

Developing the Gloucestershire Nature Recovery Network

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What is a Nature Recovery Network?



Network to complement and connect our best wildlife sites, and provide opportunities for species conservation and the reintroduction of native species.



Is a joined-up network of habitats that allow wildlife and people to thrive

Why do we need it?

- Ecologically:
 - Experienced massive habitat fragmentation – vulnerability.
 - Increase resilience of habitats and species.
 - Populations in small areas of habitat will not survive in isolation.
 - Need an ecologically functional network of sites to maintain biodiversity and therefore ecosystem services which it underpins.
- Legislatively:
 - National Planning Policy Framework.
 - 25 year environment plan.
 - Environment Act – 2020?

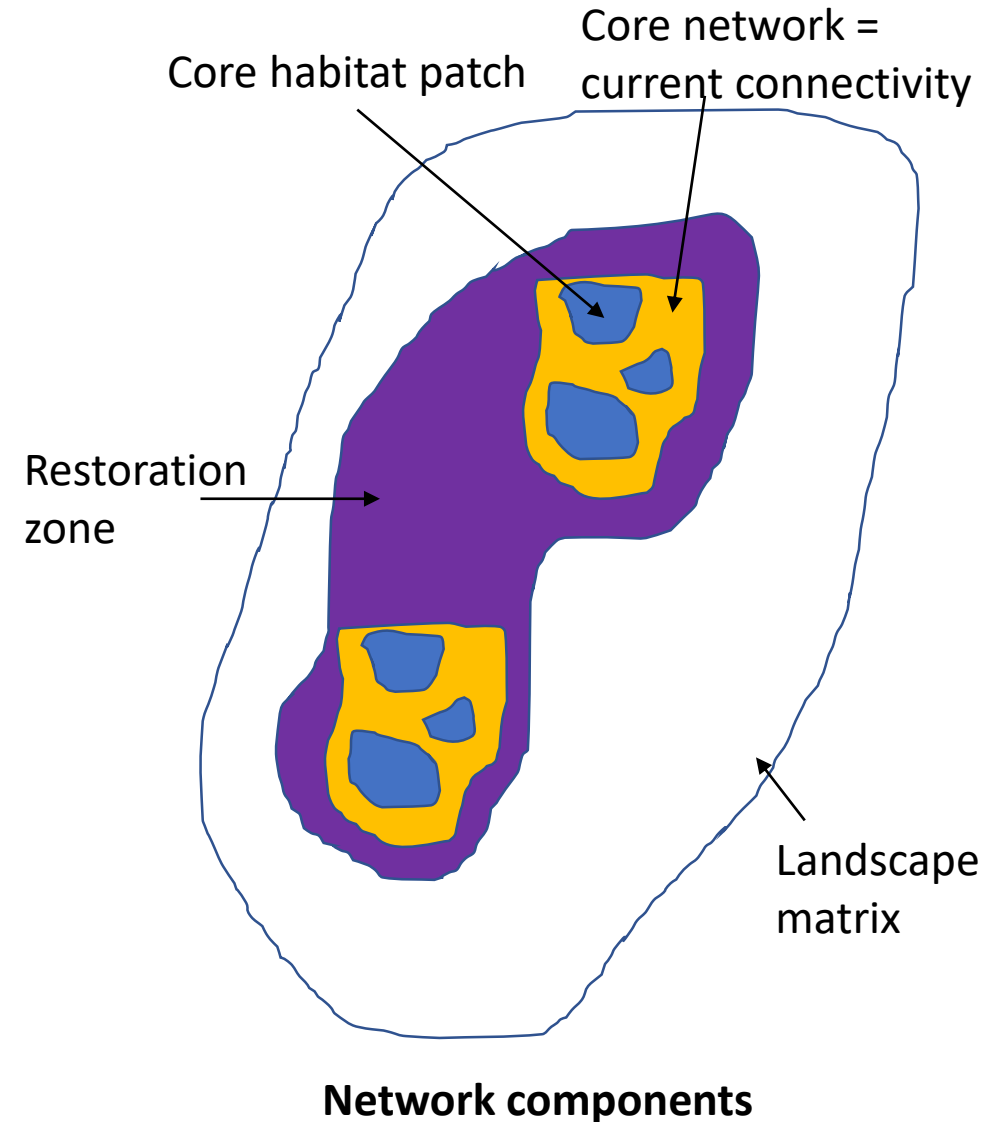
Uses – what the local NRN can help inform:

- Planning policy and net gain options
- Design of major infrastructure projects in the county
- Biodiversity offsetting locations
- Agri-Environment (ELMS) targeting
- Biodiversity project prioritisation and partnership development
- A Local Nature Partnership led Natural Capital Investment fund

Gloucestershire Nature Recovery Network

Assess current state of network and identify priority areas for restoration and reconnection of habitat by combining:

- Four ecological networks
- Constraints and opportunities
- Prioritisation - resilience and coherence measures



Ecological network mapping – 4 networks



- **Open habitats** (core habitat = neutral, calc, acid grassland, heathland)



- **Wooded habitats** (core habitat = Woodland, Wood Pasture & Parkland, Traditional Orchard).



- **Water and wetland** (core habitat = ponds, rivers, bog, fen etc., wet heath and wet grassland)



- **Arable** (core habitat = field margins, arable weeds, farmland birds,)

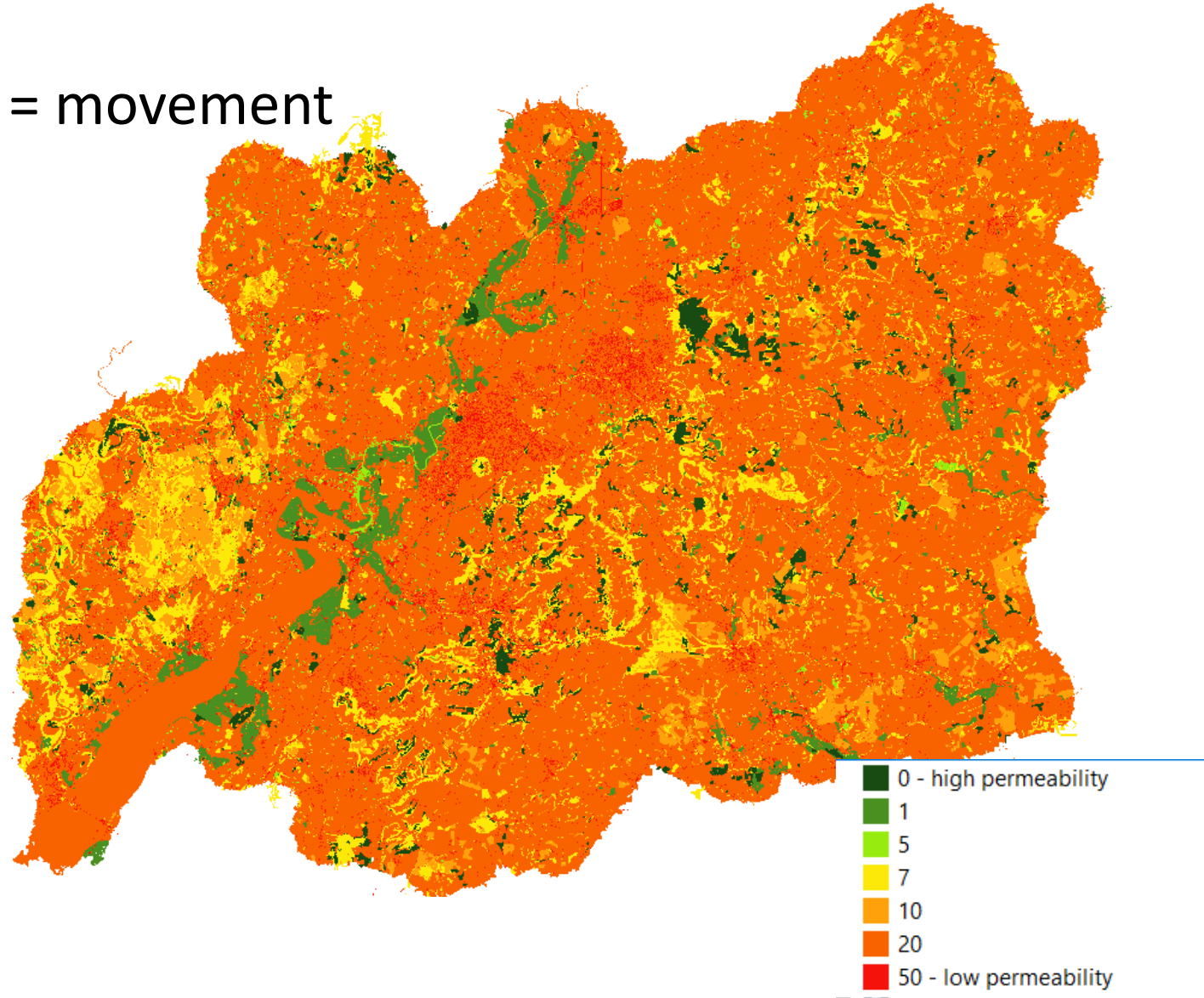


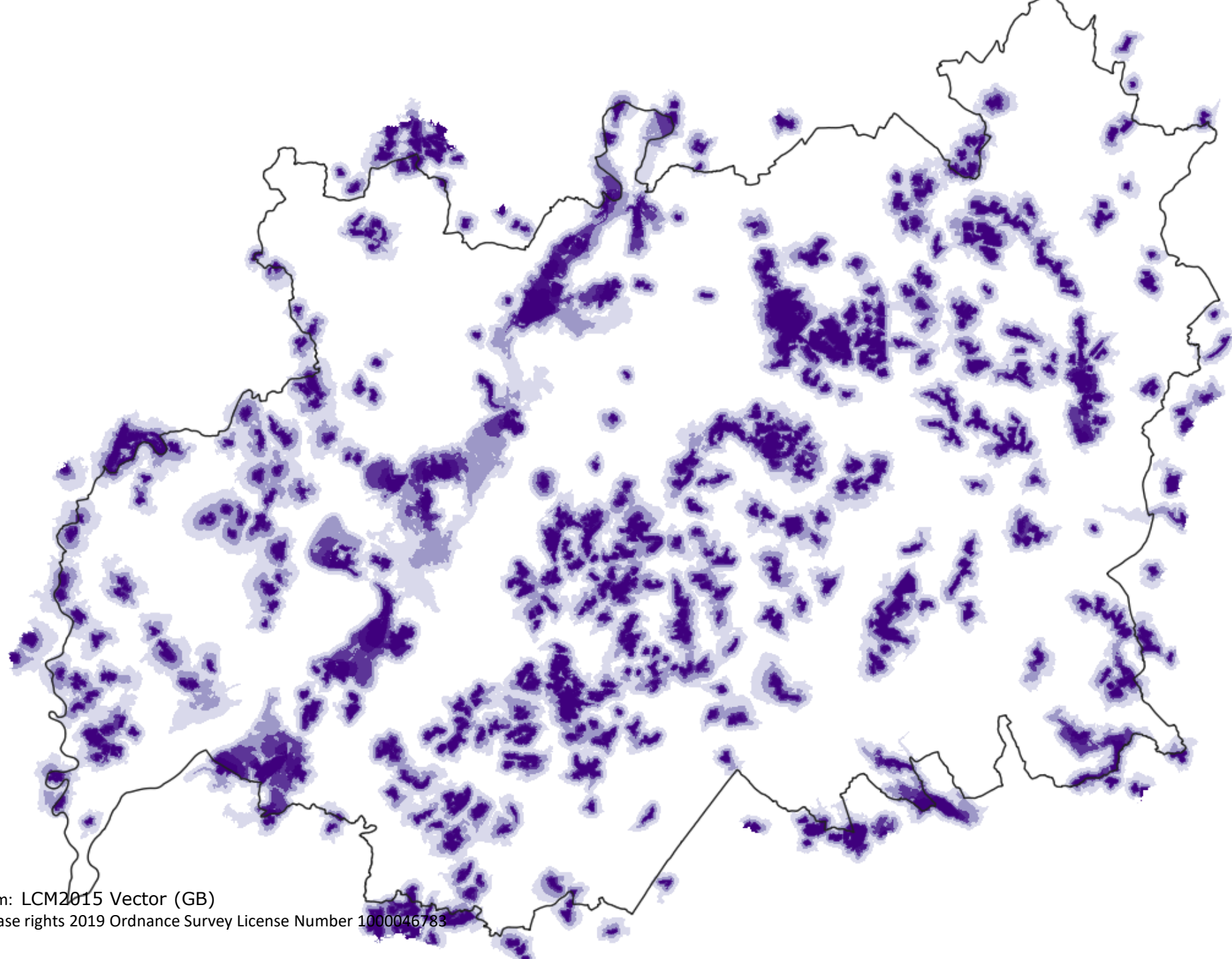
- **Generic Focal Species** (define min habitat patch size and max dispersal distance)

Connectivity - Cost distance analysis

Dispersal distance/ecological cost = movement distance

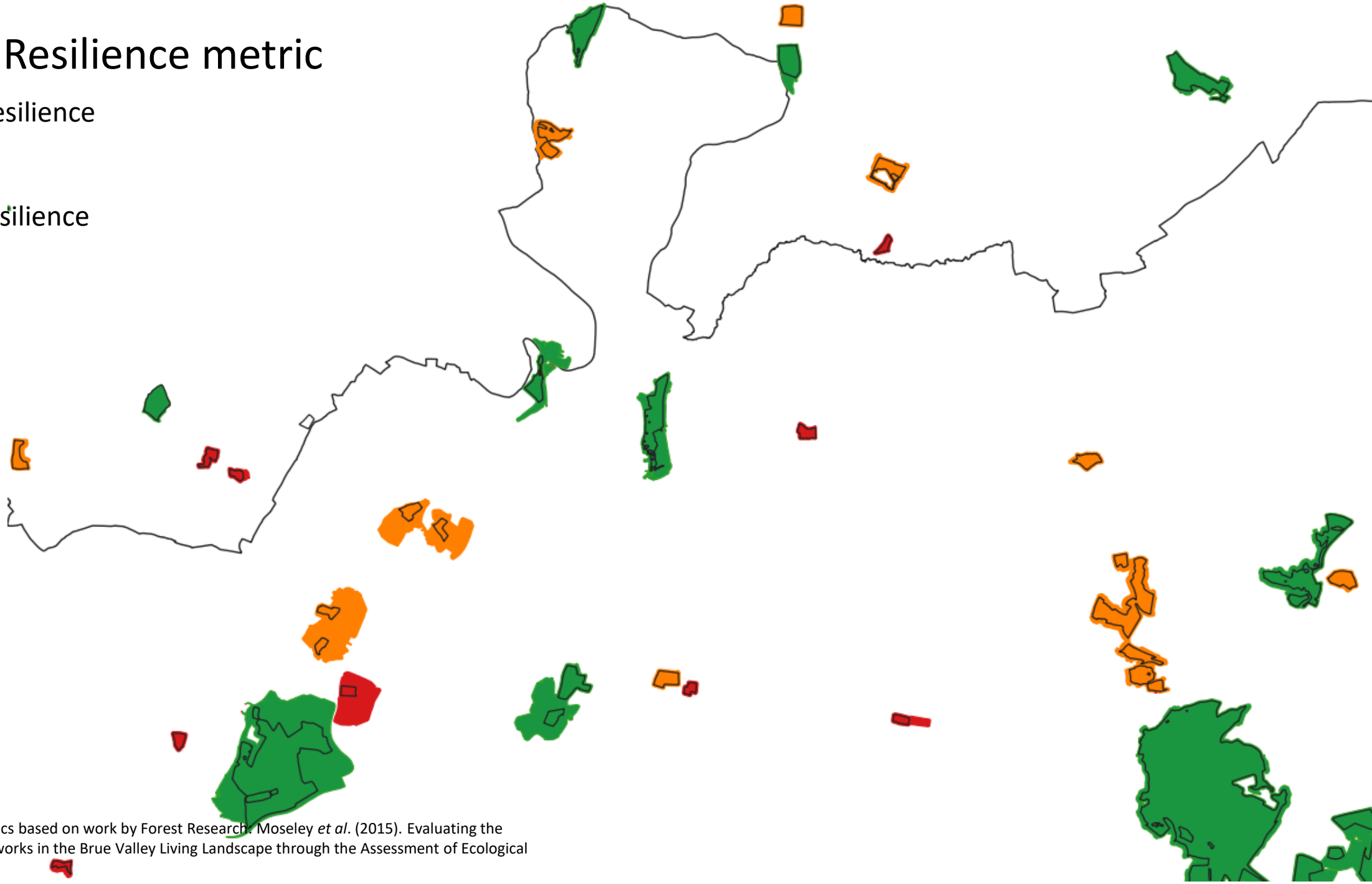
- High permeability land use:
 $500\text{m}/1 = 500\text{m}$
- Low permeability land use:
 $500\text{m}/50 = 10\text{m}$





Network Resilience metric

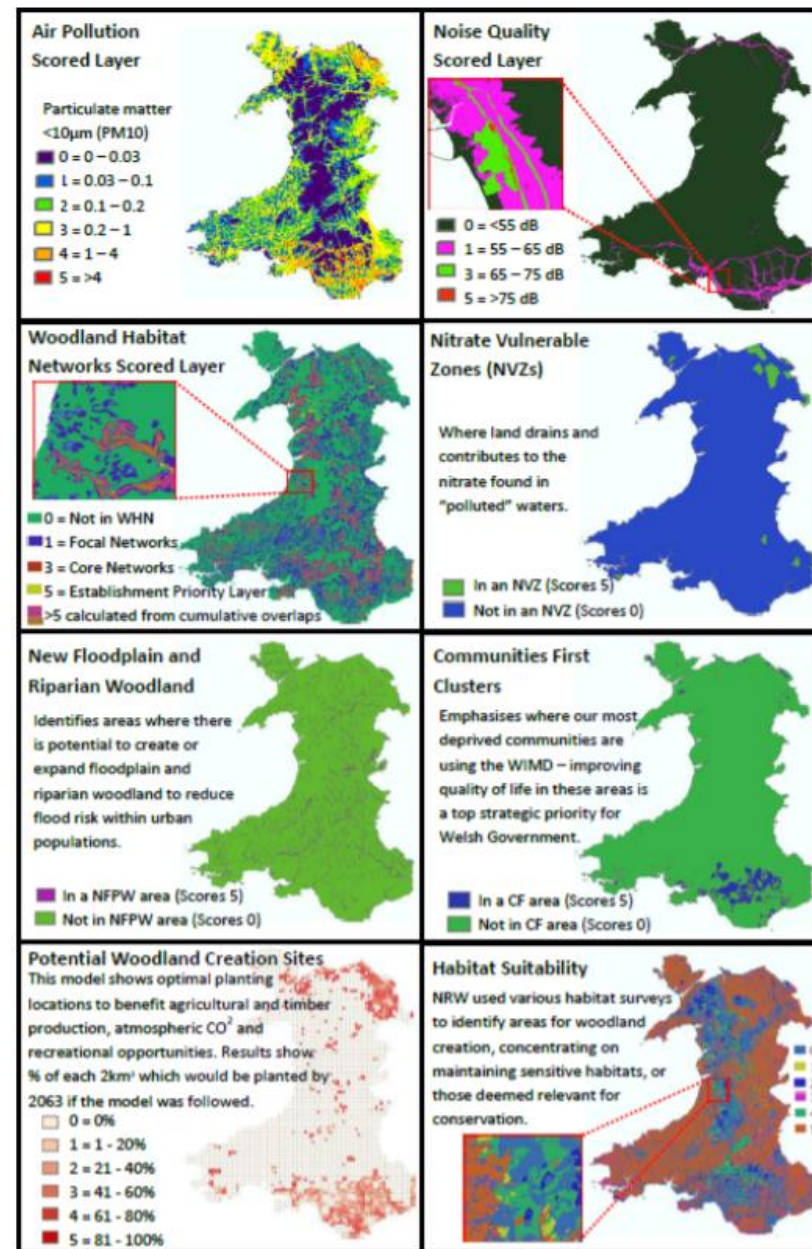
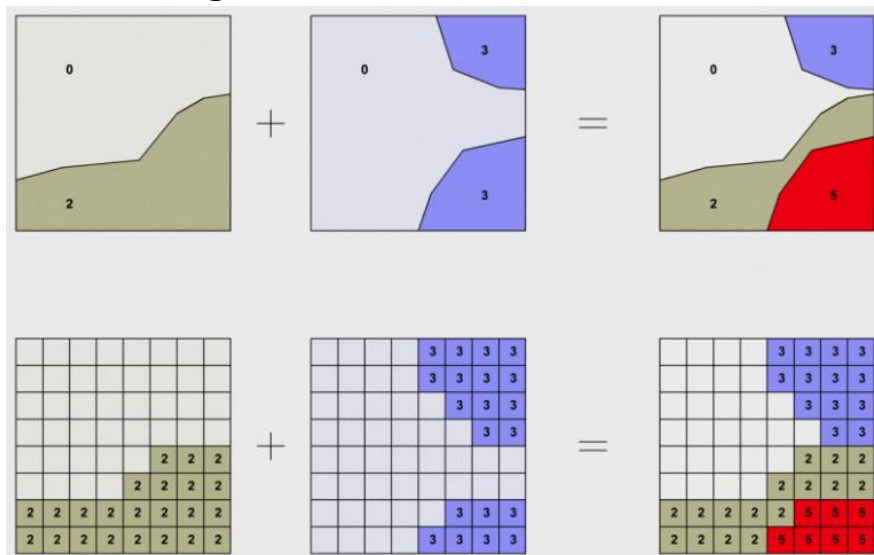
- Higher Resilience
- Lower Resilience



Restoration/creation opportunities

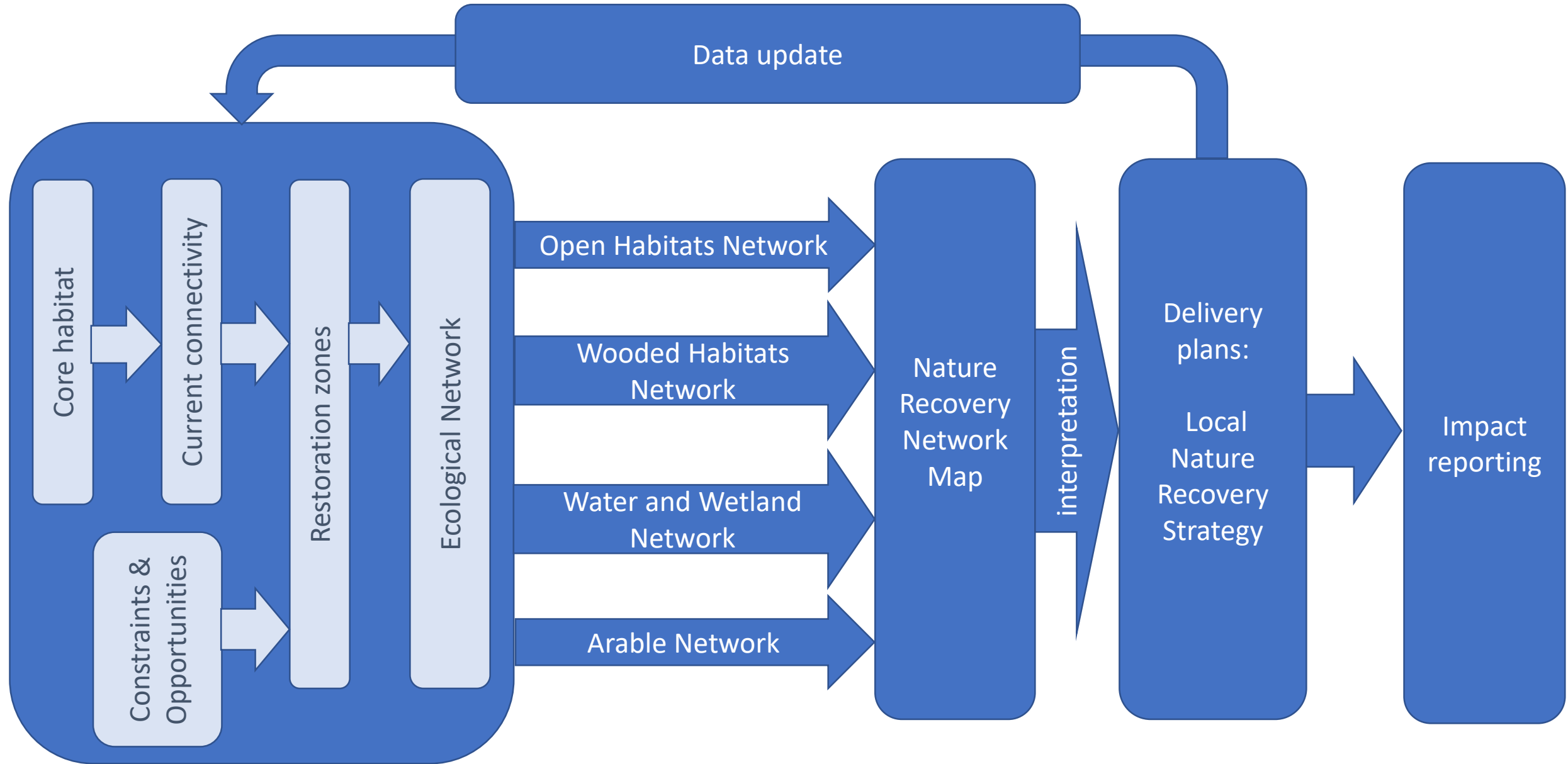
Raster addition of constraints and opportunities giving heat map of areas suitable for restoration/creation

- Positive/negative ownership
- Habitat suitability (priority habitat or other)
- Ecological network connectivity maps
- Low input permanent pasture
- Agricultural land grades
- Soil type/topography/hydrology
- Heritage sites

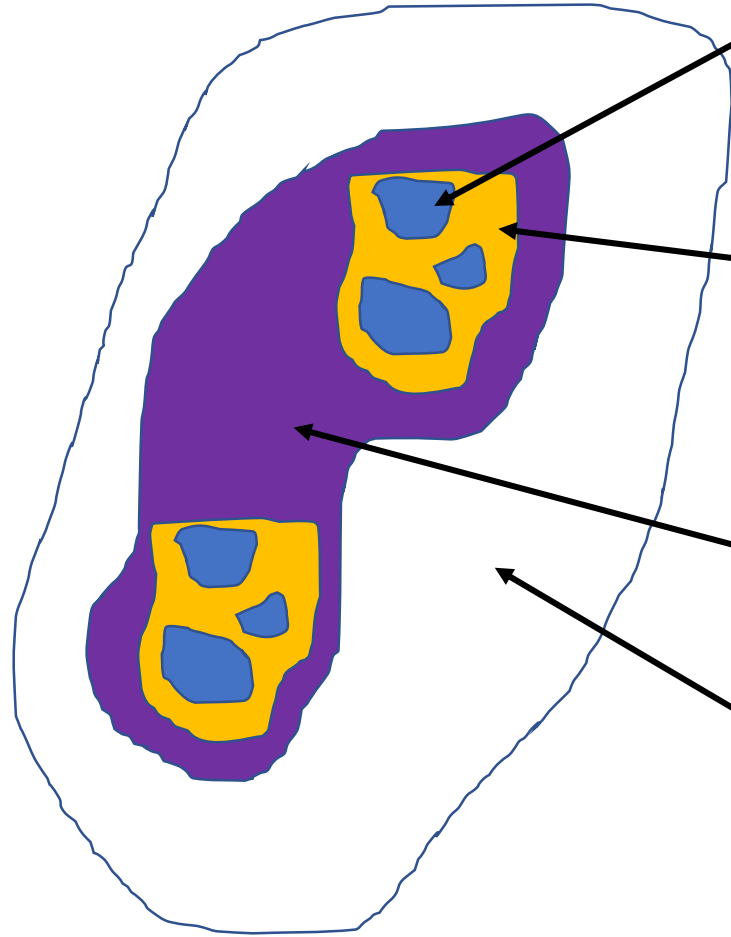


Glastir woodland creation opportunities map guidance 2014-2020, WAG

From ecological networks to an NRN



Delivery mechanisms



Core habitat (protection and condition):

Statutory protection and Planning policy
Biodiversity projects
ELMs Agri-environment

Core network (current connectivity zones) - *no reduction in resilience, aim to increase resilience where it is low:*

Implementation of net gain
Biodiversity projects
ELMs Agri-environment

Restoration zones:

Sites for targeting biodiversity offsetting (biodiversity allocations)
Large scales biodiversity projects
ELMs Agri-environment

Wider Landscape – improve permeability e.g. through net gain and ELMs

Natural Capital Tool

NRN should enable nature's recovery by restoring ecological processes

- Better quality habitat
- Bigger habitat patches
- More and more joined – functionally connected
- Increase the permeability of the wider landscape.
- Not stop at the county border.
- **Updatable**
- Repeatable metrics – can assess change

