Using Systematic Conservation Planning in the UK

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What is systematic conservation planning?

It is the international best practice approach for solving spatial environmental problems
Land use planning, EIA, restoration, rewilding, river management, etc.

A combination of both an analysis and a social process
Experience tells us both are equally important

It identifies priority areas for natural capital action
Essentially, how do you act across the landscape to best improve and manage nature

This is now well trialed in the UK
SCP has been used in 3 of the LNRS pilots, the WRE regional plan and to guide major infrastructure in Lincolnshire

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The Process

—

Existing projects → Objectives and actions → Targets → Review the prioritisation

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The Process

Existing projects

Natural capital plans should build on what is already being done
The analysis will identify gaps in natural capital across the landscape

This will ensure that future work supports your accomplishments
For example, by improving connections between nature across the landscape

SCP helps coordinate projects across a complex landscape
This helps makes complex situations understandable

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The Process

Your projects → Objectives and actions

Objectives are the outcomes people want for or from nature
E.g. reduced flooding, more wetlands, more trout, healthier rivers

Actions are the things we do to deliver objectives
E.g. Plant trees near rivers, restore wetlands, reduce pollution runoff from farms

This stage puts stakeholder views at the center of the plan
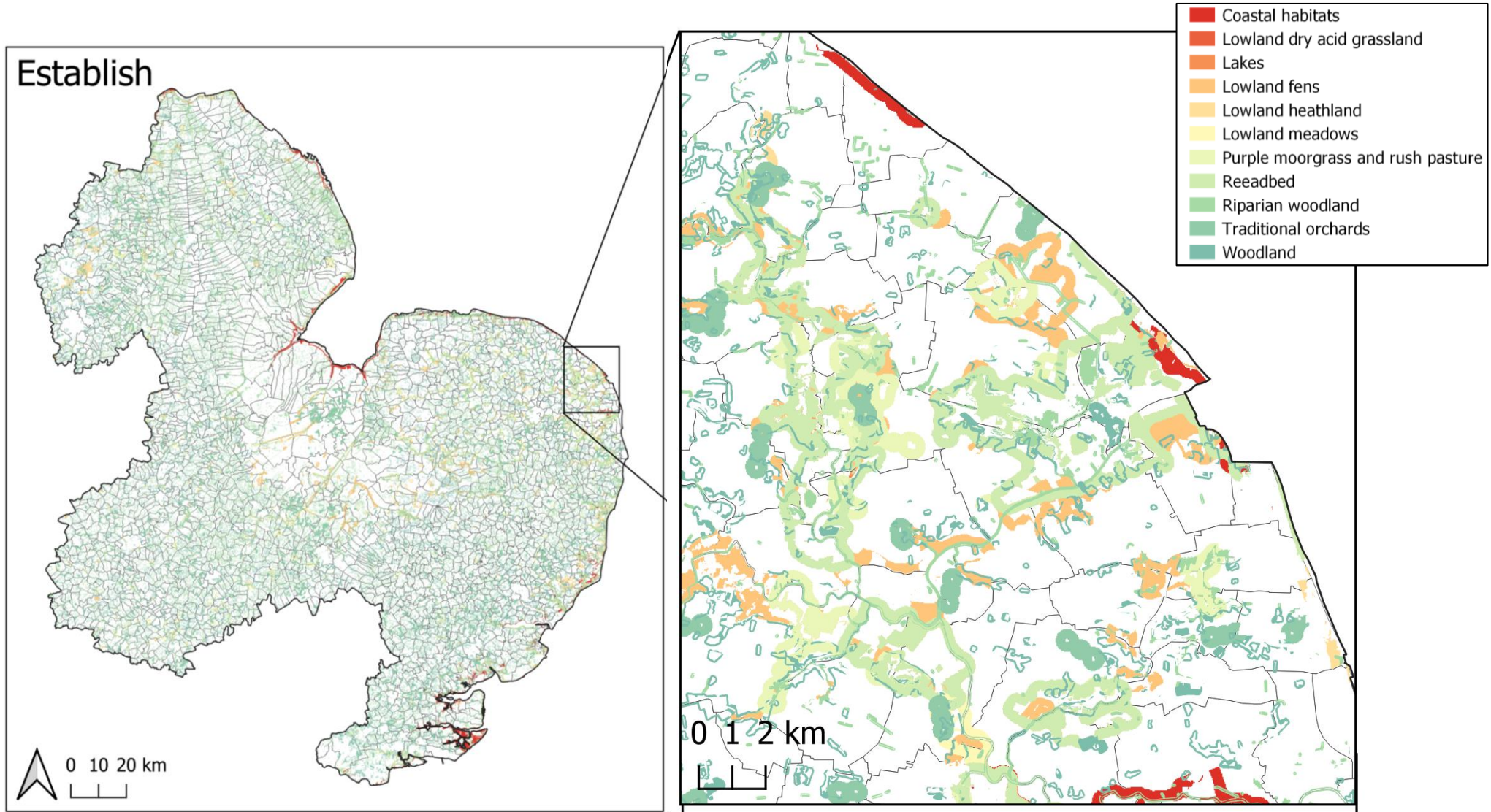All inputs are logged and processed transparently

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Ensuring Transparency

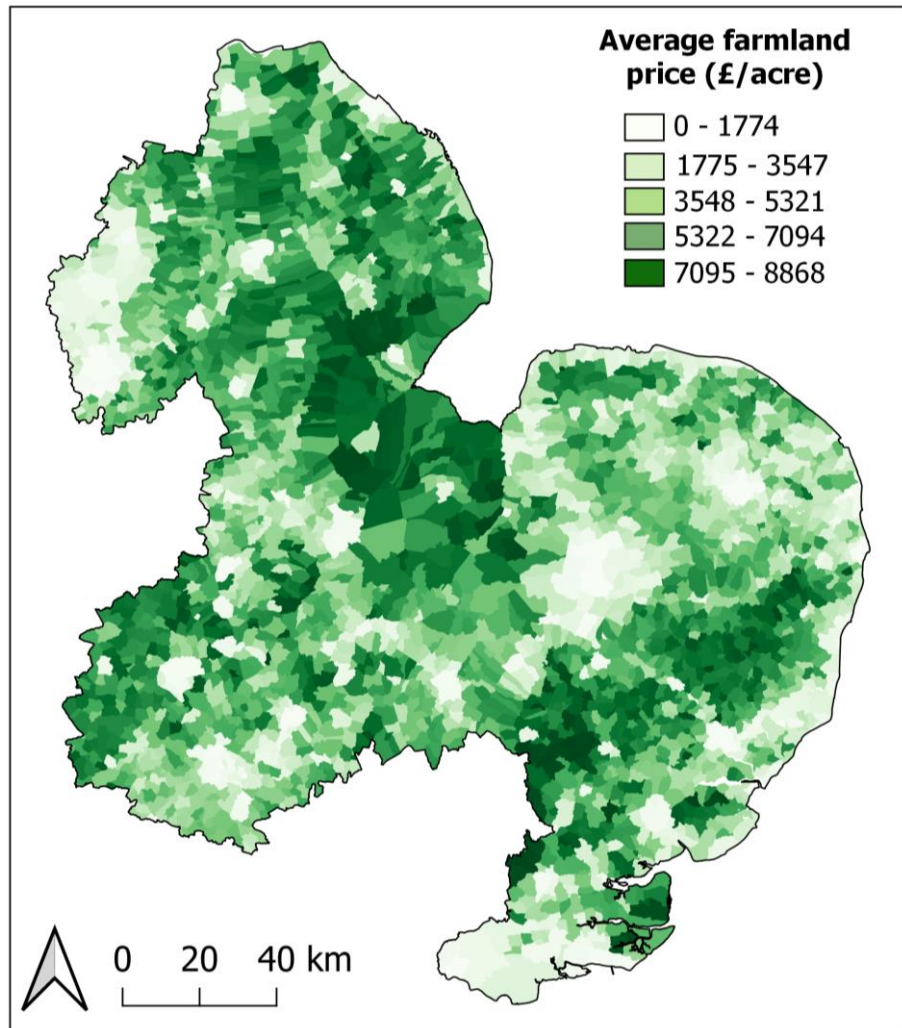| Stakeholder	Objective (original)	Desired feature	Feature aspect	Direction of change	Objective specification	Natural Capital Category	Analysis	Notes	Action Zone	Data
RSPB	I am still waiting input from colleagues near the Humber, but anticipate much of their input will be around habitat creation, improved water management and continued focus on making sure protected areas are maintained in favourable condition and enhanced.	protected areas	quality	improve and maintain	No specification	Biodiversity (Habitat)	Include	via improvement of network	Conserve, Restore	HN habitats (rivers)
Bedford and Milton Keynes Waterway Trust	Increase natural capital and biodiversity,	Natural capital	quantity	increase	No specification	Biodiversity (General)	Include	via habitats	Conserve, Establish, Retsore, Manage	HN habitats (rivers, lakes) and DEFRA (ponds and canals)
Bedford and Milton Keynes Waterway Trust	Increase natural capital and biodiversity,	Biodiversity	quantity	increase	No specification	Biodiversity (General)	Include	via habitats	Conserve, Establish, Restore, Manage	HN habitats (rivers, lakes) and DEFRA (ponds and canals)
Bedford and Milton Keynes Waterway Trust	Offset impacts of road and rail across the Oxford to Cambridge Arc	Impact of road and rail develomment on biodiversity	quantity	decrease	Offset	Biodiversity (General)	Include	via habitats	-	-
Cam Valley Forum	Increase the abundance and distribution of native species	Abundance and distribution of native species	quantity	increase	No specification	Biodiversity (General)	Indirectly included	via habitats	-	-
DEFRA	Enhance biodiversity	Biodiversity	quantity	increase	No specification	Biodiversity (General)	Include	via habitats	Conserve, Establish, Restore	HN habitats (rivers)

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Potential areas for habitat creation

Establish

Legend:
- Coastal habitats
- Lowland dry acid grassland
- Lakes
- Lowland fens
- Lowland heathland
- Lowland meadows
- Purple moorgrass and rush pasture
- Reeadbed
- Riparian woodland
- Traditional orchards
- Woodland

0 10 20 km

0 1 2 km

Data from Natural England

WORKING TOGETHER TO CONSERVE AND PROTECT ENGLISH LANDSCAPES · WWF · THE Coca-Cola FOUNDATION · Coca-Cola EUROPEAN PARTNERS

Representing Cost

Average farmland price (£/acre)

- ☐ 0 – 1774
- ☐ 1775 – 3547
- ☐ 3548 – 5321
- ☐ 5322 – 7094
- ■ 7095 – 8868

0 20 40 km

We established a heat map of relative costs
These allow us to compare between different areas

Cost type	Definition	Estimate	Unit
Opportunity cost M	Forgone income, cost of maintenance	land price * 0.035	£/area.yr
Opportunity cost R	Forgone income, restoration	land price * 0.035	£/area.yr
Opportunity cost E	Forgone income, establishment	land price * 0.035	£/area.yr
Habitat restoration	Average cost in england to restore habitats in unfavourable condition restored per year over 10 year period. All habitats.	1,856	£/ha.yr
Habitat establishment	Average cost in England to create new habitat per year over 10 years. All habitats.	3,403	£/ha.yr
Soil management (arable)	Average cost per year in UK for a group of actions including: winter cover crops or reversion to grassland	194	£/ha.yr
Soil management (grassland)	Average cost per year in UK for a group of actions including: Seasonal livestock removal on grassland soils with very strong erodibility	89	£/ha.yr

The Process
And how you can get involved

| Your projects | Objectives and actions | Targets |
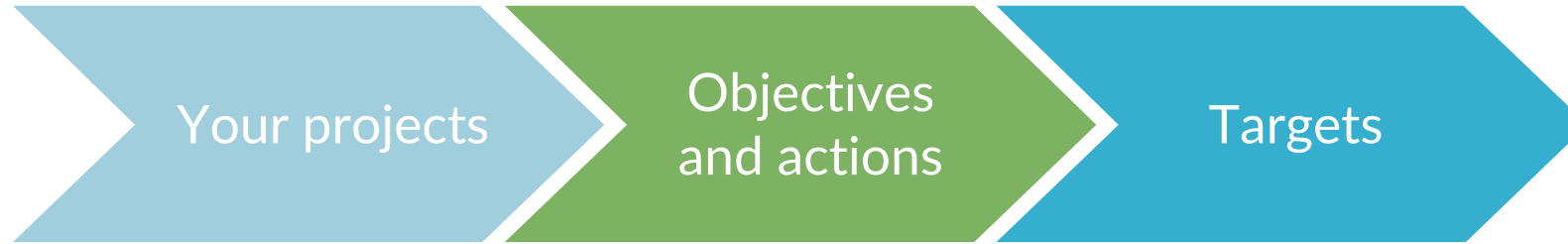
Targets are the quantitative definition of objectives
E.g. Restore 50ha of wetland, plant 2000ha of trees in riparian areas to reduce flooding

Targets are driven by values
What do the stakeholders collectively want from their landscape?

Targets can be easily revisited at any stage
This is about trying to help stakeholders understand their region

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Setting Targets

Conservation Feature	Potential (hectares)			Targets (hectares)		
	Conserve	Restore	Establish	Conserve	Restore	Establish
Ancient woodland	24230	4902	1132	19384	3677	912
Coastal Sand dunes	1383	-	-	1107	-	-
Coastal salt marsh	11881	-	-	9505	-	-
Coastal vegetated shingle	792	-	-	634	-	-
Combined coastal	-	7148	14023	-	5361	11296
Lowland dry acid grassland	5953	886	11639	4762	664	9376
Lakes	277	4843	91	222	3632	73
Lowland calcareous grassland	5193	1363	23307	4155	1022	18775
Lowland fens	8508	20261	31201	6807	15196	25134
Lowland heathland	6887	882	10916	5509	662	8794
Lowland meadows	3381	2968	28529	2705	2226	22982
Maritime cliff and slope	219	-	-	175	-	-
Purple moor grass and rush pasture	837	98	5338	670	73	4300
Reedbeds	2546	8493	16539	2037	6369	13323
Rivers	3424	2130	43	2739	1598	34
Traditional orchards	2099	-	61444	1679	-	0
Wood-pasture & parkland	7606	5509	12265	6085	4132	0
Carbon storage in vegetation	713707 (tonnes)	-	-	642336 (tonnes)	-	-
Riparian woodland potential	-	-	230460	-	-	204636
Floodplain reconnection potential	-	-	23216	-	-	20612
Water Quality	-	-	1111826	-	-	1000643

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Conserve

Conserve - Best solution
- Prioritised for connectivity
- Prioritised for habitats
- Not prioritised

0 10 20 km

Conserve - Selection frequency

0
50
100

0 10 20 km

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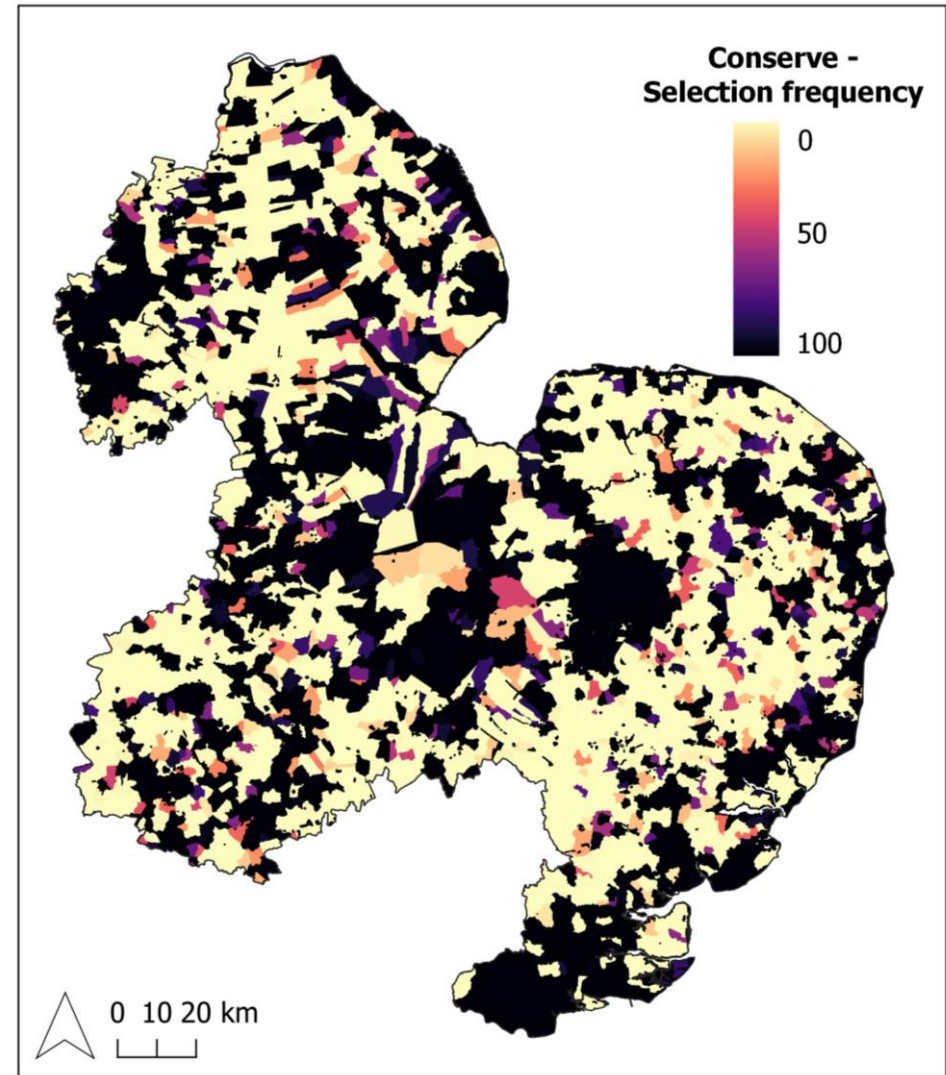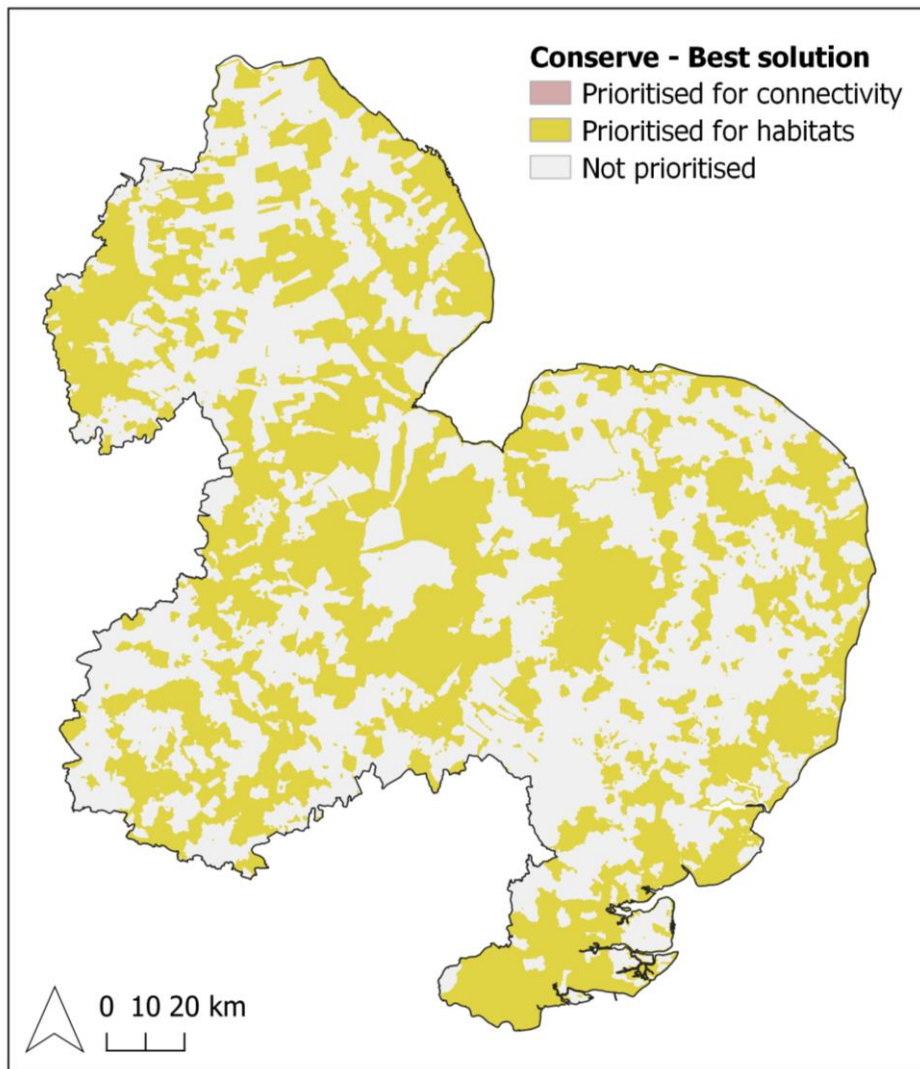
Restore

Establish

The Process

Your projects → Objectives and actions → Targets → Review the prioritisation
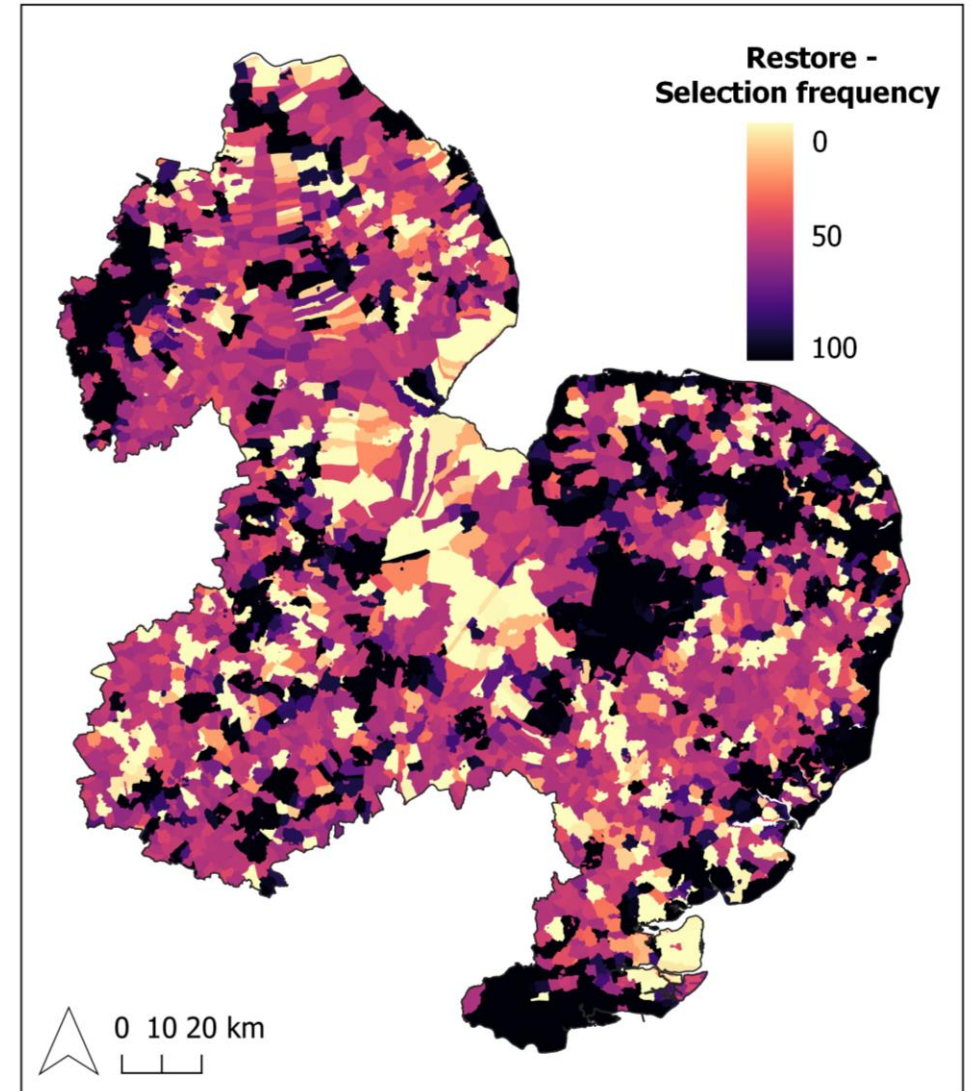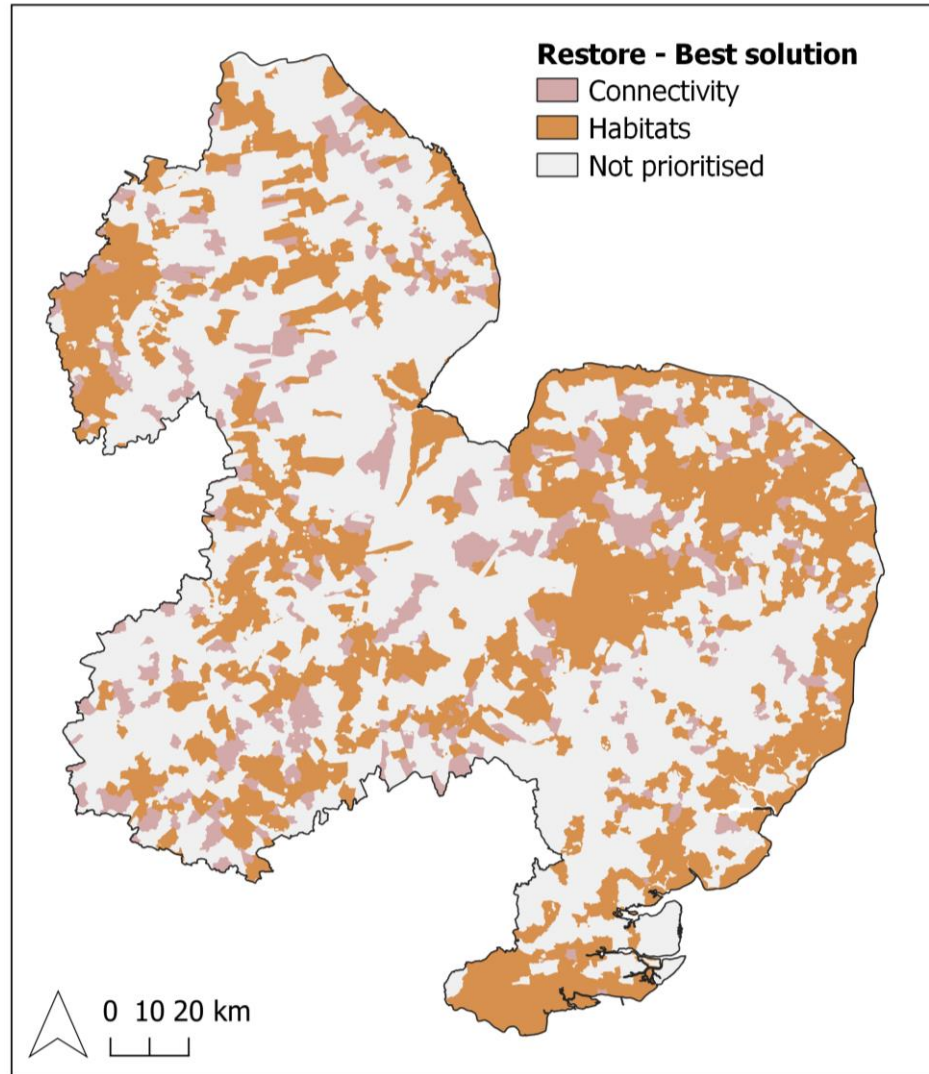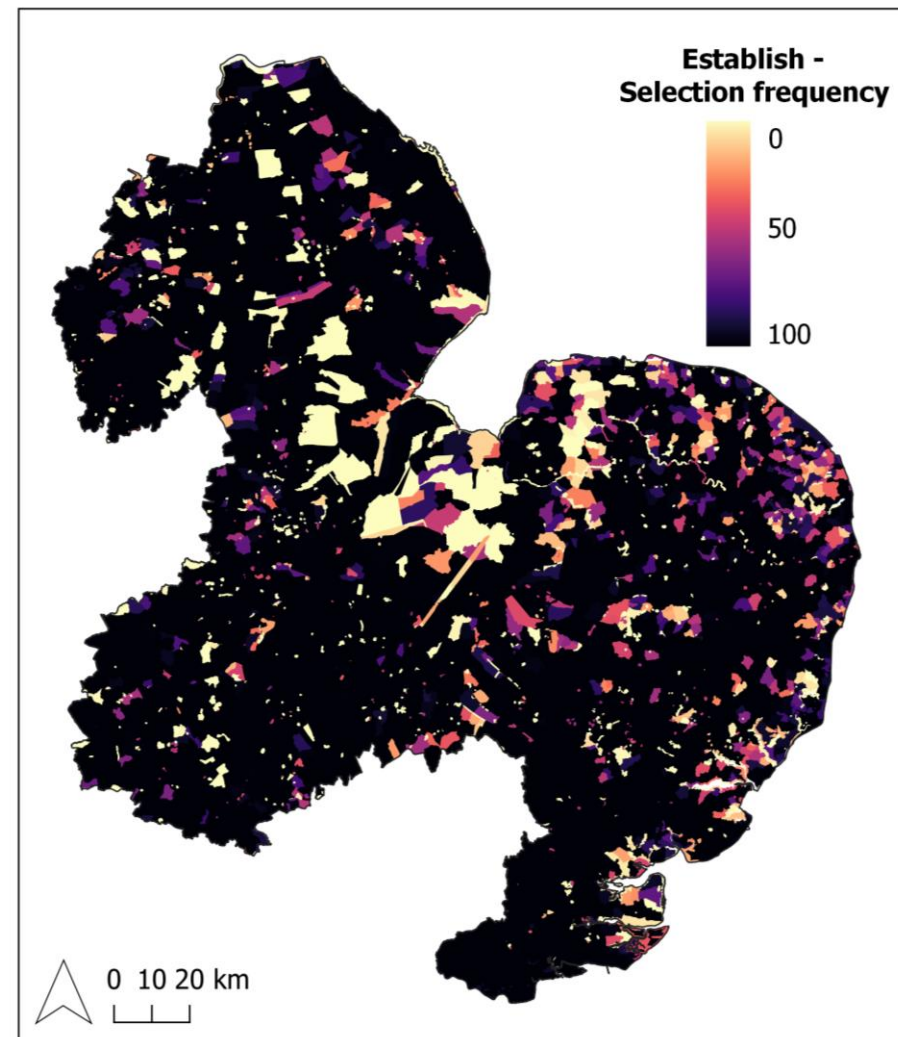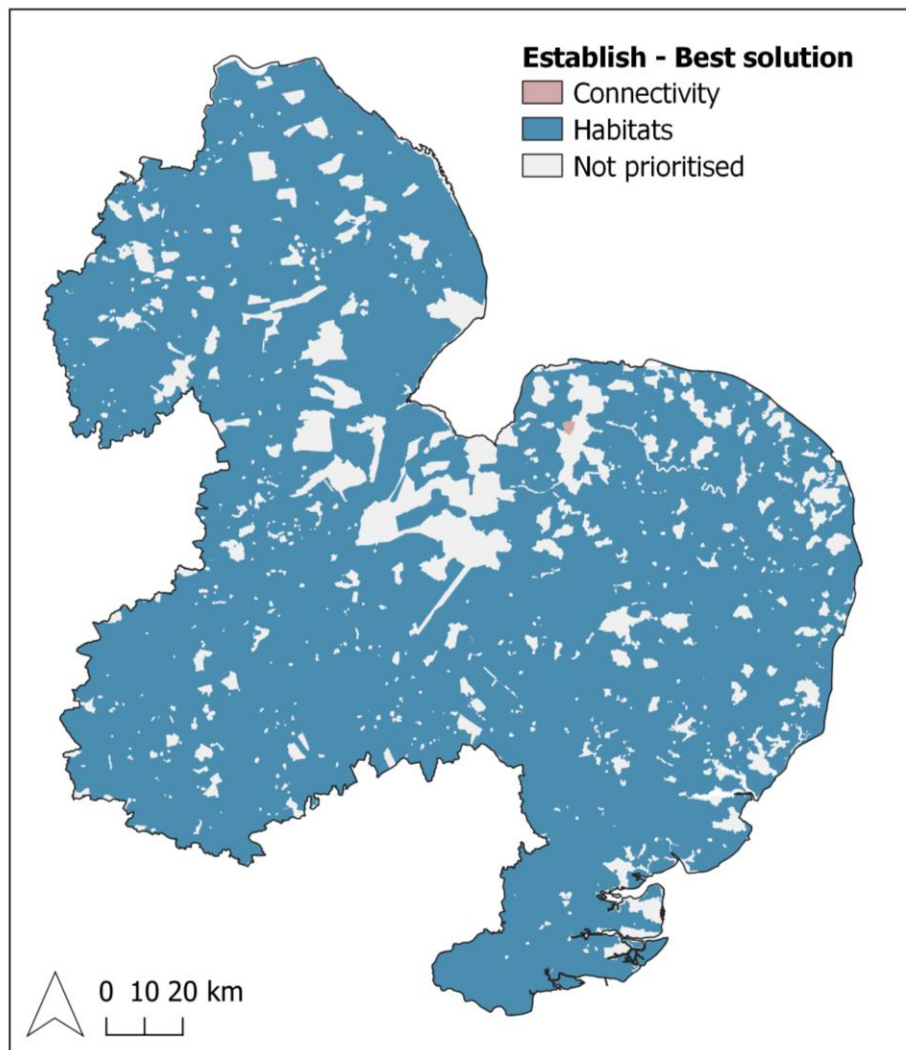
SCP is inherently iterative
Each iteration helps people understand their area

SCP does not make decisions, it illustrates consequences
The maps help bring the choices to life

These iterations also allow stakeholders to groundtruth the results
They can examine areas they know and provide feedback

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An example from Buckinghamshire
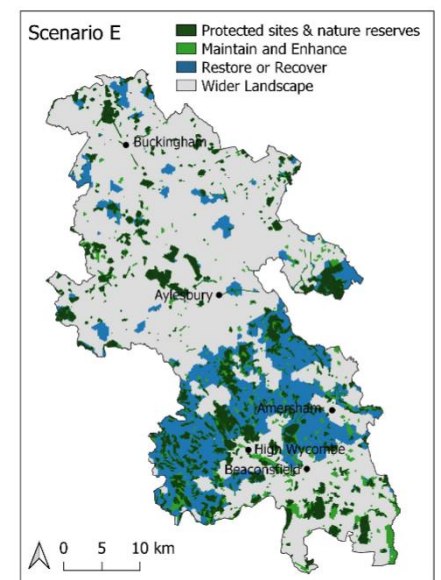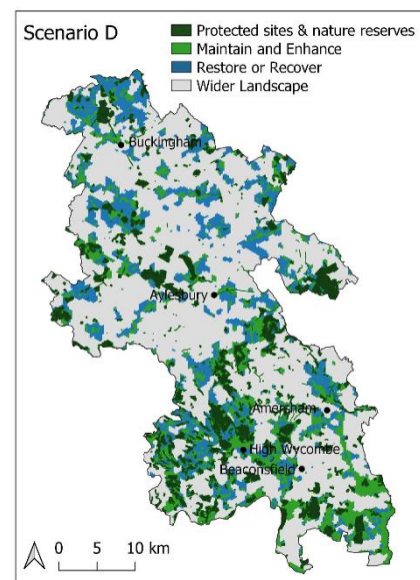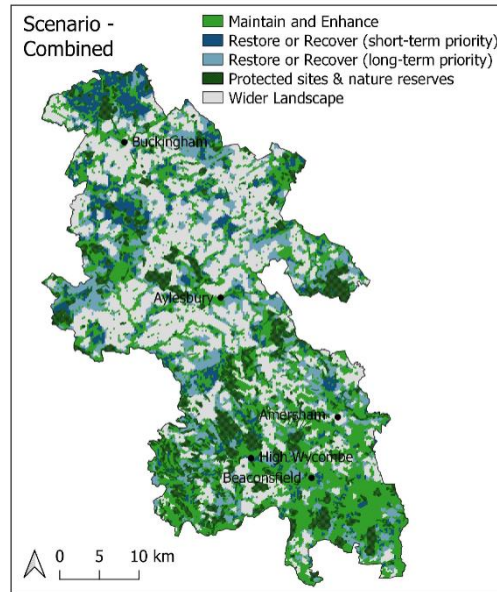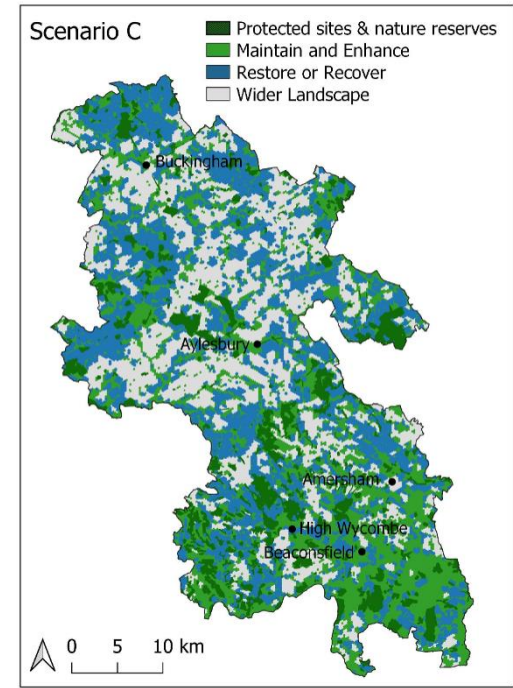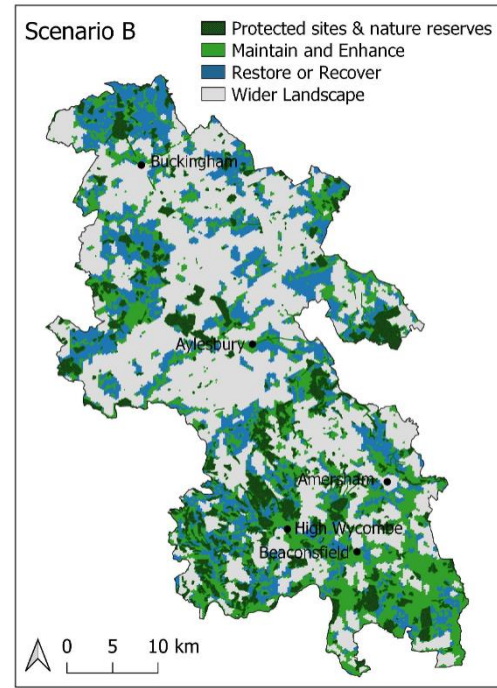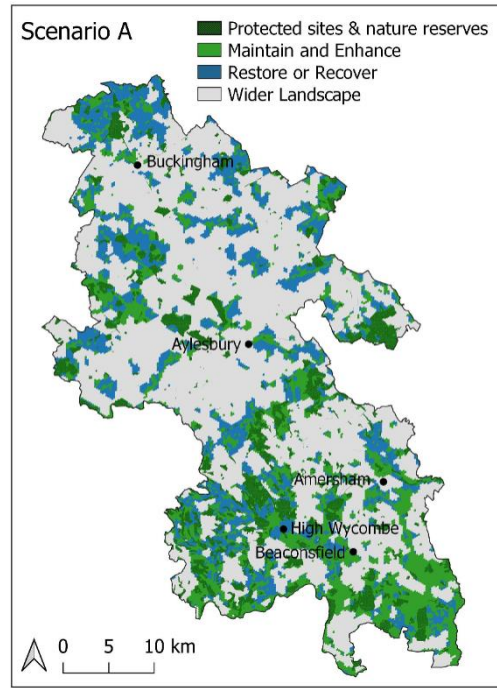
Establishing a Shared Vision for the Landscape
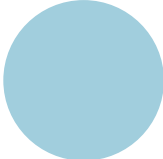
SCP is about articulating what everyone wants from or for nature in their area
Clean plentiful water, drought and flood resistance, climate adaptation, carbon storage etc
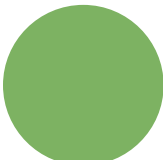
This should be about benefitting both nature and other aspects of society
 The plan should identify opportunities for green growth
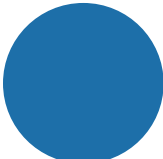
SCP promotes cost effective action
The analysis looks for synergies and decreases the impact on agriculture
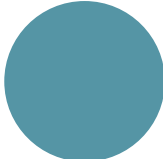
This can be used to inform a range of decisions
Where to avoid development, focus net gain, expand wetlands for water benefits

Decision Support

SCP has a range of applications

Natural Capital Investment
Directing blended finance to deliver cost effective returns

Biodiversity Net Gain
Strategic decision support for development decisions

Guiding Delivery Partners
Clear direction for on-the-ground action

Water Resource Management
Making decision which maximise benefits for nature

Local Nat Recovery Strategies
A key component of the Environment Act

Supporting Local Action
Facilitating action at the landowner or parish level

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Natural Capital Investment
Directing blended finance to deliver cost effective returns
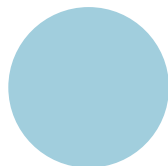
SCP is perfectly suited to direct investment at scale
The plan identifies where natural capital action can cost effectively deliver targets
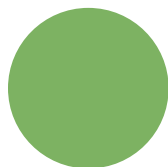
The analysis can be easily rerun to suit investor needs
Such as focusing on specific services or actions (e.g. BNG, water, carbon)
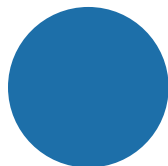
This allows us to provide bespoke decision support
The outputs can be adapted to suit the individual context
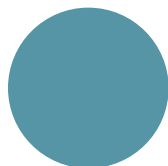
Potentially the most important contribution is cost effectiveness
The analysis helps maximise return on investment
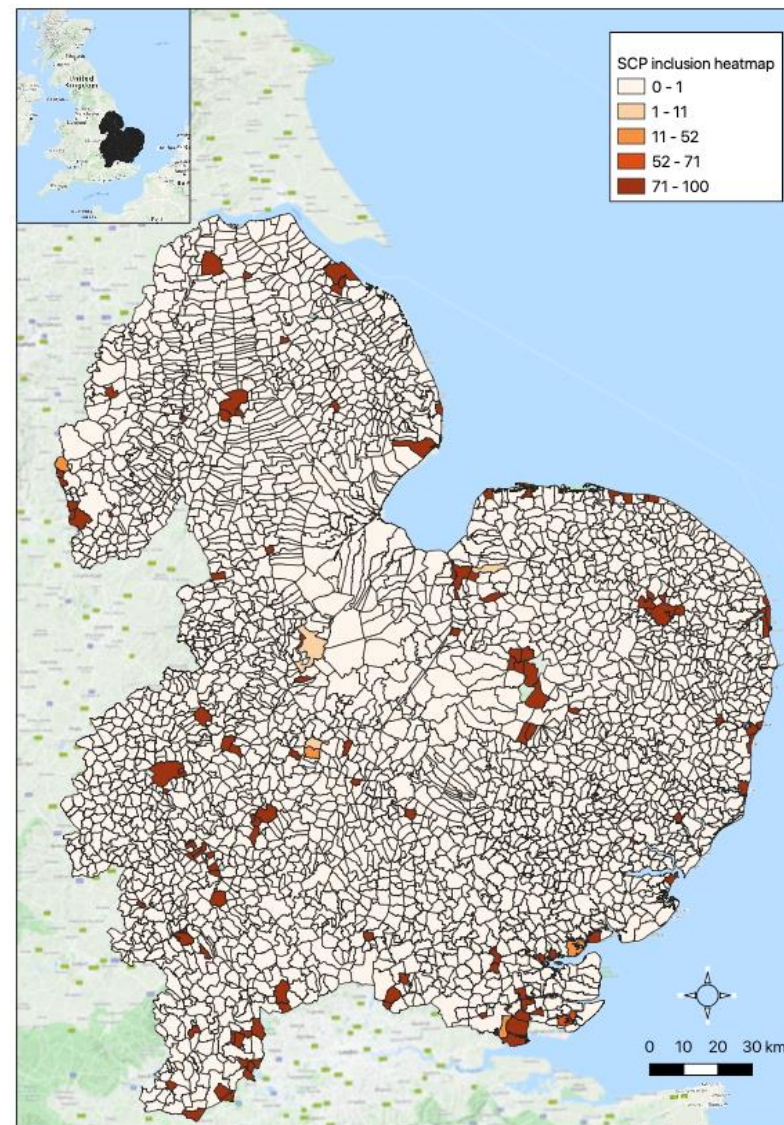
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Natural Capital Investment
Directing blended finance to deliver cost effective returns

We used SCP to identify how to cost effectively create 10,000 ha of woodland

We set two objectives, reduce flooding and expand priority habitat

We compared SCP to two other scenarios:

1. Planting trees on low quality farmland
2. Random – A proxy for an ad hoc approach

SCP inclusion heatmap
- 0 - 1
- 1 - 11
- 11 - 52
- 52 - 71
- 71 - 100

0 10 20 30 km

Natural Capital Investment
Directing blended finance to deliver cost effective returns

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1. Planting trees on low quality farmland
2. Random – A proxy for an ad hoc approach

Approach	Cost
SCP	£2.5 Million PA
Plant on low quality farmland	£4.5 Million PA
Ad hoc	£5 Million PA

Guiding Delivery Partners
Clear direction for on-the-ground action
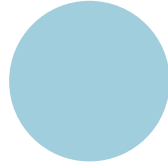
The same analysis can then be used to give delivery partners clear guidance
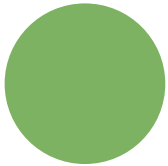
For any given footprint the opportunity and relative importance can be easily calculated
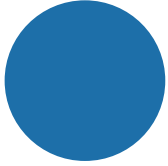
This allows a delivery partner to make rapid yet informed decisions

Habitat	Ha to restore
Fens for Future (restoration sites)	40.51
Statutory Main Rivers	1.44
Lowland Fens	0.24

Habitat	Ha to establish
Priority Woodland	5.81
Floodplain Woodland Potential	41.59
Riparian Woodland Potential	48.69
Reedbeds	10.64
Lowland Fens	0.34
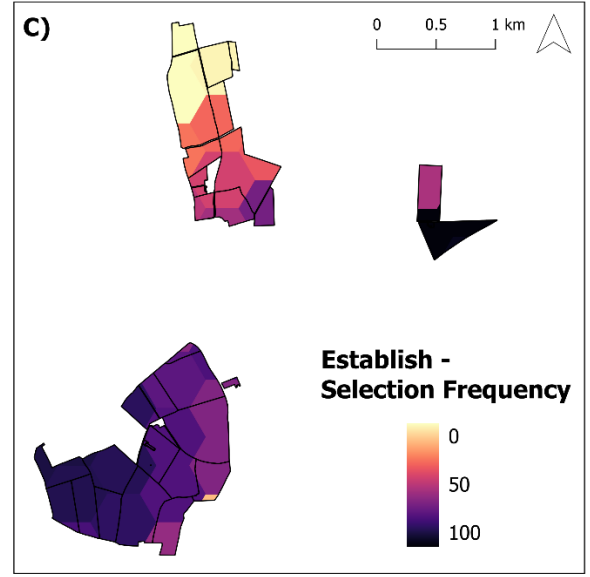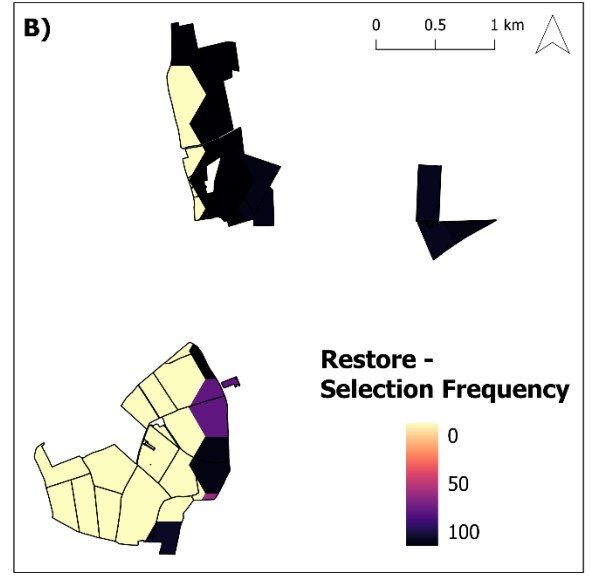
B) Restore - Selection Frequency
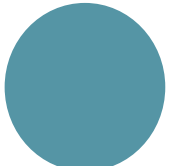

C) Establish - Selection Frequency
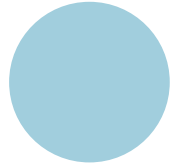
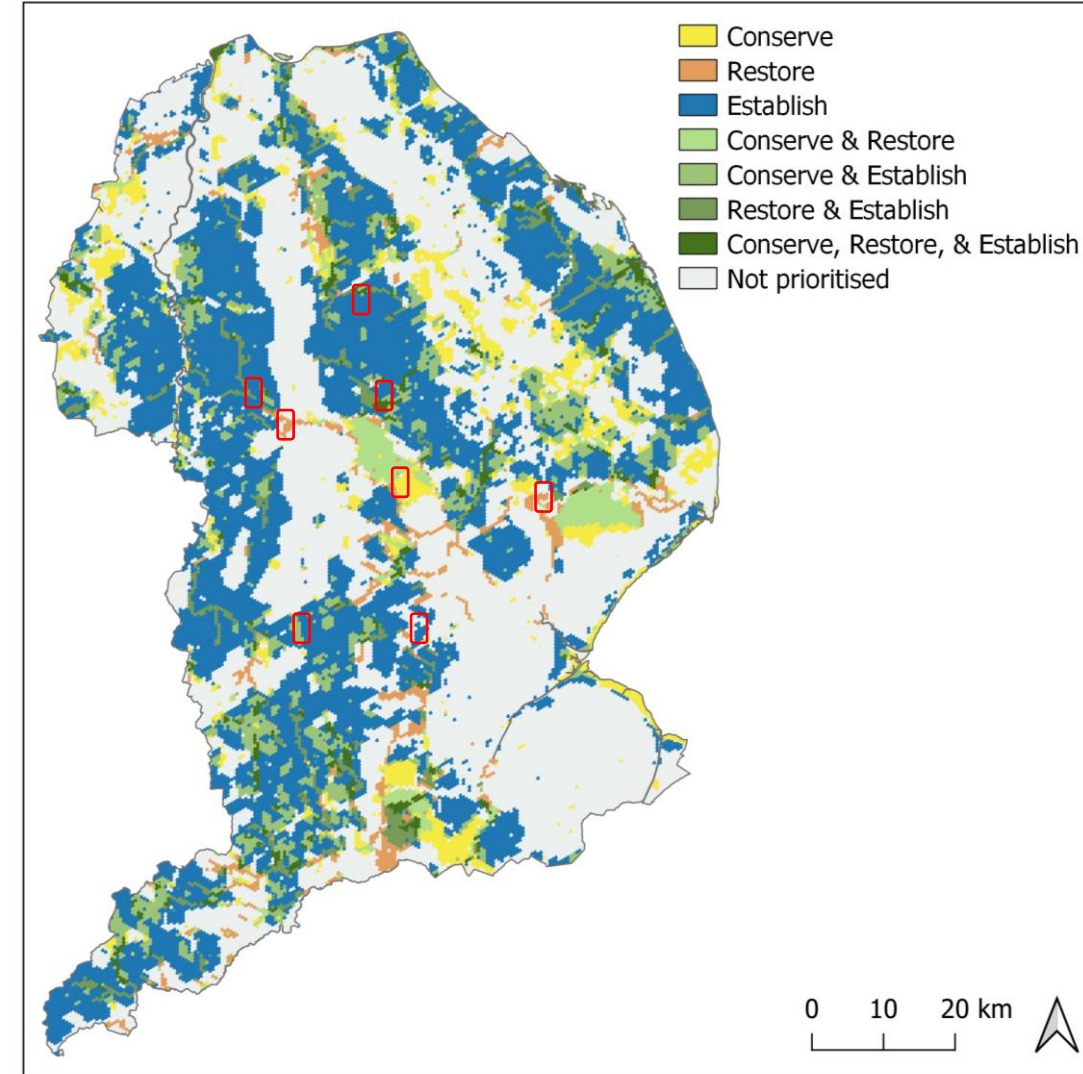**SCP can bring these two aspects together into a single process**

Once potential sites for natural capital action have been identified, the analysis can select the optimal portfolio and guide negotiation
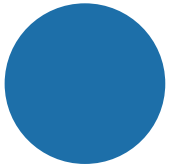
As sites are agreed, the analysis can be rerun to identify shifting priorities

This supports and coordinates decisions at different scales using the same core analysis

Legend:
- Conserve
- Restore
- Establish
- Conserve & Restore
- Conserve & Establish
- Restore & Establish
- Conserve, Restore, & Establish
- Not prioritised

0   10   20 km

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Biodiversity Net Gain
Robust decision support for development decisions

SCP has been used to guide site and design decisions for the South Lincs Reservoir

Impact and opportunity scores are easily calculated using the Defra Metric

Uniquely, these take the wider landscape system into account

This provides developers with rapid feedback on design options and identifies the smoothest route to biodiversity net gain
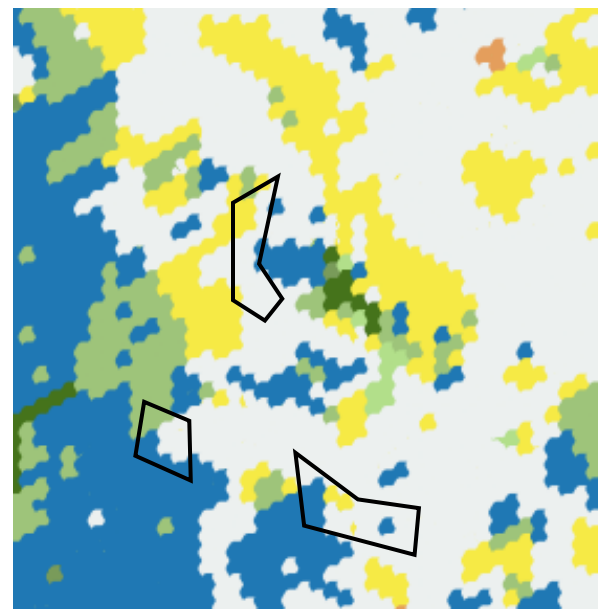
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Overall Impact Score

These scores were then combined to produce an overall impact score

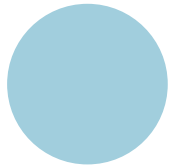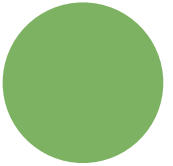Each site received a score between 1 and 100

Local Habitat Impact

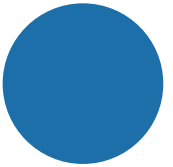Designated Site Impact

Landscape Impact

Local Impact Score

Overall Impact Score

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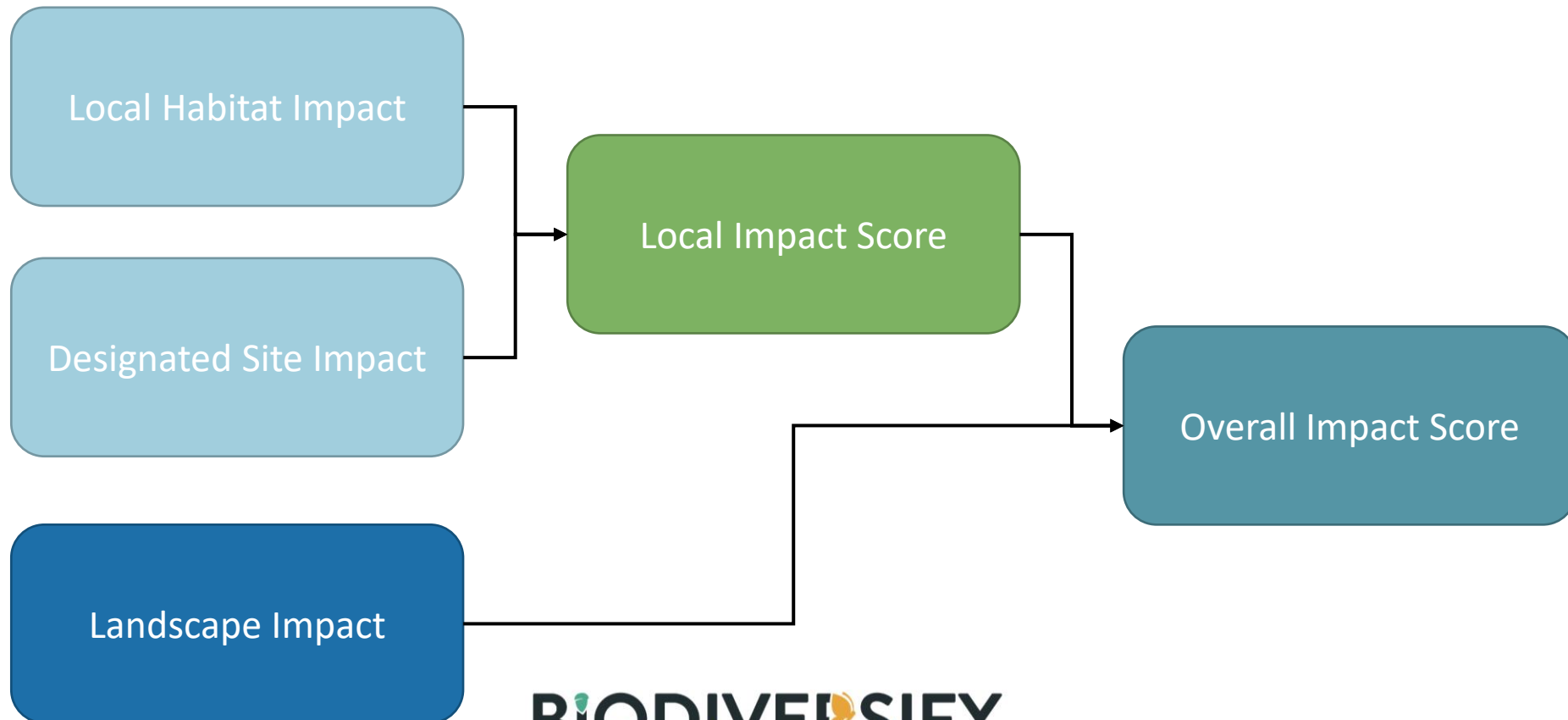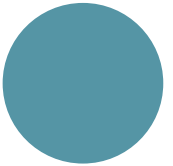
Overall Opportunity Score
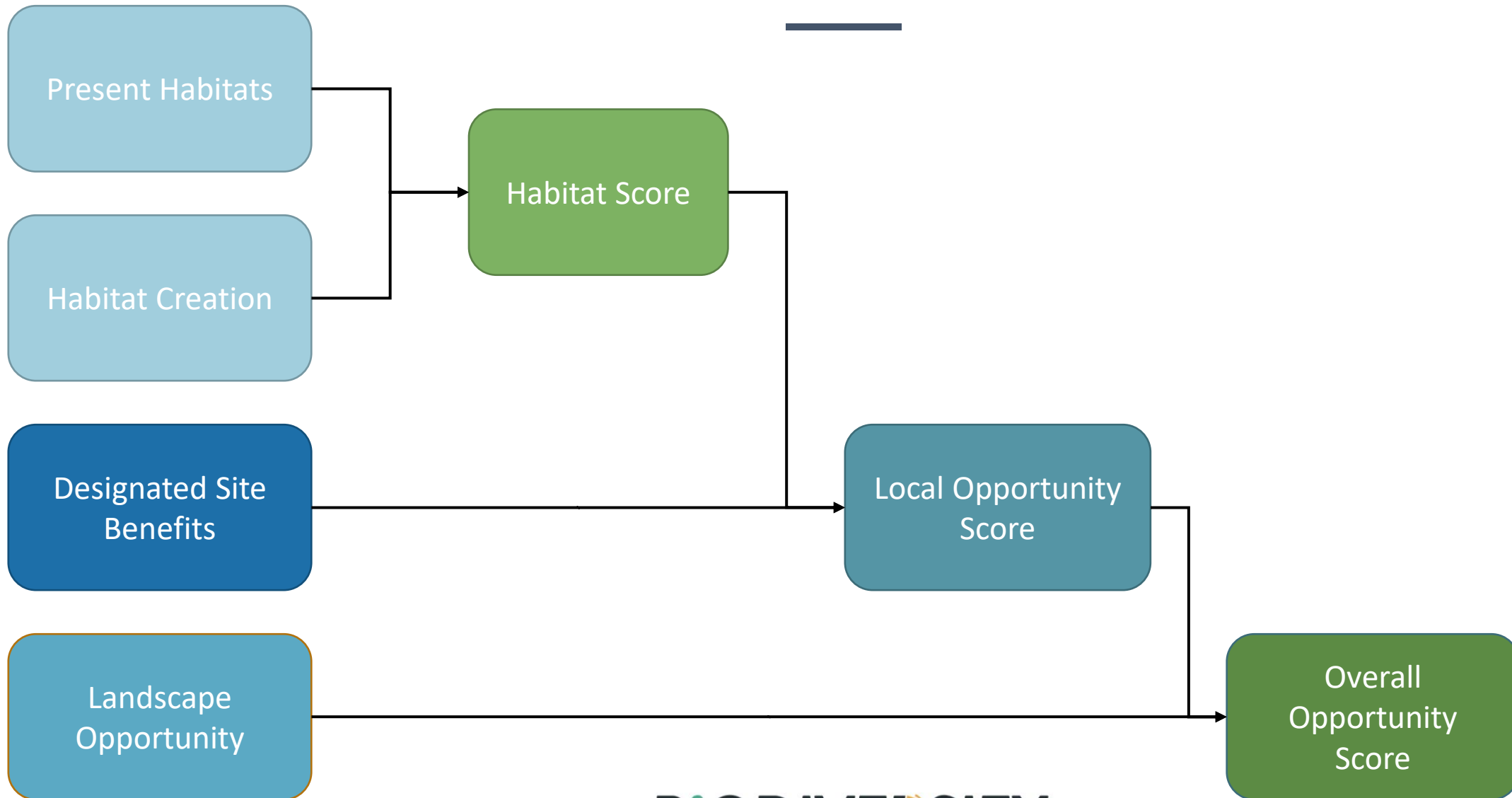
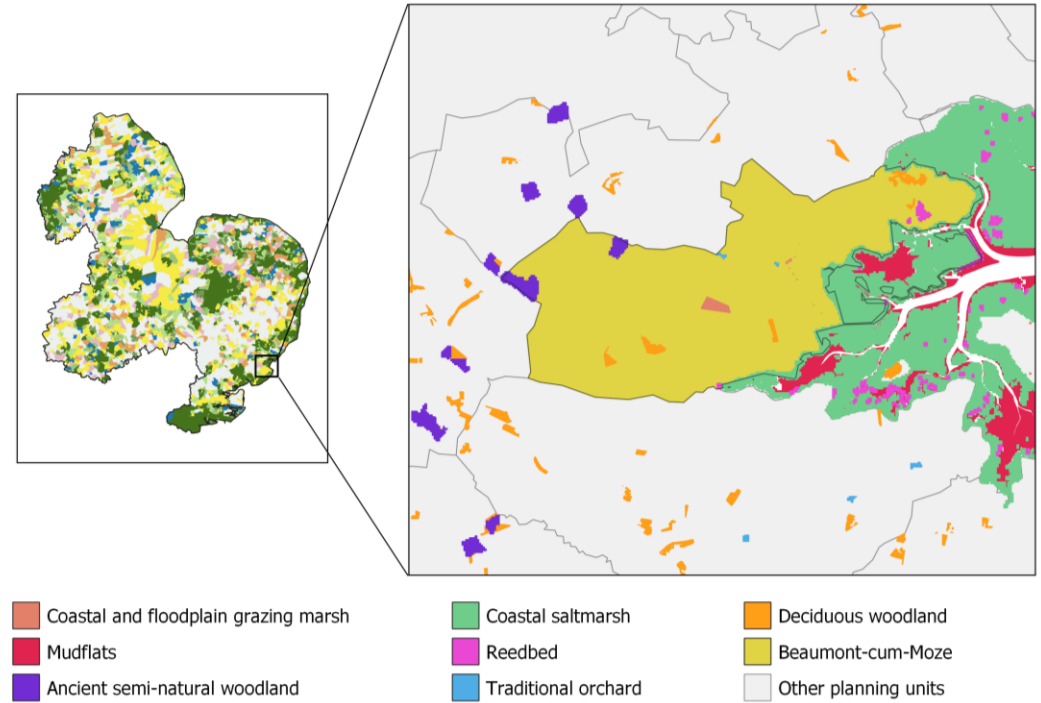The same analysis can then be used to give delivery partners clear guidance

For any given footprint the opportunity and relative importance can be easily calculated

This allows a delivery partner to make rapid yet informed decisions

The local context can also be easily provided to support detailed estate planning

Coastal and floodplain grazing marsh
Mudflats
Ancient semi-natural woodland
Coastal saltmarsh
Reedbed
Traditional orchard
Deciduous woodland
Beaumont-cum-Moze
Other planning units

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SCP formed a key part of the LNRS Pilots

The process can be readily repeated to provide regulatory compliant strategies

The underpinning analyses can support SCP led decisions as they become available

This ensures all investment and BNG takes the LNRS into consideration as appropriate

Scenario B - Version 2
- Sites designated for nature conservation
- Wider landscape
- Conserve & Enhance
- Restore & Create
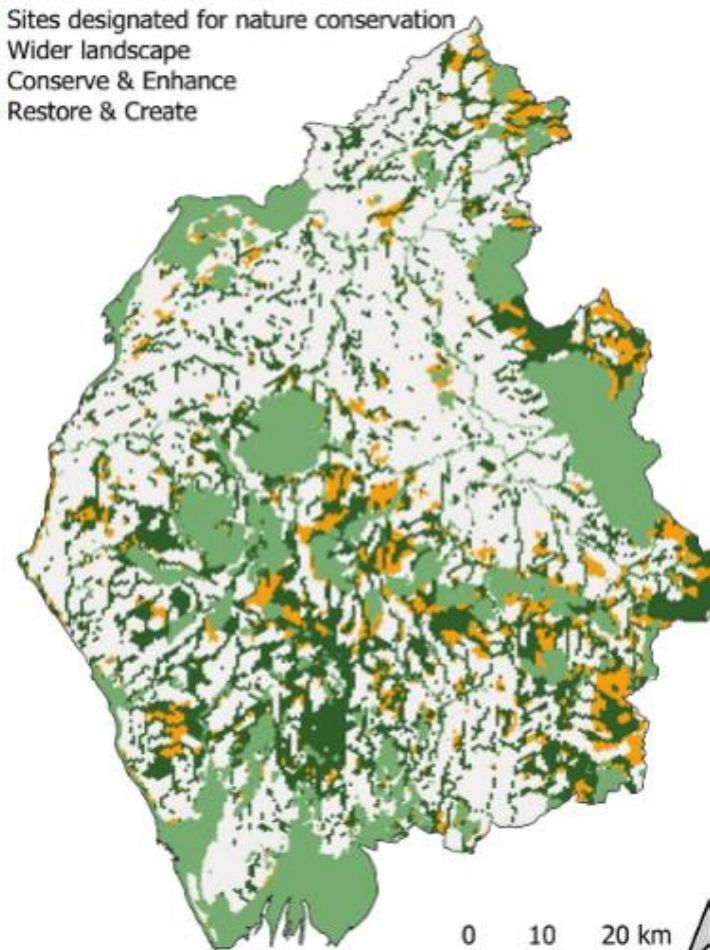
0   10   20 km

The key strength is integration

Each component supports the others

Natural Capital Investment
Directing blended finance to deliver cost effective returns

Biodiversity Net Gain
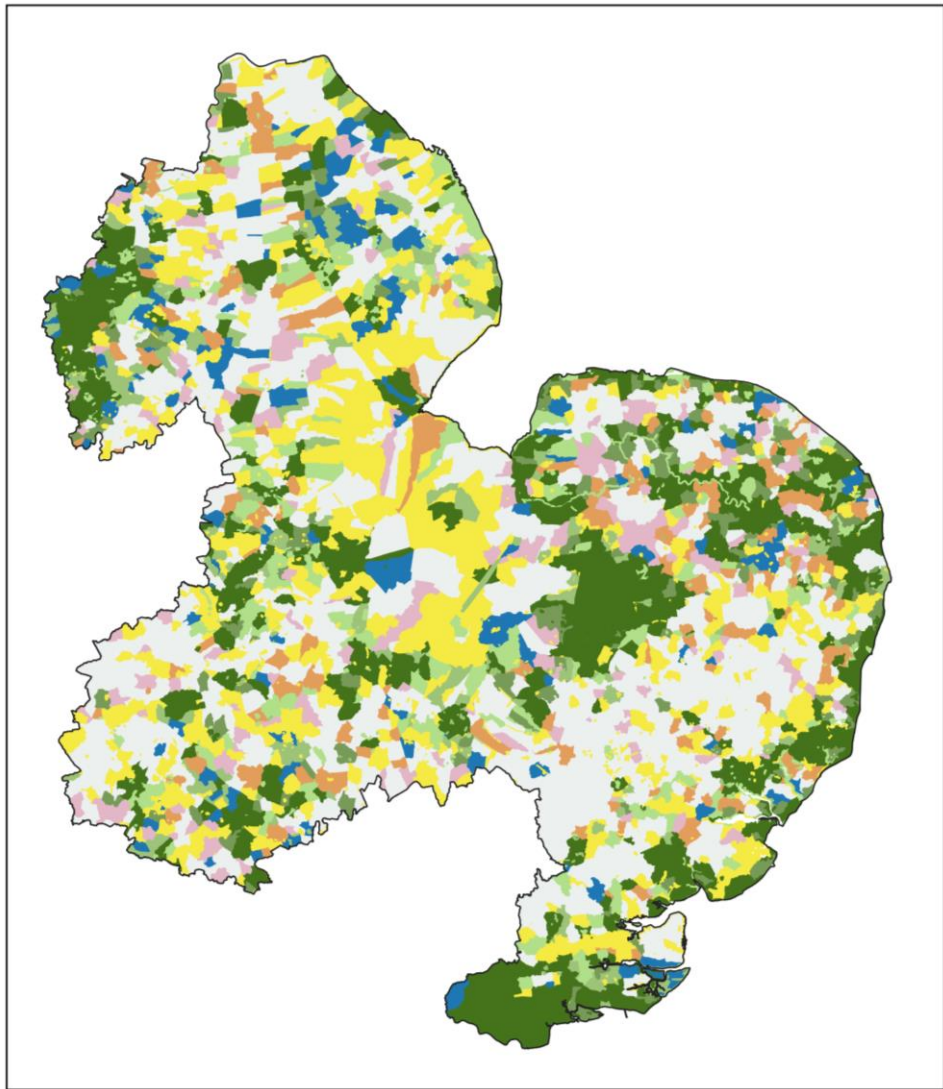Strategic decision support for development decisions

Guiding Delivery Partners
Clear direction for on-the-ground action

Water Resource Management
Making decision which maximise benefits for nature

Local Nat Recovery Strategies
A key component of the Environment Act

Supporting Local Action
Facilitating action at the landowner or parish level

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Thank you!

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