Connectivity conservation scenarios for Cambridgeshire Fens and associated habitats

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Cambridge Conservation Forum

THE CENTER FOR LARGE LANDSCAPE CONSERVATION

IUCN WCPA WORLD COMMISSION ON PROTECTED AREAS

CONNECTIVITY CONSERVATION Specialist Group

The interest

- Previous work in the tropics

ELSEVIER

Biological Conservation 91 (1999) 241–247

BIOLOGICAL CONSERVATION

www.elsevier.com/locate/biocon

The conservation value of linear forest remnants in central Amazonia

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Biological Dynamics of Forest Fragments Project, National Institute for Research in the Amazon (INPA), CP 478, Manaus, AM 69011-970, Brazil

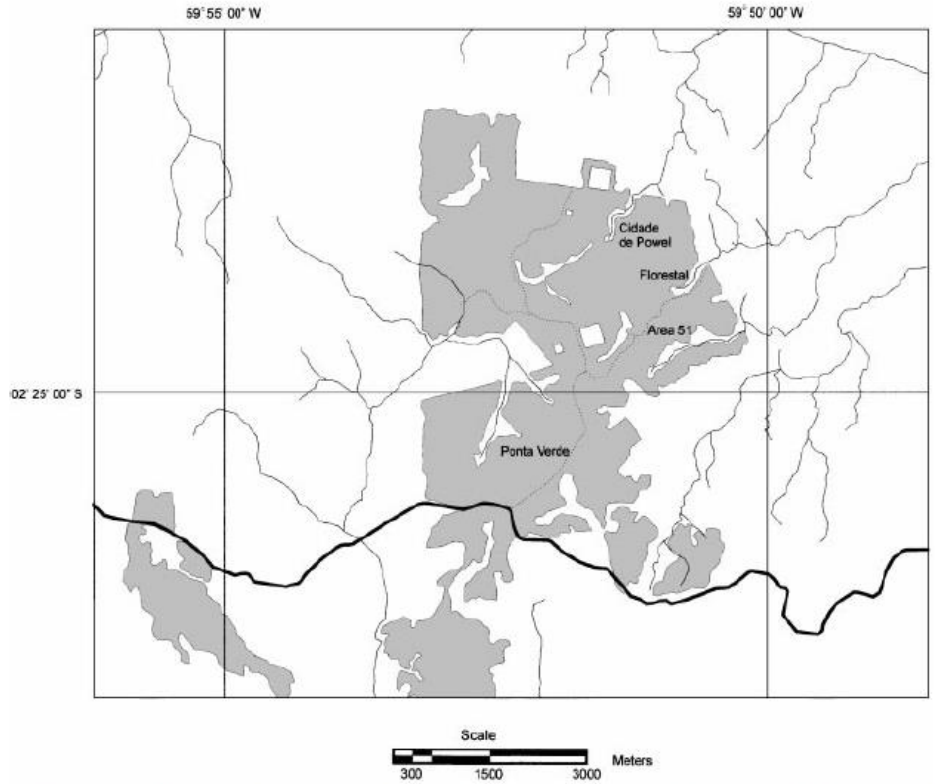


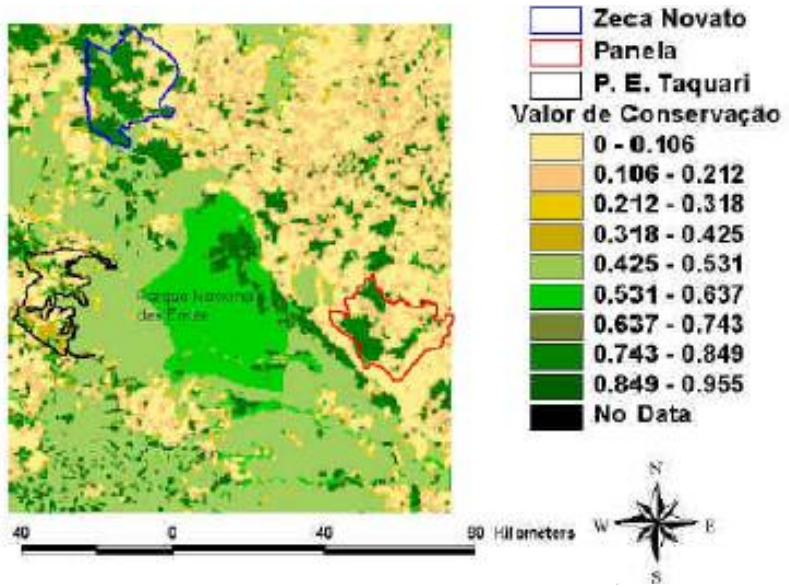
Fig. 1. Study area in the central Amazon showing paired sites with linear remnants and adjoining continuous forest. Shaded areas represent deforested land, while unstippled areas are rainforest. Light wavy lines are streams while the bold line is an access road.

Biological Dynamics of Forest Fragments Project

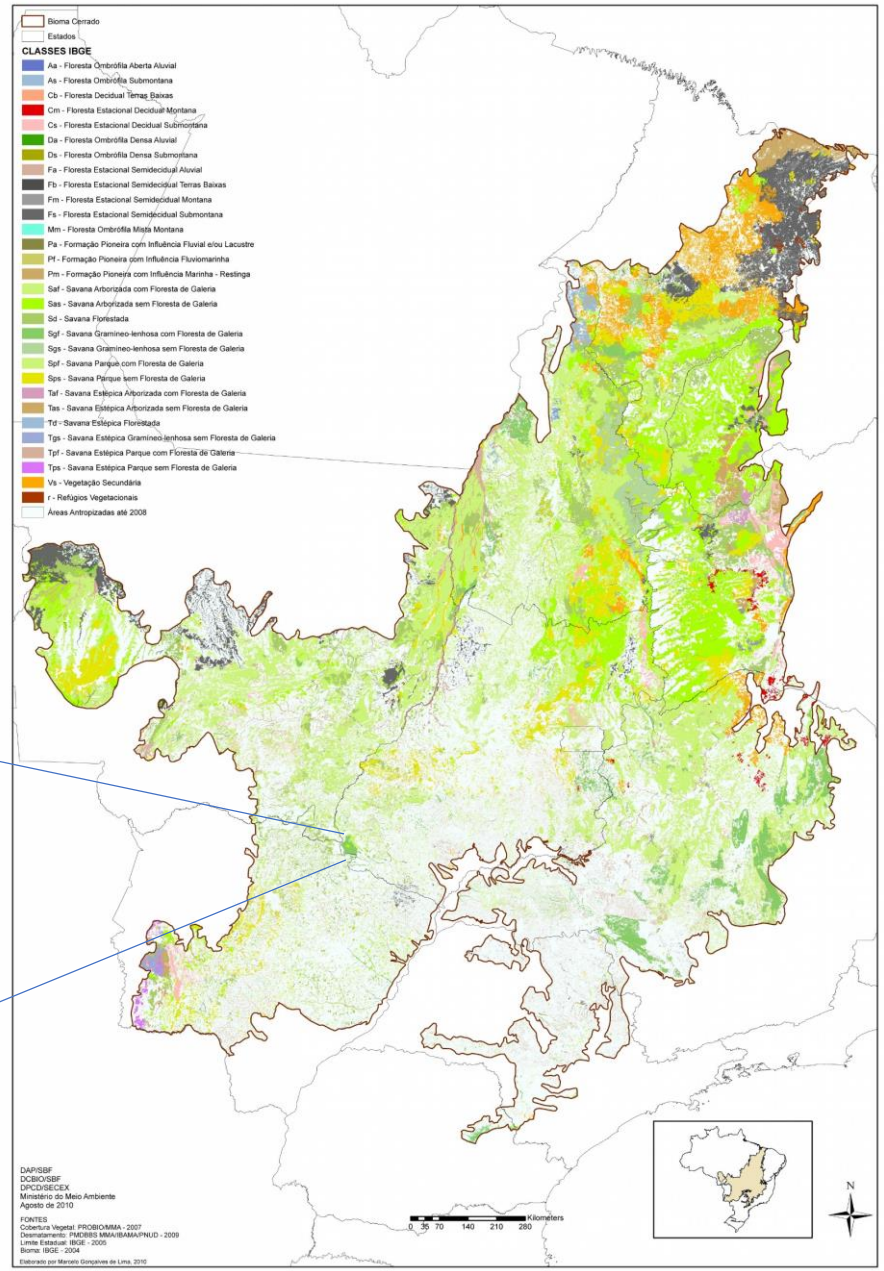
Small terrestrial mammals and litter frogs

- Different dispersal rates and “generational” use/colonisation of habitats

- Cerrado Savanna
- 204,506,400 ha
- 50 % lost



Emas National Park – 132,000 ha



A change of species and landscape

- From a world of lush forest with jaguars, howler monkeys, harpy eagles.. Plus small mammals, poison dart frogs..

To new target habitats and species.. And scales

The Fens

- The Fens were the largest wetland in England

but only 1% remains and is highly fragmented.

Brief History

- First human influences were in Neolithic times were vegetation

and can be traced to 6,000 BP.

- Bronze age Fen Edge modification through building causeways

and bridges, ditched fields and droveways ~3,000 BP

- Drainage through dykes during Roman times
- Late Saxon and Medieval canals also known in the Fens, especially

in Southern Cambridgeshire and Huntingdonshire.

- Extensive use of resources during middle ages: peat, reed, waterfowl and fish.
- Further extensive alterations after the Industrial Revolution
- There are no “original”, unaltered natural environments

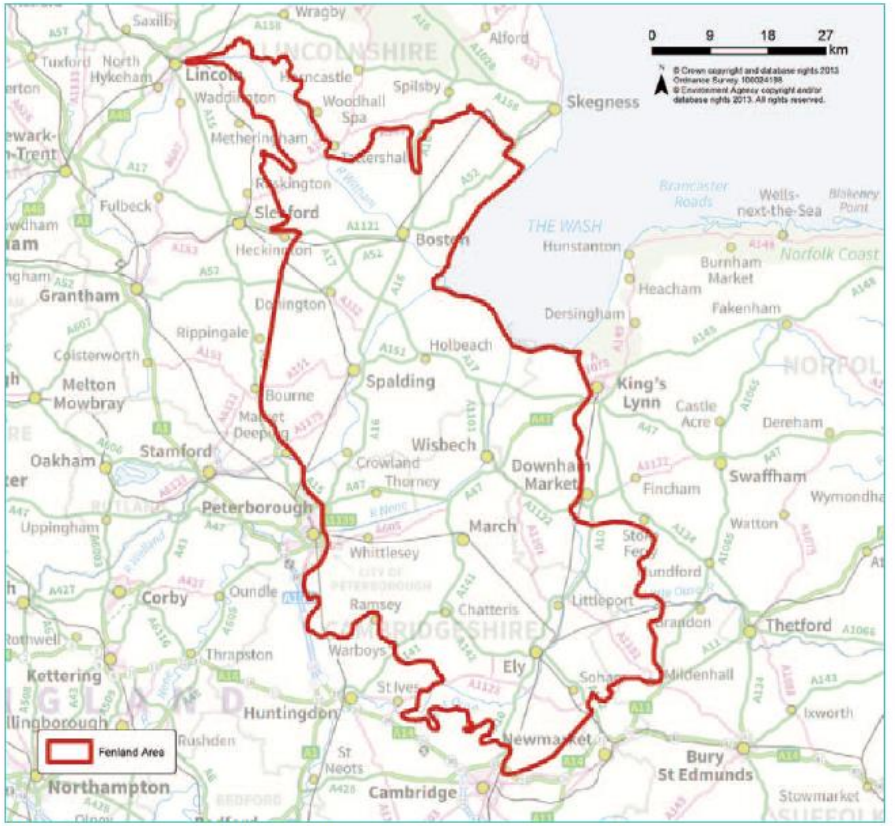


Figure 1.1 Map showing the Fenland area outlined in red

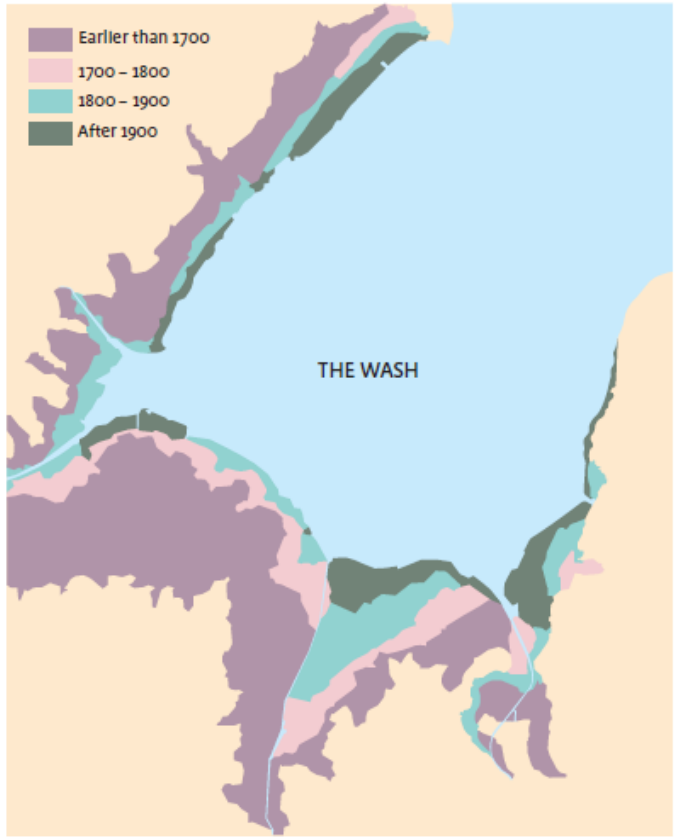
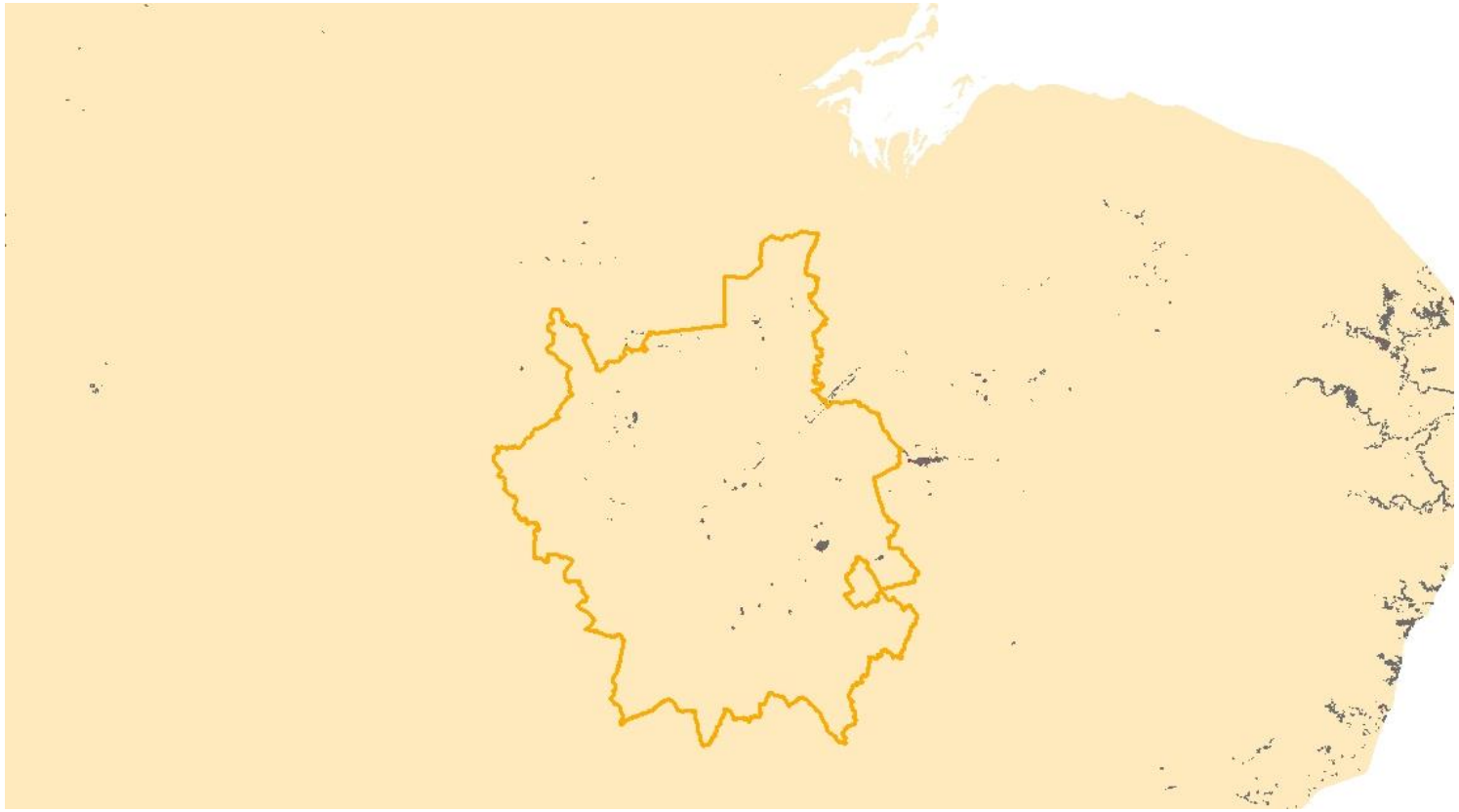


Figure 1.4 Sequential reclamation of land around The Wash



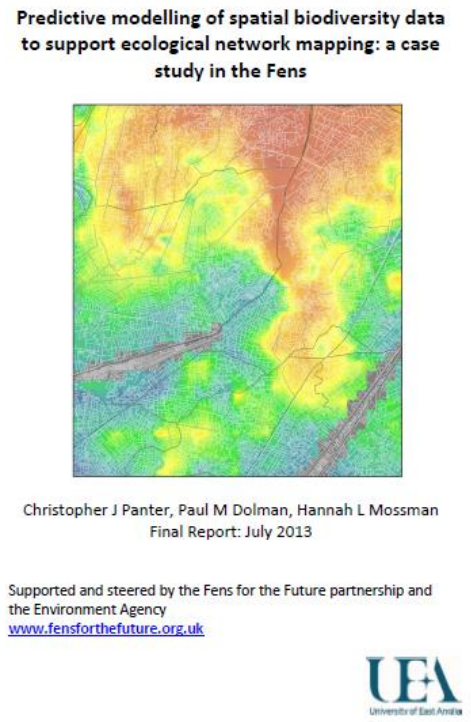
Hugely fragmented landscape

Some research and intiatives on connectivity and ecological networks

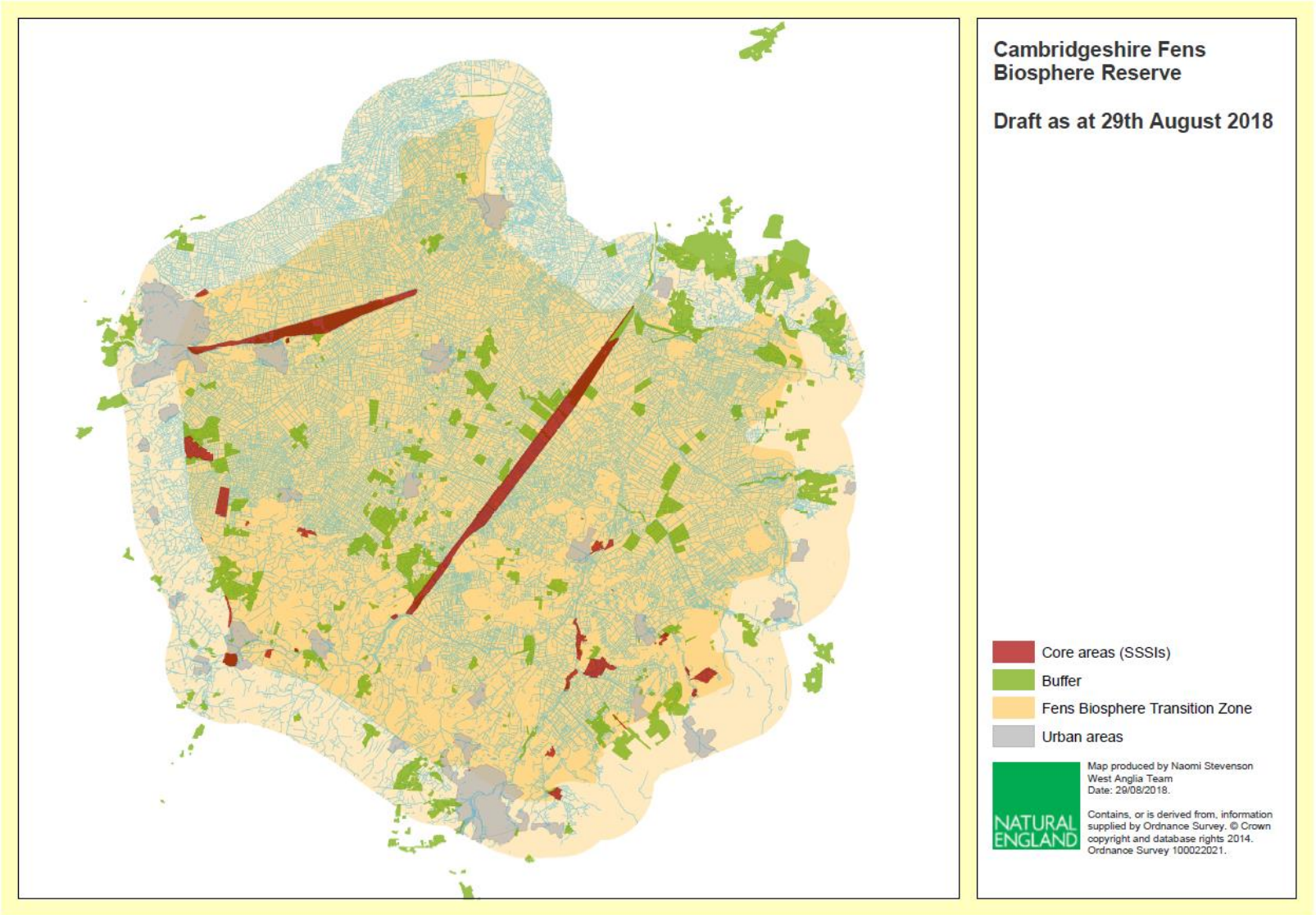
Modelled high biodiversity areas and compared with proposed connectivity actions

Used Odonata and plant data

No dispersal or habitat preference used



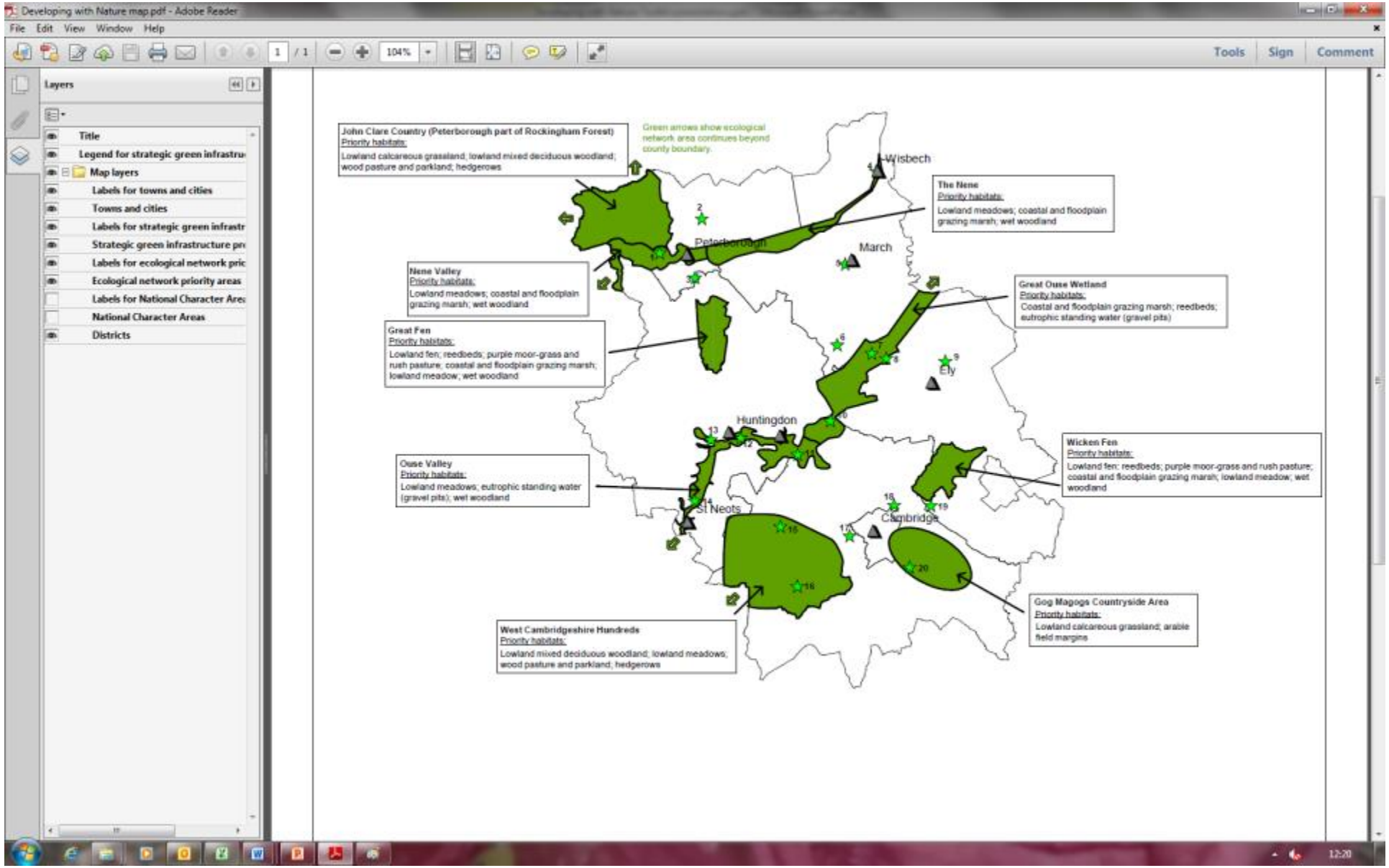
Proposal for biosphere reserve



Re-connecting landscapes in Cambridgeshire

Bedfordshire
Cambridgeshire
Northamptonshire

Martin Baker
Conservation Manager


Developing with Nature map.pdf - Adobe Reader
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Tools Sign Comment
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Legend for strategic green infrastru
Map layers
Labels for towns and cities
Towns and cities
Labels for strategic green infrastr
Strategic green infrastructure pr
Labels for ecological network pric
Ecological network priority areas
Labels for National Character Are
National Character Areas
Districts
John Clare Country (Peterborough part of Rockingham Forest)
Priority habitats:
Lowland calcareous grassland; lowland mixed deciduous woodland; wood pasture and parkland; hedgerows
Green arrows show ecological network area continues beyond county boundary.
The Nene
Priority habitats:
Lowland meadows; coastal and floodplain grazing marsh; wet woodland
Nene Valley
Priority habitats:
Lowland meadows; coastal and floodplain grazing marsh; wet woodland
Great Ouse Wetland
Priority habitats:
Coastal and floodplain grazing marsh; reedbeds; eutrophic standing water (gravel pits)
Great Fen
Priority habitats:
Lowland fen; reedbeds; purple moor-grass and rush pasture; coastal and floodplain grazing marsh; lowland meadow; wet woodland
Wisbech
Peterborough
March
Ely
Huntingdon
St Neots
Cambridge
Ouse Valley
Priority habitats:
Lowland meadows; eutrophic standing water (gravel pits); wet woodland
Wicken Fen
Priority habitats:
Lowland fen: reedbeds; purple moor-grass and rush pasture; coastal and floodplain grazing marsh; lowland meadow; wet woodland
Gog Magogs Countryside Area
Priority habitats:
Lowland calcareous grassland; arable field margins
West Cambridgeshire Hundreds
Priority habitats:
Lowland mixed deciduous woodland; lowland meadows; wood pasture and parkland; hedgerows
12:20

Waresley Wood

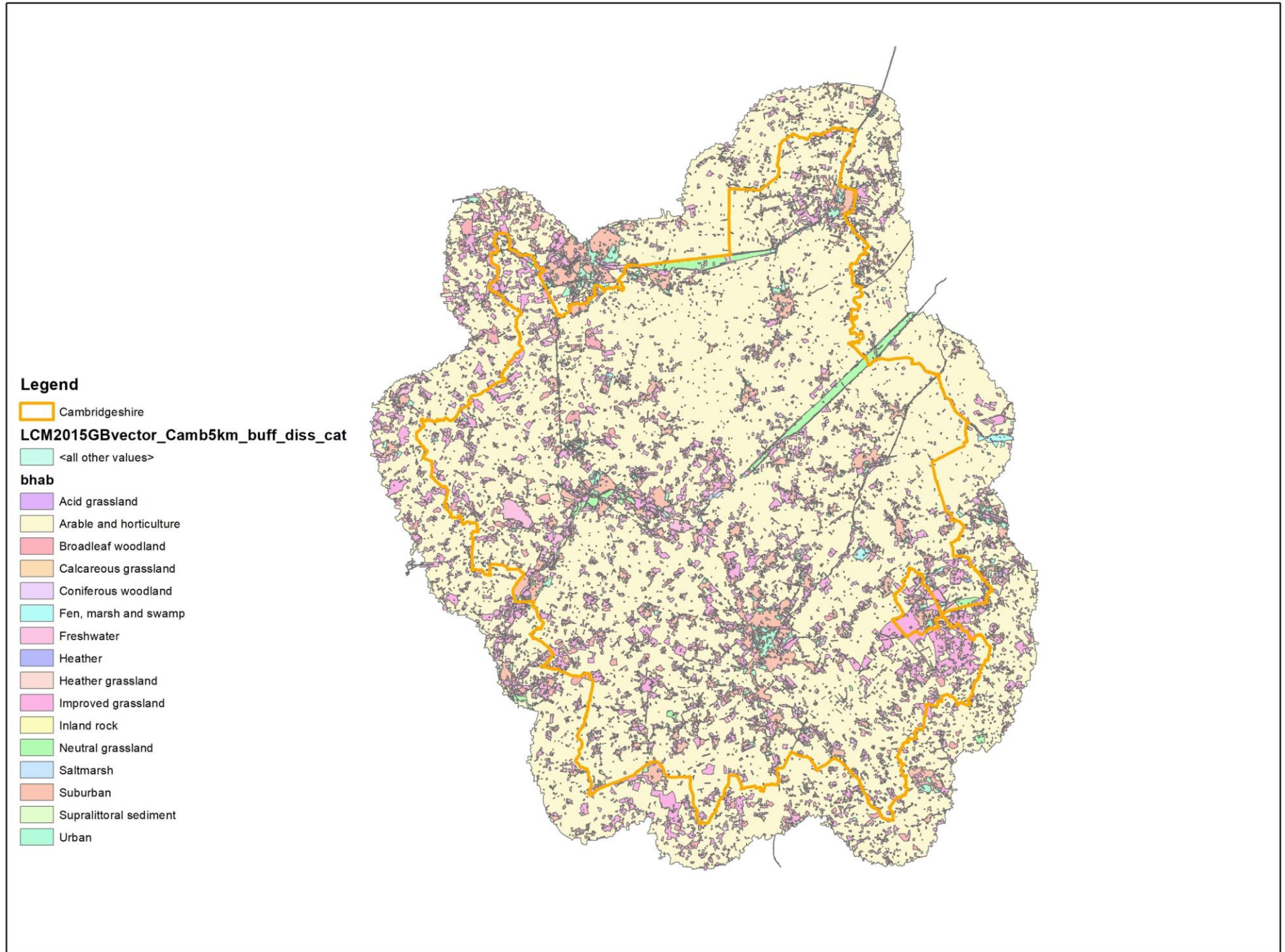
The Challenge

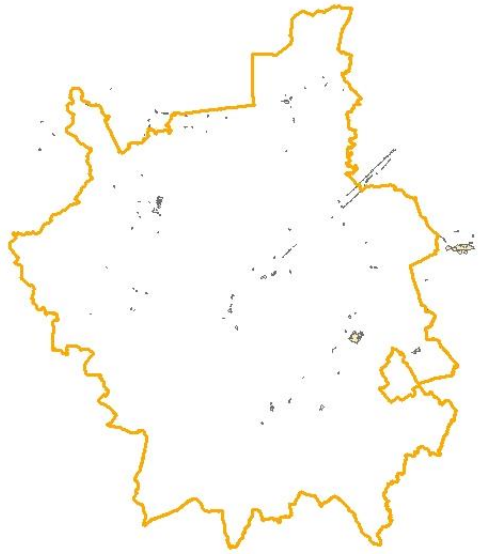
- But.. What about other non fen habitats?

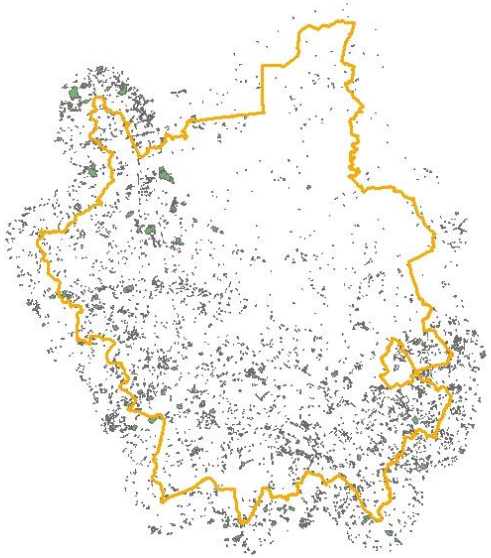
So little left of “natural” habitats wouldn’t connect them be a better strategy?

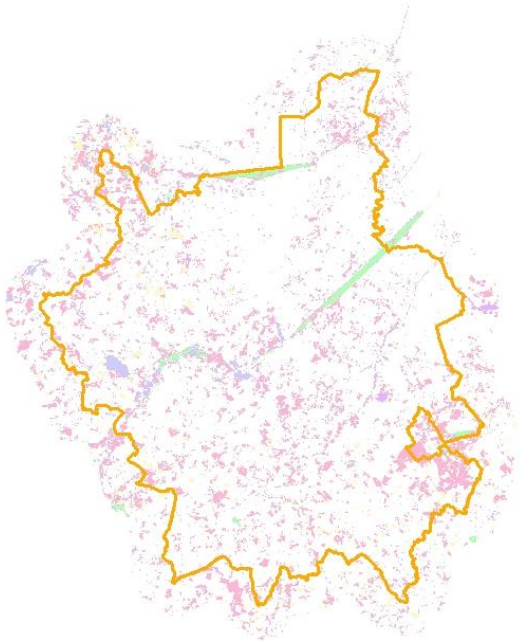
Questions:

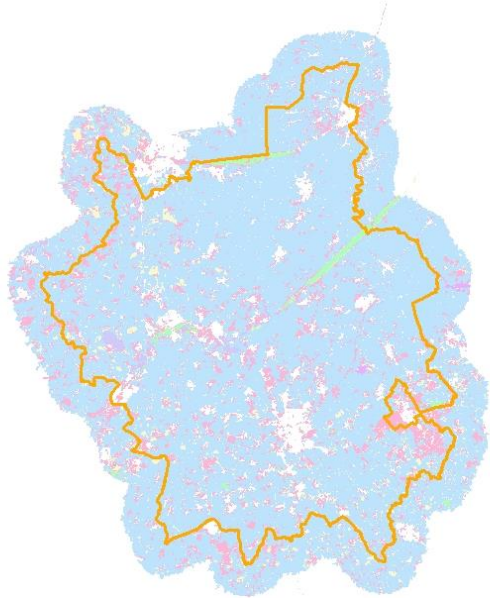
- What habitat
- What species/dispersal rates
- What targets
- Who would be interested
- How to implement in terms of policies


Legend
Cambridgeshire
LCM2015GBvector_Camb5km_buff_diss_cat
<all other values>
bhab
Acid grassland
Arable and horticulture
Broadleaf woodland
Calcareous grassland
Coniferous woodland
Fen, marsh and swamp
Freshwater
Heather
Heather grassland
Improved grassland
Inland rock
Neutral grassland
Saltmarsh
Suburban
Supralittoral sediment
Urban









Another use: help define Areas for Connectivity Conservation

Over 800 members around the world: Join us!

IUCN WCPA WORLD COMMISSION ON PROTECTED AREAS

Contact: Gary Tabor MES VMD
Center for Large Landscape Conservation
gary@largelandscapes.org

Joins Pas and OECMs definitions

What is an ACC?

- **PA Definition** (IUCN 2008/2013): ***A protected area is a clearly defined geographical space recognized, dedicated and managed, through legal and other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.***

- **Draft OECM Definition** ***A clearly defined geographical space, beyond the protected areas network, governed and managed in ways that deliver the long-term and effective in-situ conservation of biodiversity and associated ecosystem services and cultural values, regardless of its management objectives.***

- **Possible ACC Definition** – ***A clearly defined geographical space, beyond the protected areas network and OECMs, governed and managed in ways that restore, support, and conserve connectivity functions for long-term and effective in-situ conservation of biodiversity and associated ecosystem services, and cultural values regardless of its management objective.***

Finally, food for thought.. What if we incorporated ecosystem services as well??

- CCSG proposal to the Science for Nature and People Partnership
- ***Connected and conserved landscapes to improve ecosystem health and human well-being***

ACCs for human well-being and poverty alleviation as well !