



Exploring the use and application of natural capital tools for valuation

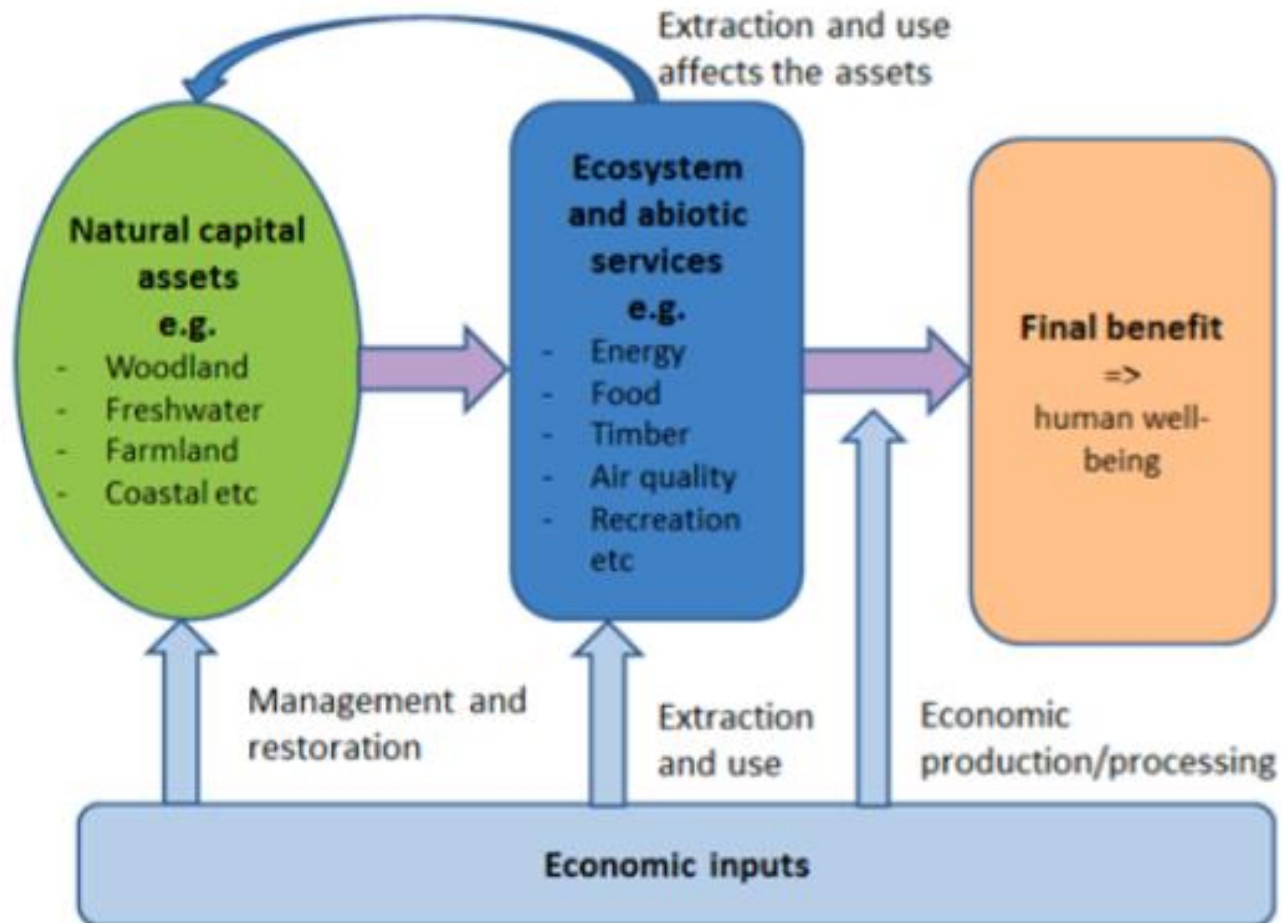
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INITIATIVE STEERING GROUP

CIEEM CONFERENCE, AUGUST 2017

Background to presentation

- ▶ Introduction to valuation
- ▶ Uses of valuation in natural capital decision-making
- ▶ General approach to valuing natural capital
- ▶ Examples of natural capital valuation tools and resources
- ▶ Key issues and challenges



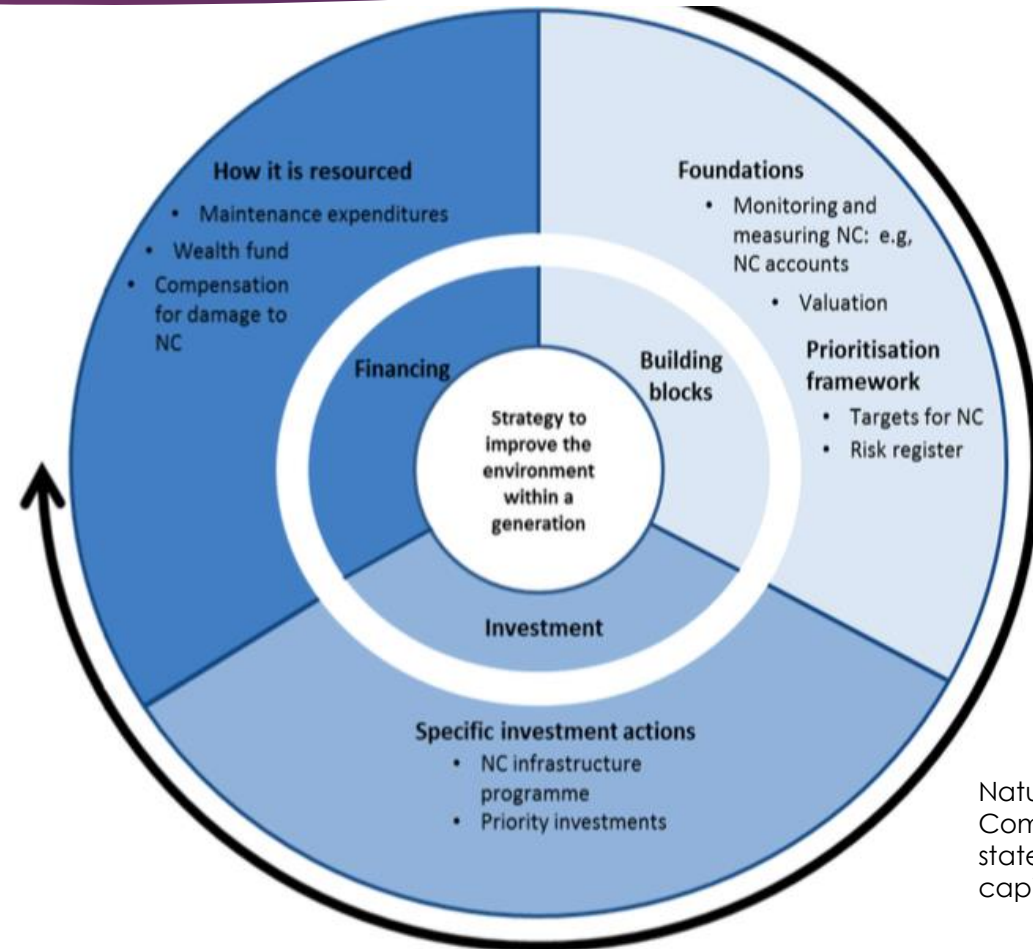
Natural Capital Committee,

Links
between
assets,
services and
final benefits

Valuation a key foundational building block for natural capital

Why is valuation important?

- ▶ Valuing nature is necessary so that it is no longer ignored in decision making;
- ▶ Better to be explicit about the trade-offs and valuations inherent in decisions made
- ▶ Help to prioritise investment in the natural environment and improve value for money for scarce public funds
- ▶ Not all environmental benefits can be monetised. A valuation approach should be part of a holistic assessment of the natural capital impacts of a policy or project.



Natural Capital Committee, 3rd state of natural capital report

Decision contexts for valuing natural capital

Government & local partnerships

- ❑ Policy appraisal (cost-benefit analysis) to inform case for investment in natural capital and benefits and trade-offs of decisions
- ❑ Natural Capital Accounts - to “shine a light”:
 - monitoring losses & gains in natural capital over time
 - identifying priority areas for investment
 - informing resourcing and management decisions
 - highlighting links with economic activity and pressures on natural capital

Business

- ❑ Identify impacts and dependencies on natural capital that can inform management of business risks and opportunities.
- ❑ Help corporations to value their environmental assets and to recognise and protect the benefits they get from their natural capital



Principles of Natural Capital Accounting

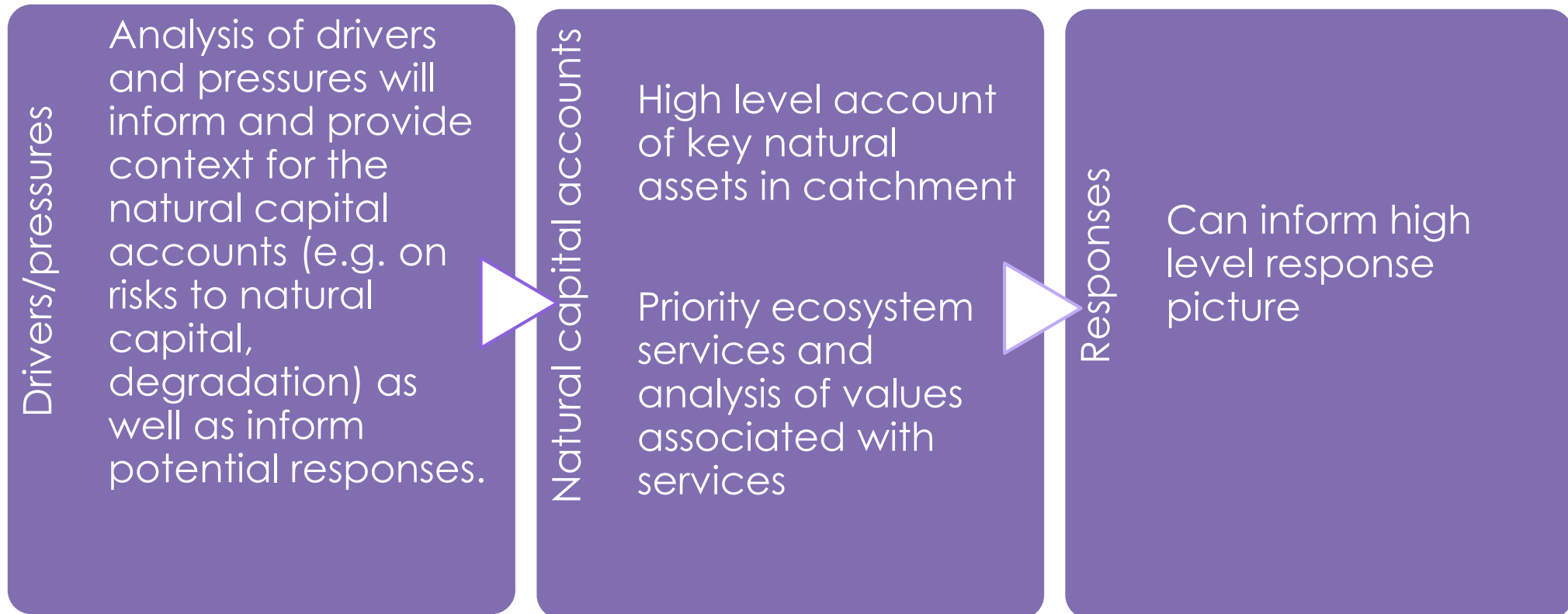
and the concepts and methodology developed by ONS and Defra.



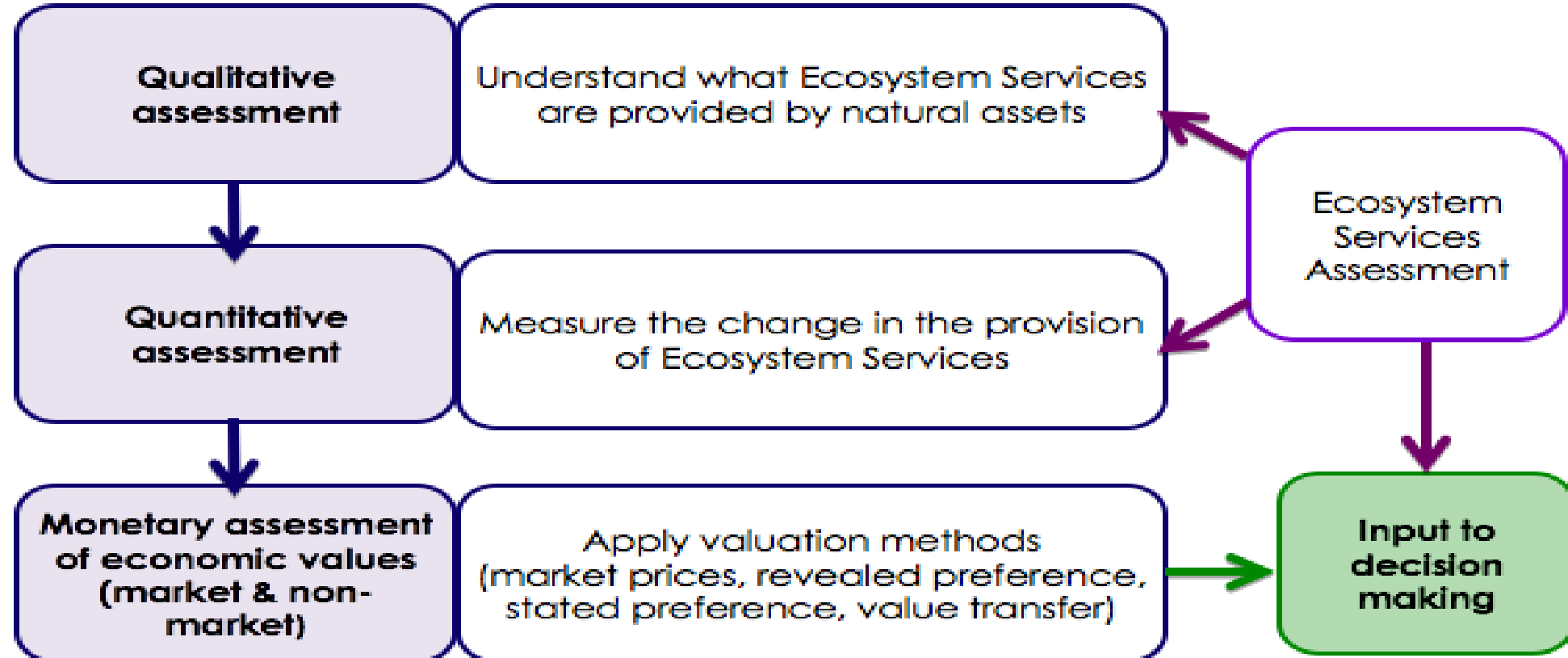
NATURAL
CAPITAL
PROTOCOL

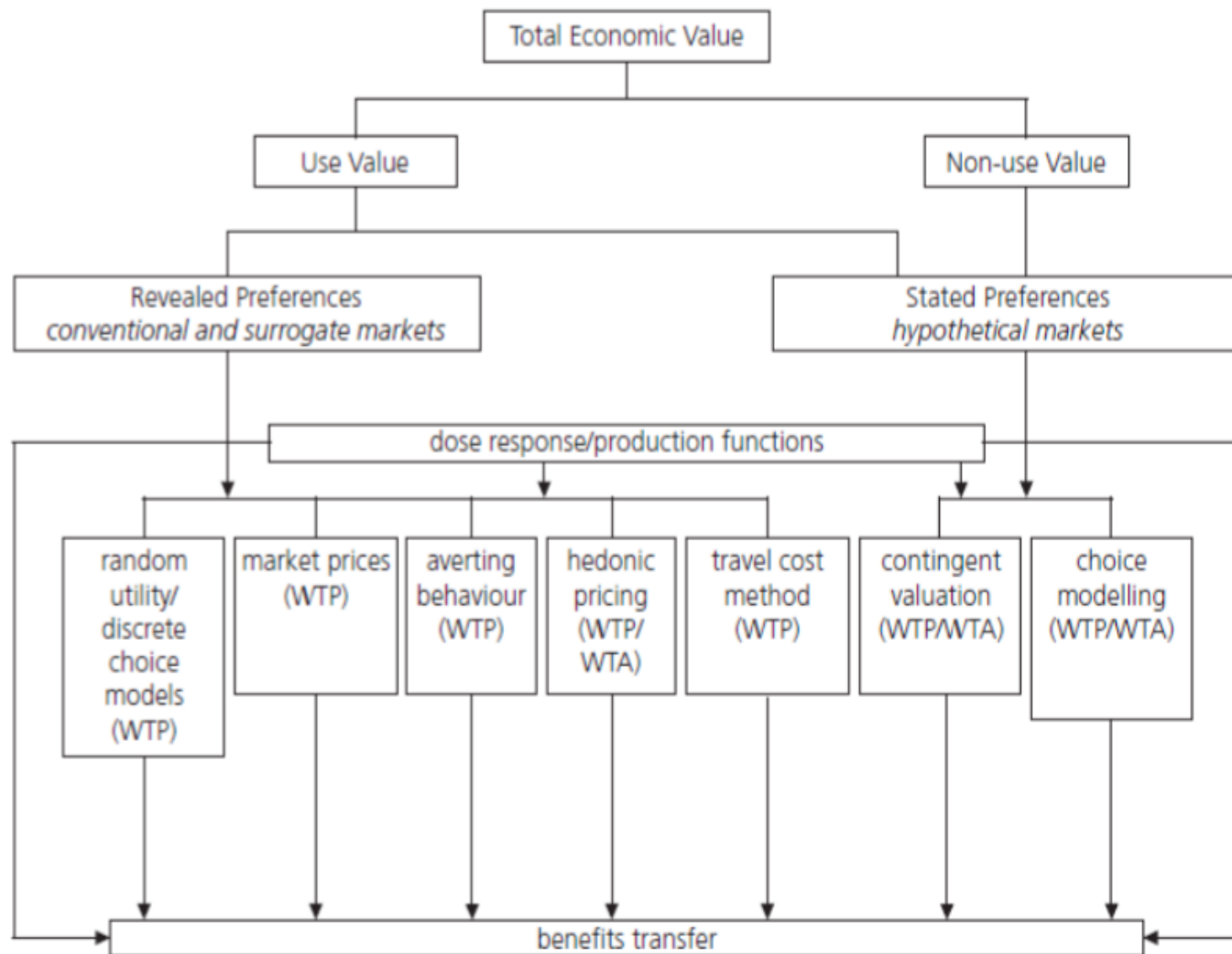


Application to catchments of valuing and accounting for natural assets



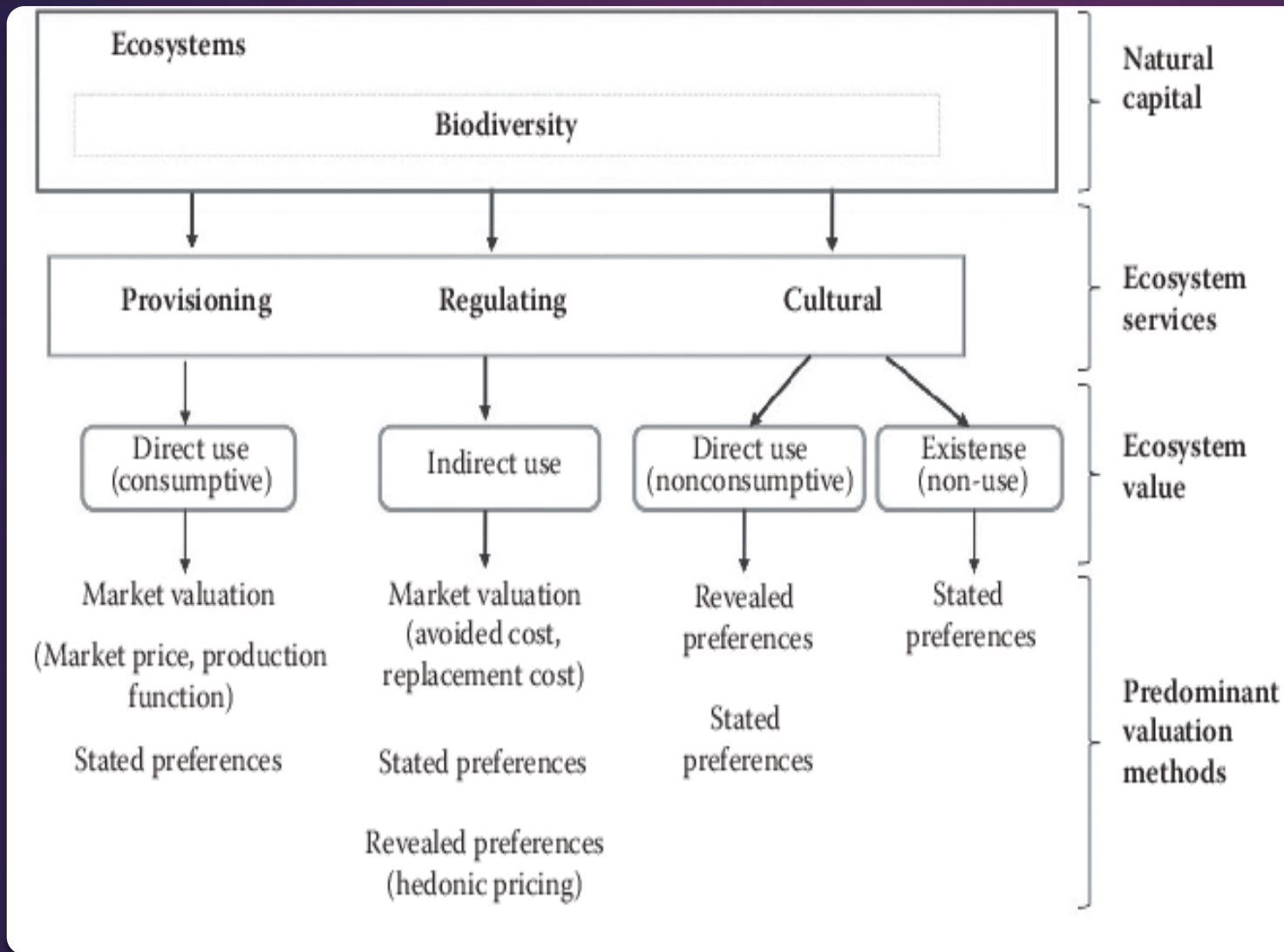
A general approach to valuing natural capital





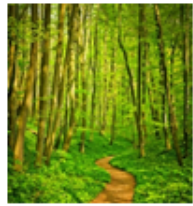

Source: Defra

Total Economic Value framework helps to inform the types of economic value and valuation methods



TEV framework
can be used to
inform valuing
natural capital

Development of 'look-up' environmental value estimates for initial appraisal within CBA



Environmental Value Look-Up (EVL) Tool

Please complete the following two steps connecting the broad habitat type to search for indicative values.

Selection criteria

Step 1 - Select the broad habitat you want to find indicative values for:

Woodland

Step 2 - Select the type of environmental impact you want to find indicative values for. (Note: only impacts/pressures for which indicative values are available can be selected in this step)

Recreation and tourism

Indicative values

	Low	Central	High
Indicative values (unit value and range)	Approx. £200 - 400 (general users/recreational activities)	Approx. 10,000 (e.g. nature rich areas)	Approx. 15,000 (e.g. nature rich)

Unit: £/ha/yr

Indicative value quality rating: Strength of evidence: High Level of consistency: High

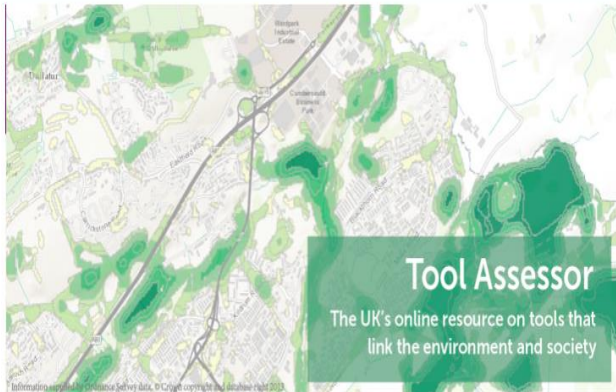
Important considerations: Indication relates to the number of trips per person. The range of values is driven by the type of user.

Click here for further details on these values

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Password *

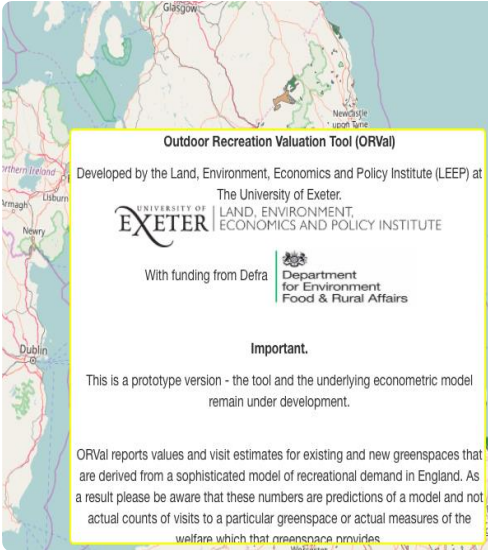
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Outdoor Recreation Valuation Tool (ORVal)

Developed by the Land, Environment, Economics and Policy Institute (LEEP) at The University of Exeter.

With funding from Defra

Department for Environment Food & Rural Affairs

Important.

This is a prototype version - the tool and the underlying econometric model remain under development.

ORVal reports values and visit estimates for existing and new greenspaces that are derived from a sophisticated model of recreational demand in England. As a result please be aware that these numbers are predictions of a model and not actual counts of visits to a particular greenspace or actual measures of the welfare which that greenspace provides.

Getting Started...

Click 'Map Layers' to show or hide a variety of map layers (including background layers, recreational sites, land cover, designation, points of interest and regions).

Click 'Explore Sites' to get detailed information on the economic value and visitation of recreation sites

Click 'Alter Sites' to change the characteristics of existing sites

Click 'Create Sites' to create a new recreation site.

OK

Map Layers

Explore Sites

Alter Sites

Create Sites

Examples of practical natural capital tools and resources for valuation

Method:

Ecosystem Services Approach



The role of nature in human wellbeing
The Natural Factory

Environmental Production



Human Economy



Goods and Services



Human Wellbeing



State of knowledge:



Biophysical evidence



Valuation estimates



Decision support tools

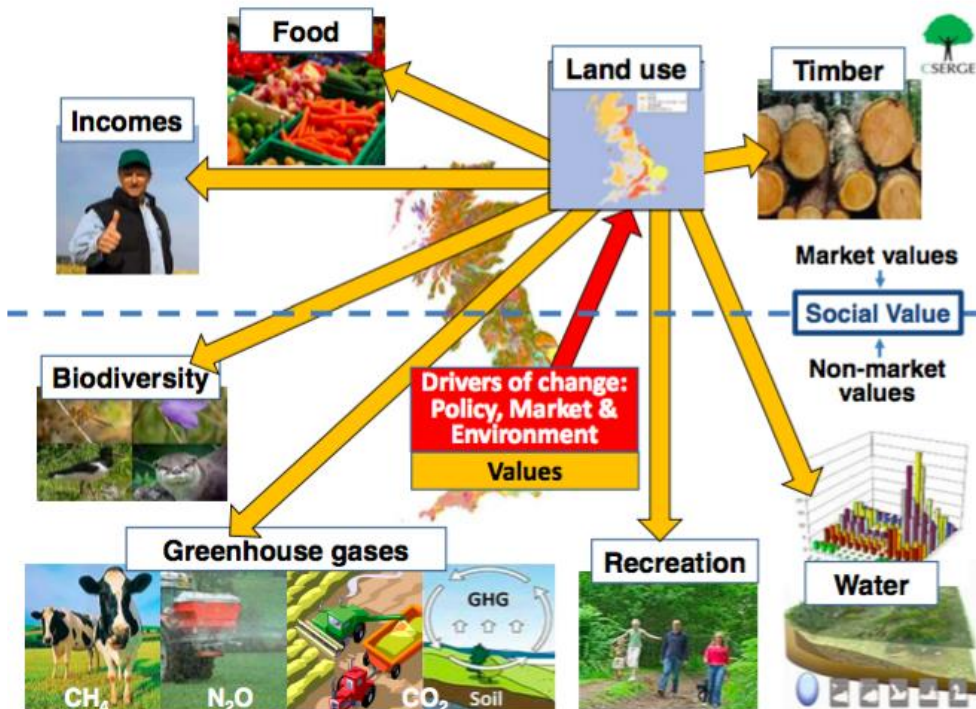
Evidence Base	Biophysical evidence	Valuation estimates	Decision support tools
Biodiversity	×	×	×
Air quality	✓	✓	✓
Climate	✓	✓	✓
Water	×	×	×
Farm trees	✓	×	×
Physical and mental health	×	×	×
Recreation	✓	✓	×

Key: Relatively strong evidence base Some evidence base Gap in the evidence base

Natural capital valuation tools:

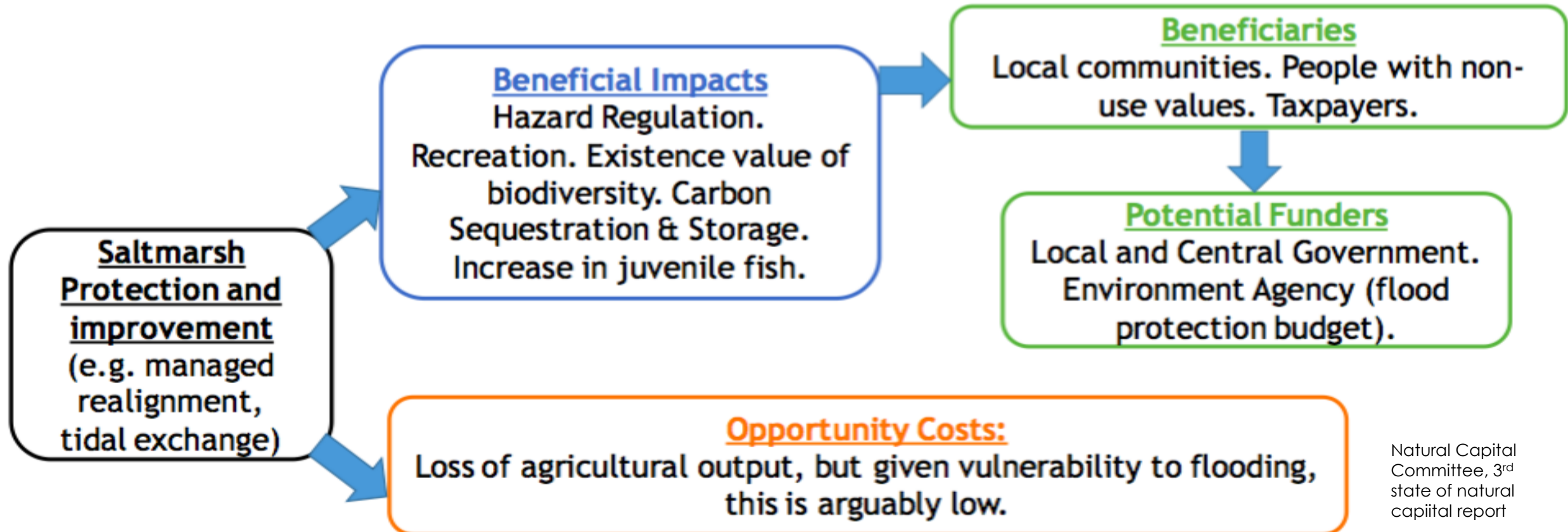
Valuing social and environmental contribution of woodlands and trees

Source: Forestry Commission Research, Exeter University, 2017



Examples of natural capital valuation models

Applying valuation to investment in natural capital



Applying valuation to natural capital accounting

Table 10: UK woodland ecosystem asset values (2015 prices), 2015

Service	2015 (£million)
Biomass for timber	6,582.9
Carbon sequestration	42,857.3
Pollution removal	24,951.3
Time spent at habitat	13,193.2
Total	87,584.7

Source: Office for National Statistics

Year 2013				Of which reported in fin accts £'m
		Renewables	Total	
		Private	External	
		£'m	£'m	
Assets				
1	Baseline value (2008)	14.1	12.3	26.4
2	Cumulative gains/(losses)	1.7	4.4	6.1
3	Additions/(disposals or consumption)	1.7	1.6	3.4
4	Revaluations and adjustments			-
Gross asset value		17.5	18.4	35.8
Liabilities				
5	Legal provisions			
6	Other maintenance provisions	(3.6)	(1.5)	(5.1)
Total maintenance provisions				(5.1)
Total Net Natural Capital				30.7

CNCA pilot examining implications of conventional arable management to organic farming under HLS

Developing corporate natural capital accounts [2015], effec, RSPB, PWC for Natural Capital Committee,

Key issues and challenges for natural capital valuation tools

- ▶ Valuation evidence needs to **link to underlying science base** and the impact pathways need to be clearly specified and quantified.
- ▶ Some aspects of natural capital such as the underpinning **role of biodiversity** are challenging to value and economic valuation not always appropriate – need to look for ways to make visible
- ▶ Recognition that **non-monetary valuation**, tools and methods have important role to play
- ▶ role of standardisation, **accessible data**, making it more affordable to take forward through practical tools
- ▶ **Filling key gaps** in valuation evidence and tools

Demystifying economic valuation

- ▶ How to communicate economic value evidence
 - ▶ Be clear about what's included in the economic value estimate and what's not.
 - ▶ Engage with decision makers and stakeholders.
 - ▶ Be specific about what types of decisions economic value evidence can be used for.
 - ▶ Use language everyone can understand
 - ▶ Do not aim for a single number that claims to answer all questions
 - ▶ Choose the appropriate economic valuation method.
 - ▶ Agree the appropriate level of effort.
 - ▶ Present economic value evidence as part of the three-stage process, together with qualitative and quantitative assessments of change.

