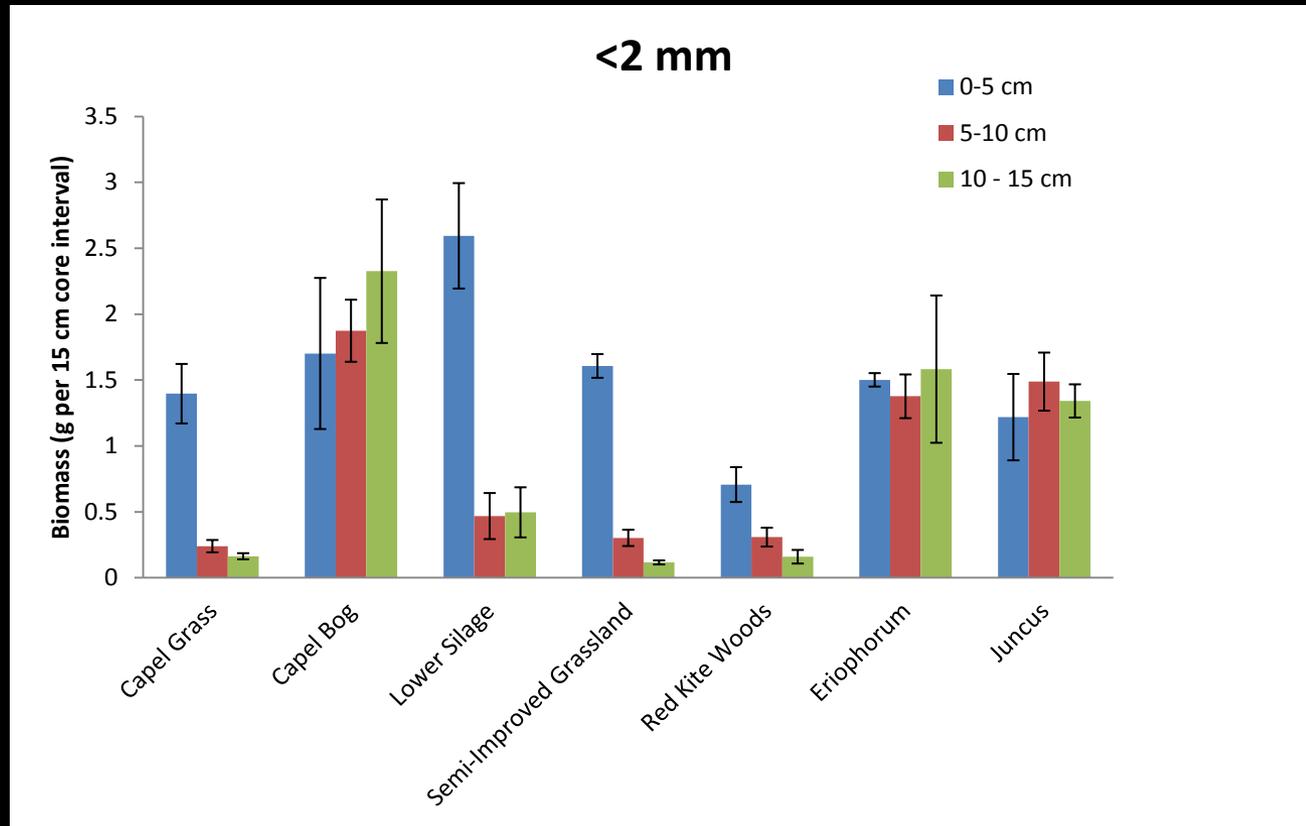
Intensive agriculture

Work to date – ANPP



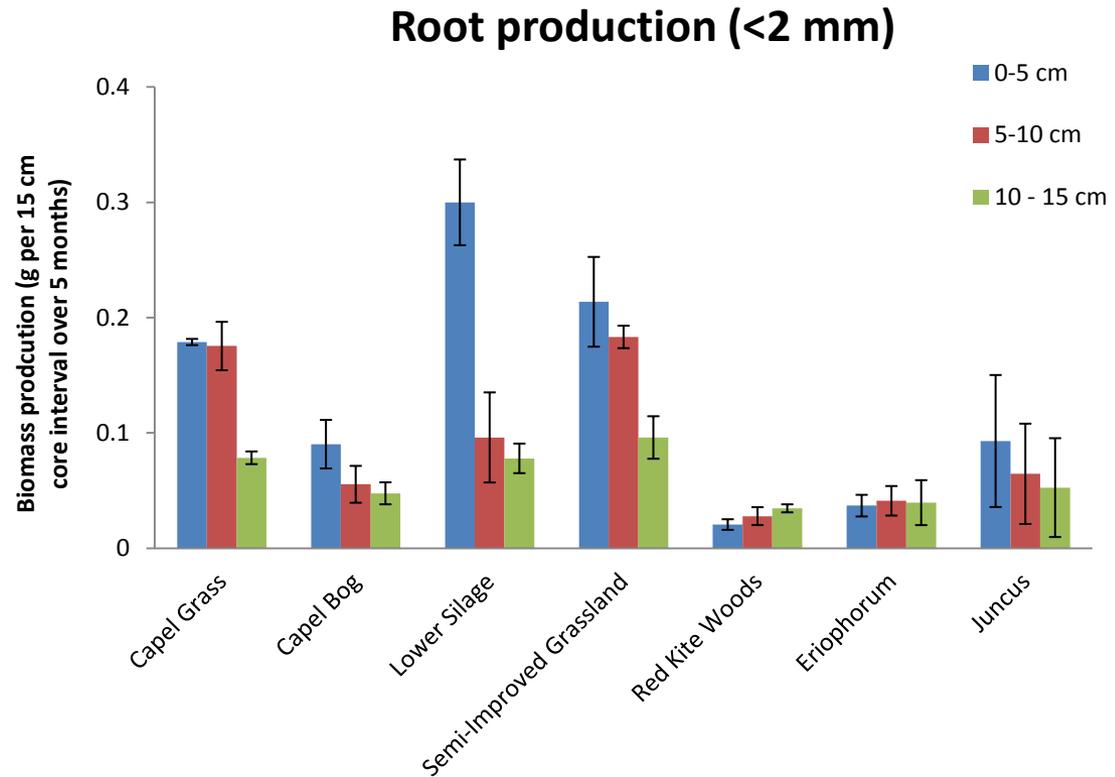
- Cages installed in 6 habitat types to measure above ground biomass
- Low-productivity acid grassland, poor fen (valley bog), semi-improved grassland, improved silage, blanket bog (2 plant types – *Eriophorum* and *Juncus*)

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?



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