



Ecosystem Services Theme

- Concepts, terminology & challenges**
- Future Plans**

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The James Hutton Institute**

10th August 2011

**EAWG (Ecosystem Approach Working Group)
Ecosystem Services Theme, RESAS Programme 2011-2016**

Ecosystems

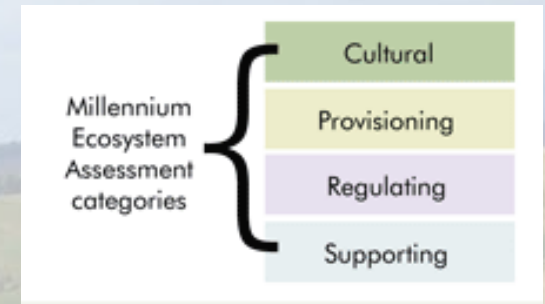


- “a system formed by the interaction of a community of organisms with their physical environment”

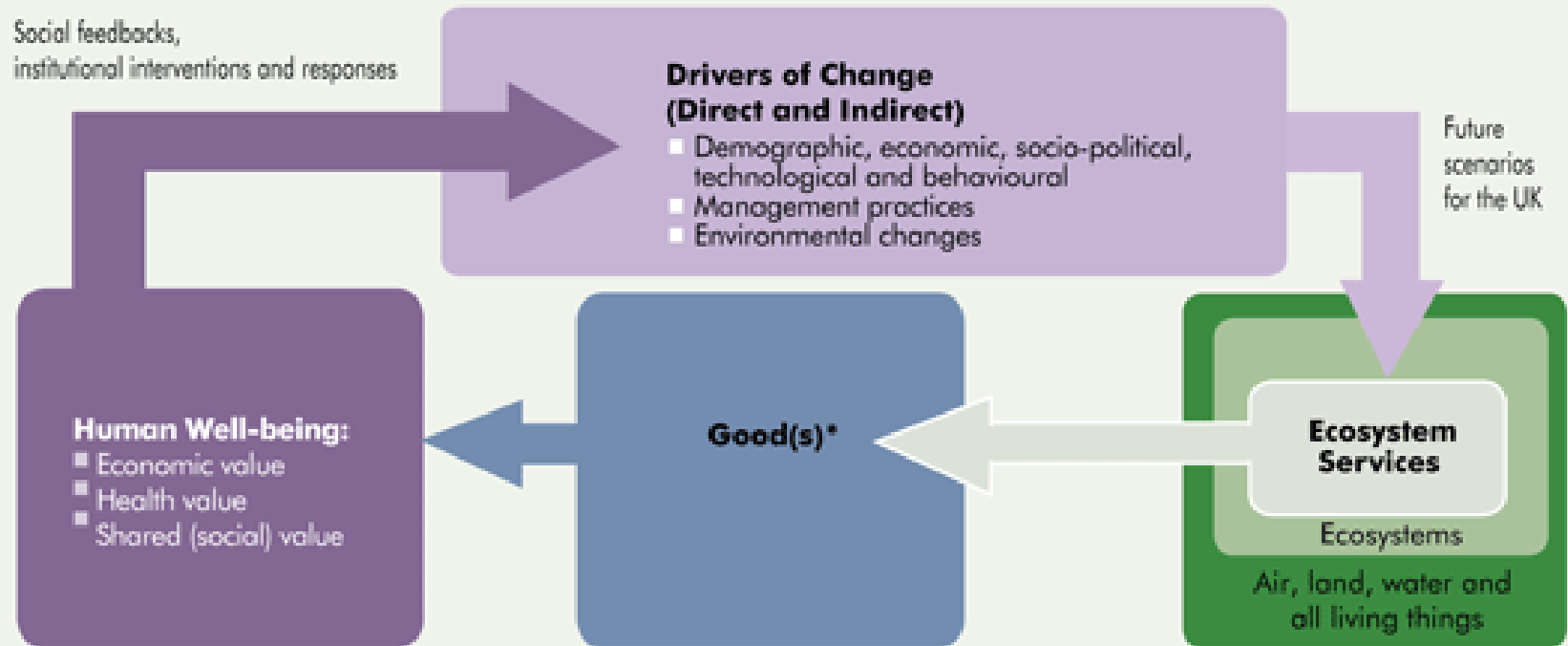
Photo: D. Genney, SNH

Ecosystem Services (ESS)

- Services provided to humans
 - Supporting (underpins others)
 - Regulating (e.g. climate regulation)
 - Provisioning (e.g. food)
 - Cultural (e.g. aesthetics, recreation)
- Contributes to human well-being
- Biodiversity not an ESS? – cross-cutting



Ecosystems and society are linked



Taken from the UK NEA, 2011 (National Ecosystem Assessment)

<http://uknea.unep-wcmc.org/>

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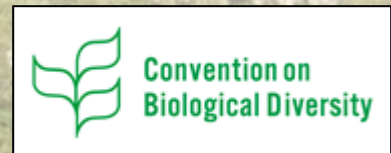
Ecosystem Approach (EA)

- Defined by CBD as “a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”
- Goes beyond ecosystem services assessment to supporting management activities
- 12 principles

Principle 1: The objectives of management of land, water and living resources are a matter of societal choices.
Principle 2: Management should be decentralized to the lowest appropriate level.
Principle 3: Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
Principle 4: Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context.
Principle 5: Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.
Principle 6: Ecosystem must be managed within the limits of their functioning.
Principle 7: The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.
Principle 8: Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objectives for ecosystem management should be set for the long term.
Principle 9: Management must recognize the change is inevitable.
Principle 10: The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.
Principle 11: The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.
Principle 12: The ecosystem approach should involve all relevant sectors of society and scientific disciplines.

<http://www.cbd.int/ecosystem/principles.shtml>).

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Our work

- “Ecosystem Services Theme” (EST)
- 1 of 8 linked themes in Programme on Environmental Change funded by RESAS
- April 2011-March 2016



EST

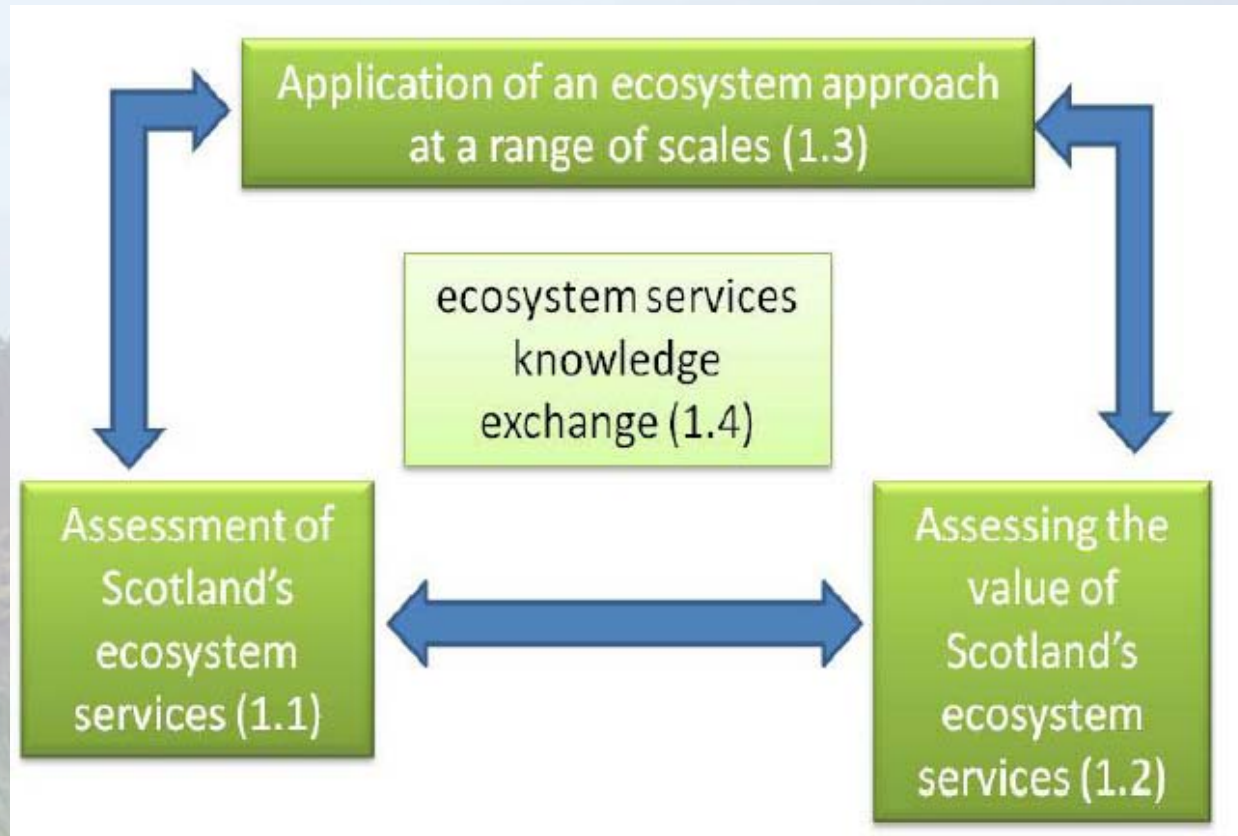
...undertake strategic science to identify and develop scientific methods and approaches that understand the essential **structure, functions and interactions** among organisms and the environment and how these deliver **human benefits** at a variety of **scales** from local to national.

Understanding ESS and EA

Some challenges for thinking about ESS


- How do ESS interconnect?
- How do ecosystem stocks support flows?
- Priority ESS for Scotland?
- What indicators of ESS to use?
- How to manage tradeoffs between ESS?
- How to describe or value ESS?
- What scale to work at?
- How to use in equitable decision-making?

EST



- Integrated working across WPs to address identified topics
- EAWG – one mechanisms by which EST will be delivered

Questions & Comments ?



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