

The Cultural Ecosystem Services of Blue Space

Methods and Applications for Effective Policy

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Imperial College
London



Presentation Format

1

Context

What's important about CES and what's missing?

- ▶ Blue space
- ▶ Cultural Ecosystem Services (CES)
- ▶ Deficiencies in understanding, methods and assessment
- ▶ Research objectives and approach

2

Approach

How can we address the problems?

- ▶ Research question and objectives
- ▶ Development of novel systematic map
- ▶ Results and method extraction
- ▶ Outcomes: 'Stacked' methodology

3

Application

Bringing CES into the real world

- ▶ Fieldwork: Collaborative wetland case study sites
- ▶ One size does not fit all: Targeted toolkit development



Context

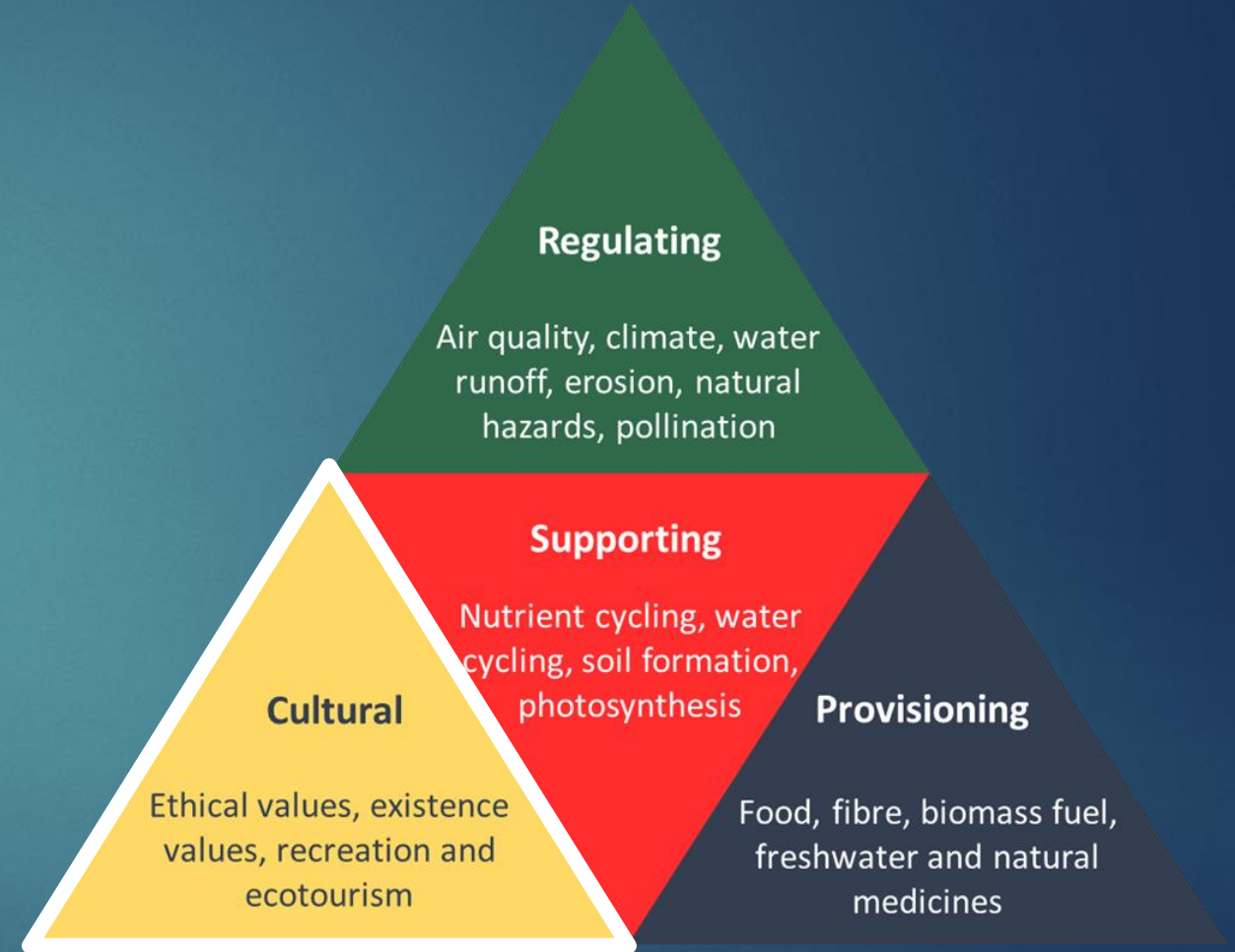
CES

- ▶ 'Ecosystem services' (ES) popularised by UN Millennium Ecosystem Assessment (MEA) (2005)
 - ▶ Major assessment of human impact on the environment
- ▶ **Cultural Ecosystem Services (CES)** frequently disregarded in ecosystem services literature
- ▶ Failures of quantitative methods for inherently qualitative problems – closed shop mentality?



ES Pyramid: Four Categories of Service

(with some examples)



Adapted from TEEB (2012)

Millennium Ecosystem Assessment definition

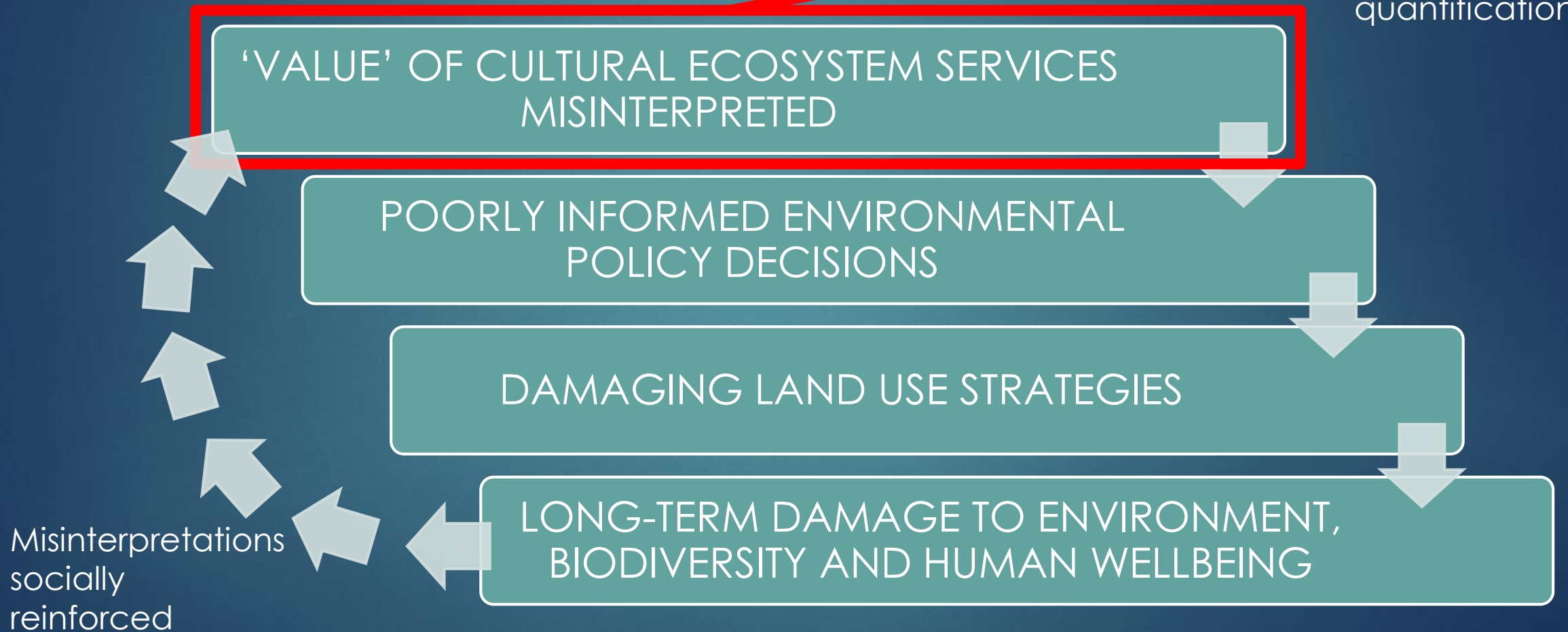
CES are “the non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences”



(Sarukhán and Whyte, 2005)

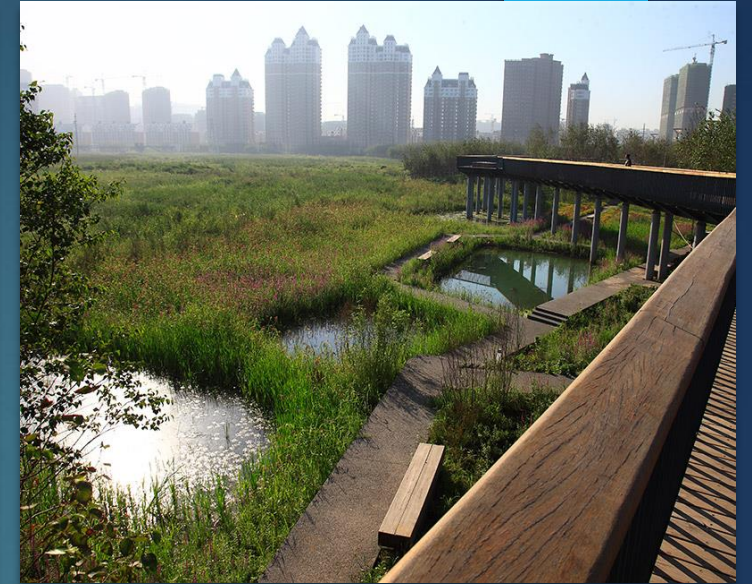
Deficiencies: CES Valuation, Definition, Understanding

Break the Chain
Difficulties in understanding lead to difficulties in definition and quantification



Blue Space

- ▶ Urban blue spaces as interdisciplinary focal points
 - ▶ Socially, environmentally and culturally significant
- ▶ Unusually high biodiversity (Dudgeon et al., 2006)
- ▶ Integral to climate change mitigation and adaptation



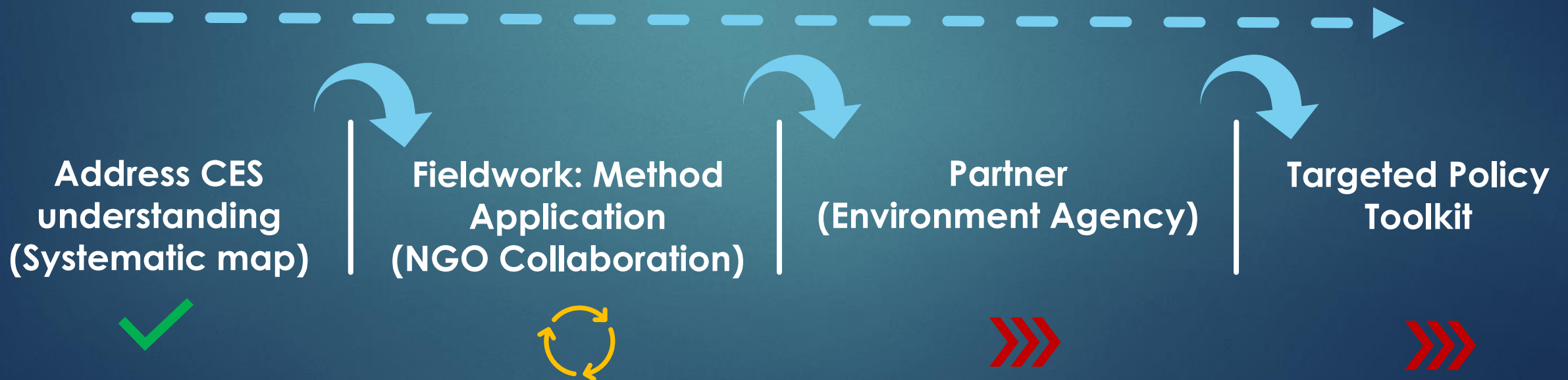


Approach

Overarching Research Question

“What are the cultural ecosystem services (CES) of urban blue spaces and how can they be utilised for informing environmental policy in a changing world?”

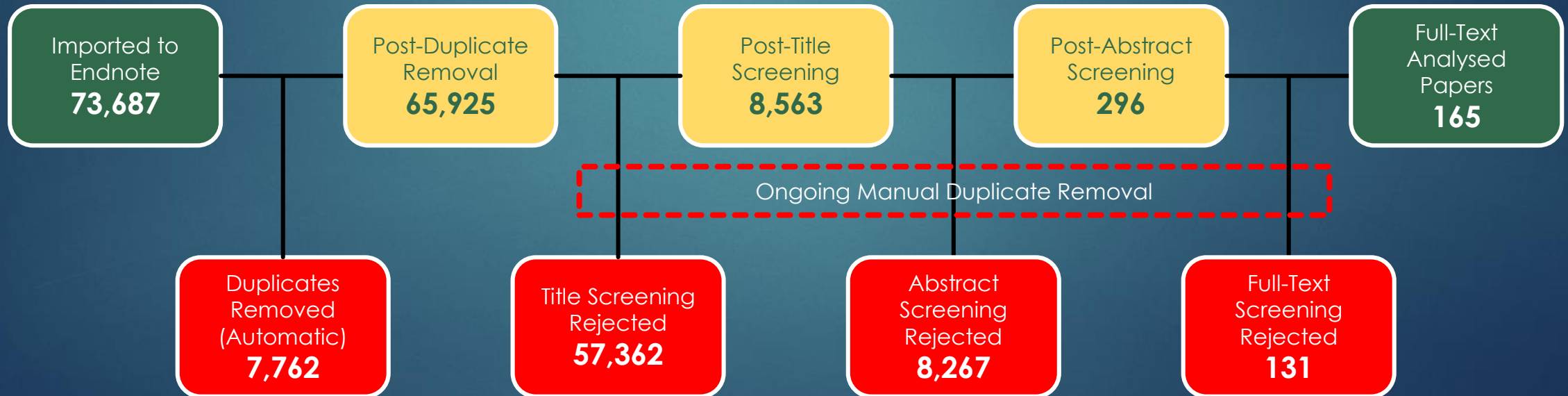
Objectives

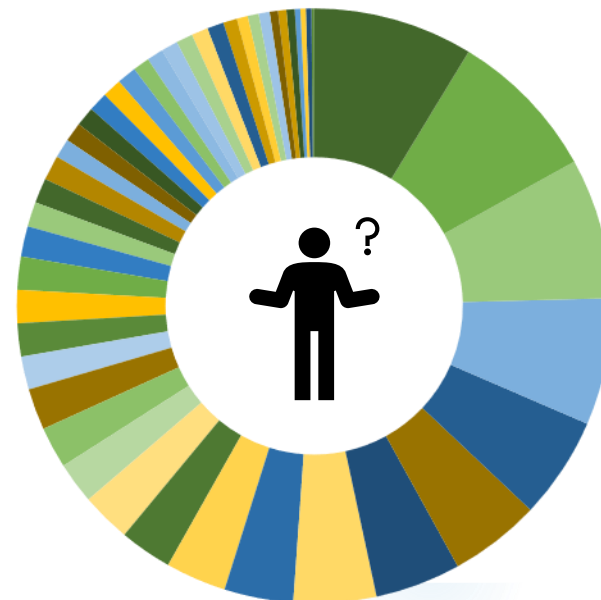
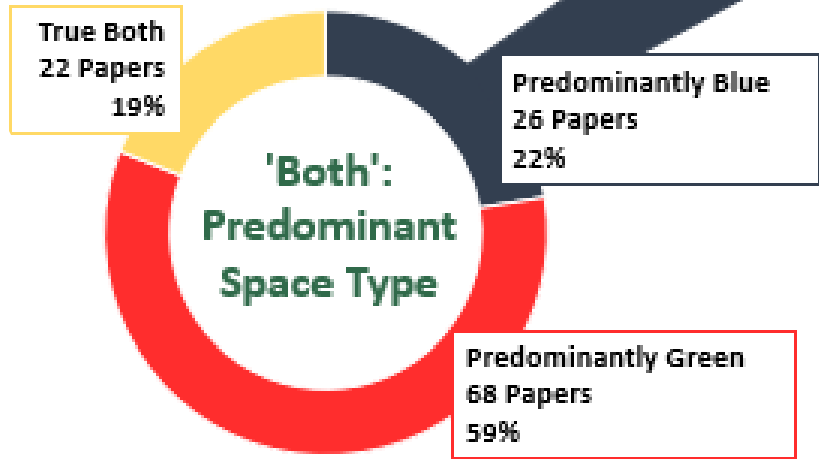
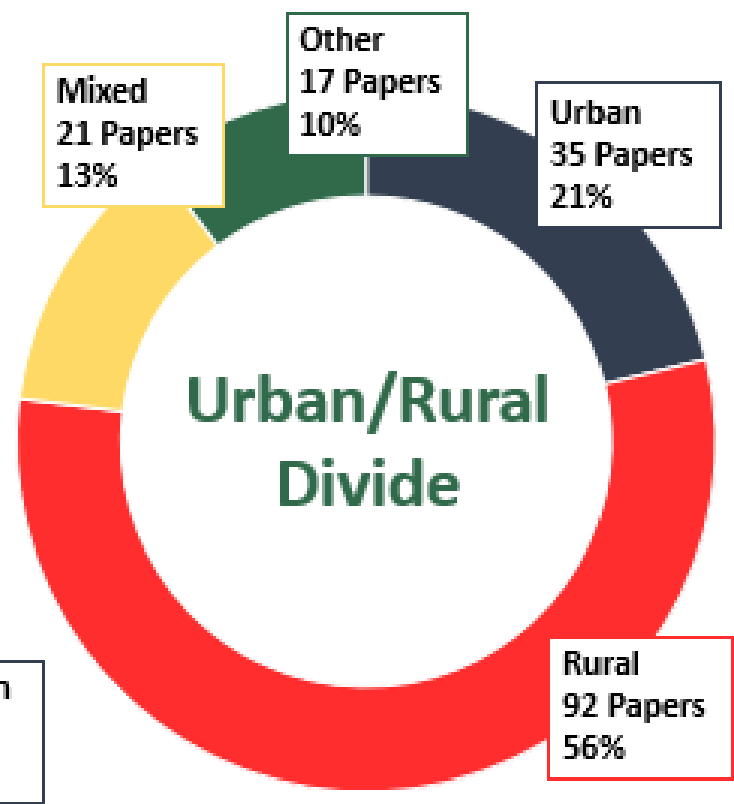
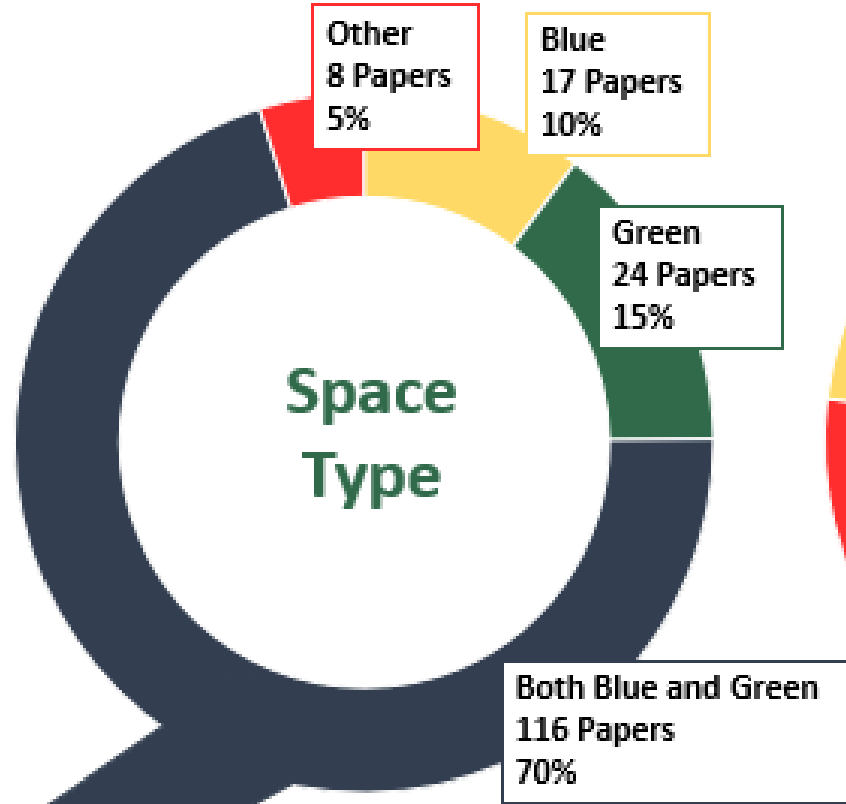
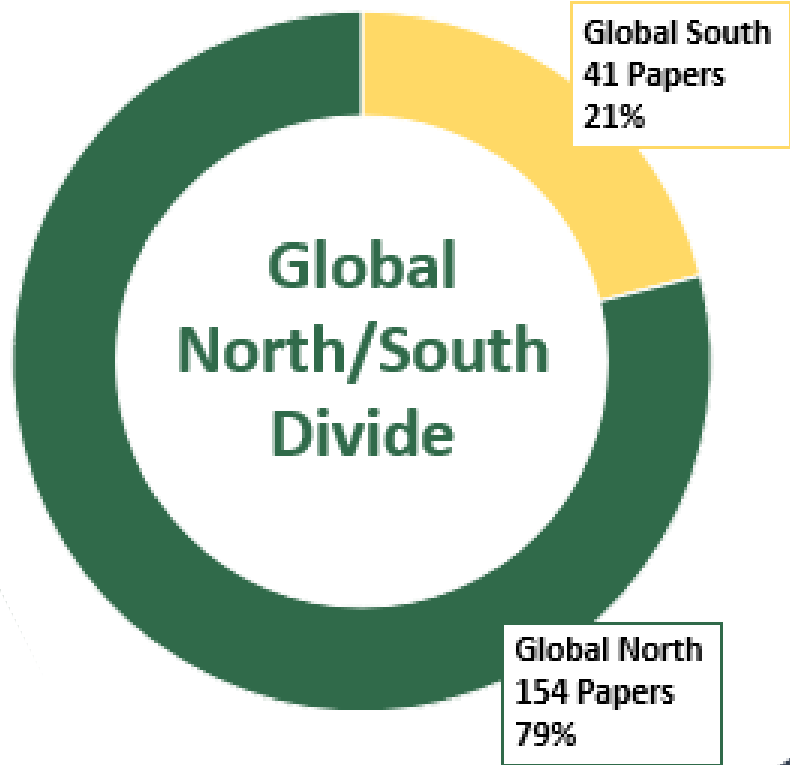


Systematic Map

- ▶ Expansive novel investigation into CES
- ▶ Deliberately **wide-ranging** and **broad**
 - ▶ Preceded by mini literature review
- ▶ Completed categorisation template at the end of 2020
- ▶ Informs much of my future research

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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Mixed Methods Mishmash!

Method Extraction

Qualitative

Mixed Methods

Quantitative

Literature

Interviews

Other

Interviews

Indicators

GIS

Artistic and
Conversations

Participatory

Survey

Literature

Questionnaire

Modelling

Workshops

Other

Participatory

Discourse

Mapping

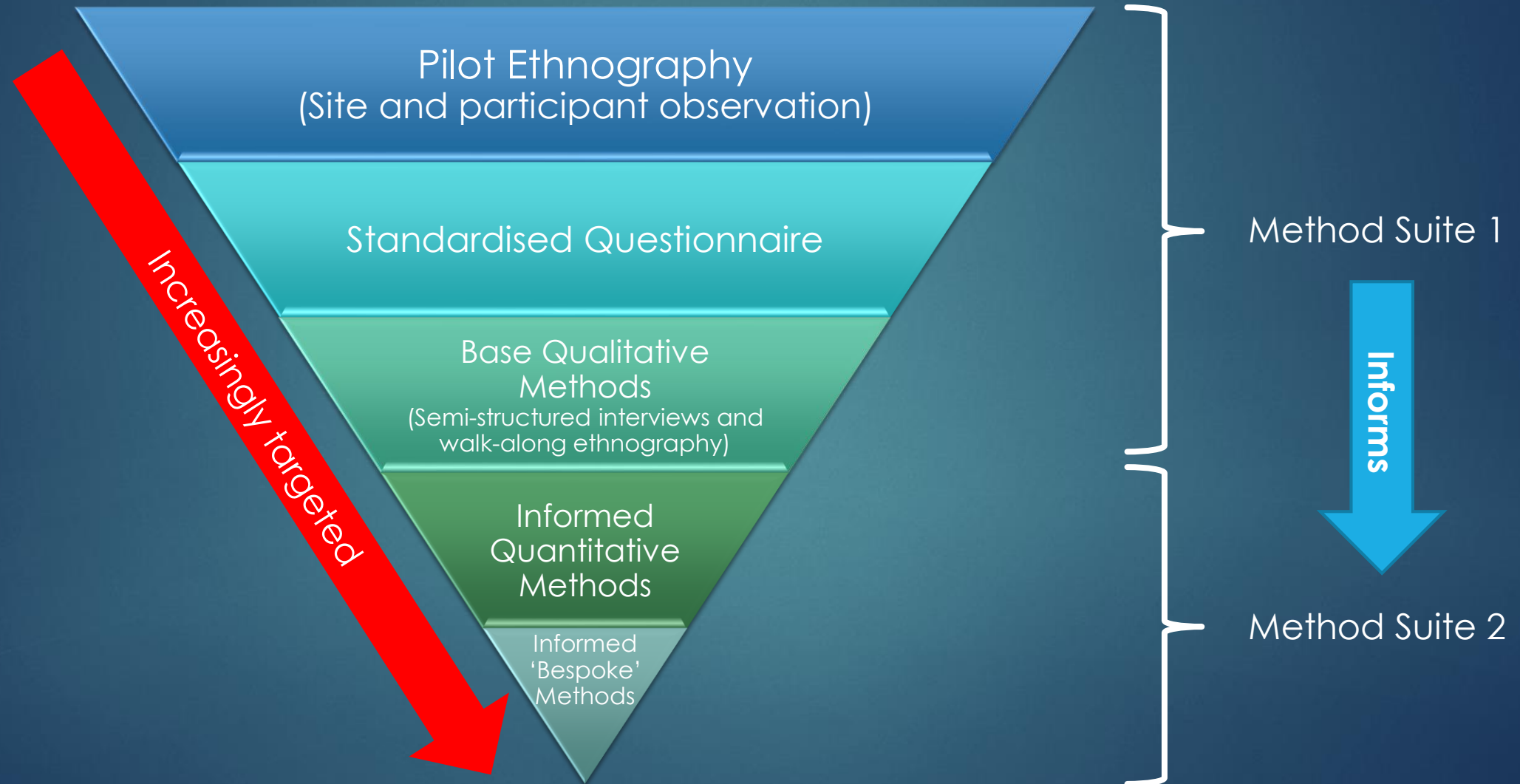
Other



Application

'Stacked' Methodology

a qualitatively driven mixed-method approach



Why Wetlands?

- ▶ Multifaceted form of blue space
- ▶ Practicality – NGO links
- ▶ Comparative approach
 - ▶ Added value of blue space

Inherently varied
as well as:

Varied Contexts

Varied Scales

Varied Management

Urban

Rural

Mixed

Local

Regional

(Inter)
national

Private

WWT

SERT

Thames21



Bamff Estate

Perthshire, Scotland

- ▶ **Pilot case study site**
- ▶ Rural
- ▶ Privately managed
- ▶ Outside Environment Agency's sphere of influence
- ▶ Rewilding and carbon capture initiative
 - ▶ *Bamff Wildland*
- ▶ Artists-in-residence

Ongoing



Stear Marshes, Somerset, England

- ▶ Rural
- ▶ Wildfowl and Wetlands Trust (WWT)
- ▶ Expansive peninsula with major wetland reserve
- ▶ Nationally important reserve
- ▶ Limited management
- ▶ High levels of local deprivation



Ongoing

Firs Farm

Enfield, London

- ▶ Urban
- ▶ Thames21
- ▶ Established 2014
- ▶ Combined wetland and flood storage area
- ▶ Strong community engagement
 - ▶ *Friends of Firs Farm*



Chamber Mead Wetlands

Epsom

- ▶ Urban
- ▶ South East Rivers Trust (SERT)
- ▶ Currently limited use
- ▶ Localised
- ▶ Flooding and pollution issues
- ▶ Planned wetland
 - ▶ Before and after case study



Next Steps



This Year

- ▶ Continue with method suite 1
- ▶ Progress towards all sites

Informed Practical Development

- ▶ Implement method suite 2
- ▶ Global South case study?

Informed Theoretical Development

- ▶ Compare results to MENE / Implications of map + fieldwork
- ▶ Develop CES toolkit for policymakers



Thank
you for
listening!