

Managing Floods and Biodiversity on a crowded and shrinking island

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create a better place

Key principles of EA strategy for adaptation to climate change

- **Conserve existing biodiversity**
- Reduce existing pressures
- **Work with others to create a resilient landscape**
- Co-ordinate the development of ecological networks for rivers and wetlands
- **Secure the evidence for future decision - making**

Conserving existing biodiversity



Water vole habitat created at London Wetland Centre

Water Vole

- **Biodiversity Action Plan process**
- **Linking species action to habitat action plans**



Conserving existing biodiversity

- Ark sites for native crayfish

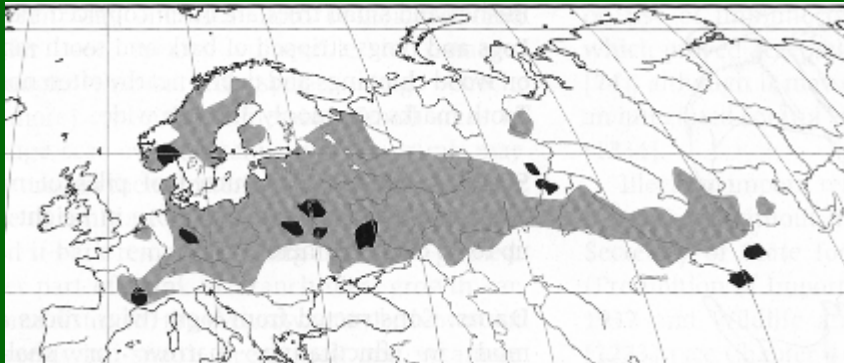


White-clawed Crayfish

American
Signal
Crayfish



Conserving existing biodiversity



- **European Beaver re-introduction**

Reducing existing pressures

Reducing pressures through policy change

- **Wetlands** – we will conserve, enhance and recreate wetlands
- **Gravel removal** – generally opposed to gravel removal from rivers
- **Instream structures** – generally opposed to instream structures
- **Tidal encroachment** – generally opposed to encroachment
- **FRM and biodiversity** - conserve and enhance biodiversity through FRM

Reducing existing pressures



River Pang, Berks,
Winter 2006

- **Water Resource management**
- **Water Framework Directive:**
- River Basin Districts
- River Basin Management Plans
- Inland and coastal waters to be “Good Ecological Status” by 2015

Reducing existing pressures



Fencing and buffer zone establishment,
Snowdonia, Wales

Overgrazing and
poaching by
livestock, Cumbria

• **Land management**

Reducing existing pressures

- Upland management



Eroding blanket bog, Teesdale, Cumbria

Derbyshire Moors – blanket bog degraded by fire



Reducing existing pressures

- **Forestry land management**



**Hafren Forest,
Upper Severn,
Wales**



Creating a resilient landscape



**Four- spotted Chaser
Dragonfly**

- **Sustainable Urban Drainage Schemes (SUDS) - ponds and wetlands**



Housing development in Bicester

Creating a resilient landscape



- permeable paving
- green roofs
- filter drains
- rainwater re-use

SUDS

Sedum roof at
Riverhead School,
Kent



Creating a resilient landscape

- **Water Level Management Plans**



Sluice construction and ditch works in the Frome & Avon Valleys, Dorset and Wiltshire



Creating a resilient landscape

- Rural river restoration



R. Kennet,
Barton Court,
Berkshire

Creating a resilient landscape



- Urban river restoration

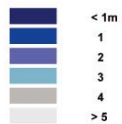


River Skerne in Darlington

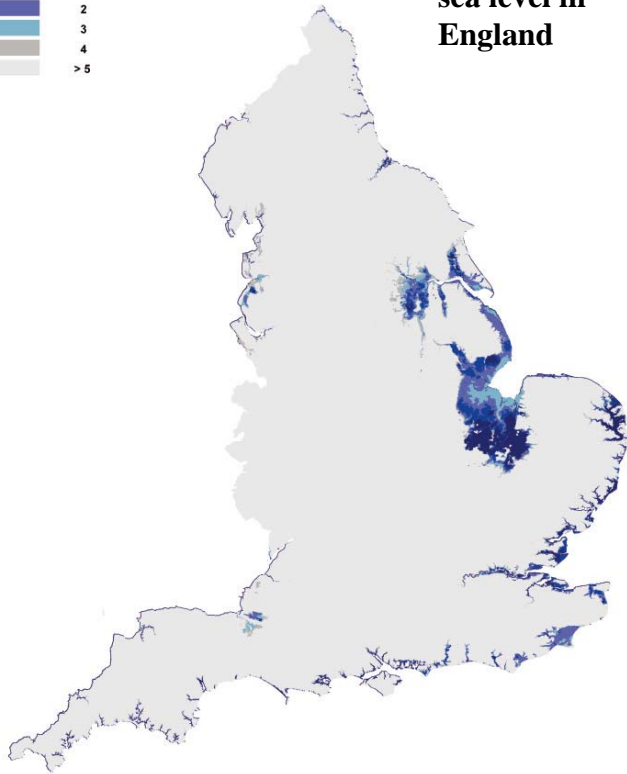
Creating a resilient landscape

- Coping with sea level rise

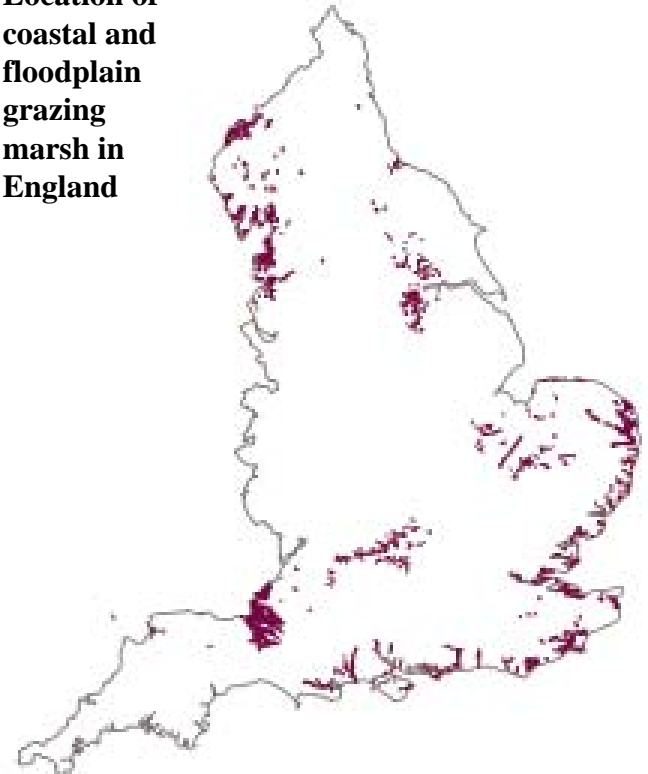
Height above sea level
(1m contours)



Land height
above current
sea level in
England



Location of
coastal and
floodplain
grazing
marsh in
England



Creating a resilient landscape



Sea wall breach -
Dingle Marshes,
Dunwich, Suffolk –
Oct 07

- **Managed realignment of the coast**

Sea wall overtopping – Medmerry
Holiday Caravan Park, Selsey Bill,
Sussex - Jan 08



Creating a resilient landscape



Map of existing and planned projects

- Managed realignment of the coast

Abbott's Hall Managed Realignment Scheme, Essex



Creating a resilient landscape

- **Managed realignment of the coast**

Alkborough Flats, Humber Estuary, Lincs



Creating a resilient landscape

- “Traditional” flood alleviation scheme design



**River Severn bursts its banks in
Shrewsbury**

Strait-jacketed River Aire in Leeds



Creating a resilient landscape

- Sustainable flood alleviation scheme design



Jubilee River Flood Alleviation Scheme,
Berks/Bucks



Creating a resilient landscape

- Wetland habitat creation through flood alleviation schemes



Recent
delivery and
future plans
for England
(ha per yr)

Developing ecological networks

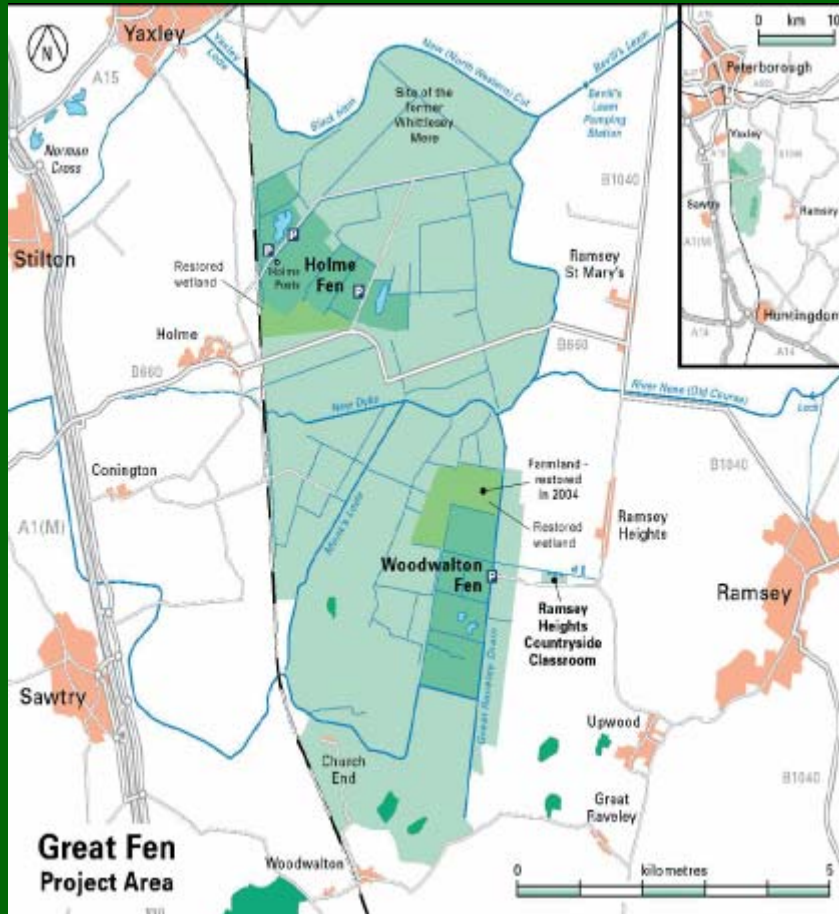


- Opportunistic wetland creation



Otmoor wetland restoration scheme, Oxon

Developing ecological networks



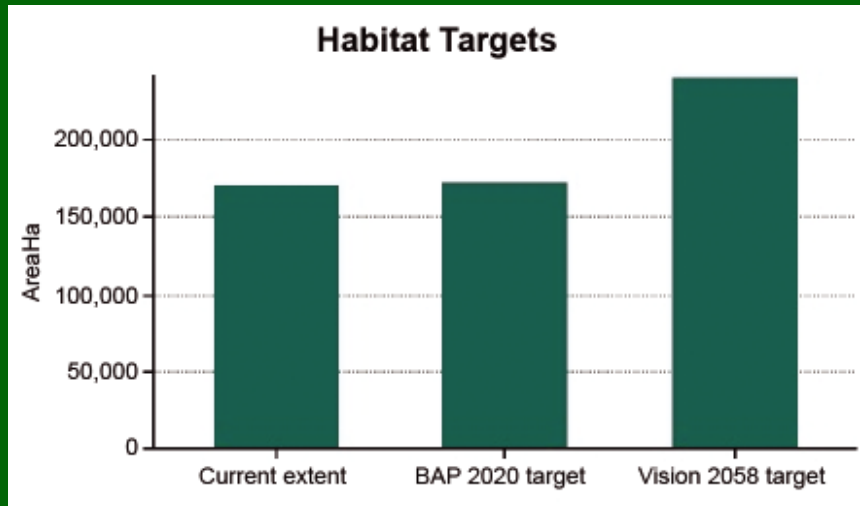
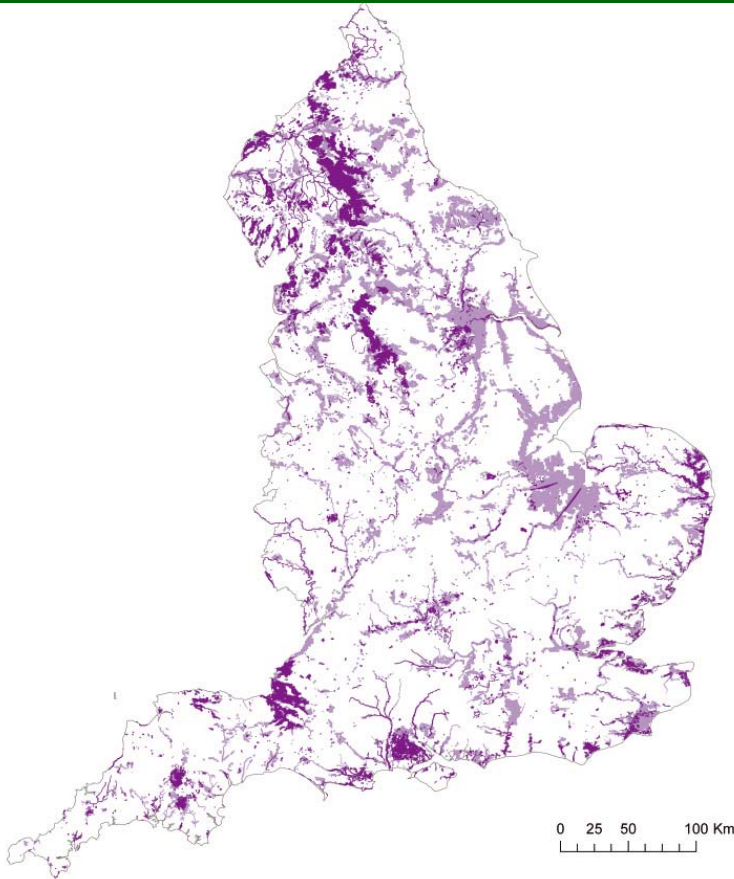
- Moving towards network approach



Great Fen Project site, Cambs

Securing evidence for future decisions



• 50 year Wetland Vision



50 yr Wetland Vision
Overarching Maps

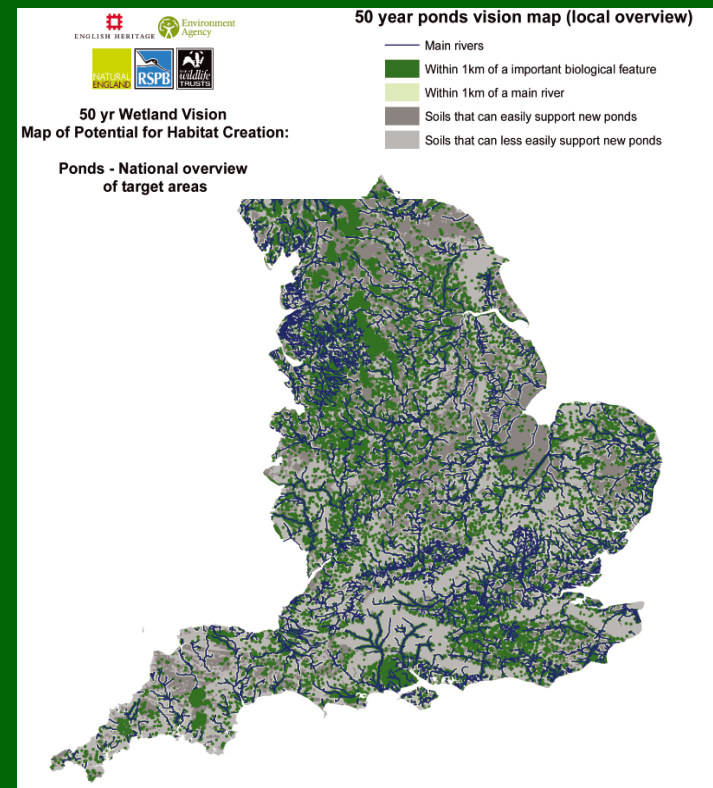
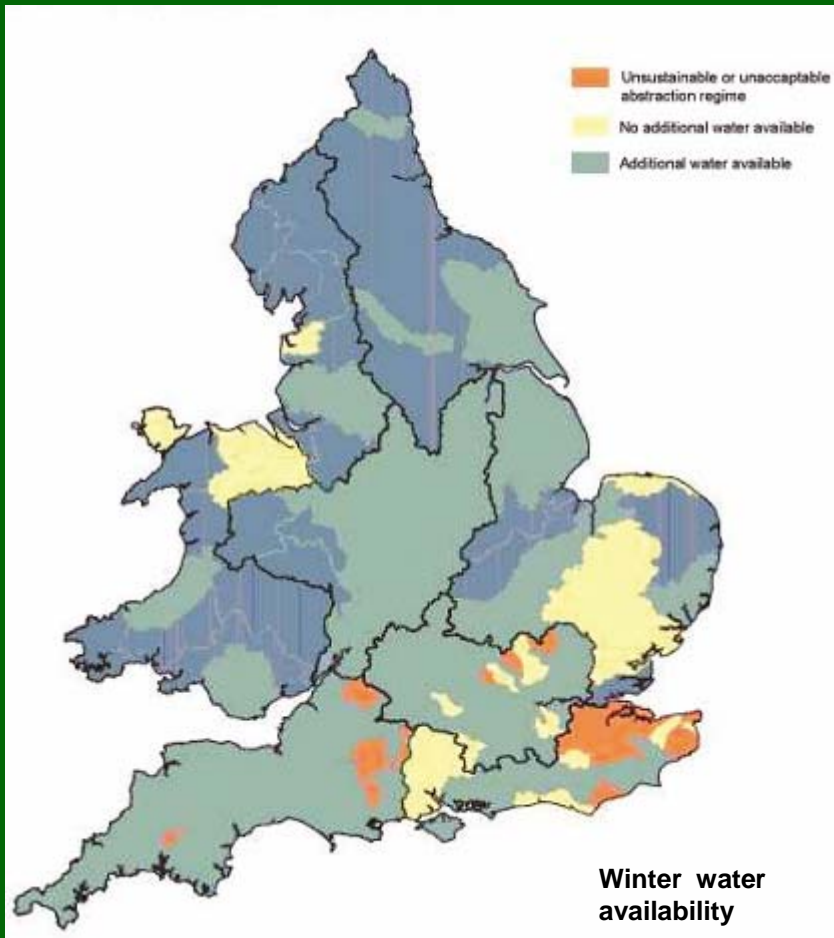
Future potential
for wetlands (indicative map)

'Future wetlands'

 Current extent of wetlands
 Future wetland potential

Securing evidence for future decisions

- Wetland Vision tools
- Strategic partnership



Thank you for your attention

