



Assessing the natural capital of sites

Learning from other sectors

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14th September 2017

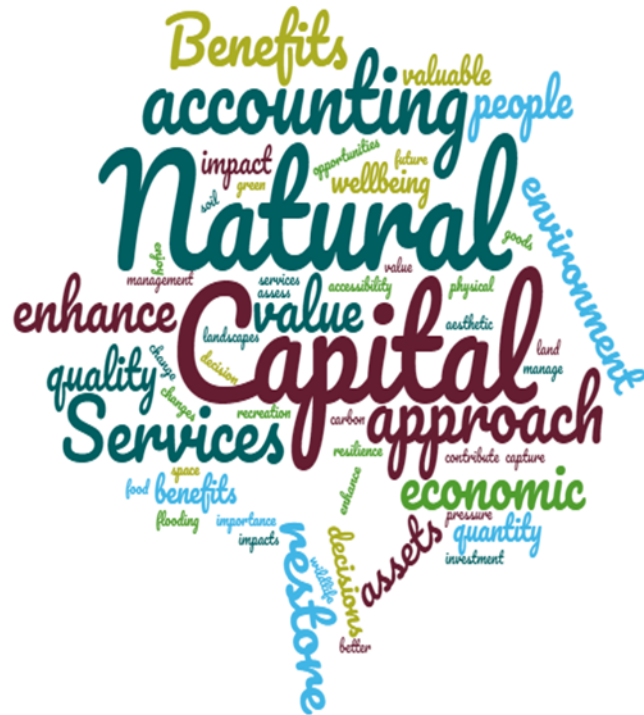
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Quick poll

- ✓ I've heard of natural capital and would like to know more
- ✓ I'm interested in developing a natural capital pilot
- ✓ I'm involved in developing / implementing a natural capital project



This presentation



– Introduction

- Introduction to Natural Capital Protocol and our work in this area

– Case study: Yorkshire Water

- High level application of Protocol

– Case study: Natural Grid

- More focused application of key steps

– Lessons learned and quick wins

Private sector

nationalgrid



National government



Local government



International



Natural capital and ecosystem services



“The decline in natural capital seen over the last 60 years will continue into the future, and is likely to accelerate, unless there is some radical departure from the approaches of the past”

Natural Capital Committee (2015). The State of Natural Capital, third report

Natural capital provides numerous ecosystem services

Health and wellbeing

Air quality regulation

Climate regulation

Landscape aesthetics

Community cohesion (social capital)

Flood management

Water quality

Erosion regulation

Recreation

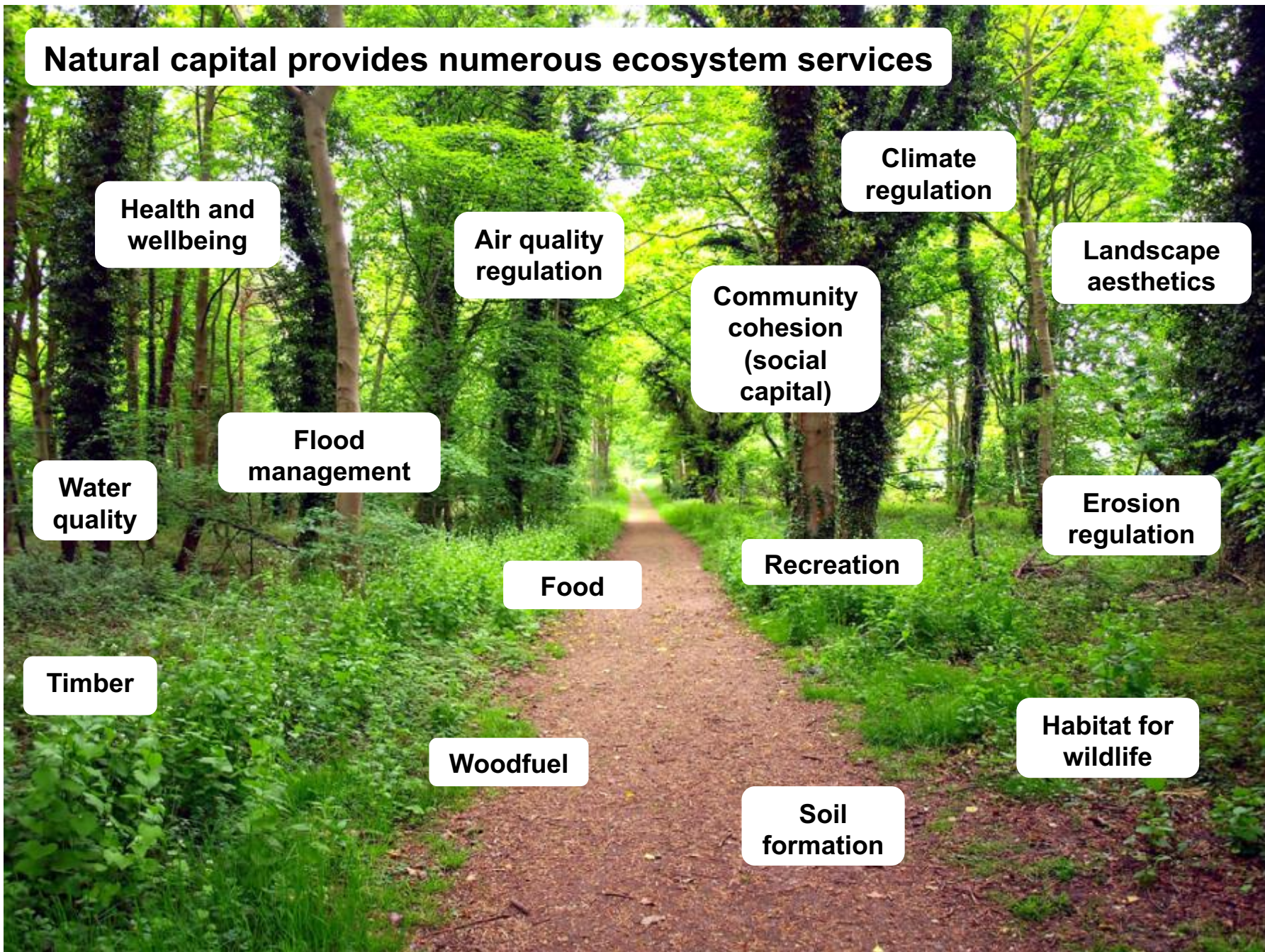
Food

Timber

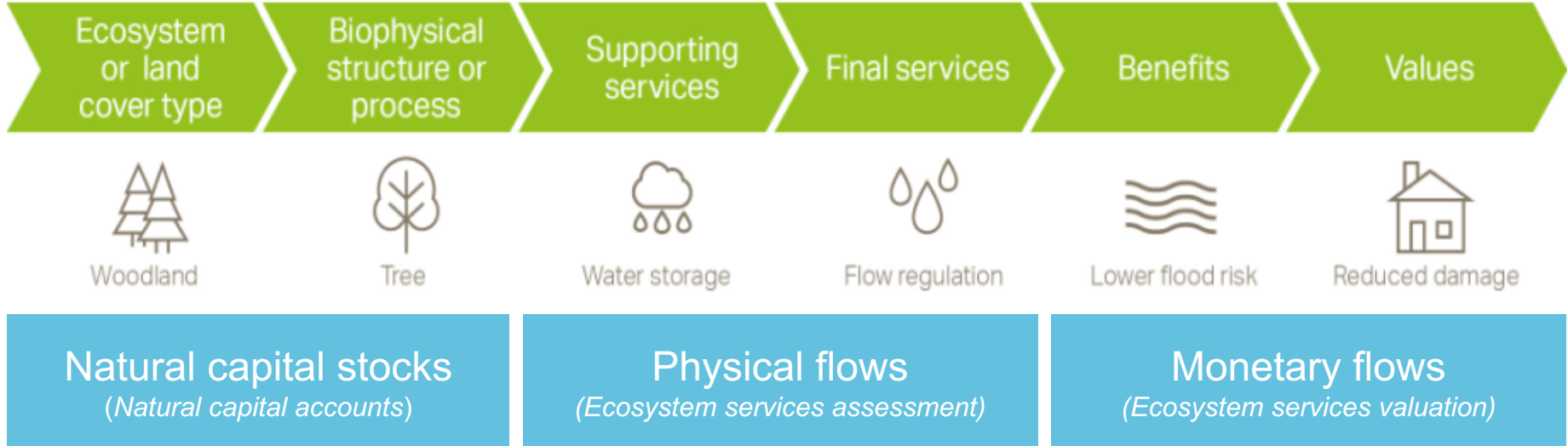
Habitat for wildlife

Woodfuel

Soil formation

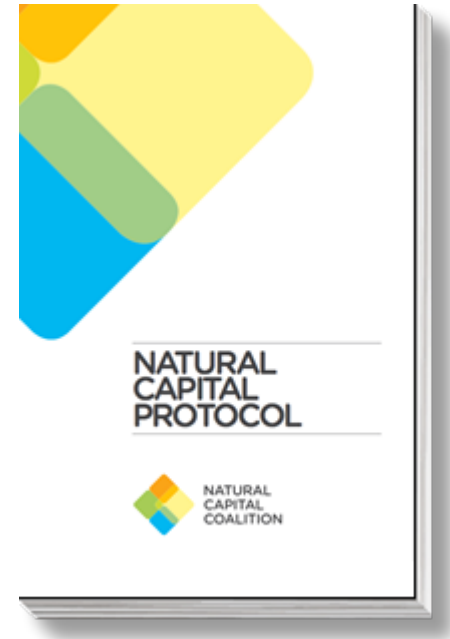


What is the natural capital and ecosystem services approach?



Natural Capital Protocol

- Standardised framework to identify, measure, and value impacts and dependencies on natural capital
- Two case studies show how Protocol can be used to realise benefits natural capital can provide to business

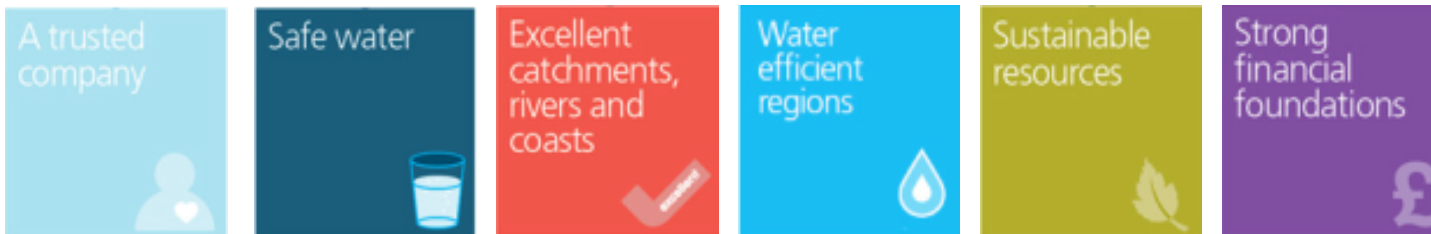


Realising nature's value in infrastructure

Case study: Yorkshire Water

Yorkshire Water

- Natural capital and water supplies underpin business performance
- Industry regulators expect to see social and environmental impacts considered in decision-making
- Powerful communication tool for internal and external stakeholders
- Demonstrate leadership and broader value created



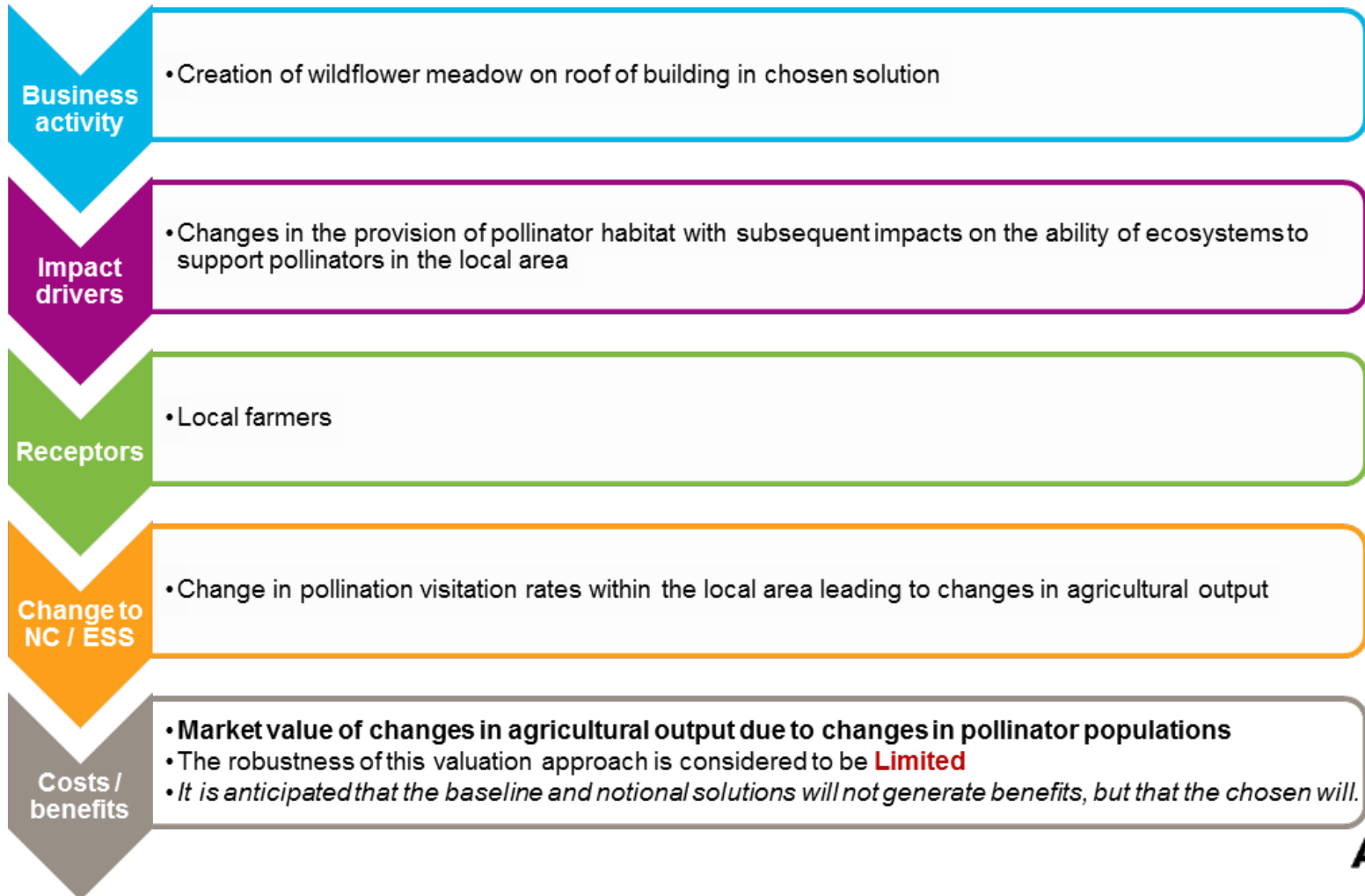
Natural Capital Assessment of Yorkshire Water's capital scheme at Rivelin Water Treatment Works

- One of the primary water treatment plants supplying Sheffield
- Undergoing a £24m capital upgrade scheme to ensure the continued reliable supply of high quality water
- A number of high level options were initially considered before two main solutions were assessed in more detail
- Pilot retrospectively evaluated the natural capital impact of the two upgrade solutions



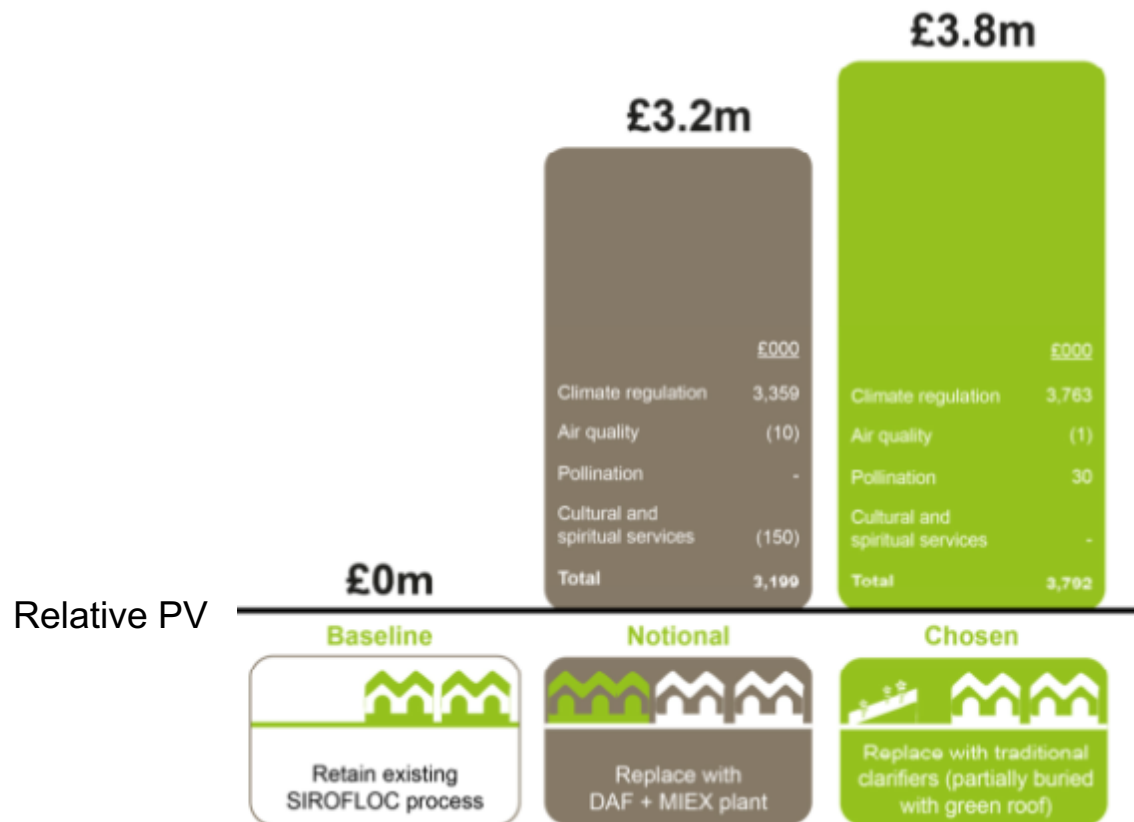
Approach

- An impact pathway was mapped for each material ecosystem service to guide the valuation methodology



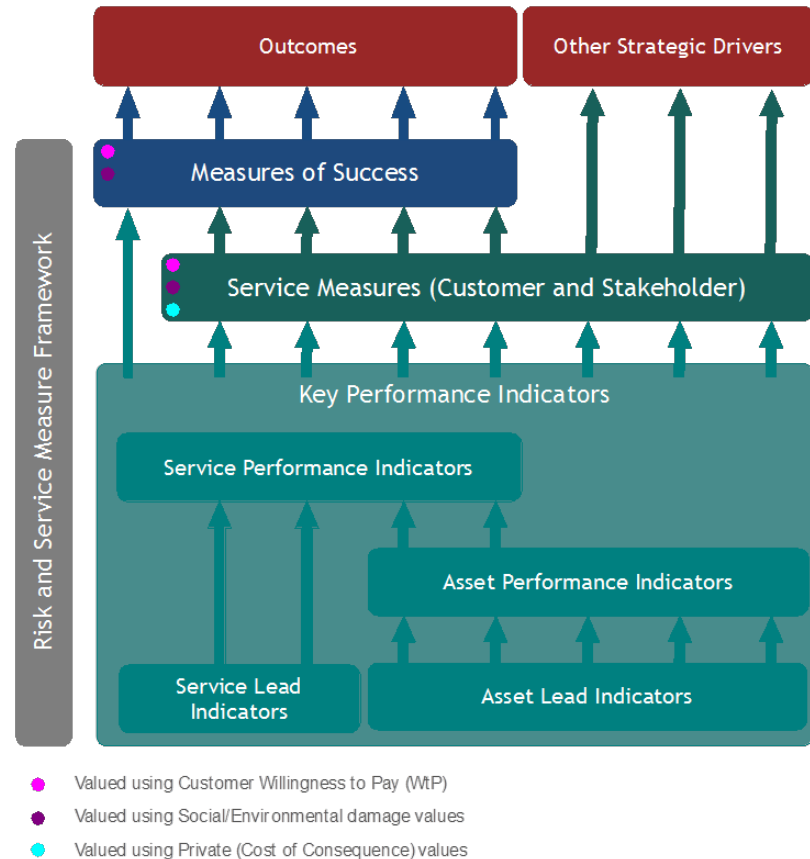
Results

- The assessment confirmed that the chosen solution provided the least negative and most positive environmental impacts
- Now in discussion over how this approach can be integrated into the company-wide decision-making framework



Integrating natural, social & human capitals and creating a 5 Capitals Decision-Making Framework

- Better aligning expenditures with organisational objectives
- Identifying appropriate metrics for NC, SC and HC to be included in the Service Measure Framework (SMF) for PR19
 - And then for BAU



Natural Capital Assessment of capital scheme at Rivelin Water Treatment Works

– Some lessons learned:

- Monetising the material environmental impacts enables direct comparison with more obvious costs and benefits
- Application early in the design and optioneering phase for capital schemes would provide new insight to enhance decision making and risk management
- Including explicit statements of the uncertainty/robustness of the results helps decision-makers
- There is a need to engage across a range of business functions that are potentially key users of a natural capital approach to ensure any method is fit for purpose
- It is important to develop a replicable, comparable and transparent methodology for measuring less tangible services, such as cultural and spiritual services

Realising nature's value in infrastructure

Case study: National Grid

The Natural Grid

*“We will use our land and natural assets for good, building a **natural grid of quality habitats** that enable biodiversity to thrive and provide valuable, accessible green spaces within the communities within which we operate”*

Our Contribution
Our framework for environmental sustainability

Climate
Positive

Positive
about
resources

Enhancing
Ecosystems



Undervalued resources

Traditional view

- Risks
- Costs
- Liability
- Limited return on investment
- Contamination issue



Natural Capital view

- Benefits
- Dependencies
- Priorities
- Efficiencies
- Opportunities
- Value creation
- Positive return

Approach



This drawing is to be used only for the purpose of issue 1 that it was issued for and is subject to amendment.

- LEGEND**
- Indicative site boundary
 - Phase 1 Habitat Survey**
 - Target note
 - Defunct hedge - native species-rich
 - Bare ground
 - Broadleaved parkland/scattered trees
 - Broadleaved woodland - semi-natural
 - Buildings
 - Other tall herb and fern - ruderal
 - Scrub - scattered
 - Swamp



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Project of issue	DRAFT
Date	NATIONAL GRID
Project title	NATURAL GRID
Drawing title	PHASE 1 HABITAT MAP

Drawn	Checked	Approved	Date
TG	WJ	DS	22/04/2014
GIS Internal Project No.		Scale @ A3	
47889306		1:5,000	

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Quantify



Mr Brown
Local
Farmer



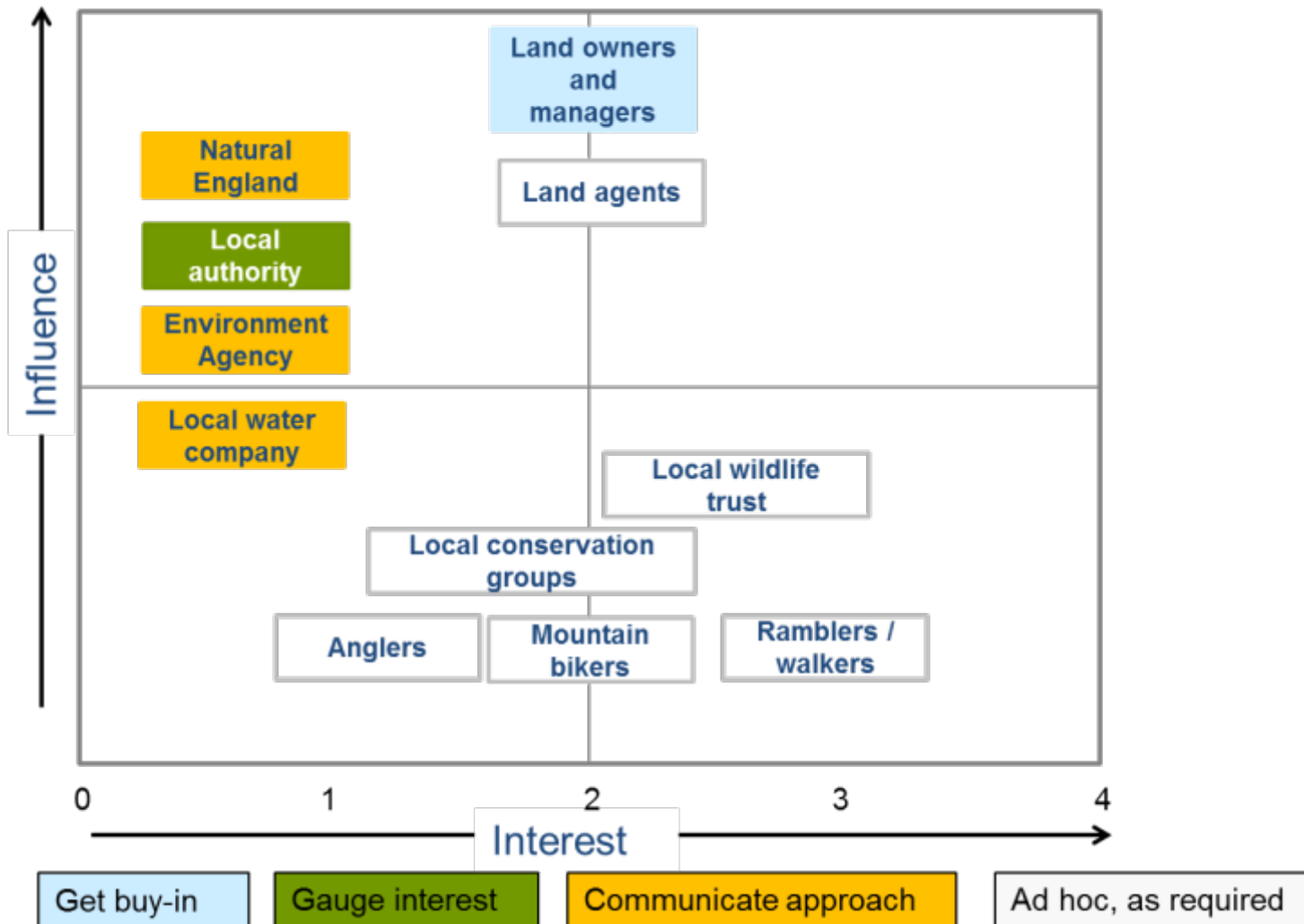
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Identify

- How value could be enhanced

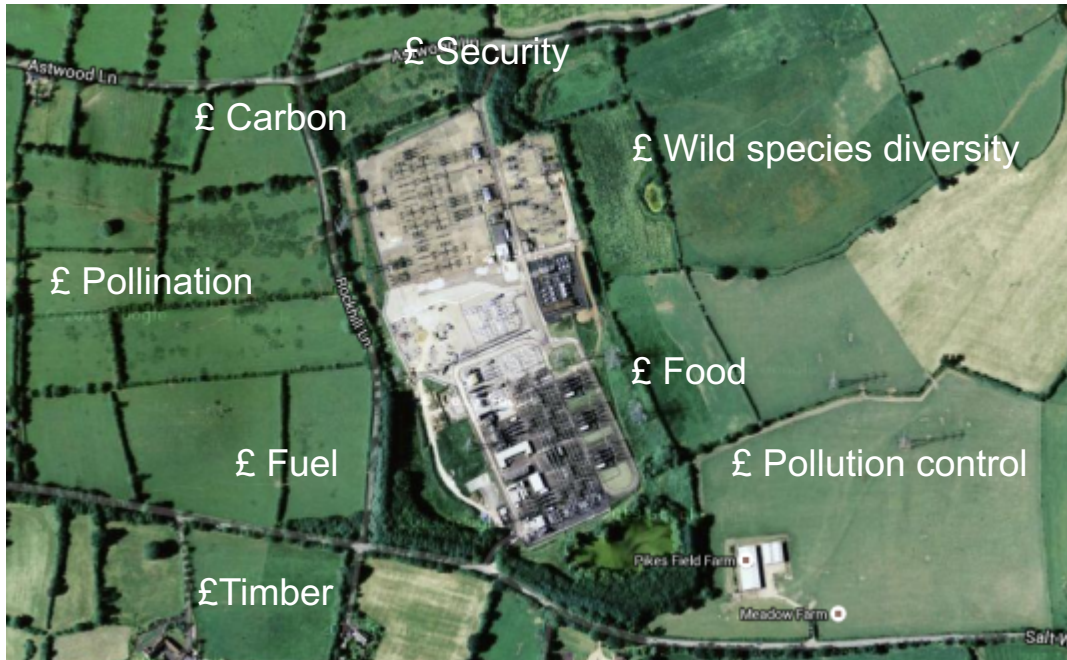


Valuation Report: National Grid

	Baseline	Scenario 1	Scenario 2
Provisioning Services			
 Food	£0	£0	£256,794
 Water	£156,332	£156,332	£156,332
 Timber	£0	£0	£0
 Energy	£0	£0	£0
Regulating Services			
 Carbon	£61,940	£14,329	£116,845
 Air Quality	£0	£0	£0

Value

A new view of National Grid's assets



Carbon storage:

- Total storage of ~330,000 tCO₂(e)
- Sequester 10k tCO₂(e) each year
- Potential growth: £50M to £125M
- Value: ~ £500k each year

- Used on 100 sites with 38 active management plans
- Average value per hectare ~£20,000
- Broadleaf woodland accounts for a substantial value across the portfolio
- Huge opportunity to enhance the value



Going forwards

- Approach is being deployed across National Grid:
 - Transforming the way assets are managed
 - Driving more informed decision making for capital delivery
 - Building a more complete picture of National Grid's land and natural capital value
- All new graduates are required to pilot the natural capital approach at a particular site
- Informing Biodiversity Net Positive approach on new capital projects



Some lessons learned

- Early leadership workshop with stakeholders across departments
- Pilot approach with a programme for scaling up
- Tailor the approach to the type of decisions that need making
- Use the approach early in the decision making process
- Work with partners to share the benefits and costs
- Take time to embed and socialise the approach throughout the business



Quick Wins

- Take a proactive approach in integrating natural capital into sustainable land use decision-making
- Work with a pragmatic assessment and valuation tool, which:
 1. utilises existing data collection systems and data sets
 2. integrates into current assessment frameworks
 3. is designed with a simple end-user interface
- Re-assess how perceived land liabilities can be revealed as valuable opportunities: create platforms for beneficial collaboration, community engagement and cost efficiency
- Take different approaches to operational (project / development) and non-operational (legacy / liability) sites

Thank you

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