



Delivering Nature's Services

The Ecosystem Approach from Concept to Delivery in the English Uplands



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Why do we need to change?



- There is a growing realisation that we need to change our approach to nature conservation to get it into the mainstream
- Despite the fact that it provides us with a range of benefits and ecosystem services which are integral to our health, wellbeing and happiness, the natural environment is not in great shape
- Many people don't understand the benefits we get from the natural environment, and therefore don't value it.



The Ecosystem Approach

- A strategy for integrated management of land and sea for the benefit of people
- It considers the whole ecosystem
- Puts people and sustainability at the heart of environmental management
- Expresses benefits as ecosystem goods and services (i.e. this is one part of the approach)
- Valuation of services (monetary terms or proxy) can inform decisions on land use change and policy



Delivering Nature's Services



- To take a more holistic approach to considering what we want our natural environment to provide
 - To demonstrate that investment in the natural environment can result in multiple benefits (carbon, water, biodiversity, recreational and health benefits...)
 - To work in partnership to deliver a range of ecosystem services in a cost effective way and link these services to the beneficiaries
- Taking an ecosystem approach

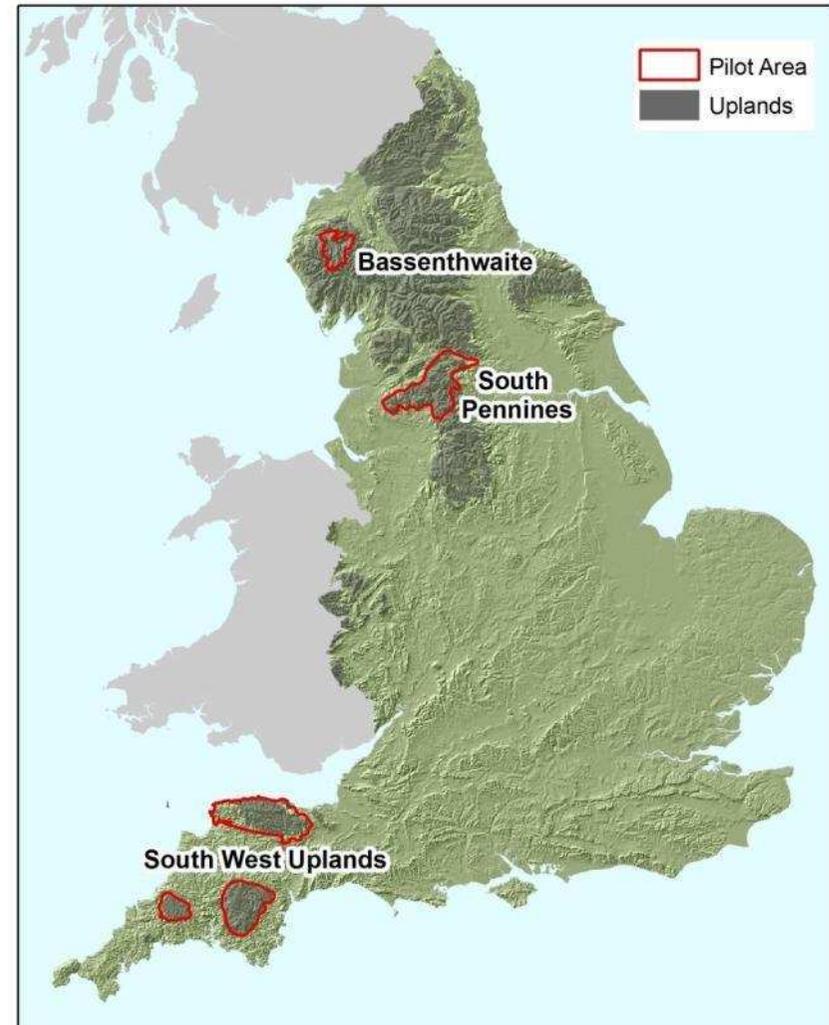


Place based approach

There are three pilot areas:

- Bassenthwaite Lake catchment, Cumbria
- South Pennines National Character Area, Yorkshire
- Dartmoor and Exmoor, South West

Each is being run regionally with stakeholder groups with technical aspects being coordinated nationally



The Benefits



Farming, forestry
and energy

Recreation and
tourism

Water – quantity,
quality and flow



Biodiversity -
underpinning our
services

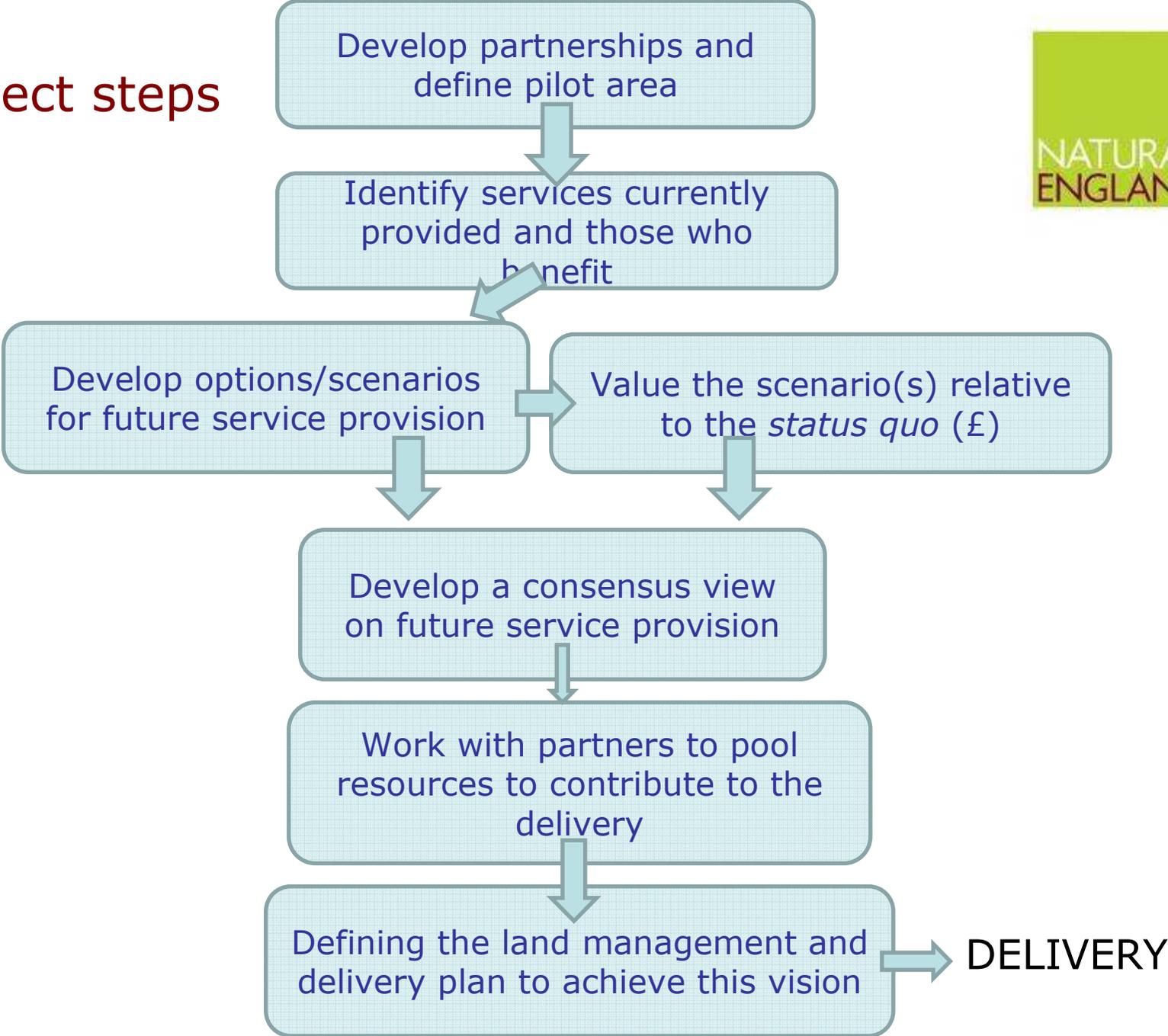
Carbon storage and
sequestration

What's new?

These pilots are unique because:

- Big Society approach -real places, real people, real delivery – real challenges!
- we are taking an ecosystem approach from the bottom up
- We are using valuation to inform our decisions
- we designed the delivery of ecosystem services into the projects from the outset;
- they are delivering multiple benefits: environmental, economic, social and cultural;
- we are changing land and water management to do this;
- we are making the links between those that provide the services (the land managers) to those that benefit from them.

Project steps



Partnership – engaging locally

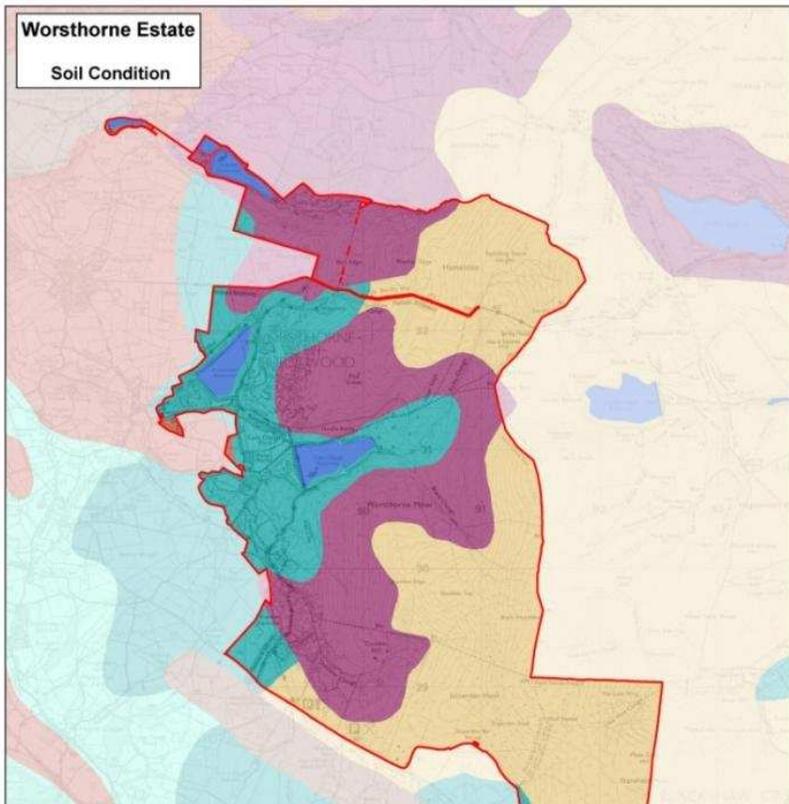


Bassenthwaite

- 30 organisations, statutory, non-statutory and private
- Range of workshops – from regional economic benefits to the aspirations of farmers
- Integration with existing work – CSF, catchment flood management plan, WFD, SCaMP2, Nurture Lakeland, Carbon Landscapes project, ROWIP and so on



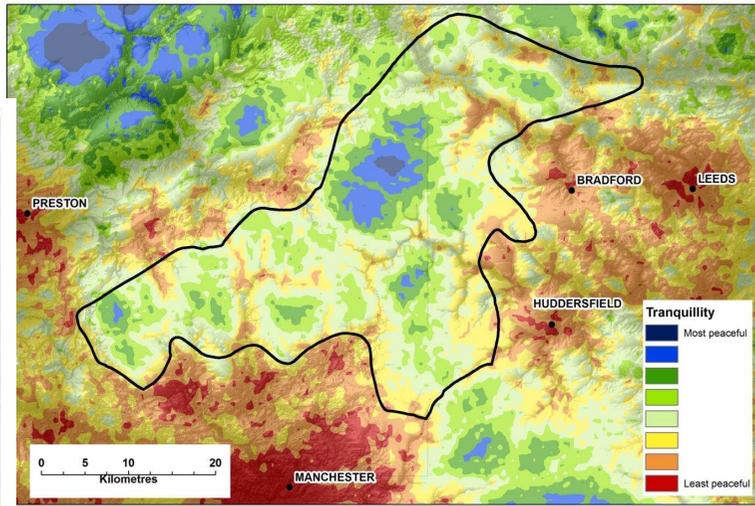
Identifying current services



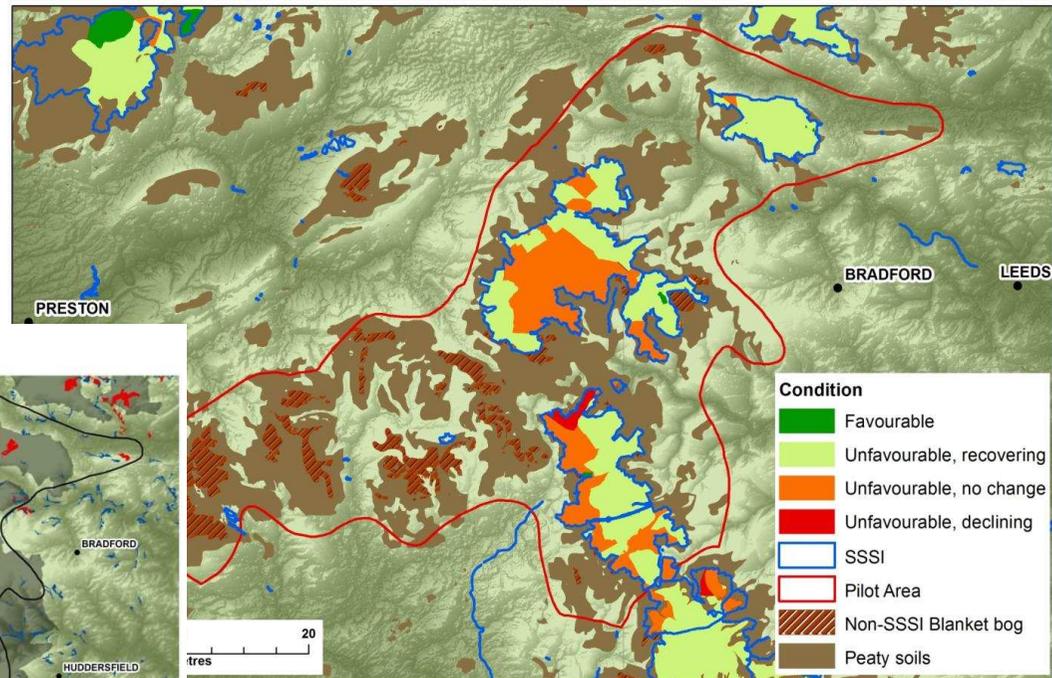


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 Job Reference Number N_1003_0485_Worsthorne_Soil_Cond

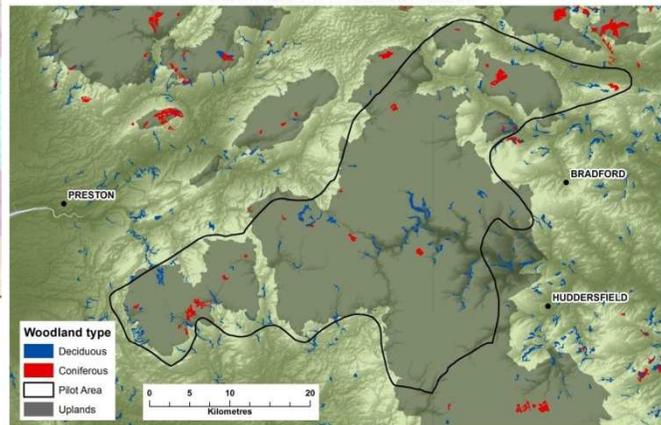
South Pennines Ecosystems Services Pilot - Perceived Tranquillity



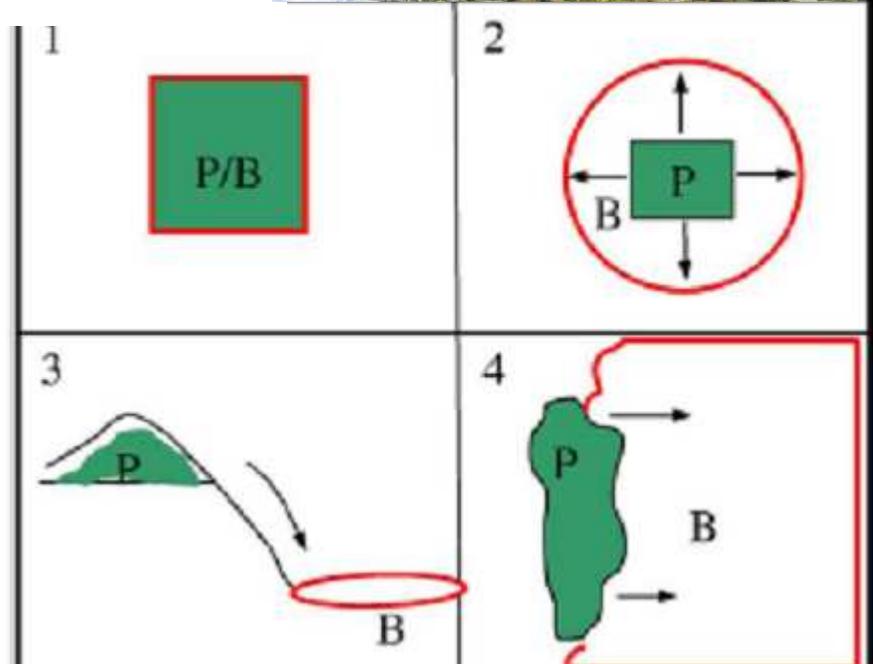
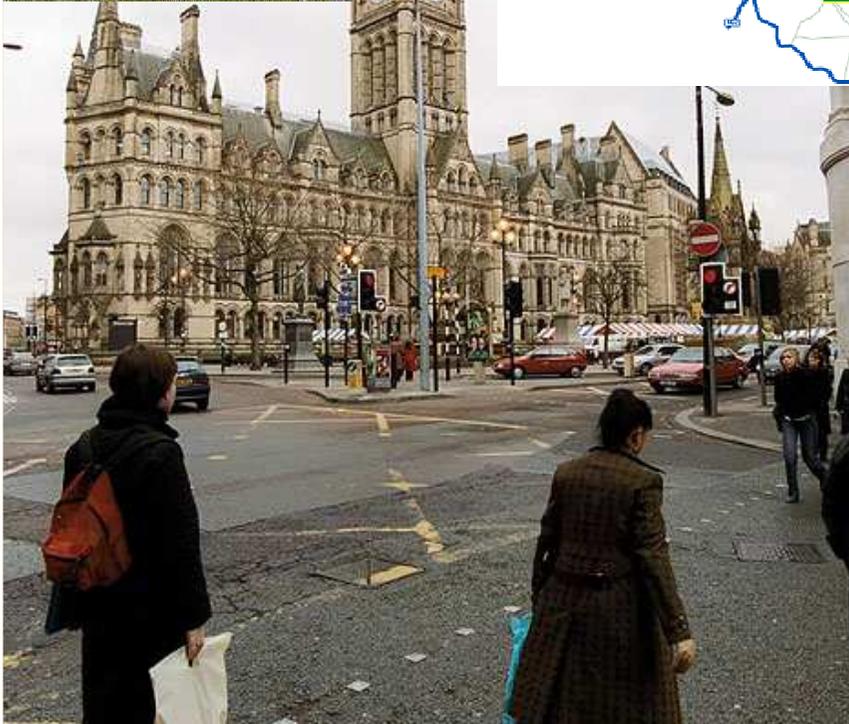
South Pennines Ecosystems Services Pilot - Condition of Blanket Bog on SSSIs



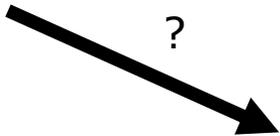
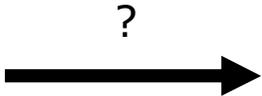
Woodland over 10 hectares in area



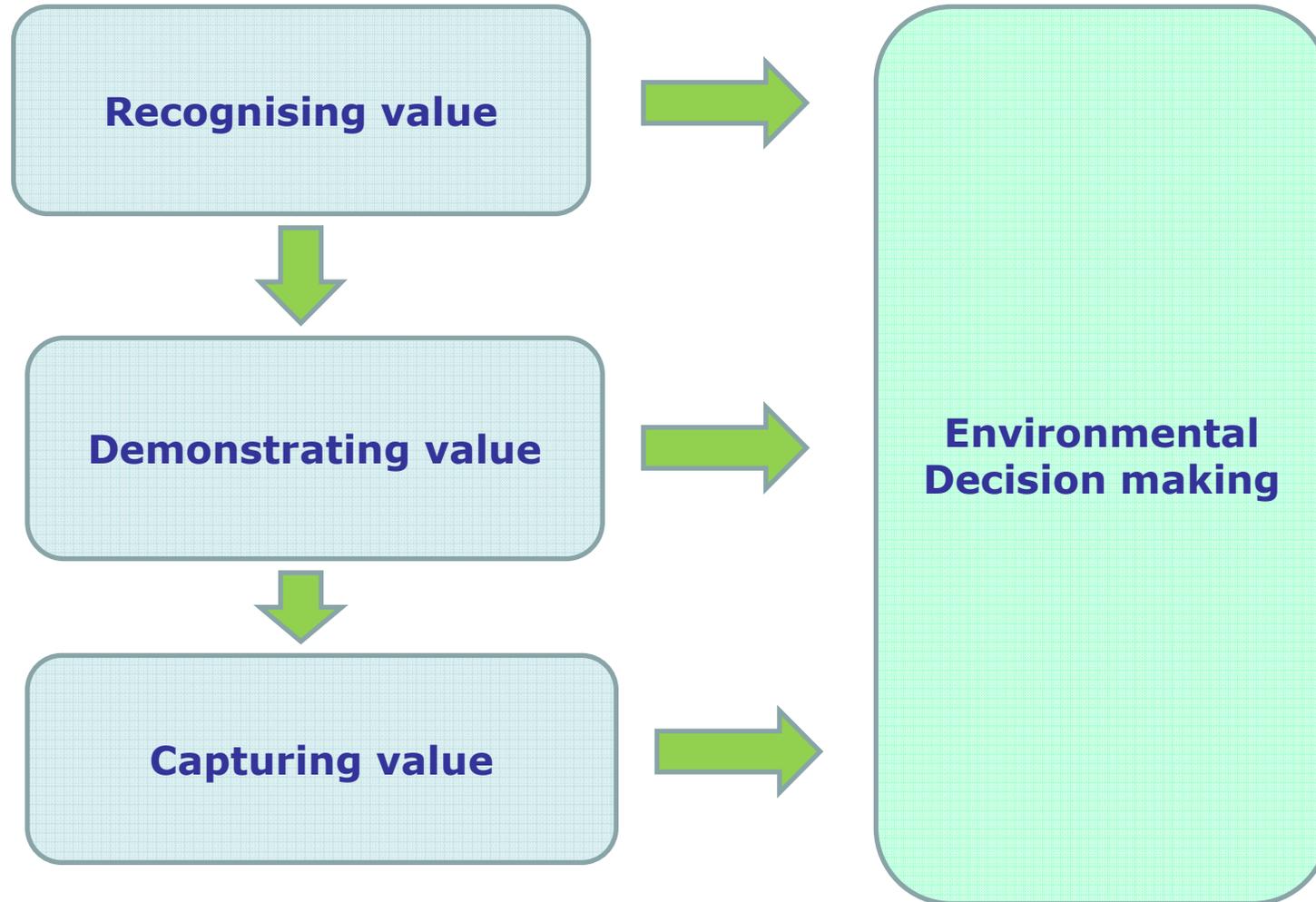
Who benefits and where are they?



What are the options?



Valuation – to inform decision making



Valuation in the South Pennines pilot



- Developed 2 scenarios: 1) An 'improved' scenario; and 2) A decline scenario.
- Working with the water companies, Yorkshire Water & United Utilities – pick up possible improvements in water quality.
- Valuation estimates focused on carbon, water quality (avoided treatment cost) and biodiversity using value transfer techniques (eftec guidance).



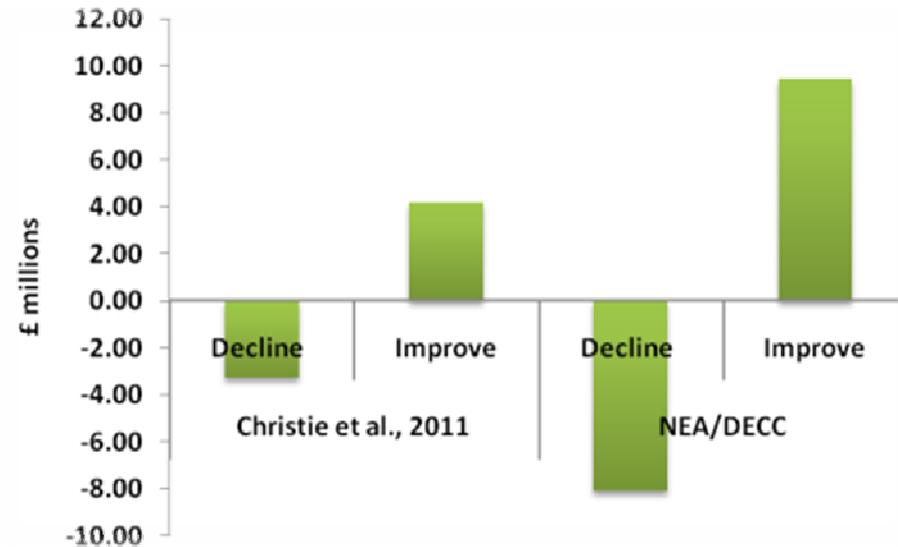
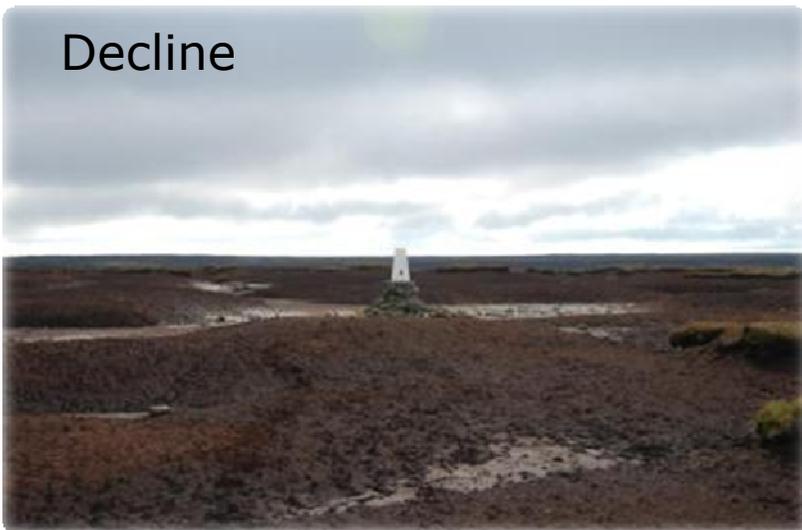
Keighley scenarios valuation



Improved scenario



Decline



Using 2 different approaches to the valuation, benefit cost ratios range from around 1.2 to 3 and negatively to - 5.



Consensus around delivery...

Delivery plan



ACTION 7: Improve Biodiversity of Valley Habitats

ACTION 6: Manage Nutrients on Improved Grassland

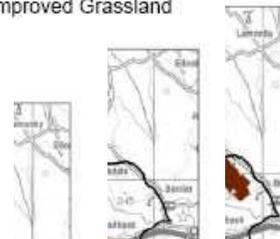
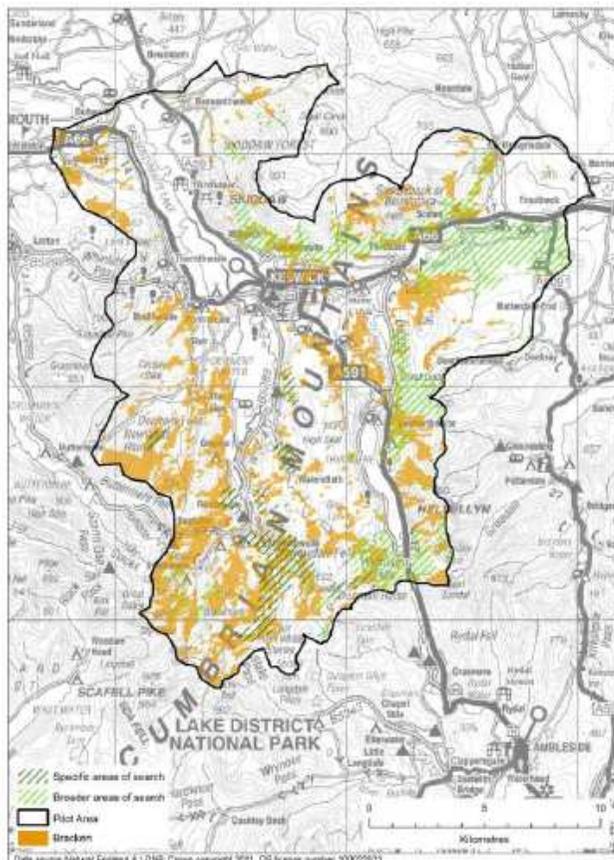
ACTION 5: Improve Access

ACTION 4: Restore Scheduled Monuments at Risk

ACTION 3: Sustainable River Management

ACTION 2: Achieve Sustainable Grazing

ACTION 1: Increase Woodland Cover



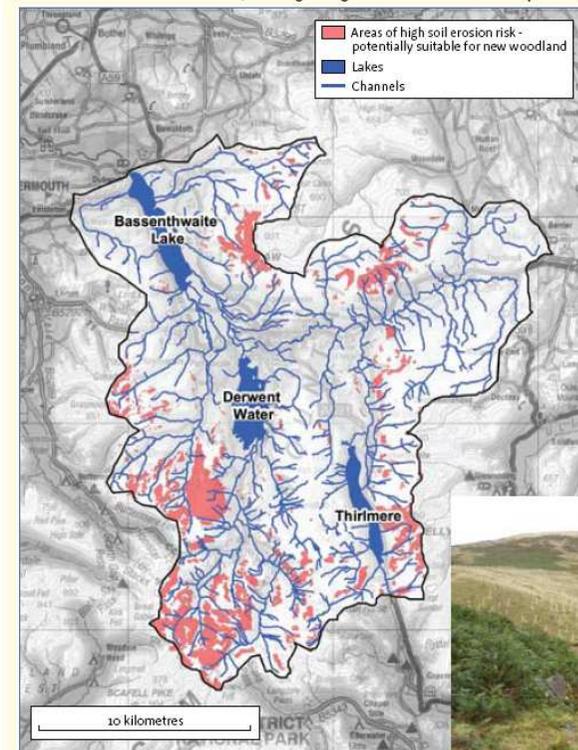
Land Management Action	Ecosystem Services and Benefits										Partner Objectives									
	Water provision	Food and fibre	Carbon storage and sequestration	Erosion Control	Water quality	Flood Regulation	Cultural landscape, historic environment	Recreation, inspiration, education and Health	Biodiversity	SSSI/PSA target	Cumbria BAP targets	Climate Change adaptation	Landscape Character Assessment targets	Catchment Sensitive Farming	Improved access to natural environment	SCAMP2	Catchment Flood Management Plan	Water Framework Directive	Heritage at Risk	Lake District National Park Partnership Principles of Land Management
1. Increase Woodland Cover	x	x	x	x	x	x	x	x	x	x		x	x	x	x					x
2. Achieve Sustainable Grazing	x		x	x	x	x	x		x	x	x	x	x	x	x	x	x			x
3. Sustainable River Management			x	x	x	x			x	x	x	x		x		x	x			x
4. Restore Scheduled Monuments at Risk				x	x		x	x				x	x						x	x
5. Improve Access			x	x	x		x	x	x					x						x
6. Manage Nutrients on Improved Grassland			x	x	x		x		x	x	x			x				x		x
7. Improve Biodiversity of Valley Habitats				x			x	x	x	x	x	x	x		x					x

Targeting public and private spend in line with the ecosystem service delivery plan - moving towards PES



- Environmental stewardship payments
- Woodland grant schemes
- Water company capital works
- Private investment such as visitor payback schemes for example Nuture Lakeland £1.7 million
- Flood alleviation spend

Addressing high sediment loads to improve water quality in Bassenthwaite catchment, through targeted native woodland planting



© Environment Agency, Forest Research & University of Lancaster 2009



Tree planting on historical woodland sites on Mungrisdale Common is targeted at high risk areas for soil erosion

What are the outputs and lessons learnt?



Outputs

- Natural Capital – delivery plan which will be implemented collectively
- Social Capital – through partnership and capacity building
- Economic Capital – through public private partnerships to incentivise the provision of services

Lessons

- Partnership and capacity building takes time but is well worth it
- Need simple decision support tools
- Valuation is valuable but relies on good ecological knowledge. Not all the piece of the jigsaw are there.
- It can take time to see changes in services and there are still many uncertainties.



A scenic landscape featuring a body of water in the foreground, tall grasses, and mountains in the background under a cloudy sky. The text is overlaid on the image.

What does success look like?

- Overall, a healthier natural environment which provides a wider range of services and benefits to people.
- These services will be better delivered and offer better value for money through the integration of land management and rewards and incentives to those providing the services.

...or more of this for now and the future.



Acknowledgements

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