NATURE IMPROVEMENT AREA

GREATER THAMES MARSHES

MORE. BIGGER. BETTER. JOINED.

OUR VISION

A living and vibrant marshland and estuary landscape

Summary

The Greater Thames Marshes NIA covers over 50,000ha of brownfield, marshland and estuarine habitat and includes many nationally and internationally significant sites (SSSIs, SPAs and SACs) for wildlife which are not delivering to their full potential.

The Greater Thames Marshes NIA has been awarded £571,875 funding over 3 years.

Objectives

1. **Facing up to Change** – using evidence to support our decisions

2. **Delivery on the Ground** – practical action through new projects for habitat creation, restoration and management

3. **Partnership Working** – adding value to existing initiatives and harnessing the skills of others

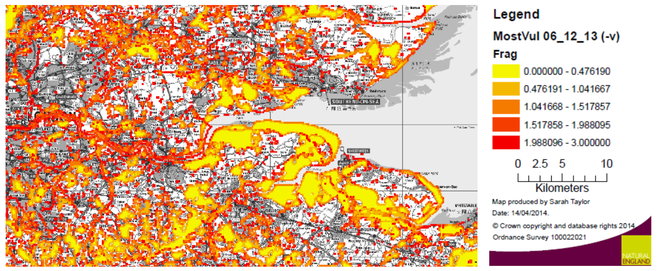
4. **Communications and Access** – delivering for people, as well as wildlife

5. **Sustainability and Legacy** – ensuring we can continue beyond 2015

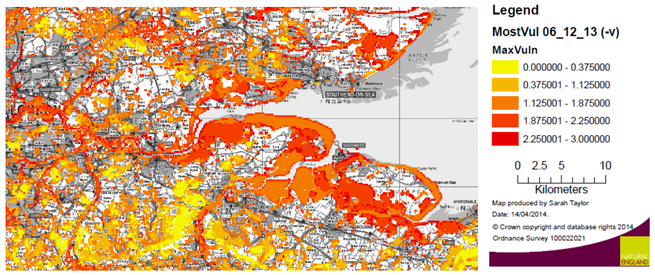
OUR APPROACH

GIS Modeling

Partners initially used GIS data modeling provided by the Natural England National biodiversity climate change vulnerability model (NBCCVM) to assess current condition of habitats, with a focus on fragmentation indices. Initial analysis suggests that at present habitats and designated sites are comparatively coherent:



However, once projected impacts of a changing climate are factored in, priority habitats become more vulnerable:

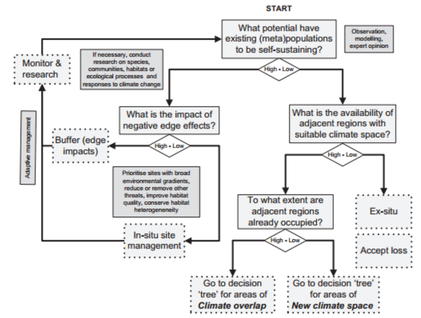


This data based modelling is supported by an in-depth climate change adaptation assessment looking at the resilience of existing habitats. Threats include rising sea levels, seasonal changes in rainfall patterns and rising temperatures which will permanently alter species dynamics of the coastal ecosystem. It is clear that NIA partners need to focus on intertidal habitat creation (to compensate for losses due to rising sea levels) - i.e. MORE habitat – and securing improved management of existing sites ("sweat our assets"), to support species and manage natural assets (e.g. water) BETTER.

Decision Tree Analysis

Although innovative, GIS-based approaches to landscape-scale conservation are limited by the quality of data available, and require significant investment of resources to maintain and test solutions. In the Greater Thames Marshes this has proved particularly challenging as the NIA spans multiple local authority and regional boundaries.

Building on findings from the climate change adaptation assessment, the NIA has utilised a decision framework[1] which is based on the concept of more, bigger, better and joined:



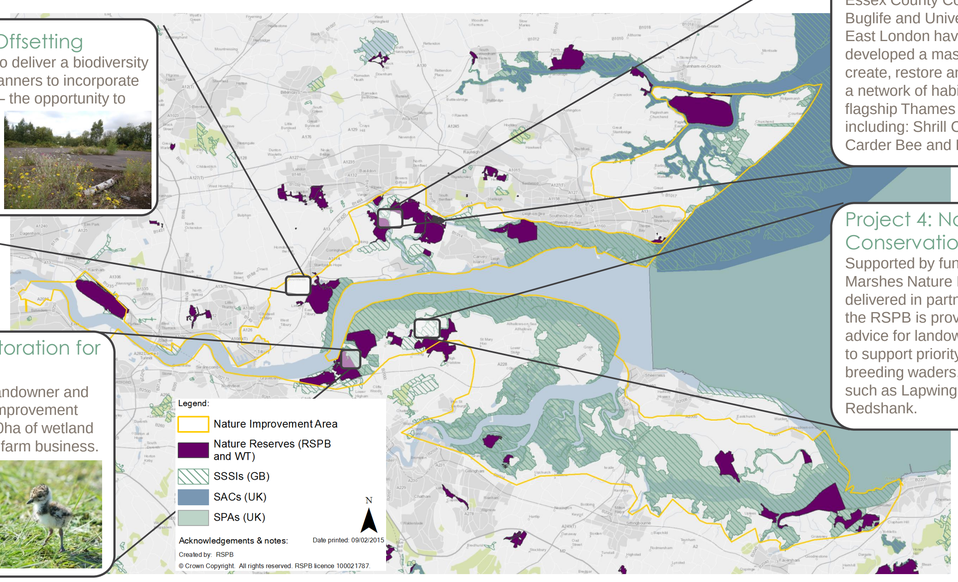
This pragmatic approach is used by NIA partners to review and monitor priority actions through our "comparative indicator of habitat connectivity". The table below is taken from our Yr2 monitoring and evaluation report:

Project	Habitat	Area (ha)	More	Bigger	Better	Joined	Total
1. Biodiversity Offsetting	Open Mosaic Habitat on Previously Developed Land	3	No	No	Yes	No	25%
2. Habitat restoration for breeding waders (Higham)	Coastal and Freshwater Grazing Marsh	148	Yes	Yes	Yes	Yes	100%
3. TTI masterplan	Open Mosaic Habitat on Previously Developed Land	98	Yes	No	Yes	No	50%
4. Farm Conservation Advice	Coastal and Freshwater Grazing Marsh	600	Yes	No	Yes	Yes	75%

[1]Oliver, T. H., Smithers, R. J., Bailey, S., Walmsley, C. A., Watts, K. (2012), A decision framework for considering climate change adaptation in biodiversity conservation planning. Journal of Applied Ecology, 49: 1247–1255. doi: 10.1111/1365-2664.12003

HABITAT CONNECTIVITY

Delivering **more**, **bigger**, **better** and **joined** habitats



Project 1: Biodiversity Offsetting

Using innovative mechanisms to deliver a biodiversity offsetting pilot and work with planners to incorporate nature into new developments – the opportunity to use the NIA to trial this work is important in an area such as the Greater Thames, where nature competes with many other pressures on the land.

Project 2: Habitat Restoration for Breeding Waders

A partnership project with the landowner and grazier, funded by the Nature Improvement Area partnership, to restore 150ha of wetland habitat as part of a sustainable farm business. Higham Marshes is within the Thames Estuary and Marshes SPA and links two existing nature reserves.

Project 3: Masterplan for Thames Terrace Invertebrates

Essex County Council, Buglife and University of East London have developed a masterplan to create, restore and manage a network of habitat sites for flagship Thames Terrace Invertebrate species, including: Shrill Carder Bee, Brown-banded Carder Bee and Red-tailed Carder Bee.

Project 4: North Kent Farm Conservation Focus Area

Supported by funding from the Greater Thames Marshes Nature Improvement Area, and delivered in partnership with Natural England, the RSPB is providing targeted management advice for landowners to support priority breeding waders, such as Lapwing and Redshank.

For full details of NIA projects and delivery visit the website, using this QR code or at www.greaterthamesmarshes.com

ECOLOGICAL NETWORKS

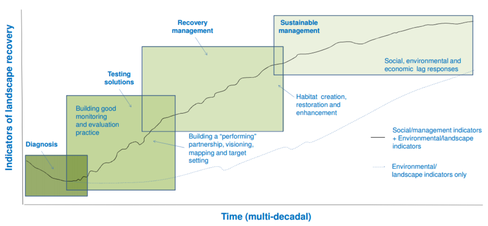
Coherent

A coherent ecological network is one that has all the elements necessary to support healthy populations of wildlife, where the value of the whole network is greater than the sum of its individual sites.

Resilient

A resilient ecological network is one that is capable of absorbing, resisting or recovering from disturbances and damage caused by natural perturbations and human activities while continuing to support biodiversity and provide ecosystem services.

Landscape recovery curve



Diagrammatic representation of a hypothetical landscape "recovery curve", drawing on species recovery concept (RSPB 2009). Each box represents important stages in the process (diagnosis, testing solutions, recovery management and sustainable management).

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This project has been supported by Defra, DCLG, Environment Agency, Forestry Commission and Natural England.