

Green Transport Corridors NEWP 32

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Project Aims



Ecological connectivity and ecosystem services

Transport infrastructure resilience

Win win opportunities



Network Rail + Highways Agency Challenges



A Partnership Project Involving



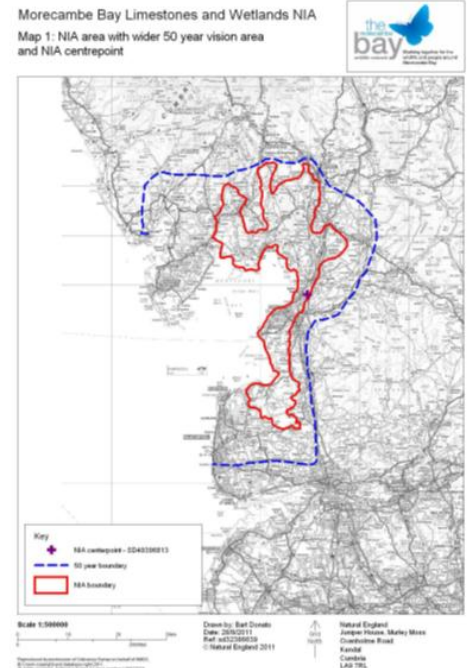
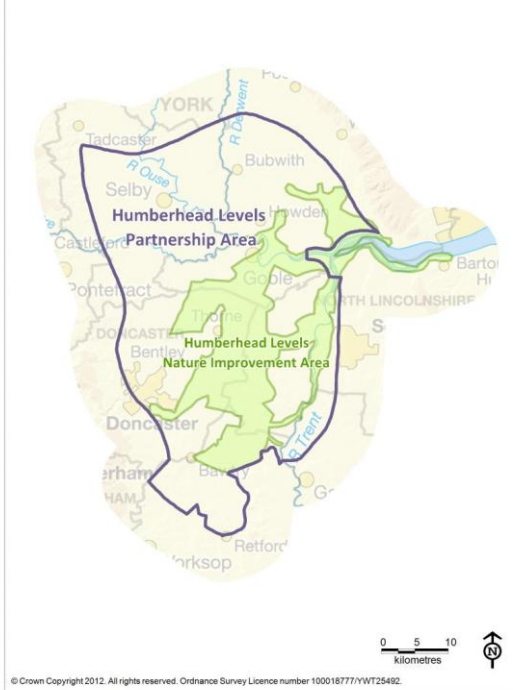
**Humberhead Levels
NIA Partnership**

**Morecambe Bay
Limestones & Wetlands
NIA Partnership**



NIA Focus

- Strategic areas for piloting new approaches
- Mix of road, rail and waterway infrastructure, plus urban and rural mix
- Already a focus for activity around ecosystem services, biodiversity enhancement, climate change and natural capital



Project Phases

- ***Phase 1: 2013-Dec 2014***

- International literature review
- Opportunity mapping methodology, consultation, management option development and opportunity map production

- ***Phase 2: Jan 2015-2017***

- Trial management
- Impact on network resilience, biodiversity and ecosystem services

Phase 1: International Literature Review



Phase 1: Literature Review – Key Findings/Recommendations



- Potential win-wins for the natural environment, people and the economy
- Inter-dependent relationship between transport and the natural environment.
- Soft estate can mitigate transport impacts and provide other services.
- The benefits/challenges vary across ecosystems services and management should be informed by these.



Phase 1: Consultation + Opportunity Mapping

Aim:

To identify opportunity areas on the soft estate for trialling new management approaches in 2 Nature Improvement Areas (NIAs)

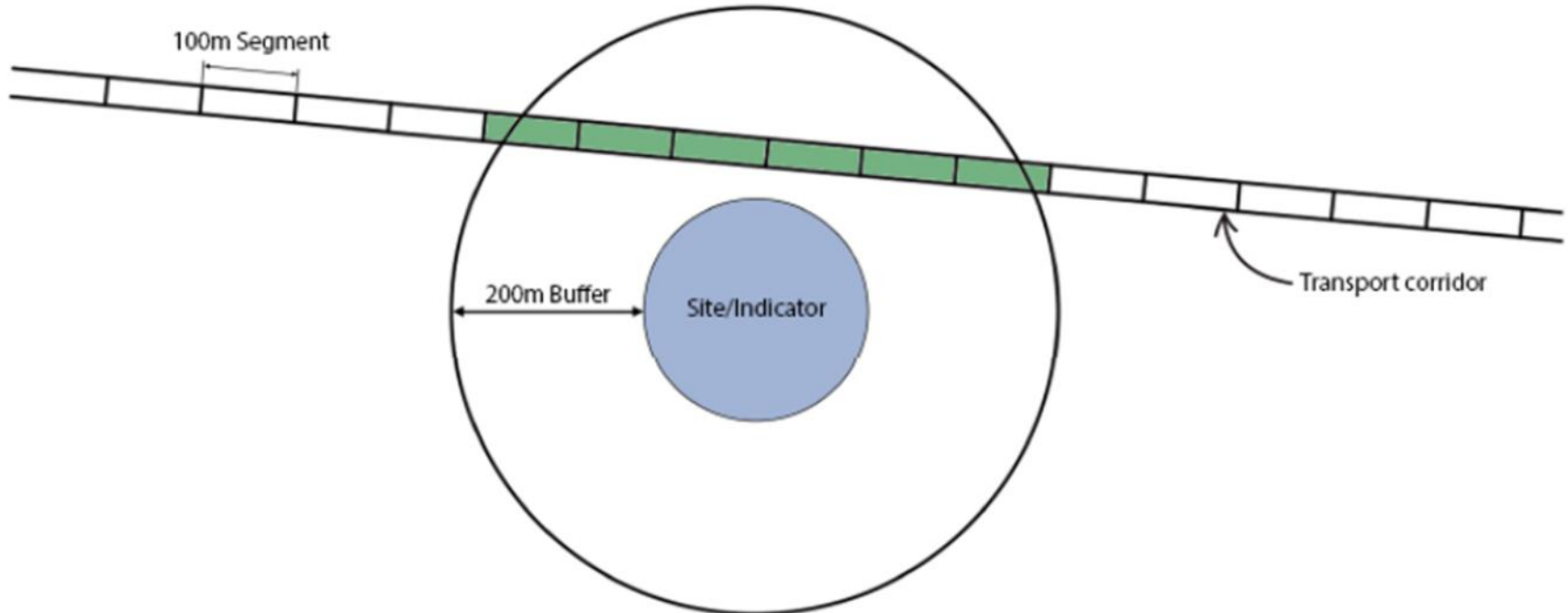
Novel Feature

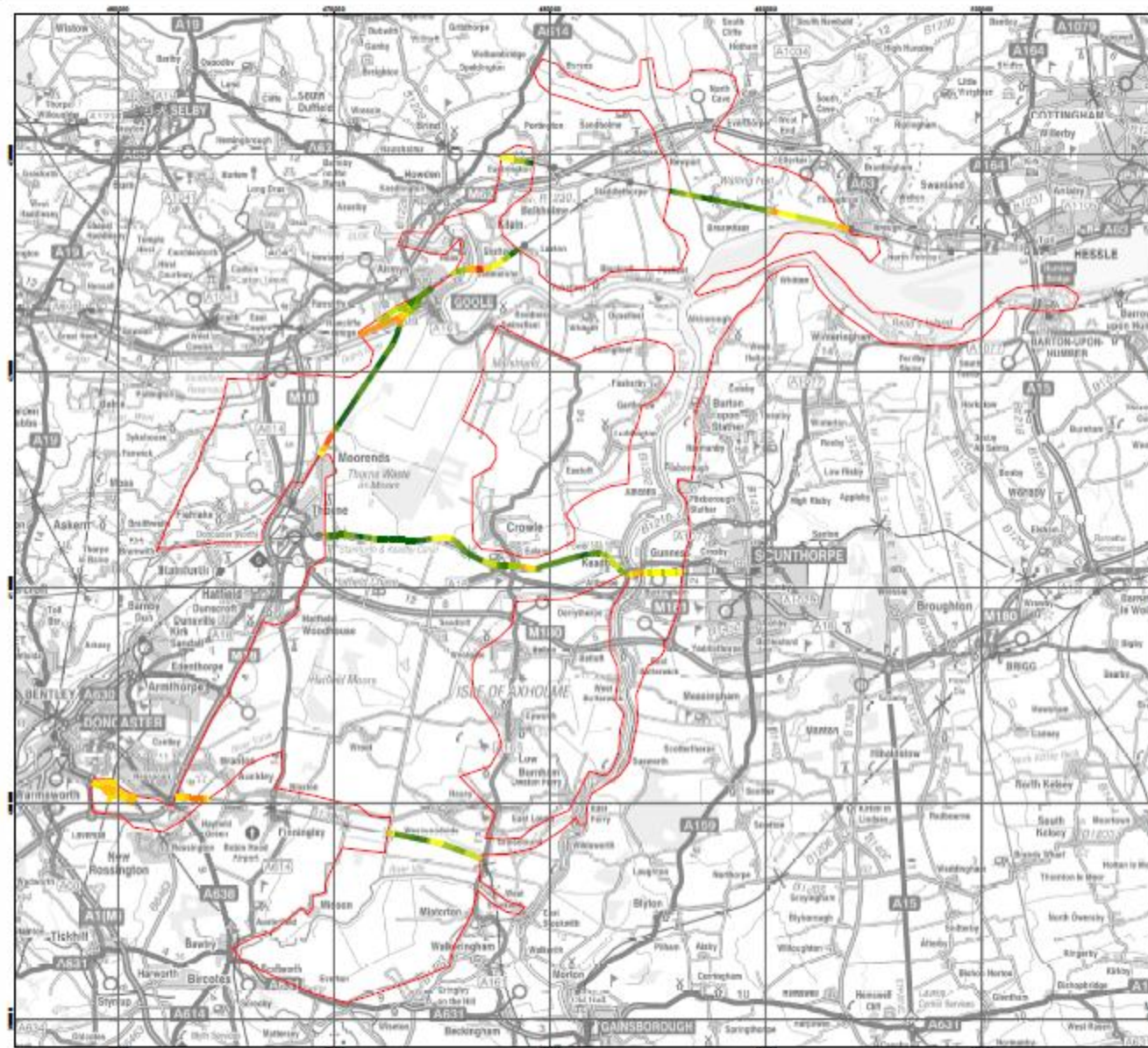
The Importance of looking over the fence



Phase 1: Opportunity Mapping

- Identified all priority habitats and ecosystem services habitats within 200m buffer
- Each 100m section of road or track was scored for priority habitat and ecosystem services





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Appendix 5a

Strategic Mapping - Hotspots
Humberhead Levels NIA
Network Rail

☐ Humberhead Levels NIA

Proximity score for biodiversity, ecosystem services and network resilience indicators (revealing potential for opportunity)



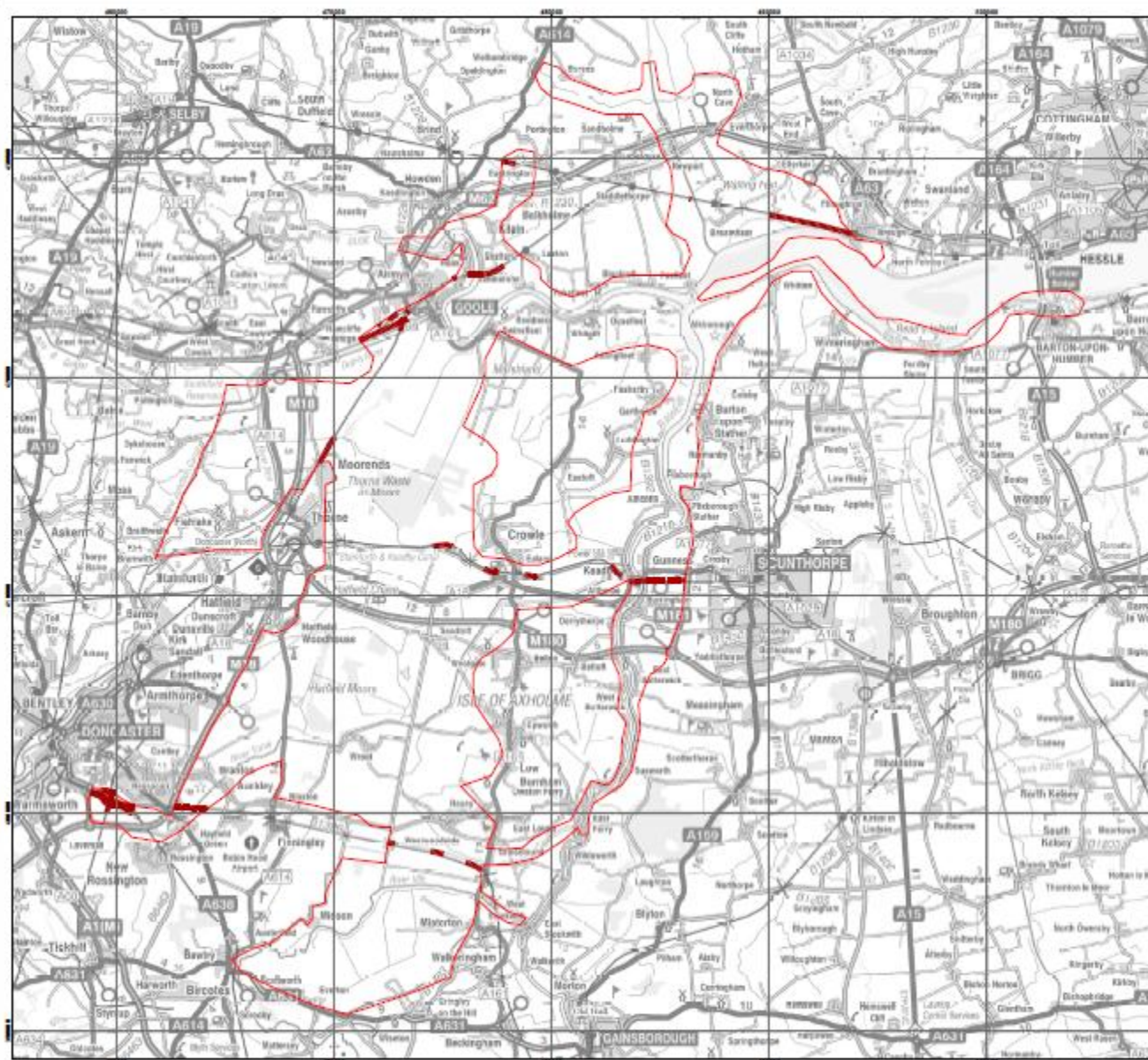
Drawn by B. Hockridge 11/06/2014. Verified by M. Franzen 11/06/2014





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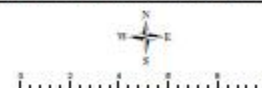


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Appendix 6a

Strategic Mapping - Opportunity Areas
Humberhead Levels NIA
Network Rail

 Humberhead Levels NIA
 Opportunity area

Drawn by B. Hockridge 11/06/2014, Verified by M. Frandeen 11/06/2014



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Management Options



Grassland



Grassland



Biodiversity benefits	Ecosystem Service Benefits	Infrastructure resilience benefits	But consider...
Connectivity between grasslands	Pollination	Enhanced safety – reduced tree and leaf fall	Specific species eg bats, barn owls
Mosaic approach	Biomass/wood fuel	Cost effective – reduced line closure costs	Priority/ancient woodland
Grassland species	Cultural service – opens up views - reduced driver stress	Potential to reduce accidents due to wildlife	No net loss of woodland

Woodland/Scrub



Woodland/Scrub



Biodiversity benefits	Ecosystem Service Benefits	Infrastructure resilience benefits	But consider...
Woodland/scrub species	Air quality regulation	Bank stability in some locations	Tree and leaf fall
Buffering surrounding woodland	Carbon sequestration	Cooling/shading – service stations, railway stations	
Mosaic approach with increasing vegetation height at increasing distance	Cultural services – noise and visual screening	Reduce trespass	
	Water regulation	Windbreak if at safe distance	

Wetland



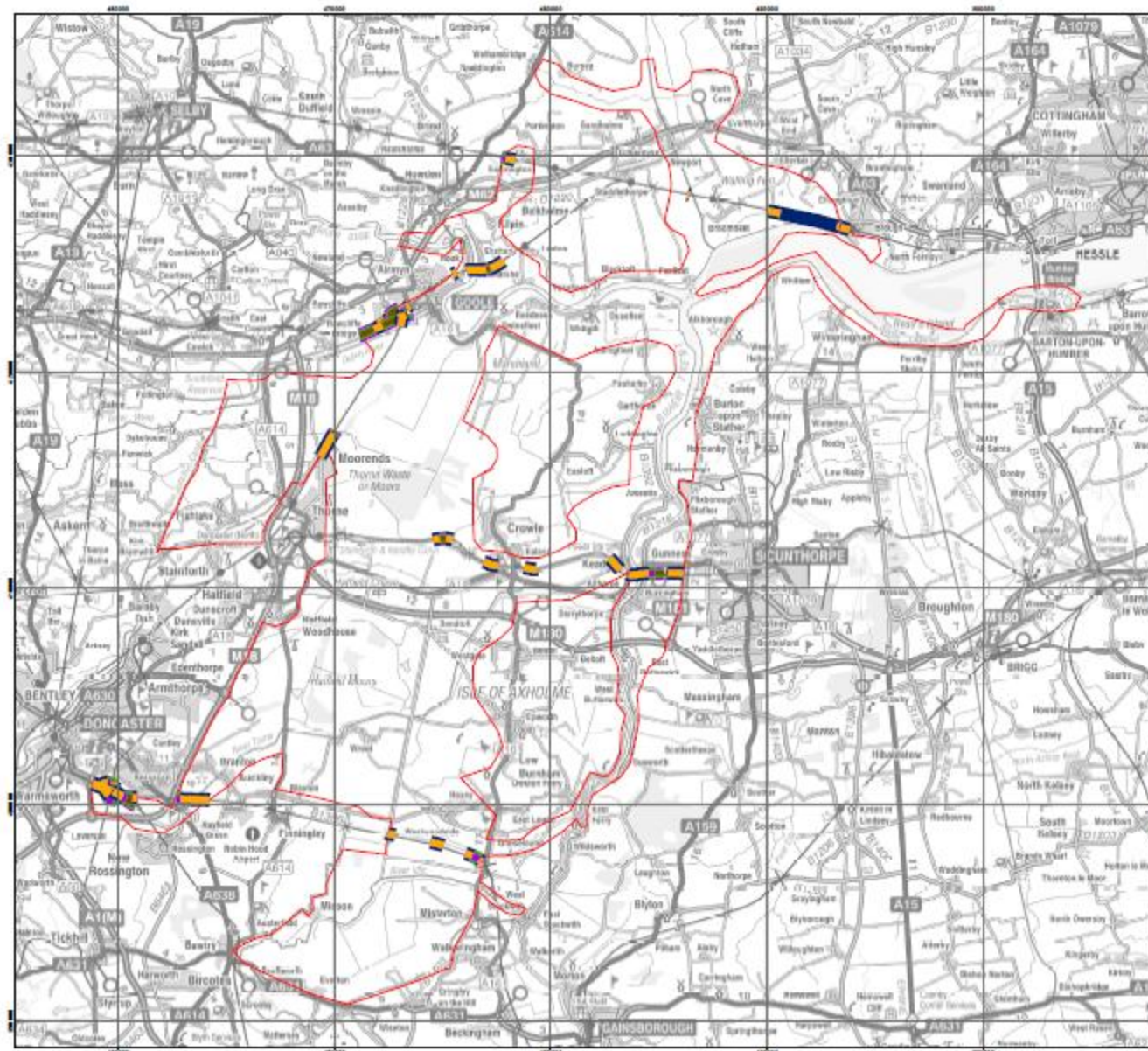
Wetland



Biodiversity benefits	Ecosystem Service Benefits	Infrastructure resilience benefits	But consider ...
Wetland species	Water quality regulation	Reduced flood risk	Soft estate or adjacent land
Buffering/connectivity with other wetland habitats	Water management		Maintenance
Habitat creation	Carbon sequestration		

Win-Wins





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Appendix 7a

Strategic Mapping - Management Options Humberhead Levels NIA Network Rail

Humberhead Levels NIA

Management options for soft
estate $\geq 50\%$ woodland

Option A

Woodland: buffer contains woodland PH
and/or woodland ES habitats

Option B

Wetland: buffer contains wetland PH
and/or water management ES habitats

Option C

Grassland: buffer contains grassland PH or
non woodland/wetland PH and/or pollinating
ES habitats

Management options for soft
estate $< 50\%$ woodland

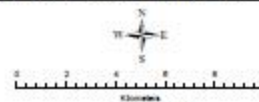
Option D

Wetland: buffer contains wetland PH
and/or water management ES habitats

Option E

Grassland: buffer contains grassland/
woodland PH or other wetland PH and/or
pollinating ES habitats

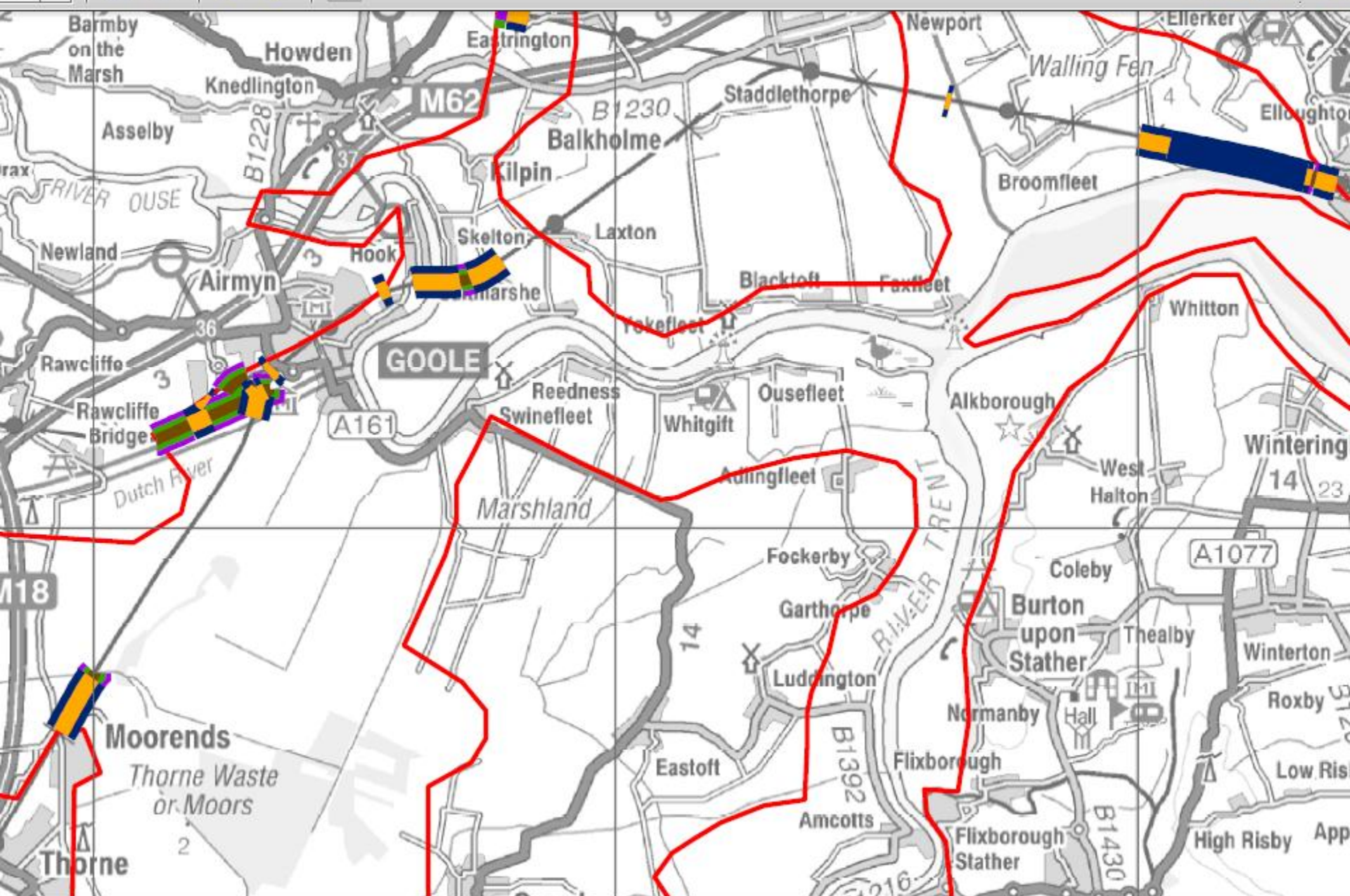
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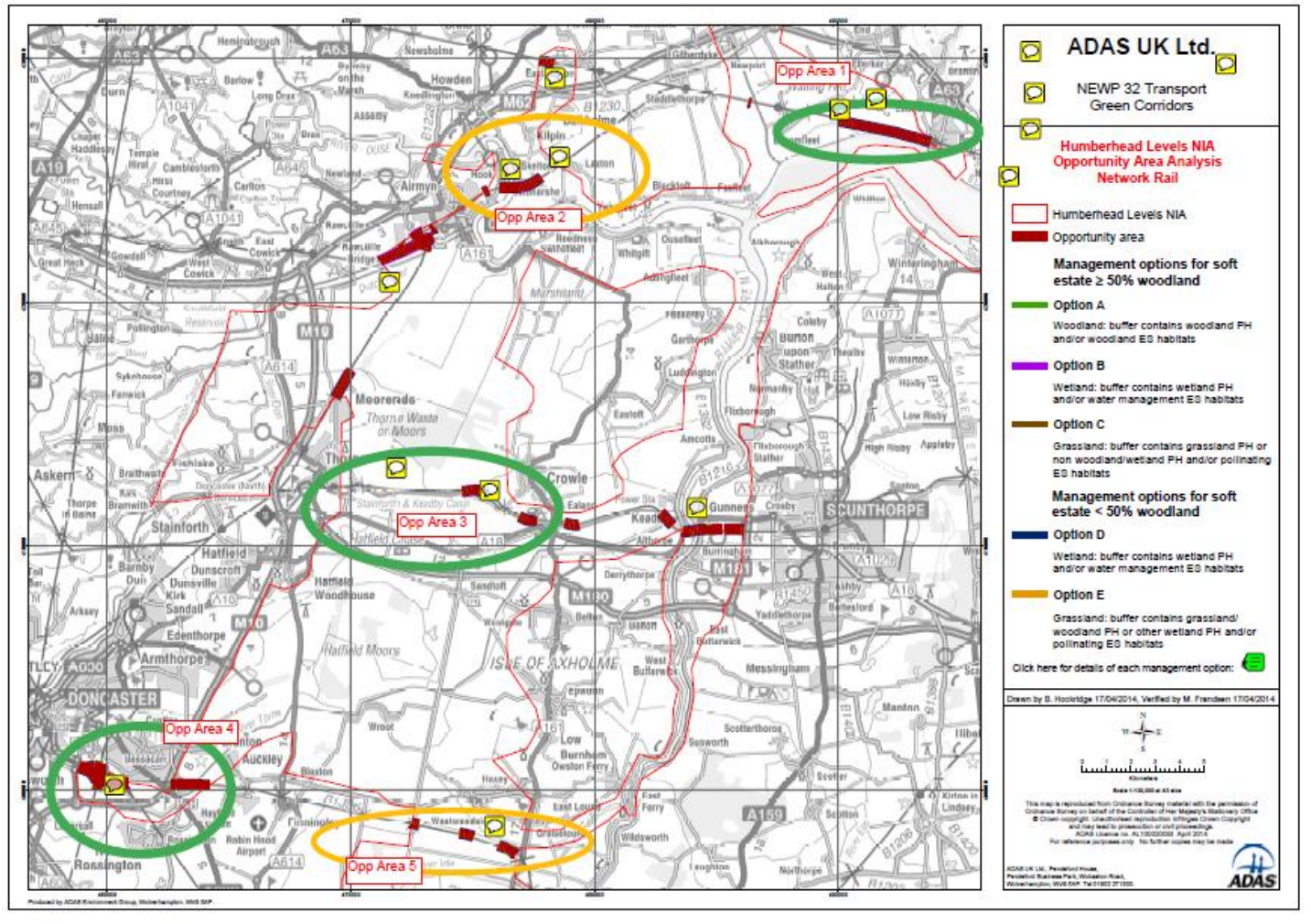
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Phase 1: Opportunity Areas Identified



Ecosystem Services focus



Strategic
Collaborative

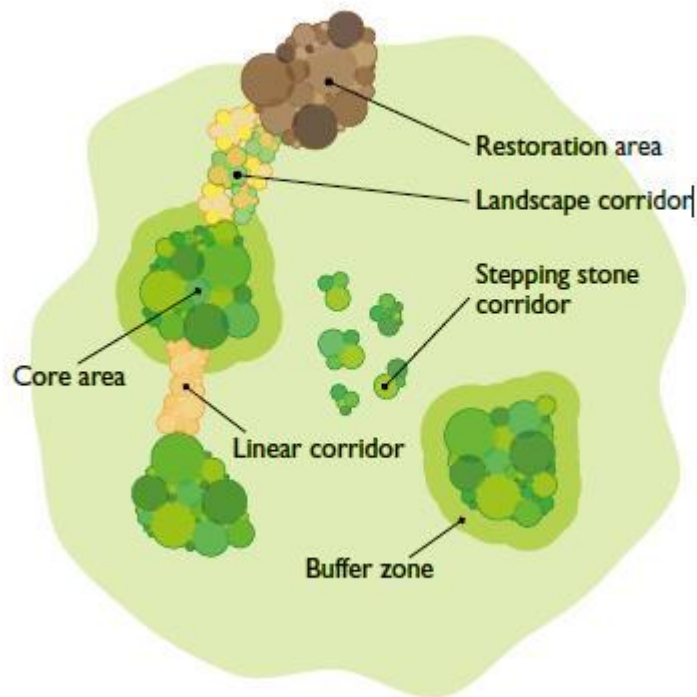
Phase 2: 2015-2017

- Trial management in up to 6 opportunity areas in each NIA to ground-truth
- Shape & refine decision-making and management tools for transport soft estate staff
- Inform roll-out of the approach across the wider transport soft estate network

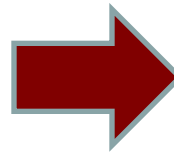


Why Engage with NR/HA?

The components of ecological networks



Why Engage With NIAs?



Project Impact to Date

- Secured **£3-4m delivery commitments** from Network Rail and Highways Agency in the 2 NIAs for 2015-2017
- Informed and influenced the Roads Investment Strategy **£300million environment fund with NIAs identified as target areas for biodiversity interventions**
- Attracting **wider interest** from environmental and transport sectors

'This project will make these areas better than ever, helping our vital pollinators by providing a home and food for them to thrive, as well as improving the weather resilience of our transport infrastructure which will boost our economy'

SoS – Liz Truss Dec '14