

UK National Ecosystem Assessment

Follow-on

The UK NEA and its follow-on project

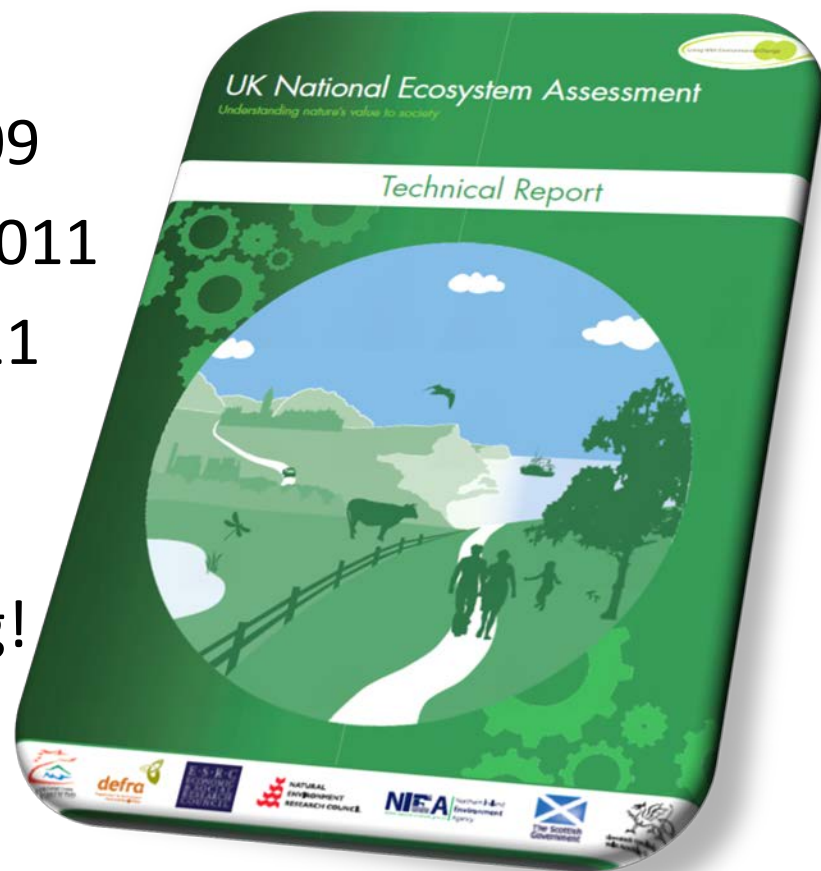
Stakeholder Meeting

2-3 October 2012, York



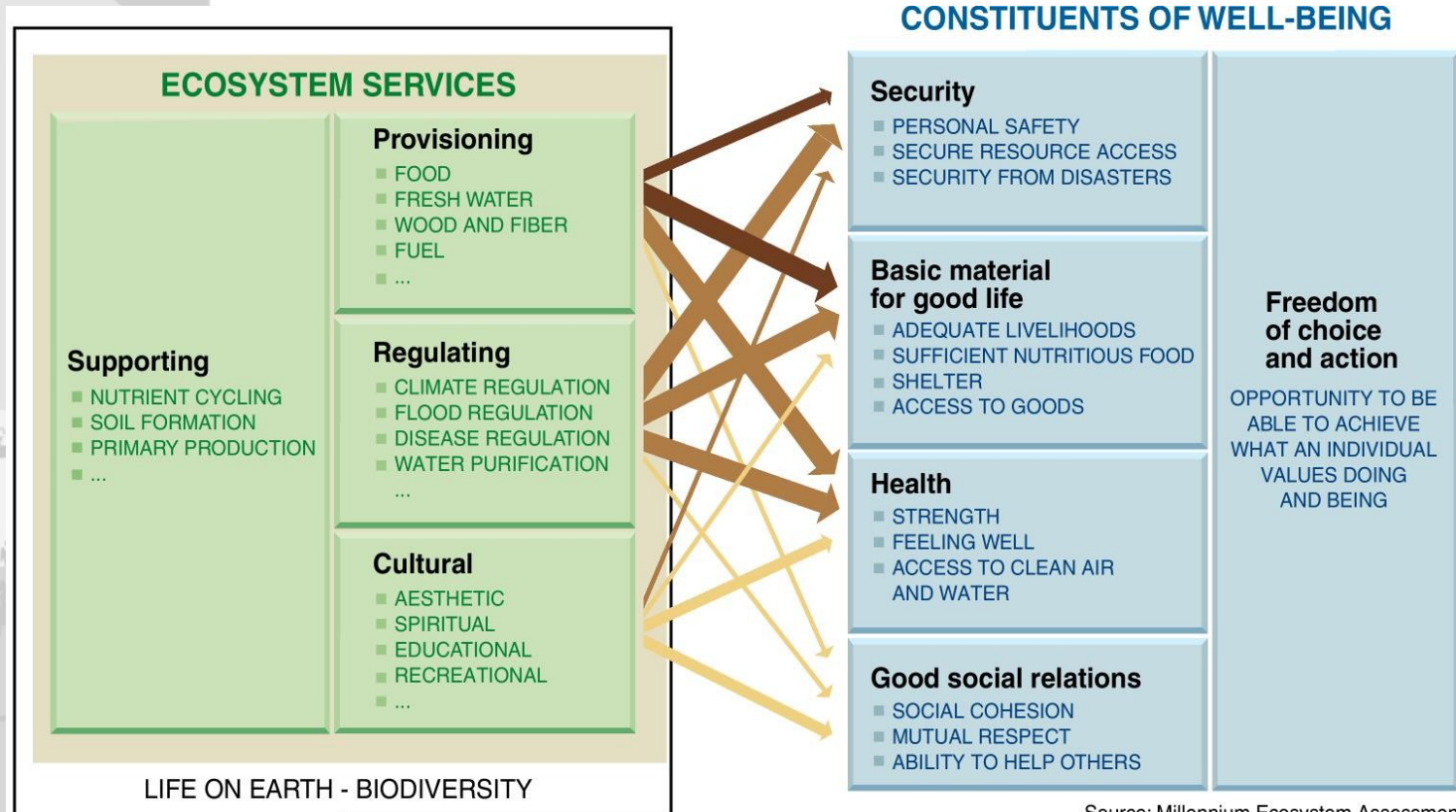
Parliamentary recommendation for a UK National Ecosystem Assessment

- Conceived in 2007/Started in 2009
- Synthesis & Key findings – June 2011
- Technical report – November 2011
 - Most comprehensive sub-global assessment to date
 - 1,465 pages in 27 Chapters – 5 kg!
 - 500 authors
 - But more to do on valuation, scenarios & decision-making “tools”



<http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx>

Millennium Assessment about Human Wellbeing



Source: Millennium Ecosystem Assessment

ARROW'S COLOR
Potential for mediation by socioeconomic factors

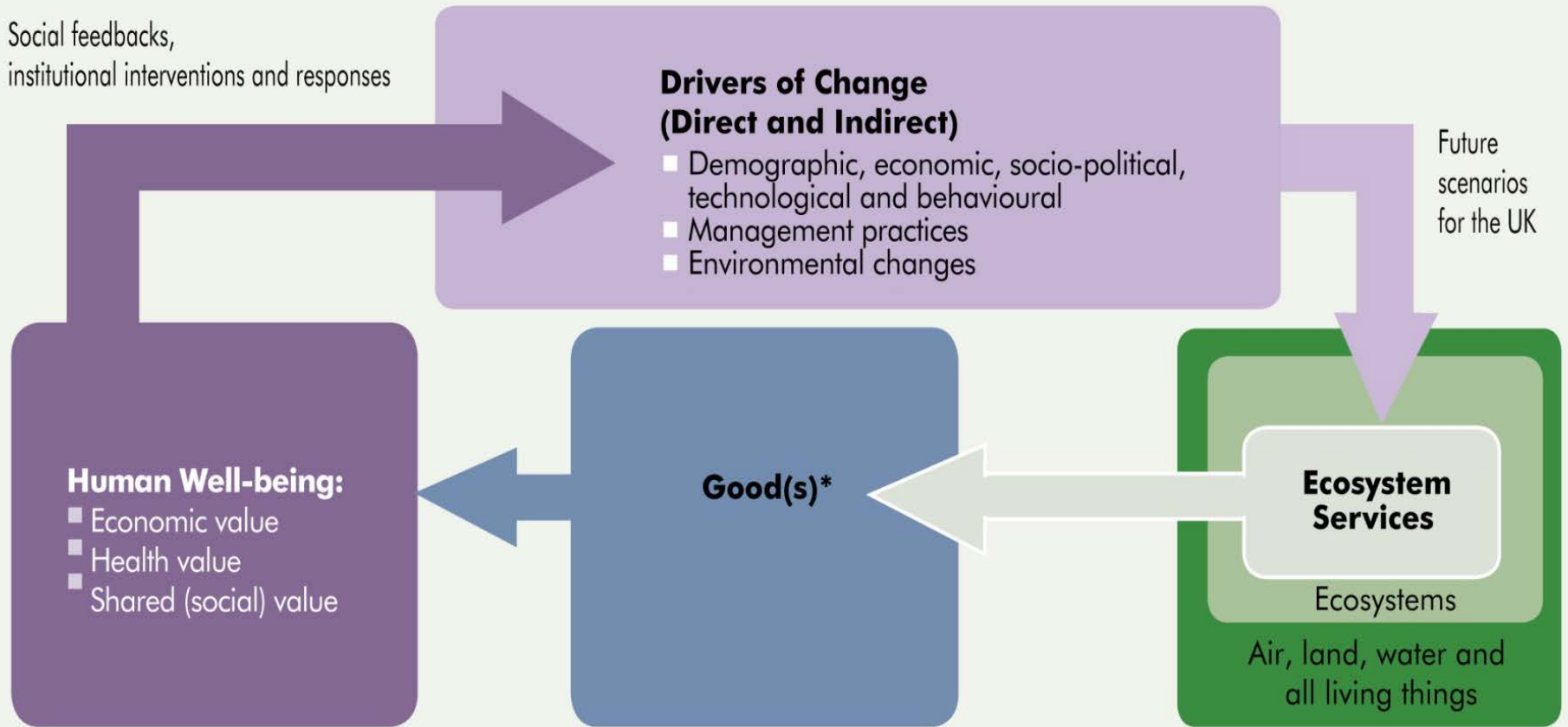
- Low
- Medium
- High

ARROW'S WIDTH
Intensity of linkages between ecosystem services and human well-being

- Weak
- Medium
- Strong

Conceptual Framework – evolution from the MA

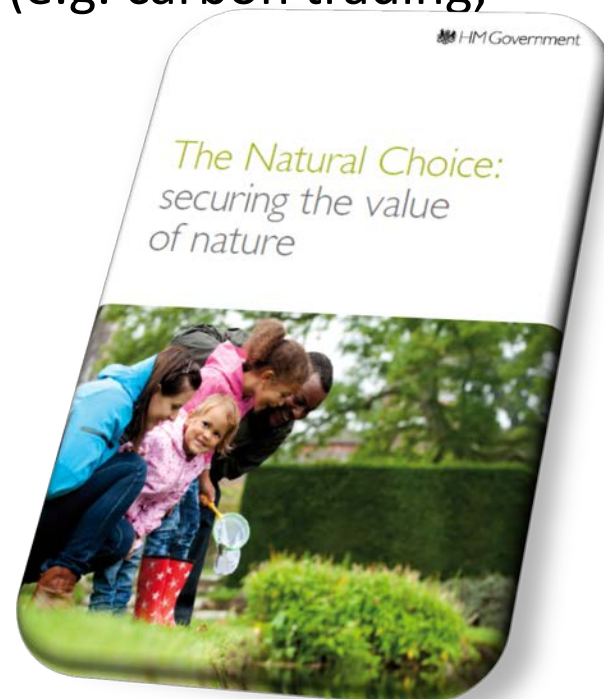
Social feedbacks,
institutional interventions and responses



Why Value Ecosystem Goods?

- Decisions strongly influenced by market prices
 - Many natural resources lack such prices (e.g. water quality)
 - Market decisions do not maximise values for society.
- Policy is changing to reward private companies for reducing negative (and increasing positive) externalities (e.g. carbon trading; Payments for Ecosystem Services, etc.)
- 2011: UK National Ecosystem Assessment provides basis for Natural Environment White Paper commitment:

“As part of our approach to mainstream sustainable development the Government will fully consider the value of nature in all relevant Impact Assessments”



Conceptual Framework – focus on well-being

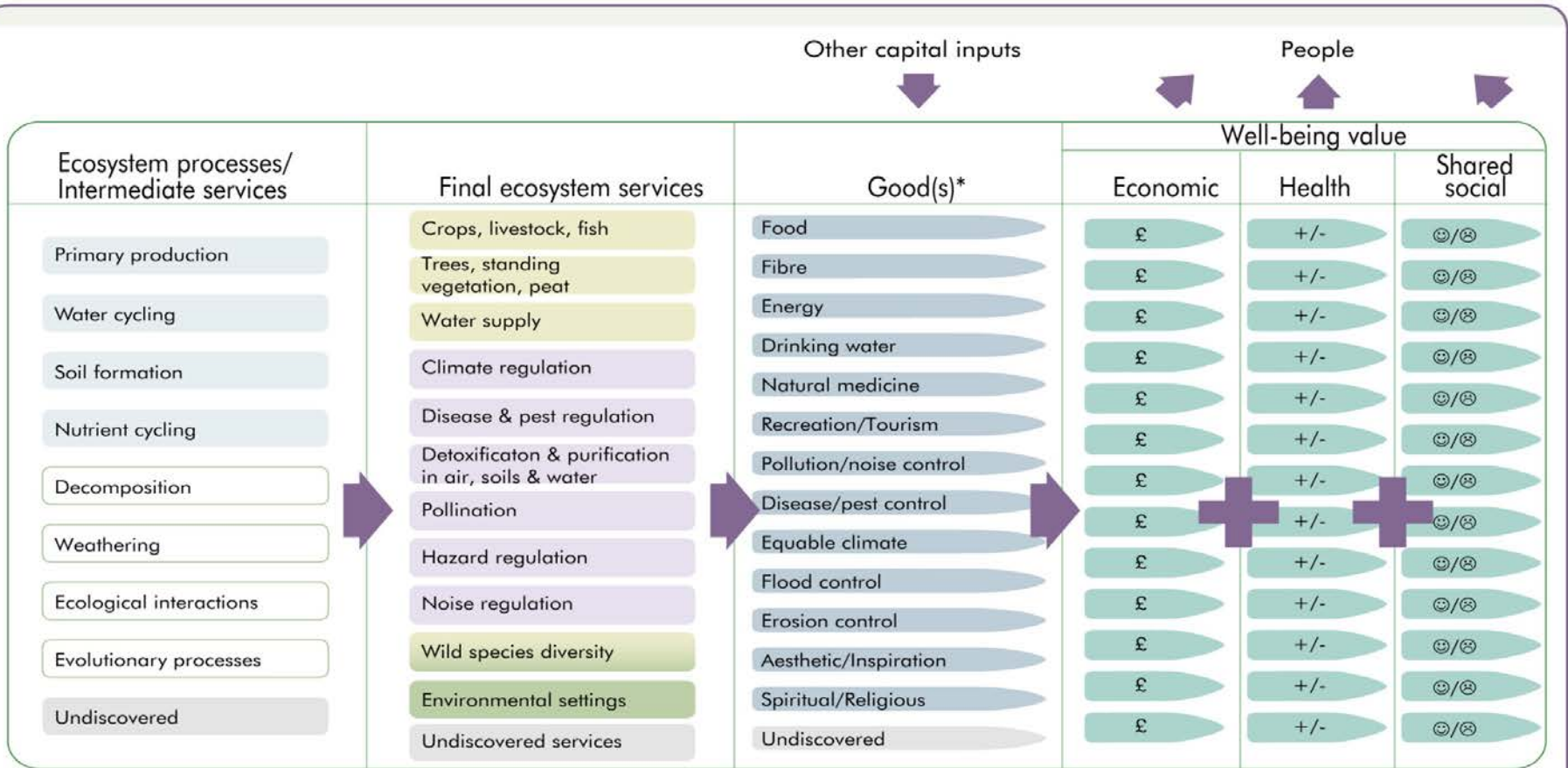
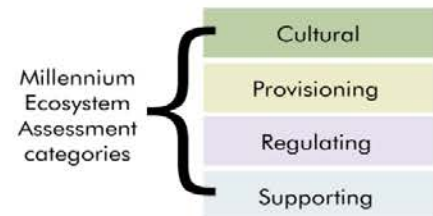


Figure 10 The full set of ecosystem processes, services, goods/benefits and values used in the UK NEA. Note that some ecosystem services can be both intermediate and final services. For simplicity, in this figure, services are shown only in the most final position that they occupy. Services such as pollination and climate regulation that also play important roles further back in the chain are not represented here. Cells with no colour are ecosystem processes/services that were not in the Millennium Ecosystem Assessment classification. *Note that the term good(s) includes all use and non-use, material and non-material outputs from ecosystems that have value for people. Source: adapted from Fisher *et al.* (2008).

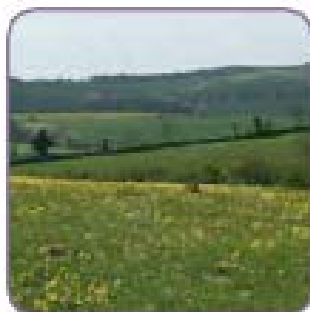


UK Ecosystems (Broad Habitats)

Mountains/Moors/Heaths



Semi-natural grasslands



Woodlands



Enclosed farmland



Freshwater/Wetlands



Urban (settlement)



Coastal margins



Marine



Relative importance of Habitats for Ecosystem Services and direction of change since 1990

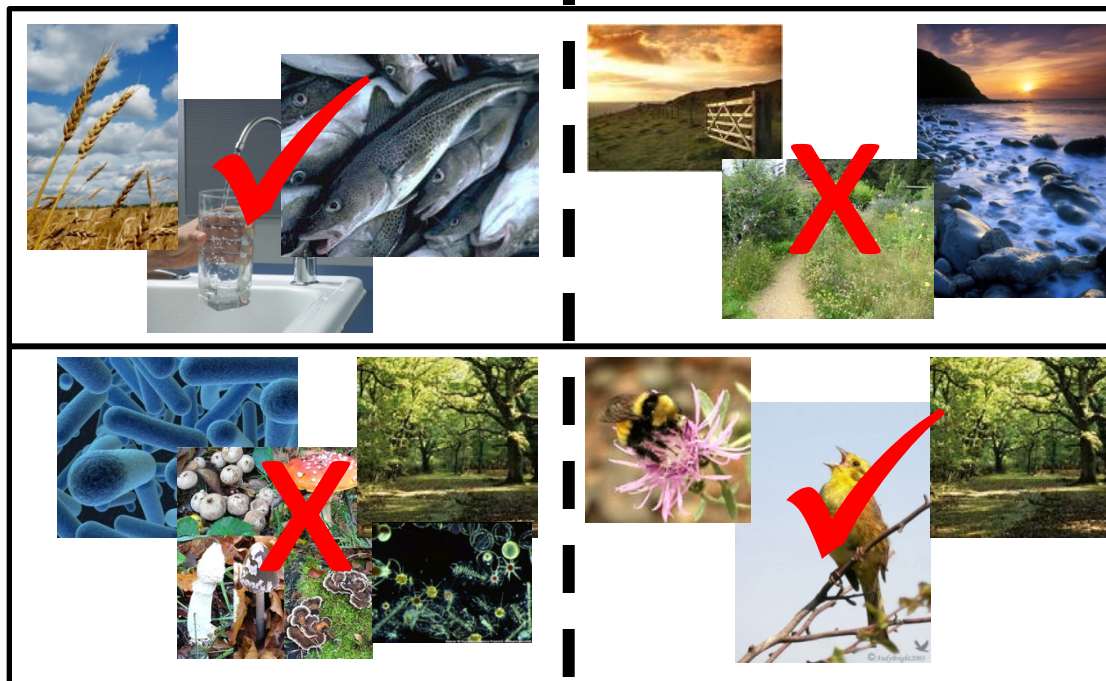
Service Group	Final Ecosystem Service	Mountains, Moorlands & Heaths	Semi-natural Grasslands	Enclosed Farmland	Woodlands	Freshwaters – Openwaters, Wetlands & Floodplains	Urban	Coastal Margins	Marine	
Provisioning	Crops		↔	↑		↓	↗	↓		
	Livestock/Aquaculture	↓	↗	↔	↔	↓	↔	↓	↗	
	Fish					↓	↔	↓	+	
	Trees, standing vegetation, peat	↓	↔	↗	↗	↓	↔	↓		
	Water supply	↔	↓	↓	↔	↓	↔	?		
	Wild species diversity	↔	↓	↓	↗	↓	↔	↓	↓	
Cultural	Environmental settings: Local places	↔	↔	?	↗	↗	↔	↔	?	
	Environmental settings: Landscapes/seascapes	↔	↔	↔	↗	↔	↔	↗	?	
Regulating	Climate	↔	↔	↘	↗	↔	↓	↗	↘	
	Hazard	↓	↔	↘	↗	↓	↓	↔	↘	
	Disease and pests	↔	↔	+	↘	↓	?	+	↘	
	Pollination	↓	↓	↓	↔		↔	↔		
	Noise	↔	↔	?	↗	↔	↘	↔		
	Detoxification & purification	Water quality	↔	↗	+	↔	+	+	?	↔
		Soil quality	↔	↘	↓	↔	↓	↘	↓	
		Air quality	↔	↔	↗	↗	↔	↔	↔	?

Biodiversity – ‘The Cultural Service Divide’

Provisioning and
Regulating services

Cultural services

Well-being value



Biodiversity

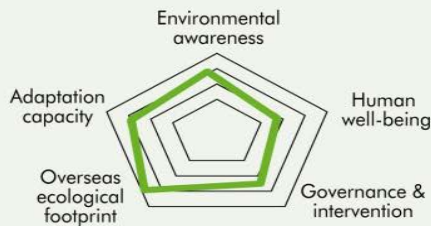
Challenges:

- Improve our understanding of how different biodiversity groups underpin ES
- Identify key indicator groups, changes in which have an important impact on ES
- Develop UK comprehensive, integrated monitoring programme for these indicator groups

Six Contrasting Scenario projections

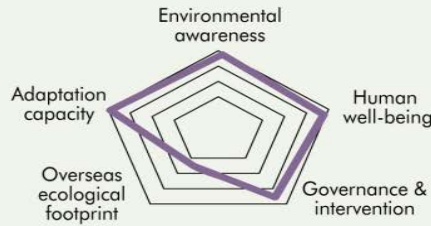
Green and Pleasant Land

A preservationist attitude arises because the UK can afford to look after its own backyard without diminishing the ever-increasing standards of living.



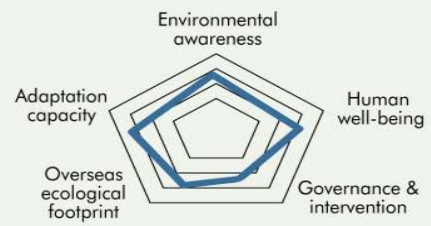
Nature@Work

The belief that the promotion of ecosystem services through the creation of multifunctional landscapes is essential for maintaining the quality of life in the UK is widely accepted.



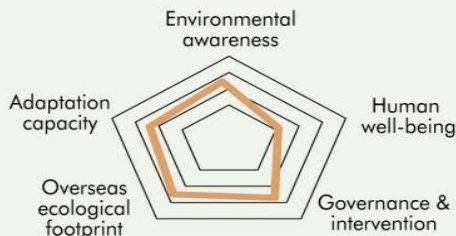
Local Stewardship

This is a future where society is more concerned with the immediate surroundings and strives to maintain a sustainable focus on life within that area.



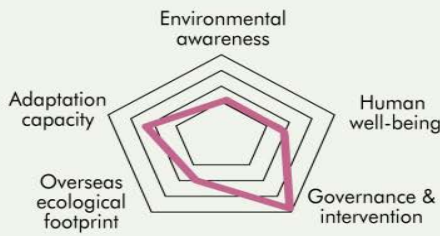
Go with the Flow

This scenario is essentially a projection based on current trends and results in a future UK that is roughly based on today's ideals and targets.



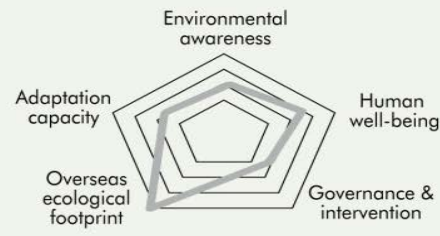
National Security

Under this scenario climate change results in increases in global energy prices forcing many countries to attempt greater self-sufficiency (and efficiency) in many of their core industries.

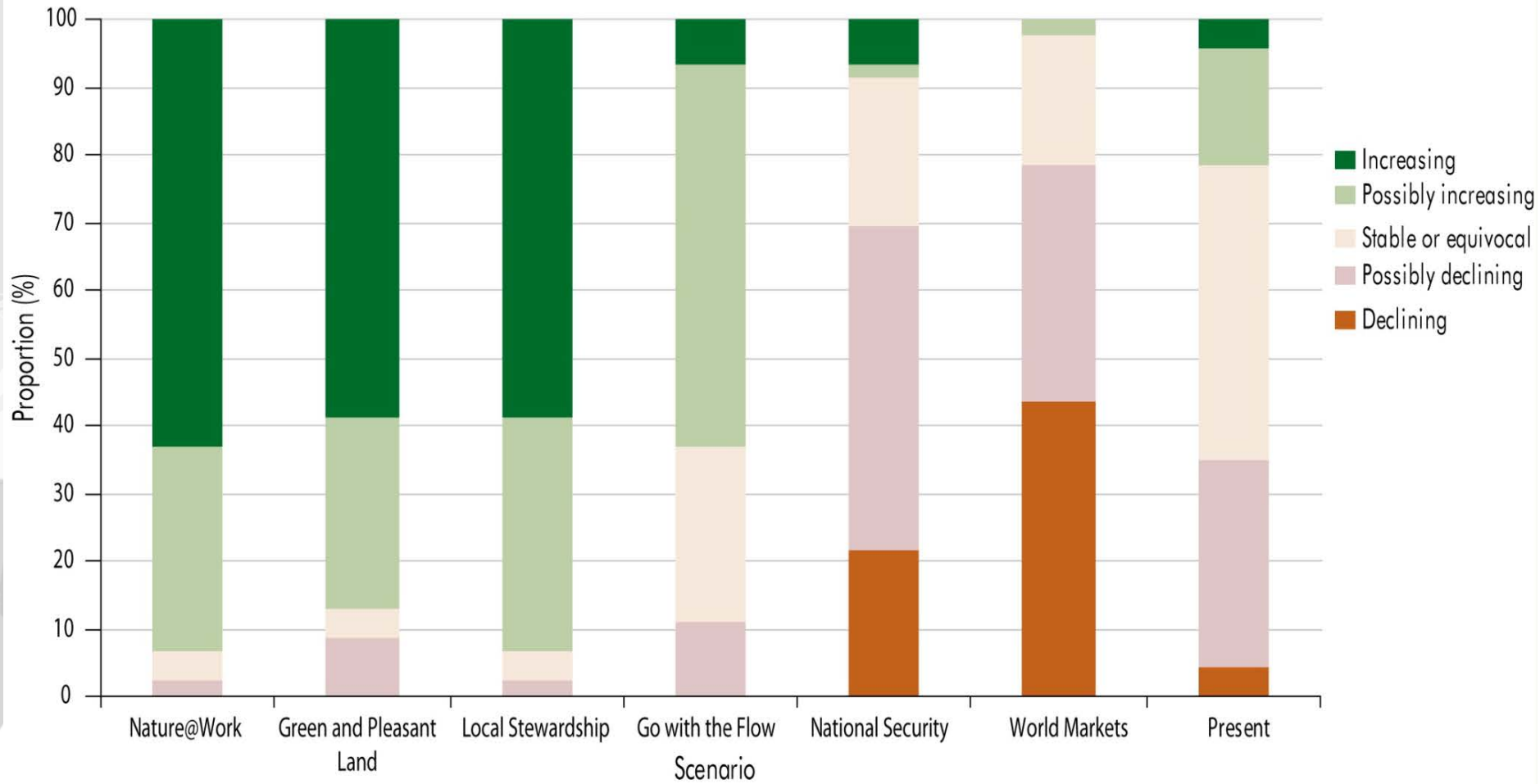


World Markets

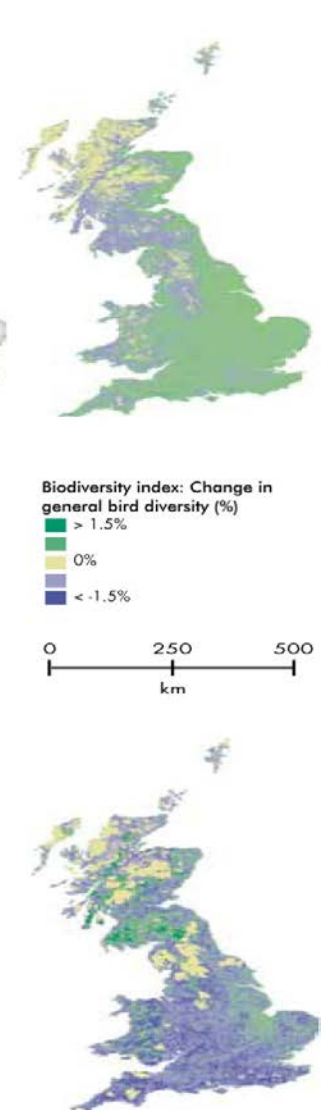
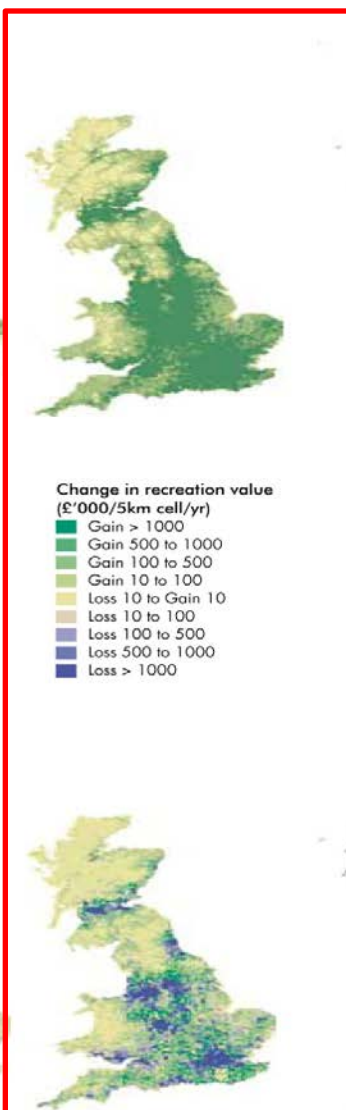
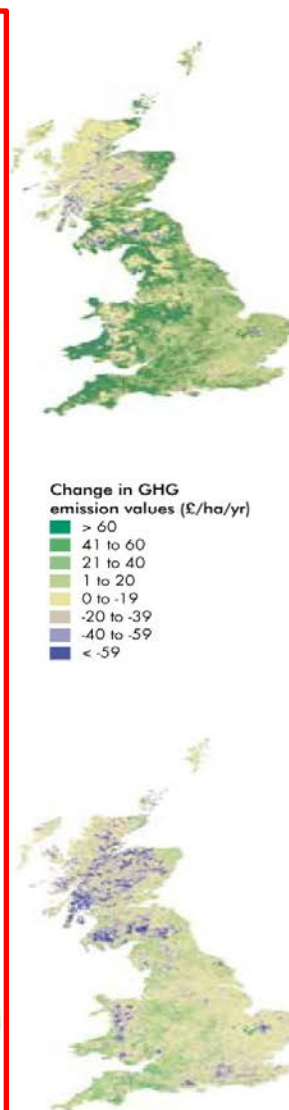
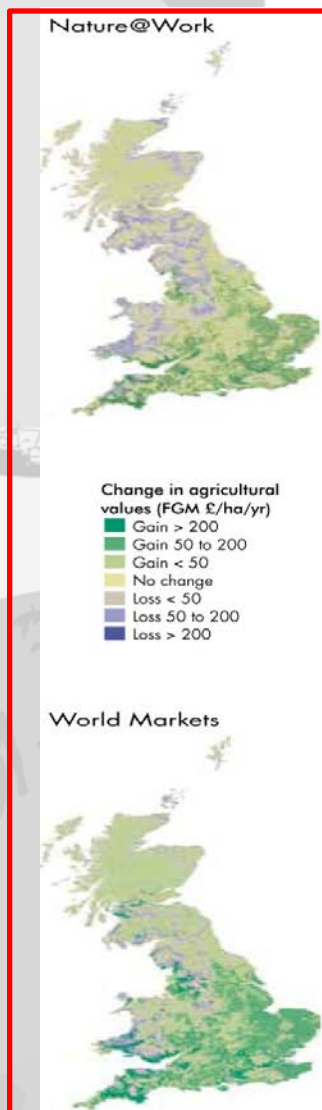
High economic growth with a greater focus on removing barriers to trade is the fundamental characteristic of this scenario.



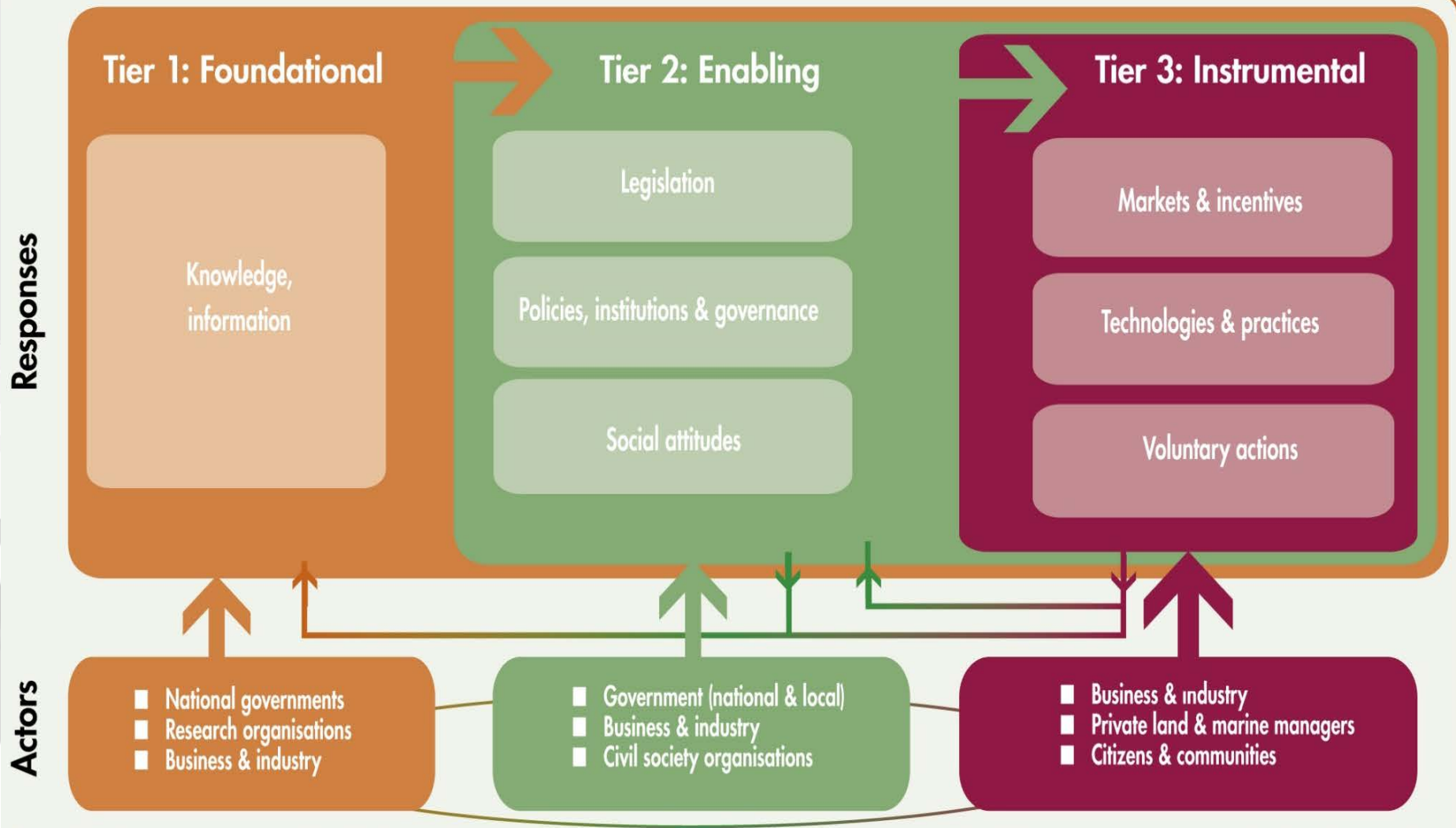
Implications of 'storylines' on Ecosystem Services



Spatial Economic Implications of two 'storylines'



Actors and Response Options



NEA Summary

1. Already enough information to manage our ecosystems **more sustainably** and good **evidence of the benefits** of doing so.
2. But a more sustainable development will **require changes in individual and societal behaviour** and adoption of a **more integrated approach** to ecosystem management .
3. A priority is to **improve our understanding of how changes** in our ecosystems, e.g .: halting the loss of biodiversity, **influences the delivery of ecosystem services**.
4. While illustrated how considering **both market and non-market values** from ecosystem services can influence economic prosperity, we **need to develop methods to incorporate health and social values in decision making**.

Influenced setting up of Natural Capital Committee

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Natural Capital Committee



The Natural Environment White Paper, *the Natural Choice: Securing the Value of Nature*, announced the creation of the Natural Capital Committee. This Committee will report to the Economic Affairs Committee (chaired by the Chancellor of the Exchequer) and aims to provide independent expert advice on the state of English natural capital.

The Natural Capital Committee is designed to ensure that Government has a better informed understanding of the value of Natural Capital, and will help it to prioritise actions to support and improve the UK's natural assets. By reporting into the EA Committee and the Chancellor, this Committee has the opportunity to truly influence the economic policy of the UK for the good of the natural environment.

Latest News

- [Defra appoints Dieter Helm as Chair of the Natural Capital Committee](#)

Related information

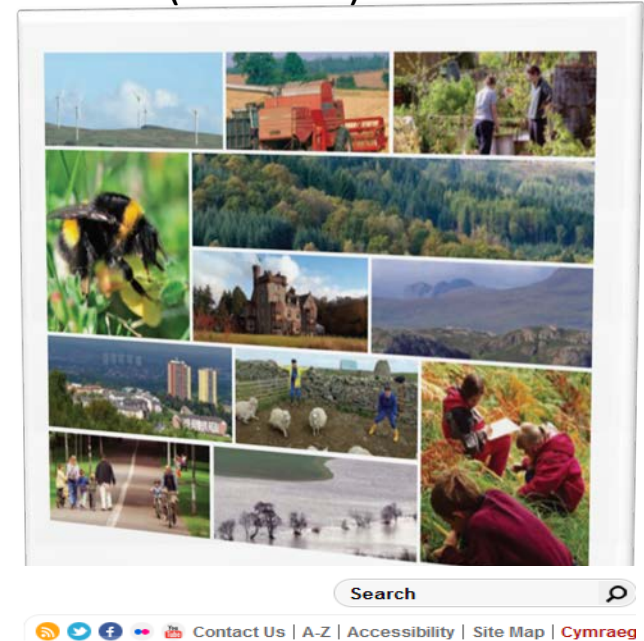
- ▶ [Defra's ecosystems services research programme](#)
- ▶ [National Ecosystems Assessment](#)
- ▶ [Natural Environment White Paper](#)
- ▶ [The Economics of Ecosystems and Biodiversity](#)

Adoption in Policy

Natural Environment White Paper (England)



Land Use Strategy (Scotland)



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A Living Wales - a new framework for our environment, our countryside and our seas

SHARE [social media icons] Last updated 27 September 2011

We all need to rethink the way we view, protect and manage the Welsh environment.

Many people have become disconnected from their surroundings and underestimate the contribution that a healthy environment plays in their everyday lives. So it is not surprising that the environment doesn't feature strongly in many decisions we make about our future or our personal well being.



Related Links

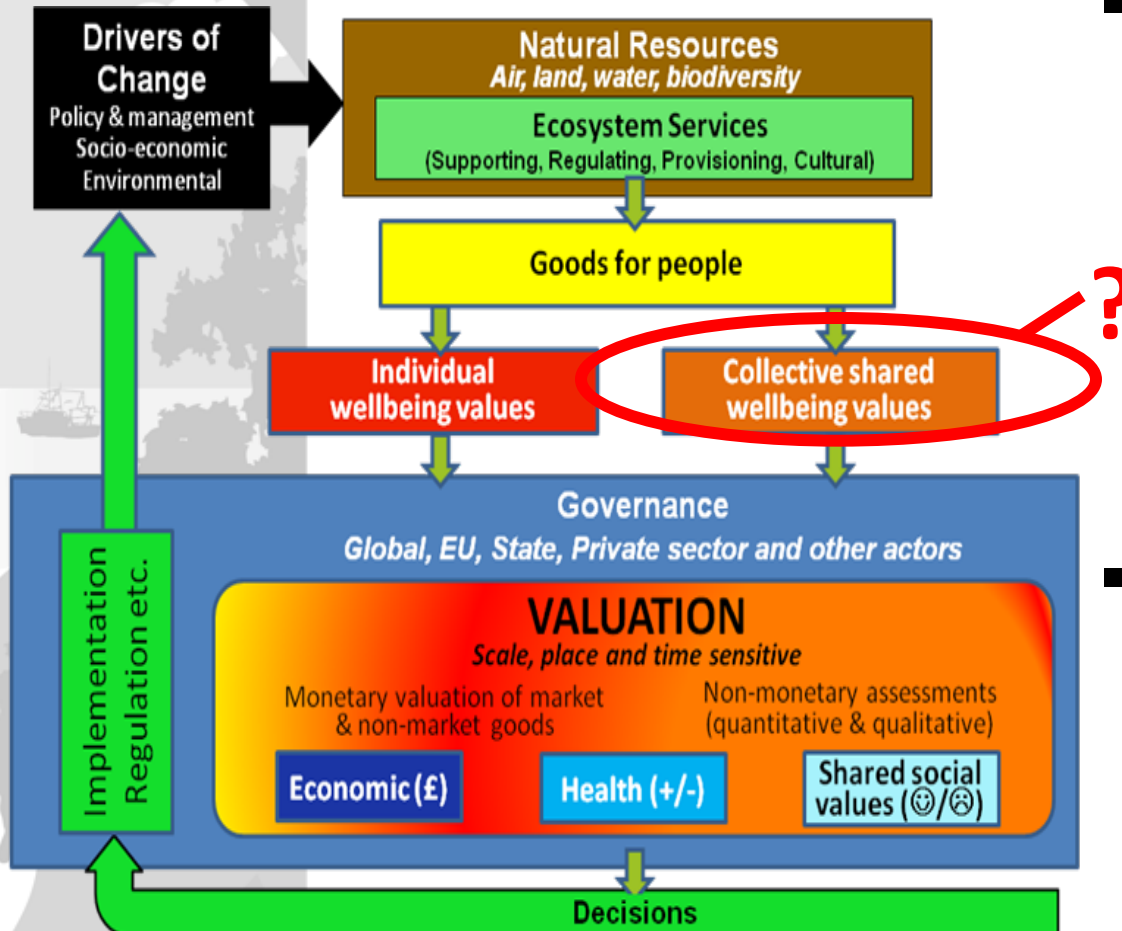
Updates from meetings
Updates from the Living Wales groups.

Written Statement - The Natural Environment Framework 'A Living Wales'
John Griffiths, Minister for Environment and Sustainable Development

NEA2 – 1) Natural Capital Accounting

- Developing the evidence for a Natural Capital Asset Check
- Macroeconomic implications of ecosystem service change and management
- Valuing a wider set of ecosystem service flows, and extending to the marine environment

NEA2 – 2) Deeper understanding of Well-being



- Further exploration of cultural ecosystem services to extend the theoretical, methodological and practical understanding.
- How shared and plural values for ecosystem services can inform decision making, along side economic considerations?

NEA2 – 3) Broadening the Scenarios

- To deepen the analysis of UK NEA scenarios so that they support both economic and macro-economic analysis of Objective 1, and explore how these influence well-being values.
- To use these enhanced scenarios to undertake analysis of the impacts of a wide range of societal responses to ecosystem change, at a range of spatial and temporal scales.

NEA 2 – 4) Enhancing knowledge exchange and enabling decision-making

- Understanding and influencing culture and behaviour to maintain and enhance the delivery of ecosystem services.
- Engagement with end users and exploration of a framework to prioritise tool development.
- Development and enhancement of tools and resources for the dissemination the findings/ methods of the UK NEA.

Acknowledgements

- **500 natural, economic and social scientists!**
- **UNEP-WCMC Secretariat –**
Claire Brown, Lucy Simpson, Megan Tierney & Matt Walpole
- **Bob Watson – Overall Vision**
- **Georgina Mace - Conceptual Framework**
- **Ken Norris - Biodiversity**
- **Ian Bateman – Valuation**
- **Roy Haines-Young – Scenarios**
- **Bhaskar Vira – Response Options**