

# **The Natural Environment White Paper: an analytical perspective**

UKNEE Seminar  
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# Aims and outline

- Give flavour of NEWP and role of analysis and evidence
- Focus on case for change, key actions themes, and perspectives
- Analytical reflections and challenges

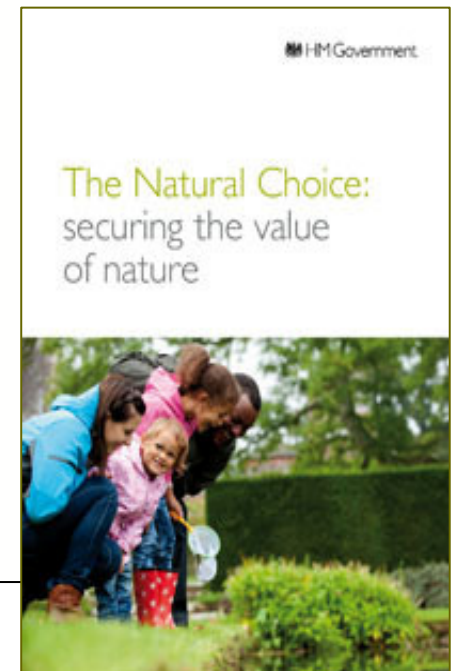
# Natural Environment White Paper



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- Flagship Defra paper published June 2011. Ambition to:
  - Leave the natural environment in a better state than before
  - Mainstream value of nature in decision-making at all levels.
- “Natural Environment” includes:
  - Diversity of living things and their habitats
  - Essentials of life
  - Landscapes, natural heritage and urban greenspace
- Responds to Lawton Review, Nagoya, UK NEA, 20 years of research effort
- Accompanying analysis:
  - Overarching Impact Assessment
  - Supporting evidence and analysis paper



**Natural capital:**  
supporting evidence and  
analysis to the Natural  
Environment White Paper –  
The Natural Choice: securing  
the value of nature

# The White Paper in numbers



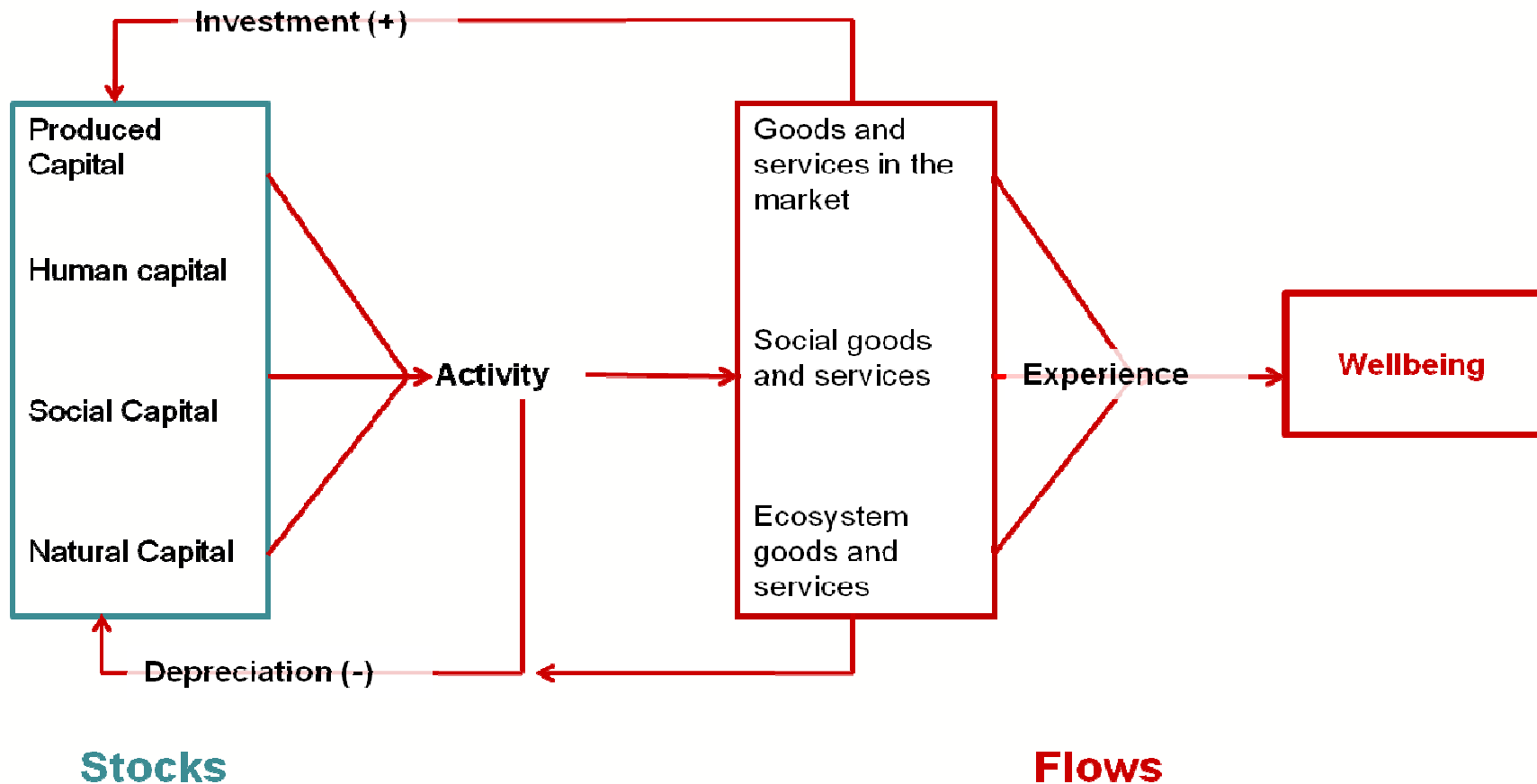
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- 4 core themes
  1. Protecting and improving our natural environment
  2. Growing a green economy
  3. Reconnecting people and nature
  4. International and EU leadership
- 92 commitments
- Multi-disciplinary perspectives
- 30+ refs to UK NEA
- 1 key motif – “Value”



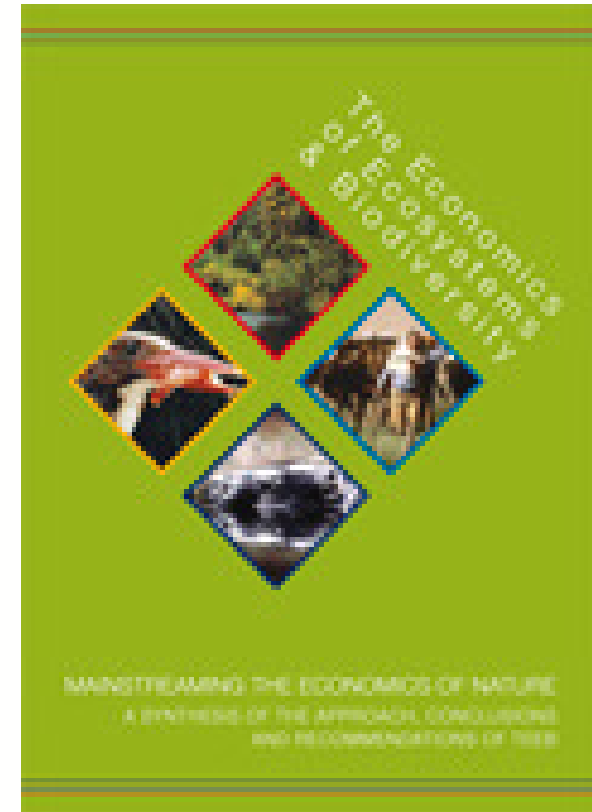
# Role of natural capital in sustainable growth and wellbeing



Source: GES/GSRS social impacts task force (ongoing)

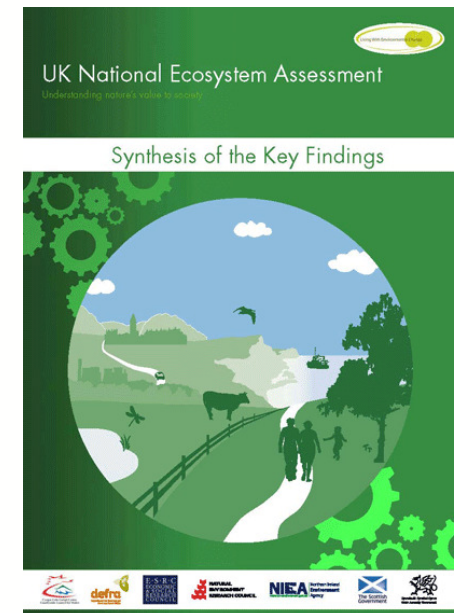
# Value of natural capital – TEEB

- TEEB (synthesis, October 2010).  
**Making nature's value visible** e.g.
  - Cost of unsustainable fishing (\$50bn p.a.)
  - Halving deforestation rates – carbon savings alone \$3.7 trillion (PV)
  - High benefit-cost ratios (10-100) for investment in natural environment
  - Business opportunities e.g. payments for watershed management, certification of food



# Value of natural capital – UK NEA

- Assesses state and trends UK natural environment – mixed picture, but 30% in decline
- Links broad habitats to services
- Estimates range of current economic values of different services
- Scenarios analysis highlights:
  - various values (esp. recreation and urban greenspace) at stake and
  - distortion of focusing just on market values.



# Estimating value of ecosystems –examples from the UK NEA

- Value of **pollinators** to UK agriculture estimated at conservative **£430 million** per annum.
- **Net carbon sequestration by UK forests** valued at **£680 million** per annum
- **Wetlands in the UK** – estimated value of services delivered of **£4.7 billion** per annum (flood control, water quality improvements, amenity)
- **Recreation** - 2.86 billion outdoor recreational visits in England each year with a direct expenditure of over **£20 billion** per annum
- **Health** – new estimates by NEA - having a view of green space from one's house increased emotional well-being by 5% and general health by 2% House views of green space up to £450 p.p.p.a

# Links with the UK NEA

Key messages of UK NEA	NEWP
The natural world is critical to our well-being and economic prosperity, but is consistently undervalued in decision making.	Headline theme of NEWP. → <b>Growing a green economy</b> actions
Significant changes over past 60 years in ecosystems and the ways people benefit from them.	Need for long-term ambitions (2020 and 2060).
UK's ecosystems currently delivering some services well, but others in long-term decline.	Need to take ecosystems and landscape approach. → <b>Protecting and improving theme</b>
Changing and growing demands of UK population + climate change, likely to increase pressures on ecosystem services.	Including natural capital at macro level; biodiversity offsetting; sustainable intensification.
Decisions now will have consequences far into the future for ecosystems and human well-being.	Recognition of need to act now e.g. national accounting.
Need appropriate mix of regulations, technology, financial investment and education; behaviour change and more integrated approach.	Range of actions and rationales in NEWP, although with less emphasis on new regulation.

# A closer look at the case for action

- UK NEA, TEEB and Lawton provide basic evidence – increased understanding of “missing markets”.
- NEWP builds on classic case for intervention (market failure) in three ways:
  - Beyond **avoiding damage** (*polluter pays / precautionary principle*) to **creating value** (*provider gets / beneficiary pays*).
  - Addressing market failures in an ecosystem context involves multiple and linked approaches for action
  - Big Society and social research perspective

# Multiple rationale for actions (I)

<p><b>Raising awareness</b></p>	<p>Ecosystem services not always well understood → externalities and missed opportunities.</p>	<p>Business guidance and online tools Local Nature Partnerships</p>
<p><b>Policy integration</b></p>	<p>Ecosystem approach highlights trade-offs and synergies between policies and activities.</p>	<p>Planning Nature Improvement Areas Partnerships – Nature; Green Infrastructure Health and nature Education outdoors</p>
<p><b>Institution and capacity building</b></p>	<p>At different levels of Government and society, to better reflect value of nature and facilitate collective action</p>	<p>Natural Capital Committee Local Nature Partnerships International “TEEB for business” coalition</p>

# Multiple rationale for actions (II)

<b>Developing new markets</b>	Going beyond “polluter pays” to “provider gets”. Facilitating market creation.	Biodiversity offsetting Action Plan and Task Force for “Payments for Ecosystems Services”
<b>Better regulation</b>	Regulation can itself inhibit environmental outcomes. Need for more integrated and outcome-based regulation.	Review advice /incentives to land managers. Remove barriers to outdoor learning Target outcomes for peat use
<b>Equity concerns</b>	Evidence of inequality in access to the natural environment. Intergenerational equity.	Actions on green infrastructure International - WAVES
<b>Behaviour change</b>	Contact with nature increases people’s value of nature. Can be alternative to regulatory approaches.	Sustainable lifestyles framework Boost nature volunteering

# Linking rationale to NEWP themes



## White Paper ambitions

	Protecting and improving our natural environment	Growing a green economy	Reconnecting people and nature	International and EU leadership
<b>Rationale</b>				
<i>Externalities and public goods</i>	√	√		√
<i>Policy interdependencies</i>	√	√	√	√
<i>Raising awareness</i>		√	√	
<i>Capacity and institution building</i>	√	√	√	√
<i>Developing new markets</i>	√	√		
<i>Better and less regulation</i>	√	√		√
<i>Equity and fairness</i>			√	√
<i>Behaviour change</i>	√	√	√	

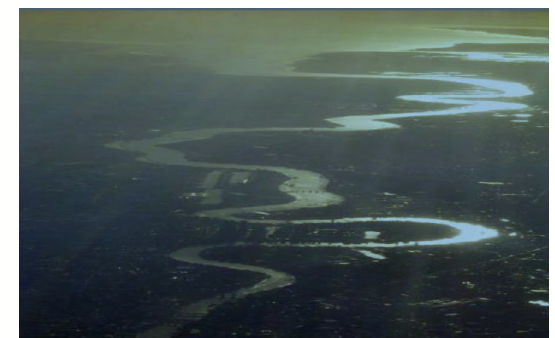
# Protecting and improving our natural environment: Key messages of theme



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- Growing understanding of the value of natural capital....
- ...opening up new ground for new initiatives and leadership by government
- Vision of creation of coherent and resilient ecological network, working at landscape scale where appropriate, joining up to tackle fragmentation
- Enhancing natural capital where it makes good **economic sense** by demonstrating the net benefits of such investment
- Land managers supported to provide range of public goods and are enabled to benefit from new market opportunities



# Working at a landscape scale

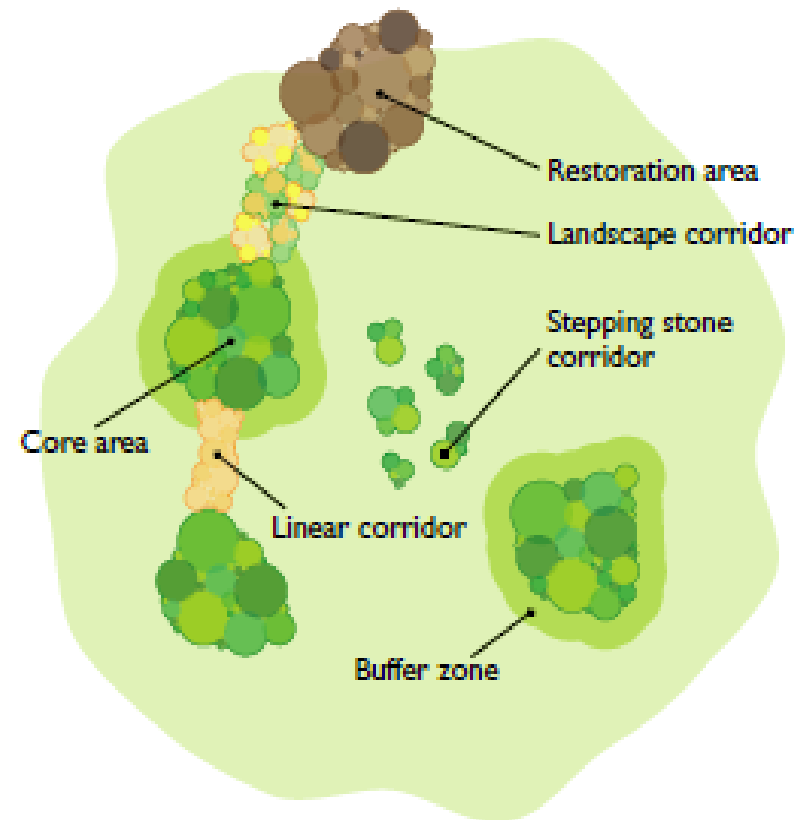


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- No single definition of 'landscape' scale. Although commonly refers to action at a large spatial scale it can also include range of geographical scales e.g. small urban parks
- ...characterised by pursuit of multiple benefits. Best examples make links to wider economic and social priorities – enhancing nature can provide benefits to economy and quality of life.
- Lawton Review set our practical vision of restoring ecological networks

## The components of ecological networks



# Protecting and improving our natural environment: Nature Improvement Areas

## What is the issue?

Development of coherent and resilient ecological network. Recommendation from “Making Space for Nature “(Lawton Review). Part of a range of landscape scale initiatives currently being trialled by Defra and delivery bodies.

## Details of action

Natural England to set up competition to establish 12 NIAs to act as pathfinders to inform how approach could be rolled out. No new regulatory burdens imposed and NIAs are not a statutory designation.

## Costs and benefits of action

Costs to implement 12 NIAs estimated at £3m in first year rising to £6m pa : 50% of funding from government (initial funding commitment of £7.5m over 3 years) and remaining funds from public, voluntary and private sources.



# Protecting and improving our natural environment: Biodiversity Offsets



*“We will establish a new voluntary approach to biodiversity offsetting and will test this in a number of pilot areas.”*

- Testing will start 2012 and run for 2 years
- Groups of local planning authorities will be asked to volunteer to offer offsets as a mechanism to deliver biodiversity aspects of planning guidance (though developers maintain the option to use current processes i.e. negotiations with the LAs)
- Testing will be flexible – different aspects of a scheme could be tested in different ways.
- Details will be available at address below when published:  
[www.defra.gov.uk/environment/natural/biodiversity/uk/offsetting/](http://www.defra.gov.uk/environment/natural/biodiversity/uk/offsetting/)

# Biodiversity Offsets: Impact Assessment

- Analysis in IA suggests benefits of taking a consistent approach to using biodiversity offsetting to implement the requirements of planning policy outweigh the costs....
- ....But not enough information to make the case for implementing a mandatory approach yet or to know that a voluntary approach as proposed would deliver as well as it could, and deliver the anticipated benefits.
- Preferred option to pilot a voluntary approach to biodiversity offsetting. Piloting will allow test of assumptions and test elements of the offsetting mechanism, before final decision on whether and how the approach should be used more widely

# Growing a green economy: accounting for natural capital

## Reflecting natural value at the micro level: marginal impacts

- ensuring that the value of the services we get from natural capital is reflected in economic decisions to produce and consume
- reflecting the social costs and benefits associated with the use of natural assets in policy development and appraisal

## Tracking natural capital at the macro-scale: assessing cumulative impacts, net depletion and long-term sustainability of current development path

- establish a new independent **Natural Capital Committee**
- making value of nature count in national economic measures ⇒ **'greening' national accounts**
- assessing potential breach of safe minimum standards / critical threshold ⇒ developing a **natural capital asset check**

# Natural Capital Committee



- To provide independent expert advice on the state of English natural capital reporting to the Economics Affairs Committee
- Key benefits relate to a more integrated account taken of natural capital in economic planning and policy making across government
- Make use of the substantial contribution to the evidence base provided by the NEA, NEA phase 2.
- Contribute to green economy agenda, identifying real opportunities for generating economic benefit from protecting and improving our natural capital.

# Growing a green economy: Developing greener markets



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## What is the issue?

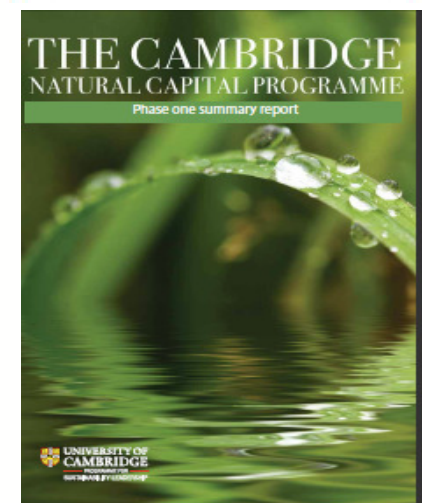
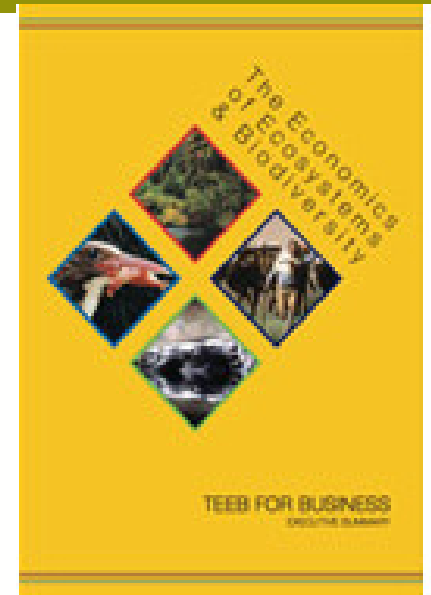
Creating markets for the services that nature provides.

## Details of action

Actions relating to payments for ecosystem services and taking forward a business led Ecosystem Markets Task Force to provide an assessment of potential opportunities to UK businesses which will report back to Government in 2012-13 through the Green Economy Council.

## Costs and benefits of action

Well designed markets for ecosystem services have potential to be cost effective instruments. Business led Task Force will provide focus on the opportunities to UK business relating to ecosystem markets.

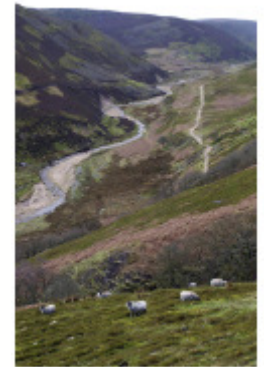


# PES - Why are we interested?

- Builds on valuing ecosystem services work in Defra – want to ensure values are realised
- Provide opportunities for linking more directly those who benefit to those who deliver and in potentially cost effective ways
- Understanding opportunities for new financing streams
- Opportunities for engaging a broader spectrum of stakeholders in delivery of improved outcomes for the natural environment

# PES – growing number of innovative pilots and schemes in England

- SCaMP (Sustainable Catchment Management Programme (partnership RSPB and United Utilities)
- WATER (a partnership to take forward a market based catchment restoration scheme based on a PES model in the South West)
- Natural England upland pilots
- Defra 'multi objective demonstrator projects (applying ecosystem service approach to flood risk management schemes)
- Nurture Lakeland



# Building the evidence base for payments for ecosystem services

- Published short introduction paper, 18 October 2010
- Analytical paper on PES – forthcoming Defra working paper
- PES R&D study on barriers and opportunities for use of PES - summer 2011

[www.defra.gov.uk](http://www.defra.gov.uk)

## Payments for ecosystem services

A short introduction

October 2010



# New commitments on PES under NEWP

- Commitments under NEWP are focusing increasingly on actions to support PES in practice
- In particular:
  - Publish best practice guide to PES
  - Develop an action plan to review barriers and challenges and recommendations for actions
  - New PES research fund to support early stage pilots of PES
- In addition, existing commitment (uplands statement) to hold an expert workshop in late 2011 on PES

# Ecosystem Markets Taskforce: potential areas of work



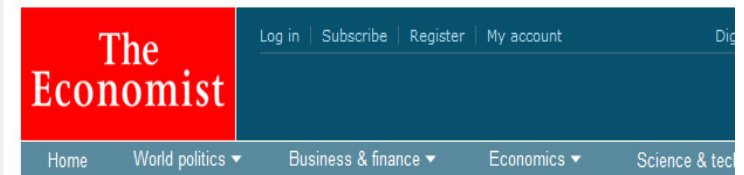
The drivers and barriers to greener markets growth in the short to medium term, including expected developments in international and European environmental policy. Implications in terms of areas of comparative advantage for UK business.

Potential for the financial sector to market new products which invest in natural capital.

Infrastructure that would need to be put in place to support market development. For example, certification standards, monitoring, reporting and verification requirements.

# NEWP direction of travel - implications for business

- Less prescriptive regulation, greater focus on:
  - Voluntary action
  - Medium term outcomes
  - Engaging wider range of stakeholders
  - Leveraging wider sources of finance
  - Developing markets to provide opportunities for business.
- Raising awareness of resource saving measures as well as broader business risks and opportunities e.g. TEEB for business coalition



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A special report on forests

## Money can grow on trees

Forests are disappearing because they are undervalued

Sep 23rd 2010 | from the print edition

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### Valuing nature can cut business costs

**Biodiversity**  
More companies are factoring in ecosystem services as part of planning, writes Rod Newing

Biodiversity brings stability to ecosystems, which provide a wide range of "ecosystem services" that businesses rely on, yet receive free of charge.

Because there is no financial cost for these services, they have been treated as being without value. This has resulted in corporate decisions that damage the ecosystem, reduce biodiversity and put the resources the business relies on at risk. Trucost, an environmental data provider, estimates the annual environmental costs from global human activity at about \$500bn.

"The top 3,000 companies globally alone are responsible for 15,000t of damage," says Richard Mattison, its chief operating officer. "The solution is to value these ecosystem services so that they can become part of planning and decision-making. 'This is nothing to do with corporate social responsibility and the green agenda, it is hard-headed economics,'" says Chris Knight, assistant director of the forestry and ecosystems team within PwC's sustainability practice.

tem services. They include providing crops, livestock, water and fibres; photosynthesis and pollination; and regulating nutrients, air quality, pest control, local climate, erosion, flood, drought and disease. If the economic value of these services are taken into account, decisions automatically promote sustainability. For instance, the cost of timber is not just the cost of permit and extraction, but the ecosystem cost of growing the timber and the role of a forest in erosion control, soil fertility, water management, eco-tourism, and so on.

Mr Mattison says the challenge is to link scientific evidence with business thinking. Valuing an environmental service allows a business to compare it with other costs and profitability and feed into its risk management processes. "Valuation of ecosystem services has tended to be in hectares of land, so there might be a monetary value for a hectare of timber of a certain type," he says. "However, businesses report tonnes or cubic metres of wood."

Valuation typically only uses market values for crops, meat and fish. James Spurgeon, technical director

in his implementation, the Council's managing director for ecosystems. "It is often the private sector that has the resources and flexibility to develop and implement solutions at scale, so it is essential that objectives are designed to be relevant for business."

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Sawing the wood for the trees is only part of the story

week to be the first international company to have developed an environmental profile and loss account. The aim, it says, is to highlight the value of nature into its business decision-making with a desire to protect the earth's natural resources. "We believe this will enable Puma and corporations in general, to measure their impact on the environment more closely, and ultimately build a more sustainable business model," says Johann Zeltner, chief executive of Puma and chief sustainability officer of PPF, its holding company. "When businesses measure and value the services they receive from the ecosystem, they can save costs, manage risk and develop new business opportunities."

"Valuation is coming next. It is in the interests of business to understand how it works," concludes Mr Spurgeon.

# A social research perspective ...

- Discussion of selected themes in 'The Natural Choice: securing the value of nature' where social research is particularly relevant:
  - Outline key initiatives
  - Introduce key evidence
  - Identify some questions and analytical challenges
- Selected themes are:
  - Reconnecting people and nature (Big Society; influencing behaviour)
  - A new institutional framework - partnerships
  - Capturing nature's value
- The NEWP is a broad document with 92 commitments so these themes and the initiatives selected are illustrative

# Reconnecting people and nature



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Key reforms include:

- Improving public health locally, by making high-quality green space available to everyone
- Action to get more children learning outdoors, removing barriers and increasing schools' abilities to teach outdoors
- New Green Areas Designation, empowering communities to protect local environments that are important to them
- Help for everyone to 'do the right thing', at home, when shopping or as volunteers



# Further volunteering and behavioural initiatives ...

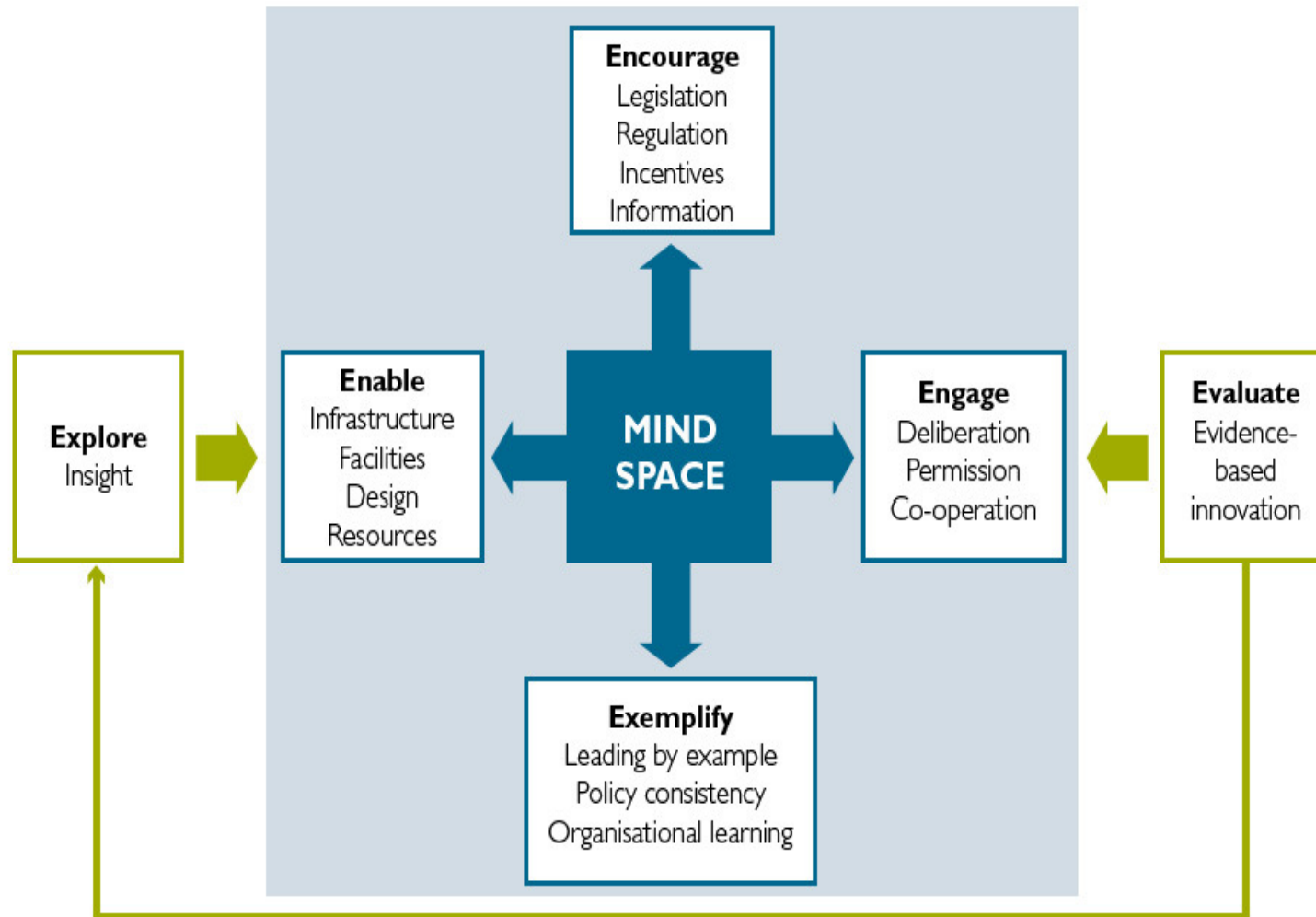
- We will launch a new phase of the **Muck In4Life** campaign
- We are bringing together key insights about sustainable behaviour and will publish a revised **Sustainable Lifestyles Framework**, together with supporting practical tools, in summer 2011
- **‘We Will if You Will’** - we will work with retailers, civil society organisations and communities in a new phase of the initiative to: encourage the consumption of underutilised, sustainable fish species that would otherwise be discarded; incorporate biodiversity into retail spaces (such as green playgrounds); and make it easier for customers to choose eco-labelled and sustainably certified products
- Key evidence on this theme relates to **Big Society** and **influencing behaviour**

# Big Society in the context of the natural environment

Evidence review commissioned by Defra and undertaken by PSI highlights:

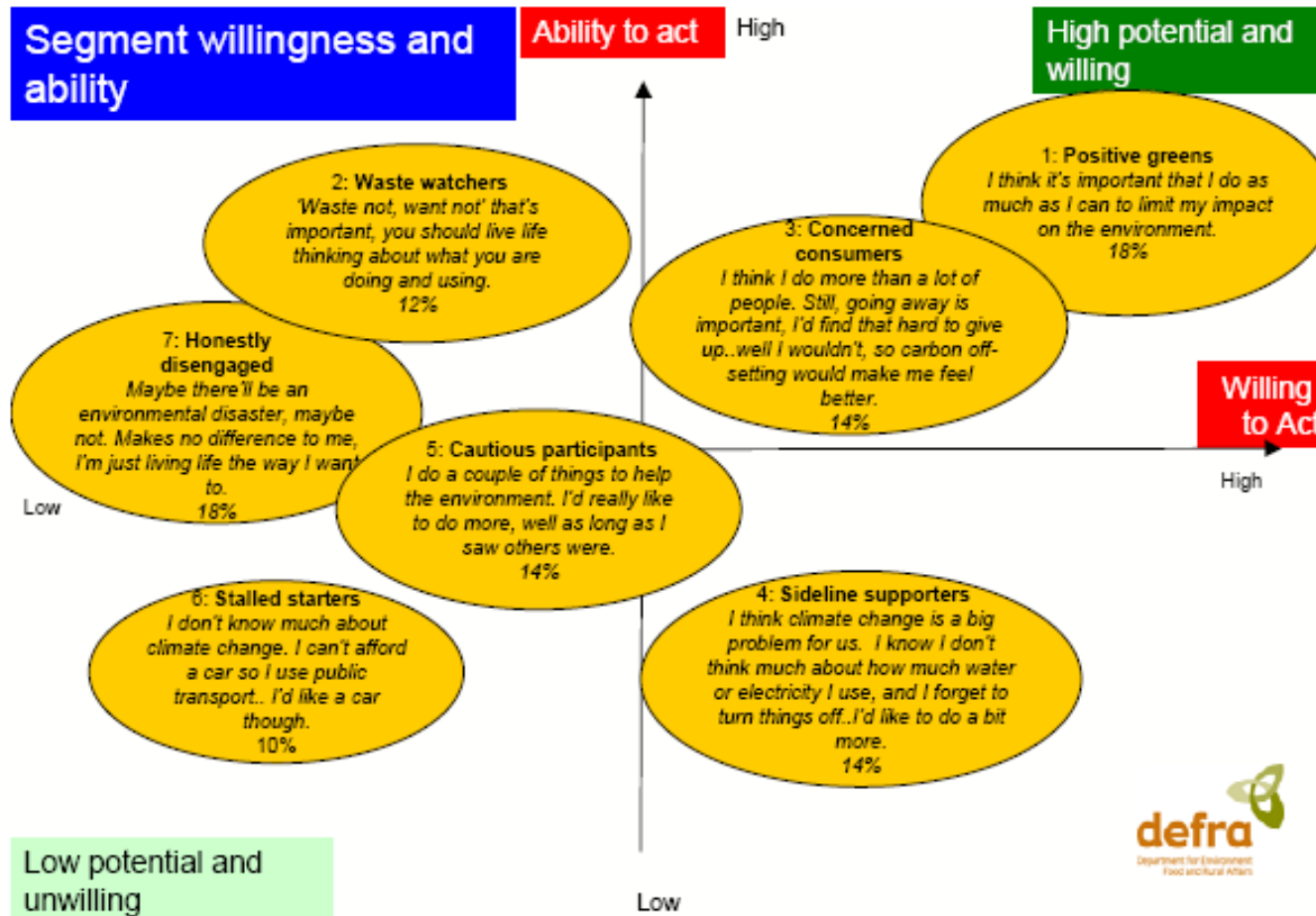
- Community-led action is beneficial - where social and environmental solutions rely on changes in the lifestyles of communities and individuals, the best people to design, organise and catalyse this are often the communities themselves
- Motivations for action are varied
- Different people are likely to prefer different roles and different levels of engagement
- Success factors include: (1) tangible environmental and social community outcomes; (2) participants forming strong social ties and relationships; and (3) ensuring engagement experiences match prior expectations, needs, abilities and interests
- **Communities often have the appetite to engage, but they need support, information, advice, resources and time to do so**

# Influencing behaviour - 6Es framework



Source: MINDSPACE report: Influencing behaviour through public policy, 2010

# Influencing behaviour - segmentation



Source: Defra's framework for pro-environmental behaviours, 2008

# A new institutional framework – partnerships (1)

- Effective action to benefit nature, people and the economy locally happens when the right people come together in partnership
- We will encourage and support **Local Nature Partnerships** where local areas wish to establish them
- Such partnerships may cross administrative boundaries ... We envisage there could be in the order of around 50 partnerships across the country
- One-off fund in 2011/12 worth £1 million to develop LNPs
- **Nature Improvement Areas** also have partnership working at their core - between local authorities, local communities and landowners, private sector and conservation organisations

# A new institutional framework – partnerships (2)



- We will establish a **Green Infrastructure Partnership** with civil society to support the development of green infrastructure in England
- We are establishing ten **catchment-level partnerships** to develop and implement plans for creating and maintaining healthy water bodies
- We have announced new funding of £92 million over the next four years to clean up our rivers, including through setting up a dedicated **Catchment Restoration Fund** from 2012
- Wealth of evidence that partnership working is necessary to coordinate across policy and administrative areas and involve stakeholders
- Evidence also shows resources and support are often needed, and sometimes the difficulty of demonstrating specific additional impacts

# Capturing nature's value

- Key reforms include inclusion of natural capital:
  - In our **national accounts**, to capture nature's value in how we measure economic progress
  - In government **policy appraisal and operations**
- From a social research perspective, this highlights the importance of:
  - **Social and cultural ecosystem services** framework
  - **Non-monetary valuation** techniques, including participatory and deliberative approaches

# Cultural ecosystem services

- NEA defines cultural ecosystem services as the **environmental settings** that give rise cultural goods and benefits - these include domestic gardens, informal and formal green and blue spaces, nearby and wider countryside, and national landscapes
- Many specific social and cultural benefits, e.g., leisure, recreation and tourism goods; health goods; heritage goods; education and ecological knowledge goods; and religious and spiritual goods
- Ecosystem cultural services make a significant contribution to achieving people's key needs, e.g., 9 million members of the main nature conservation charities; 54% of the adult population visit the natural environment every week
- People's engagement with environmental settings is contingent, context specific, fluid and mutable

# Non-monetary valuation techniques



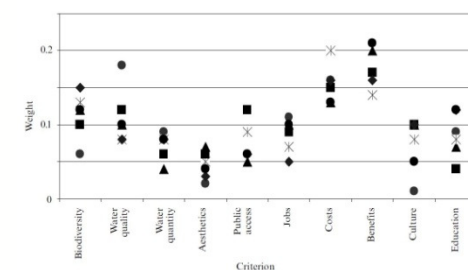
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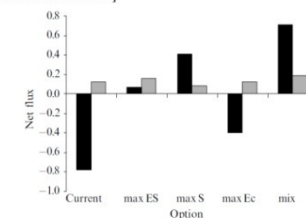
- NEA emphasises the need for a better grasp of the full range of ecosystem services, including cultural values based on ethical, spiritual and aesthetic principles
- The collective value of cultural goods will need to be understood using a range of participatory and deliberative techniques
- New guide published by Defra highlights importance of approaches such as multi-criteria analysis using both quantitative and qualitative data



A Weighting for each stakeholder [each shape represents a stakeholder]



B Final ranking of options [Black column = mean flux; Grey column = Standard Deviation]



# Benefits of NEWP actions

- Misleading to assess aggregate benefits of all 92 actions, many of which are facilitative, agenda-setting and dependent upon further exploration and analysis.
- NEA and TEEB evidence highlight scale of the prize.

Qualitatively, benefits include:

- **carbon savings** and habitat benefits from phasing out horticultural use of peat;
- **biodiversity benefits** from offsetting and landscape scale initiatives;
- **health and education benefits** from better utilisation of green space;
- **business opportunities** through developing markets for ecosystem services;
- **better and more consistent use of valuation in policy appraisal** and in national and local appraisal and decision-making;
- **resource savings**, better risk management and new growth opportunities for business from greater awareness of natural capital;
- **enhanced social capital** from increased volunteering and community responsibility.

# Costs of NEWP actions

- Many actions aimed at inducing voluntary responses so that costs would be incurred where there are corresponding benefits.
- Other costs would include some industry adjustment and transfers (e.g peat phase-out and biodiversity offsets).
- Initial resourcing costs for path-finding schemes and the opportunity costs of people's time.
- Impact Assessments required for further specific actions where there are costs or benefits to business or society

# Reflections and challenges

- Interdisciplinary milestone – science, economics, social research – reflecting NEA.
- How far will the voluntary approach get us to?
- Implementation
- Need for monitoring and evaluation
- Recognise limitations – spending, regulation
- Sets a busy agenda – direction of travel important
- Continuing to build evidence base and case for investment

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