

Welcome to the Valuing Nature Annual Conference 2018

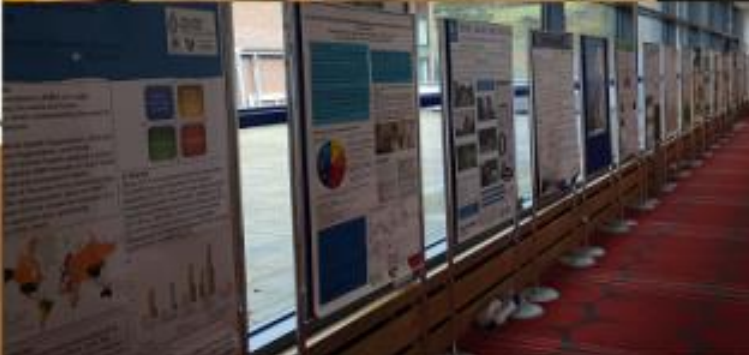


Department
for Environment
Food & Rural Affairs



Arts & Humanities
Research Council





News from the Valuing Nature Programme



The Valuing Nature Programme

Five-year (2014-2020), £7M Programme to

“better understand and represent the complexities of the natural environment in **valuation** analyses and to consider the wider societal and cultural value of ecosystem services”

Three Goals

1. Valuing Nature Network

Foster inter- & trans-disciplinary research capabilities

2. Human Health & Wellbeing

Understanding the value of the UK's natural environment for human health (physical and mental) and wellbeing

3. Ecosystem Stocks & Tipping Points

Understanding links between ecosystem stocks, ecosystem service flows - defining critical levels of ecosystem stocks that avoid abrupt and damaging change in the delivery of benefits (tipping points)

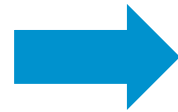
Understanding the Value of the Natural Environment for Improving Human Health & Wellbeing



Biodiversity
& ecosystem
processes



Natural hazards & extreme weather events



Pathogens & natural aquatic toxins



Urban ecosystems



Human health
& wellbeing



PI: Anna Jorgensen
University of Sheffield



PI: Nicola Beaumont
Plymouth Marine Laboratory



PI: Sarah Lindley
University of Manchester



PI: Tim Acott
University of Greenwich



IWUN

Landscape metric analysis

Reduced rates of poor health are promoted by:

Diversity of
tree habitats

Proportionally
less grass
cover

Presence of
water cover



Some large
green spaces
(not all small)

Good
interspersion
of green and
grey covers



What characterises urban green infrastructure (GI) in Greater Manchester and any health associations?

Local health status for older adults seems to be linked to a range of GI metrics (*see our presentation!*)

How does the importance & value vary e.g. by socio-demographic group, or place?

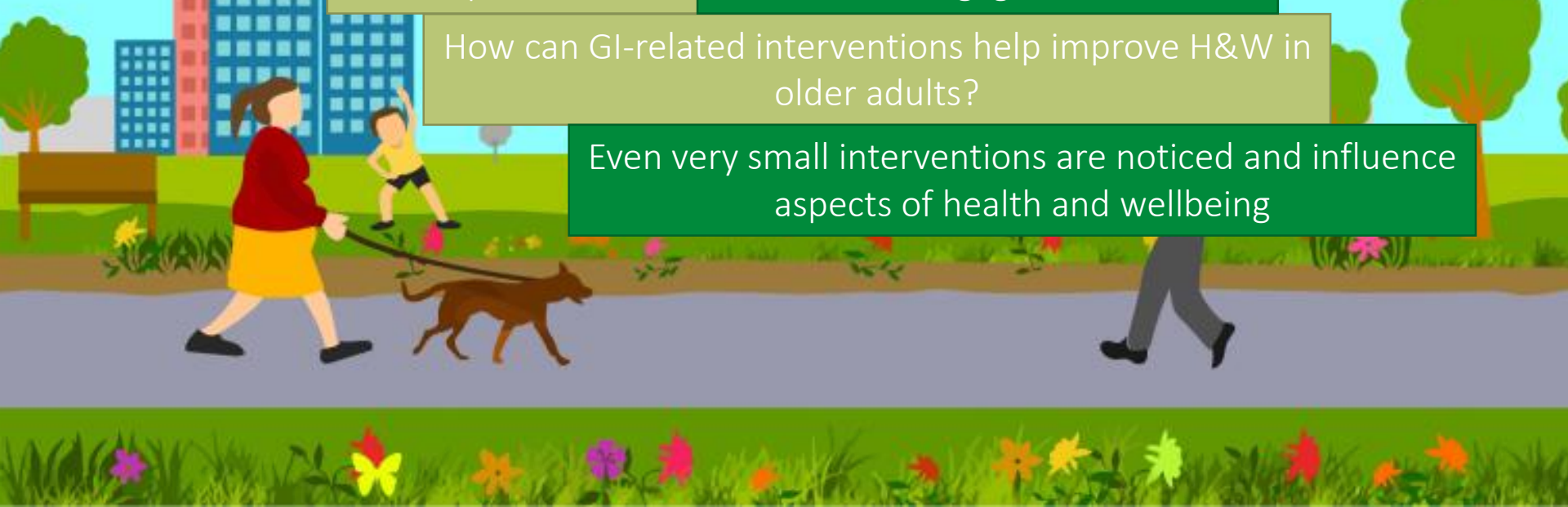
In 'older low income' areas
→ proximity to accessible GI has strongest association with health

When is GI most important?

Life transitions are opportunities for engagement

How can GI-related interventions help improve H&W in older adults?

Even very small interventions are noticed and influence aspects of health and wellbeing



- Evidence is building that the influence of green infrastructure significantly impacts upon human health and wellbeing
- Impacts are of magnitudes that can be detected, measured and valued.

CoastWEB: integrating multiple value types at multiple scales



Local



Qualitative

WP1

Historical context of health and wellbeing value of salt marsh

WP2

Linking coastal habitats to coastal defence

WP3

Valuing changes in human health and wellbeing as a result of saltmarsh interventions

WP4

Local to national interventions and integration

A framework linking ecosystem services and human well-being (under review, People and Nature)



Quantitative



National

Emerging ideas



Project team is now trying to **implement** the idea of Nested Ecosystem Services and thinking how art and science come together to open up conversations of wetland values e.g.

- Creation of a ‘Mosquito caravan’ that can take experiences and knowledge of remote wetlands to inner cities
- Reimagining ‘bird hides’ as places of creativity
- Exploring sense of places through filmed (and unfilmed) interviews.
- Exploring future economics scenarios around mosquitoes and wetlands
- Creating new ecological knowledge of mosquitoes to help wetland managers

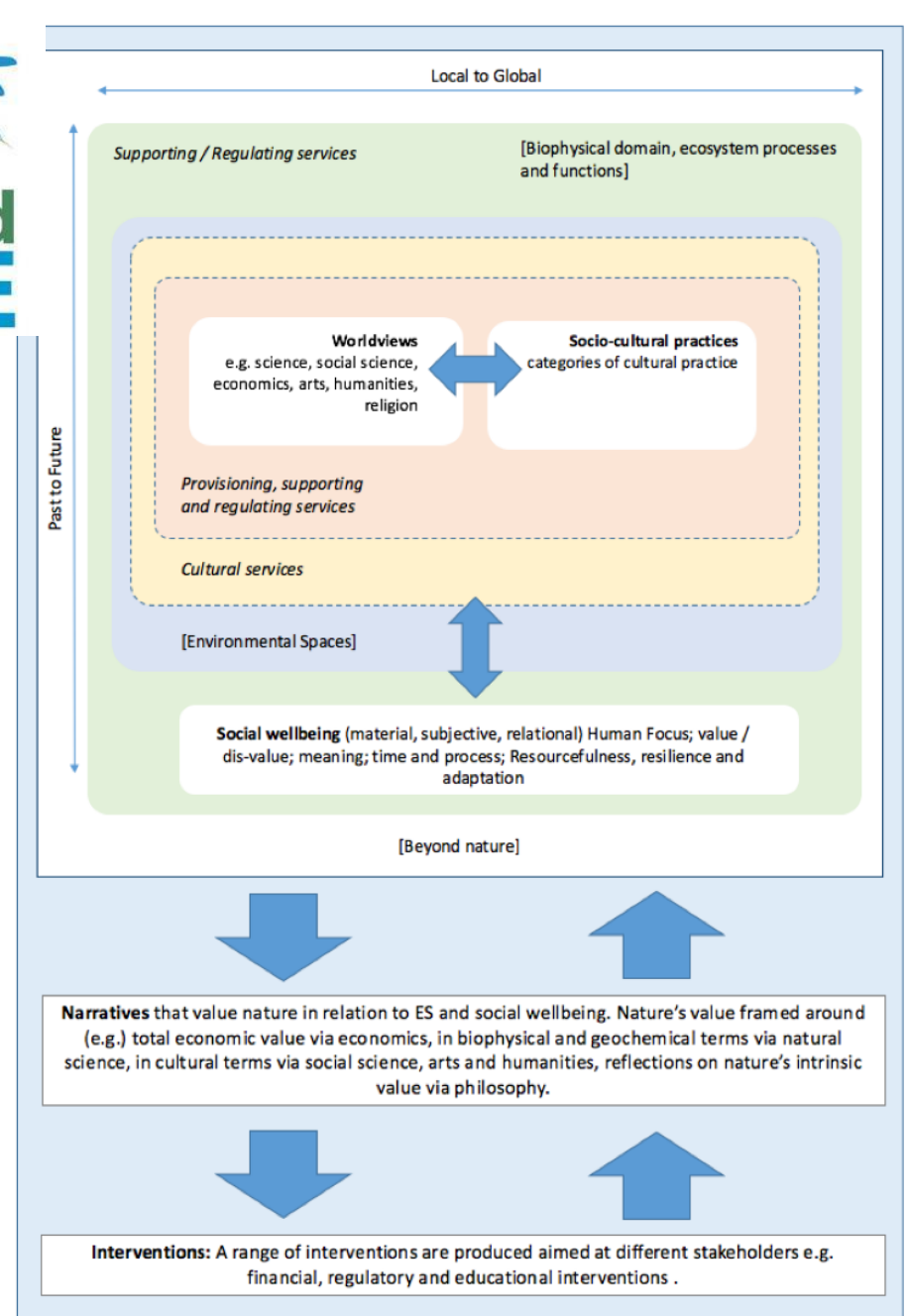


Fig. 5 Nested ecosystem services framework

Demystifying Health

- Led by Becca Lovell, European Centre for Environment & Human Health
- Kicked Off at Annual Conference 2017
- Contributor Group: 80 volunteers brought together to explain key concepts
- Publication launched at 2018 conference!



Arts and the Artist in Landscape and Environmental Research Today

Joint activity with the Landscape Research Group

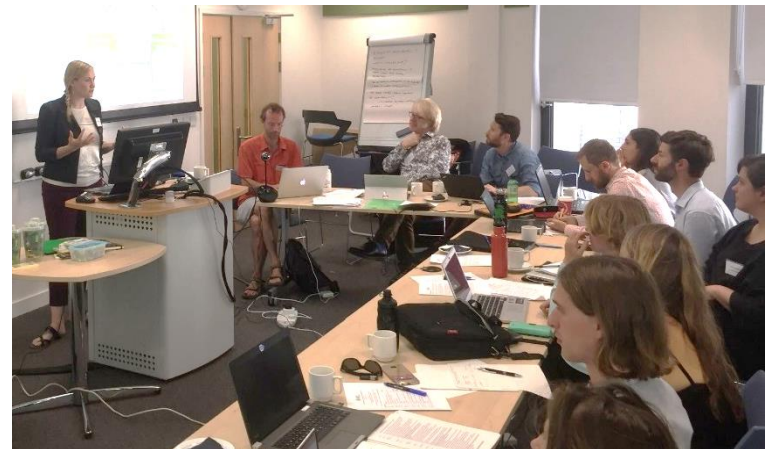
Focused on exploring three thematic areas:

1. The agency of the artist
2. Distinguishing the arts within research
3. Embedding the arts in research process

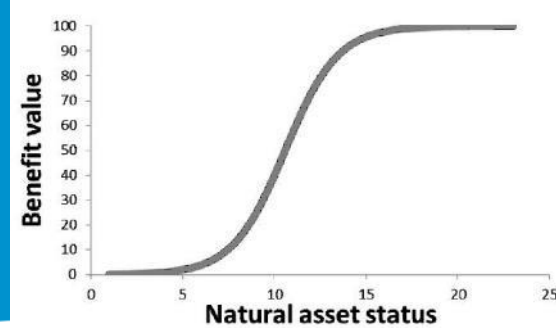


Social Values for Nature

- Call for papers for a Special Feature of Sustainability Science “Theoretical traditions in social values for sustainability”
- Led by Jasper Kenter & editorial team
- 35 good quality abstracts received
- Workshop held in York in June



Tipping Points Projects

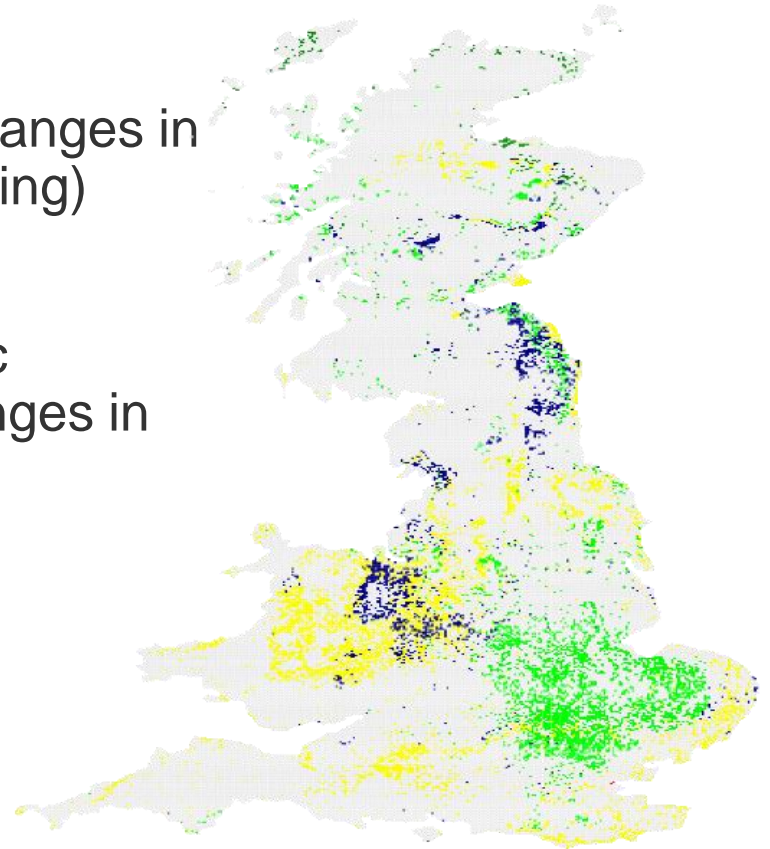


- Understanding links between ecosystem stocks, ecosystem service flows - defining critical levels of ecosystem stocks that avoid abrupt and damaging change in the delivery of benefits (tipping points)
 - How the values of ecosystem services and benefits change as tipping points are reached and exceeded
1. Identifying potential tipping points in benefits from the UK's land ecosystems. PI: Lenton, University of Exeter
 2. Understanding ecosystem stocks and tipping points in UK blanket peatlands. PI: Read, University of Newcastle
 3. Mechanisms & consequences of tipping points in lowland agricultural landscapes. PI Newton: University of Bournemouth

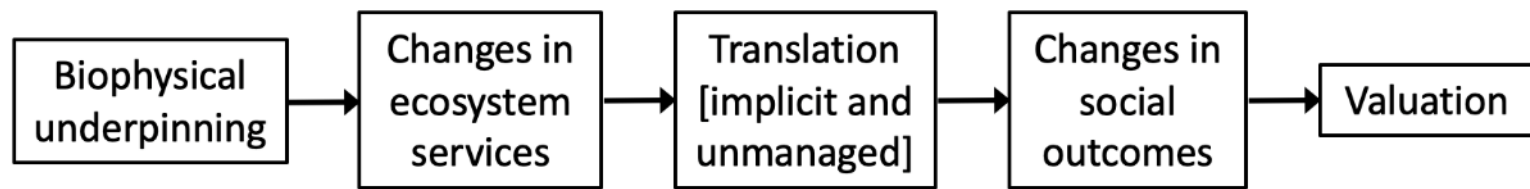
Lenton et al. Emerging Results

- Abrupt shifts in vegetation predicted under smooth climate change
- Smooth climate change leads to abrupt changes in land-use (from pasture toward arable farming)
- Abrupt climate change (collapse of Atlantic overturning circulation) leads to large changes in land-use

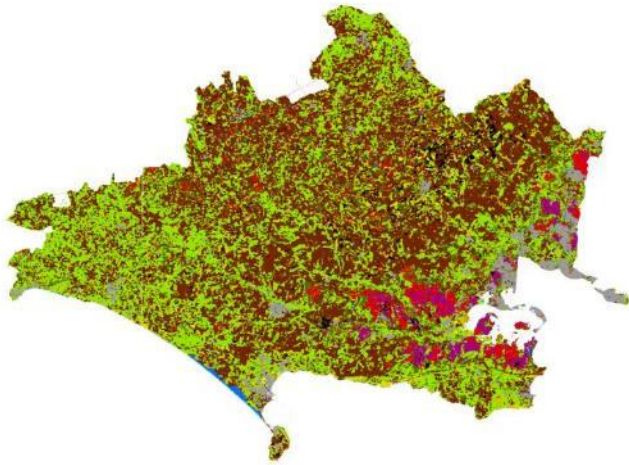
3.5K – A1B CO2



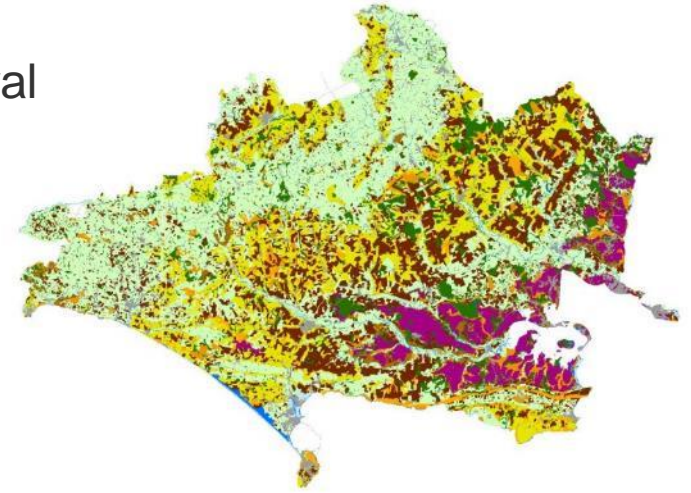
Reed et al. Emerging Results



Newton et al. Emerging Findings



- UK lowland agricultural land cover and ecosystem services have changed dramatically over the last 80 years. **Poster**



- An Agent Based Model has been developed to forecast future change in Dorset's natural capital. **Talk:** Understanding Options for Agricultural Land Use Post Brexit.
- There have also been Tipping points in Dorset's marine natural capital assets – Watson *et al.*, 2018.
- Survey published with business on their understanding of their dependencies on ecosystem service flows. – Watson *et al.*, 2018.
- TPAL science - art collaboration, based on the sonification of tipping points.....come visit our sound installation that communicates what a tipping point sounds like!

Tipping Points Projects Workshop



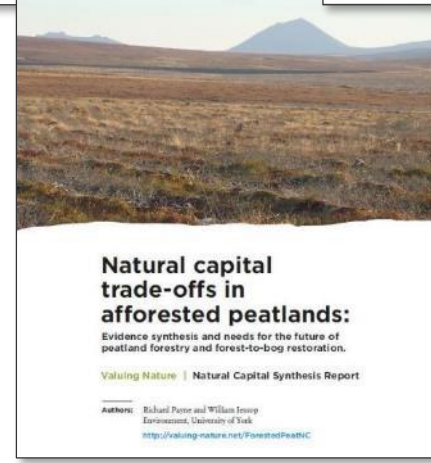
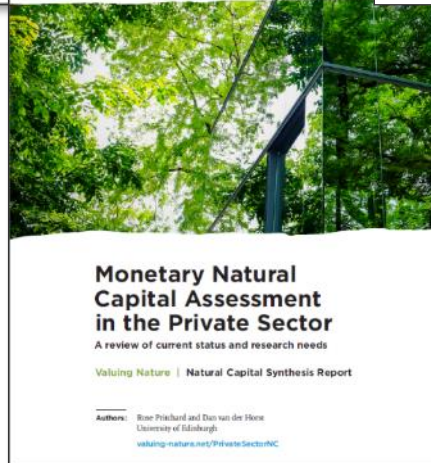
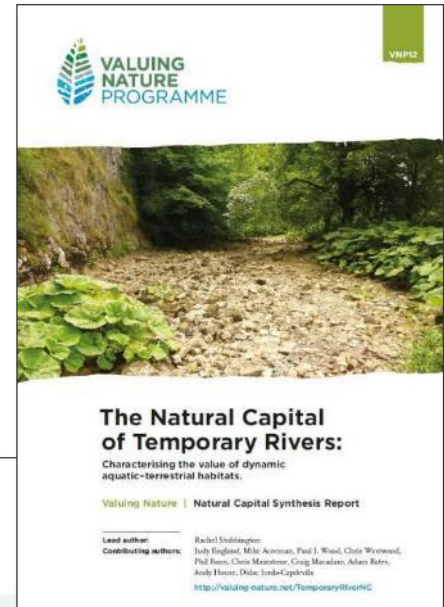
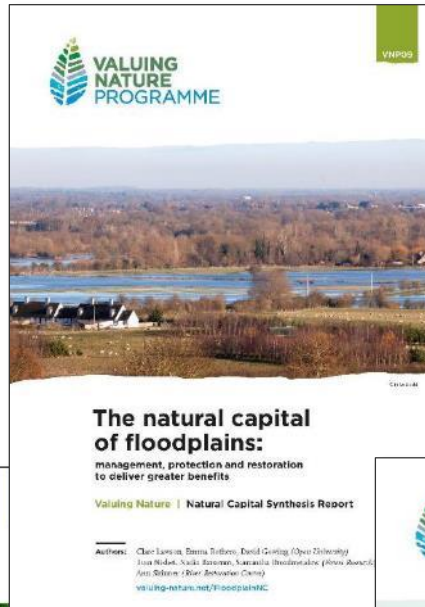
- Led by the TP projects
- Joint with EPSRC [ReCoVER network](#) (Research on Changes of Variability and Environmental Risk) which aims to develop and apply new mathematical tools & methods.
- How do we usefully apply the theory and methods of tipping points to ecosystem services?
- Defining Tipping Points. Definitions: Types, Societal relevance, Tools
- Output: peer reviewed publication – led by post-doc team: Stephen Watson, Chris Boulton, Paul Ritchie, Dylan Young



Placements, Business Schools, Keynote Lectures, Natural Capital Synthesis Reports



5 Natural Capital Synthesis Reports



Global Challenges and the Valuing Nature Agenda: Joining the Dots

- Assess the extent and depth of valuing nature scholarship in ODA countries and how these map on to addressing global challenges
- Identify and describe networks of research collaboration
- Establish key opportunities for advancing the global challenges research
- Columbia, China, India, Burkina Faso, Kenya, and South Africa
- Report launched at the 2018 Conference



Valuing Nature in Business

- Business Impact School 3 & World Forum on Natural Capital
- Business Round Tables – to consider how to better integrate natural capital into decision making, with three sectors:
 - Infrastructure
 - Land Management
 - Green Finance
- Business Impact Brokering – to identify how emerging findings from the Valuing Nature projects can be taken to a wider audience
- Demystifying Green Finance – to be kicked off at the Conference

Coming up in 2019

- Land Allocation Models - to compare ecosystem services models working with stakeholders on scenarios across UK
- Workshop with Sustainable Intensification Research Network – 5-7 March 2019
- International Summit – 24-25 April 2019
- Session at NCI meeting 21-22 May





VALUING NATURE

Ian Hodge

The value of nature and the nature of values –
revisiting the principles

University of Cambridge