

Soils – Delivering ecosystem services

The Ecosystems Approach

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- **Historical background**
- **Natural Environment PSA**
- **Ecosystems Approach Action Plan**
- **What is the Ecosystems Approach?**
- **Evidence Challenges**
- **National Ecosystem Assessment**

Historical background

Natural Environment Challenges

- Air pollution reduces life expectancy (7-8 mths)
- Risk of failing to meet WFD
- 39% of priority habitats and 27% of priority species are still in decline in England
- Marine ecosystems continue to deteriorate
- 20% of England is at high risk of soil erosion
- Population pressures continue

Historical background

1985 EU EIA Directive

1992 Earth Summit

1995 CBD adopts Ecosystems Approach

2001 SEA Directive

2000-05 Millennium Assessment

Sustainable Development Strategy 2005

 HM Government

Securing the future
delivering UK sustainable development strategy



UK Sustainable Development Strategy commitment



“to work with stakeholders to develop a clear vision and coherent approach for the UK to the protection and enhancement of natural resources by the end of 2005.”

Natural Environment PSA

Government Public Service Agreements 2008 - 2011



- 1-7: Sustainable growth & prosperity**
- 8-17: Fairness & opportunity for all**
- 18-26: Stronger communities and a better quality of life**
- 27-30: A more secure, fair and environmentally sustainable world**

Natural Environment Public Service Agreement



PSA Delivery Agreement 28: Secure a healthy natural environment for today and the future

October 2007

Natural Environment Public Service Agreement

Vision

“To secure a diverse, healthy and resilient natural environment, which provides the basis for everyone’s well-being, health and prosperity now and in the future; and where the value of the services provided by the natural environment are reflected in decision-making”



Natural Environment Public Service Agreement



This means:

- **Air free from harmful levels of pollutants**
- **Sustainable water use**
- **Land and soils managed sustainably**
- **Biodiversity valued, safeguarded and enhanced**
- **Clean, healthy, safe, productive and biologically diverse oceans and seas**
- **People enjoying the natural environment**

Delivering the PSA

- **Key Defra-led policies and programmes:**
water, biodiversity, marine, air quality, etc.
- **Cross-government responsibility:**
planning, housing, regions, transport, etc
- **Embedding an ecosystems approach**

Ecosystem Approach Action Plan

Ecosystem Approach Action Plan & Introductory Guide (Dec 2007)

www.defra.gov.uk

Securing a healthy natural environment:

An action plan for embedding an ecosystems approach



www.defra.gov.uk

An introductory guide to valuing ecosystem services



What is the Ecosystem Approach?

What is an ecosystems approach?

5 Principles

- **More integrated approach**
- **Ecosystem Services reflected in decision making**
- **Respect environmental limits**
- **Decisions at appropriate scale
(recognising cumulative effects)**
- **Adaptive management to respond to pressures**

Enhancing policy through an ecosystems approach

- **Engage key partners and stakeholders**
- **Consideration of whole systems**
- **Aim to deliver multiple outcomes - “win wins”**
- **Consider full range of ecosystem services (environmental, economic and social) when valuing costs and benefits**
- **More people-focussed**
- **Importance of joined-up working**

What is an Ecosystem?

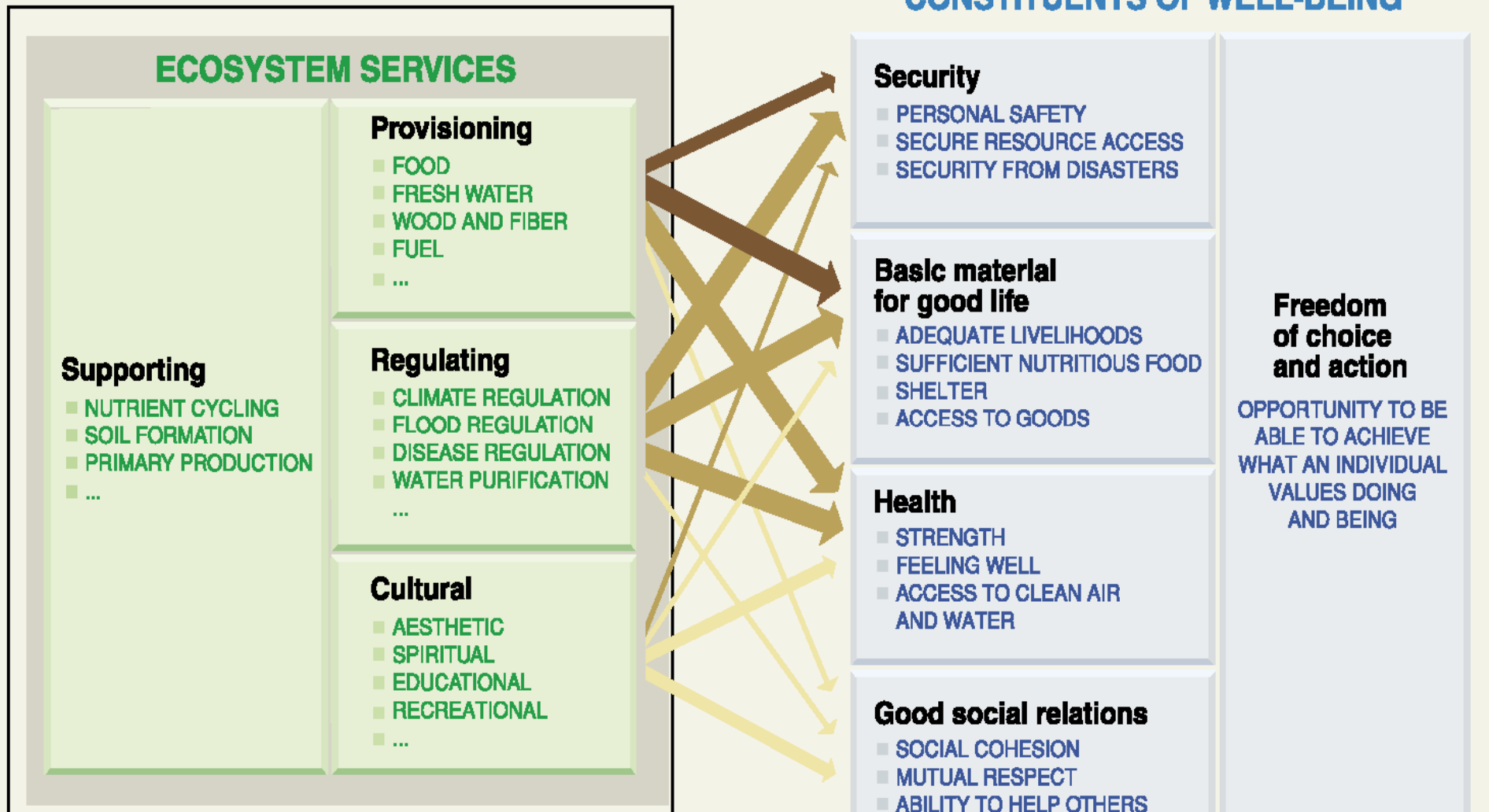
“A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit”.

Convention on Biological Diversity

What are Ecosystem Services?

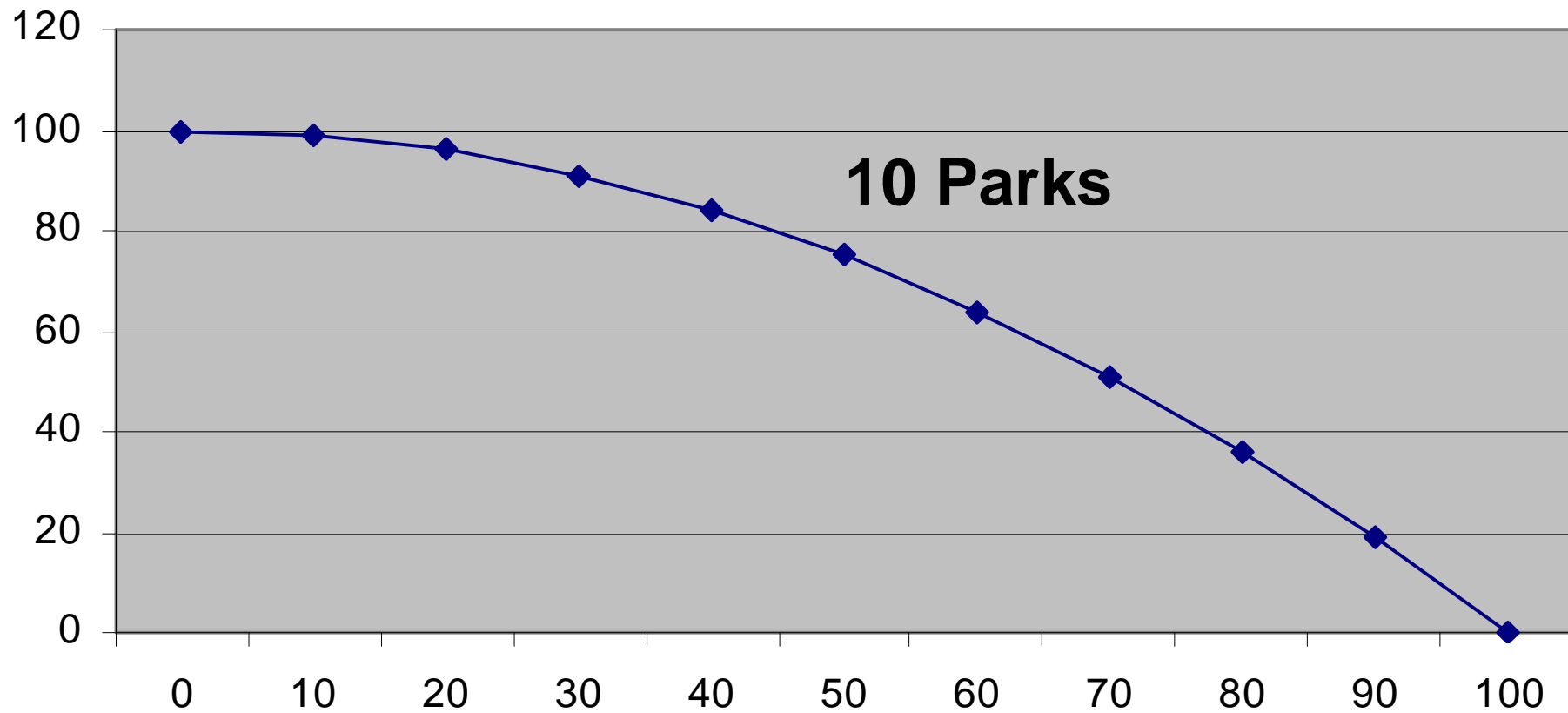
Ecosystem services are the wide range of valuable benefits that a healthy natural environment provides for people, either directly or indirectly.

Ecosystem services



Cumulative impacts

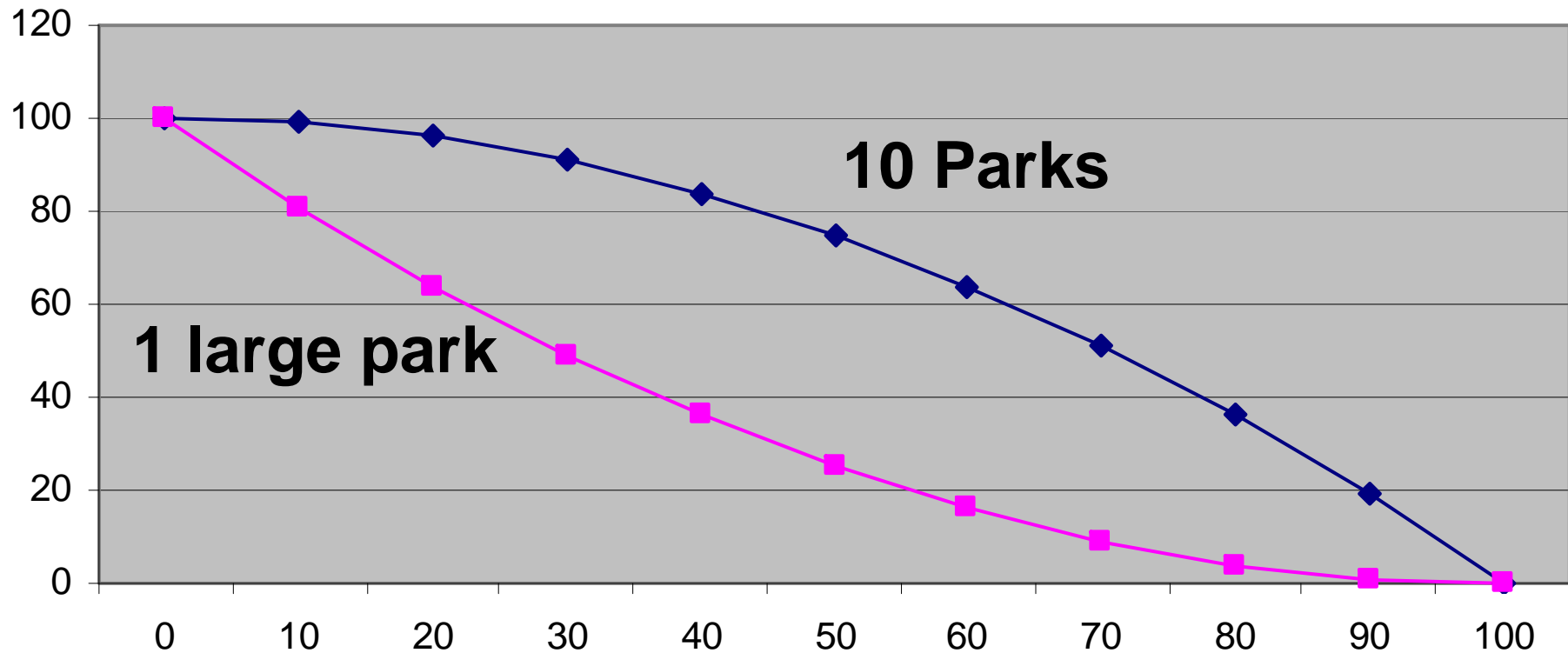
Value £m



Hectares developed

Cumulative impacts

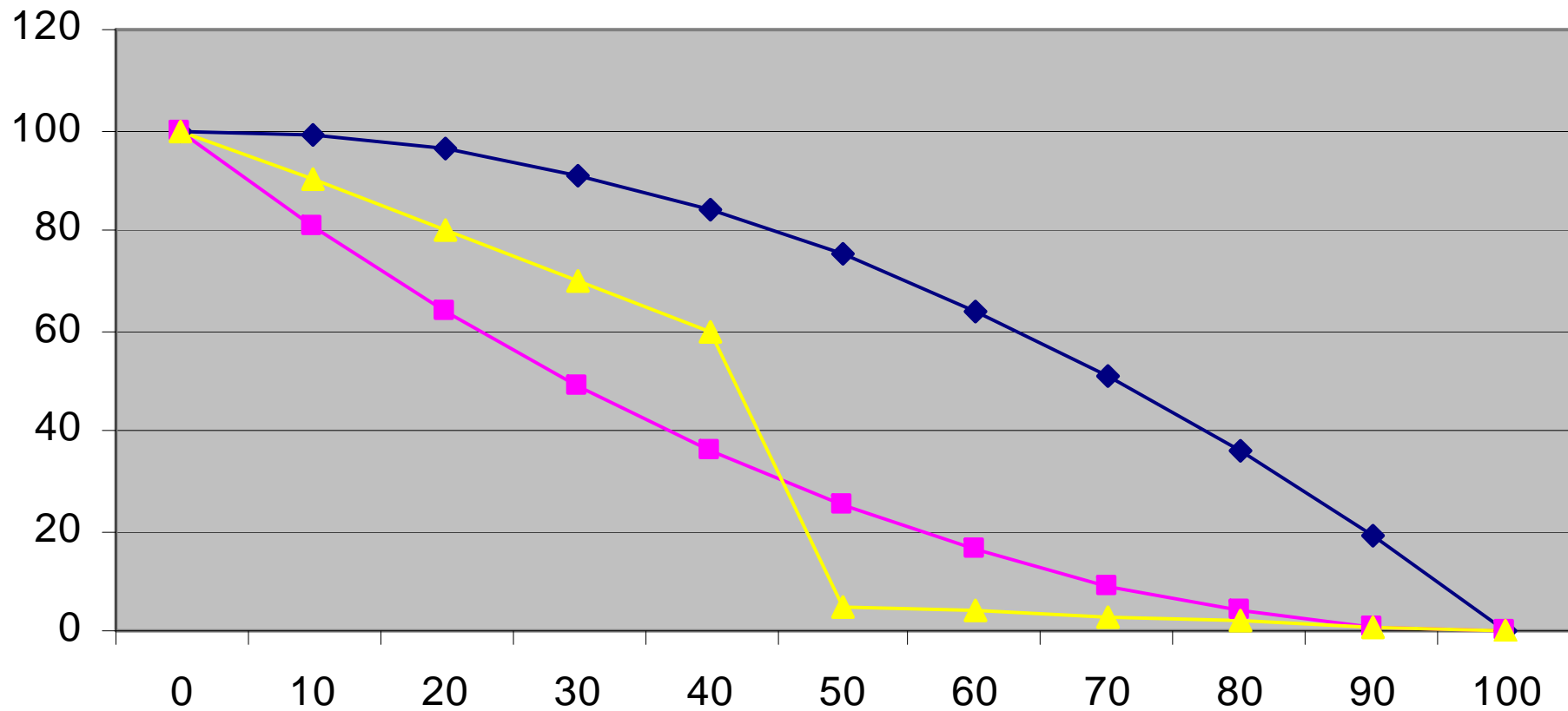
Value £m



Hectares developed

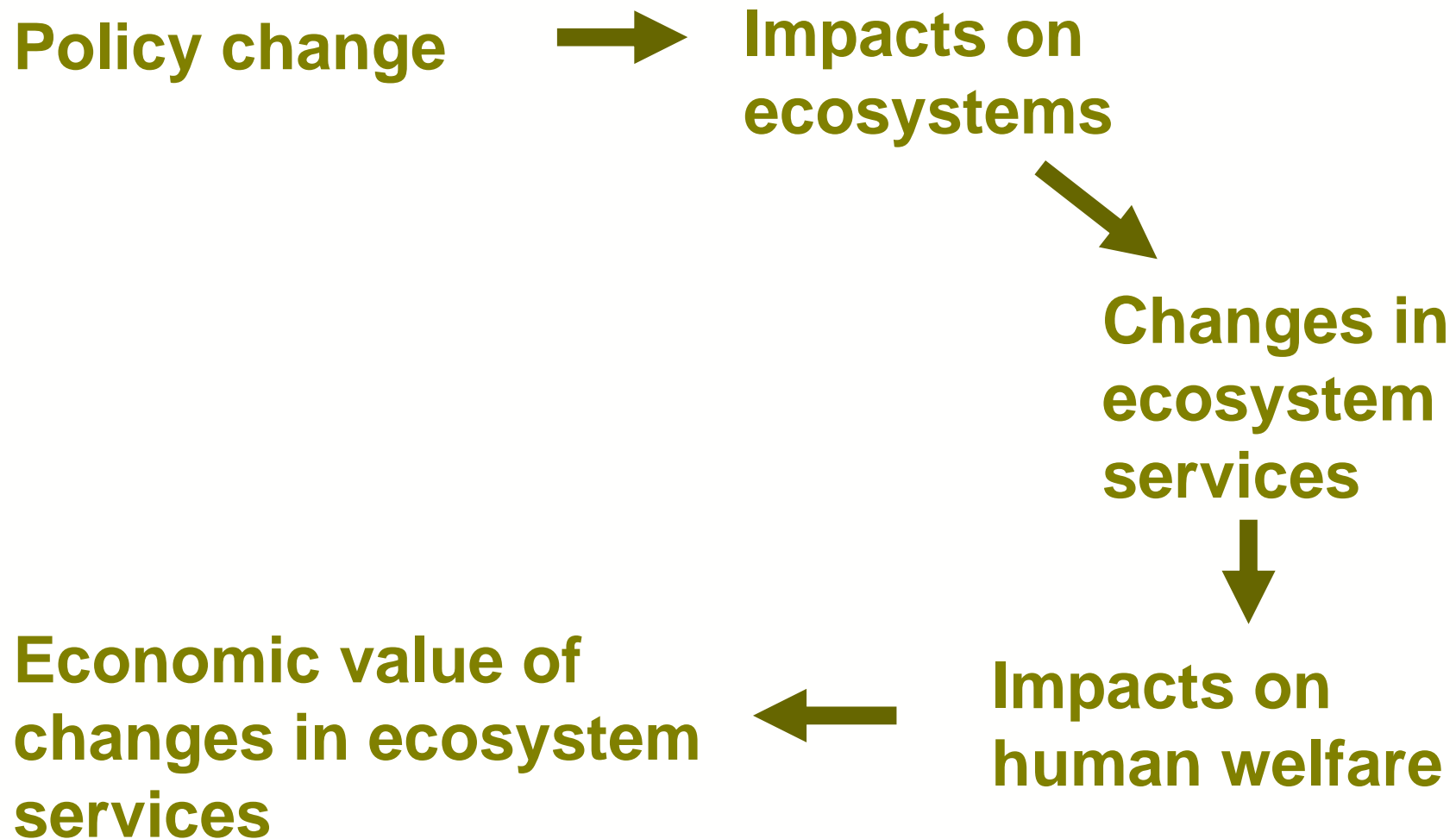
Cumulative impacts

Value £m



Hectares developed

Overview of impact pathway of policy change



Evidence Challenges

Evidence needs: Ecosystems

- **Definition of an ecosystem and its boundaries**
- **State of and trends in ecosystem services**
- **Ecosystem functioning and environmental limits**
- **Better predictive understanding**
 - **Cumulative, feedback & compensatory effects**
 - **Slow effects and lags**
- **Future scenarios and policy response options**

Evidence needs: Valuation

- **Links between ecosystem change and human well-being**
- **Valuation of a wider range of services**
- **Effective valuation of genetic value**
- **Benefits transfer**

Addressing the evidence needs

- **Targeted Defra research**
- **Influencing strategic direction of wider R&D (Defra network, RCs, EU)**
- **Promote inter-disciplinary research between natural and social scientists**
- **UK National Ecosystem Assessment**

UK National Ecosystem Assessment

The NEA is the first analysis of the UK's natural environment in terms of the benefits it provides to society and continuing economic prosperity.

Ecosystems Approach



Thank you



For further information:

<http://www.defra.gov.uk/environment/policy/natural-environ/index.htm>