MEASURING NATURE'S VALUE: Developing Natural Capital Accounts for the UK

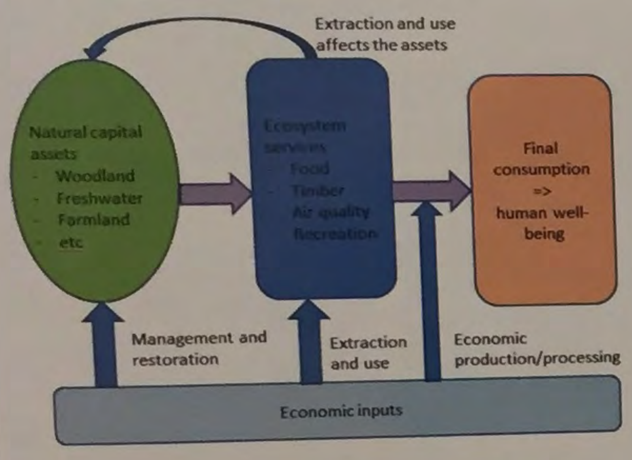
Office for National Statistics

Department for Environment Food & Rural Affairs

Degradation or enhancement of our natural resources and the services nature provides to people and the economy are not accounted for in the nation's balance sheet, and as a result can go unnoticed. The ONS in partnership with Defra have been producing innovative natural capital and ecosystem accounts in working towards incorporating Natural Capital into UK Environmental Accounts by 2020.

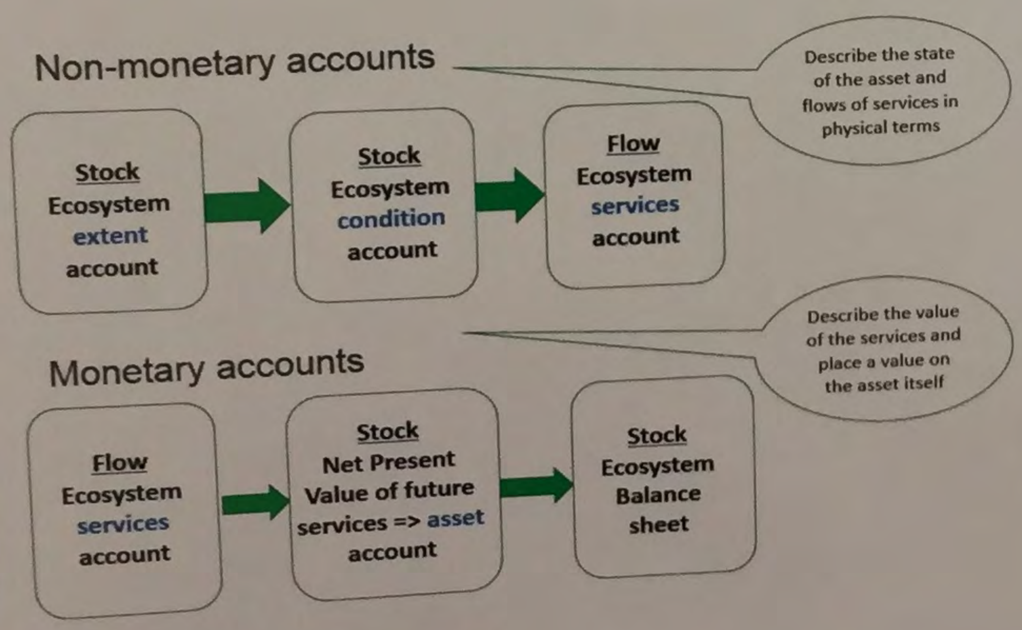
What are Natural Capital Accounts?

- Strict framework of stocks and flows
- Physical accounts – extent, condition and service flow
- Monetary accounts – annual services and asset valuation



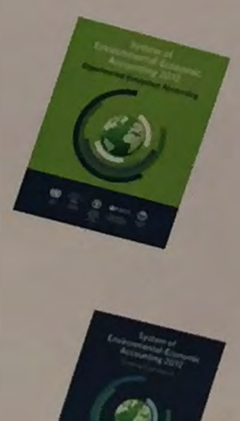
3 categories of accounts:

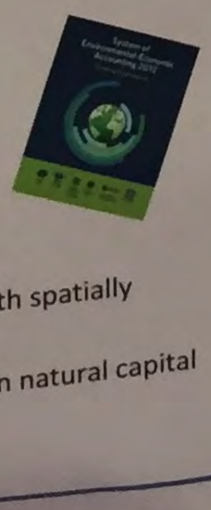
1. **Aggregate accounts** of UK Natural Capital
2. **Ecosystem (broad habitat) accounts** (e.g. freshwater, woodland)
3. **Cross-cutting accounts** (e.g. carbon, land cover)



Why do we need natural capital accounts?

- ✓ GDP tells us only part of our economic story. It:
  - hides and excludes services provided by natural capital
  - focuses only on flows, not stocks
- ✓ Flagged as foundational by UK NEA and the Natural Capital Committee. Widens public discourse
- ✓ Strong international momentum: SEEA, WAVES, SD Goals
- ✓ Signalling and leadership by Government – mainstreaming natural capital
- ✓ monitor losses and gains in our natural capital and provide an integrated information set for further analysis of economy–environment interactions
- ✓ inform resourcing and management decisions esp. with spatially disaggregated accounts
- ✓ highlight links with economic activity and pressures on natural capital





Why ONS and Defra?

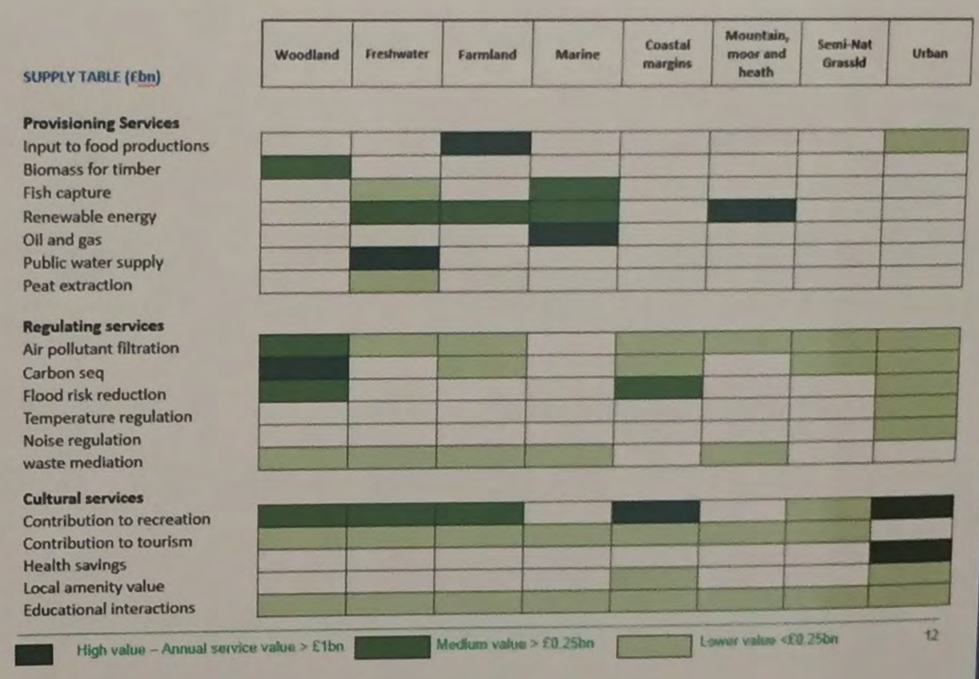
- ✓ Partnership established in 2012 following Natural Environment White Paper
- ✓ Combines complementary resources and expertise in a common agenda.
- ✓ Strong support and engagement from Natural Capital Committee

What has been achieved so far?

Initial accounts for UK woodland, freshwaters and enclosed farmland

- ✓ UK Aggregate natural capital estimates
- ✓ Habitat accounts: farmland, freshwater, woodland
- ✓ Scoping studies for urban, coastal margins, uplands, marine and peatland
- ✓ Cross-cutting land cover and carbon stock accounts
- ✓ Initial accounting principles and methodologies established

Ecosystem services we want to measure and value



What role does valuation play?

Valuation enables comparison and integration with the System of National Accounts. The aim should be **"to value the quantity of ecosystem services at market prices that would have occurred if the services had been freely traded and exchanged". This could be observed, deduced or (for non-market goods) hypothetical. Supply value = Use value (P x Q).** Requires innovative but intuitive methods, sometimes adapting traditional methods of environmental valuation.

Case Study – annual value of selected UK woodland services, 2009-15

- Four services valued: timber (stumpage prices), carbon sequestration (BEIS values), air filtration (Social Damage Costs), recreation (MENE). All values subject to change as methodologies are refined.
- Timber removals (flows) have increased whilst carbon sequestration has fallen over 2007-14 period.
- Non-provisioning values are 10 times the provisioning value alone. As at 2015, asset value = £90 bn.

Value of services supplied by UK woodland £m p.a.