Protecting for the Future

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The exam question:
How can protected sites drive nature recovery?



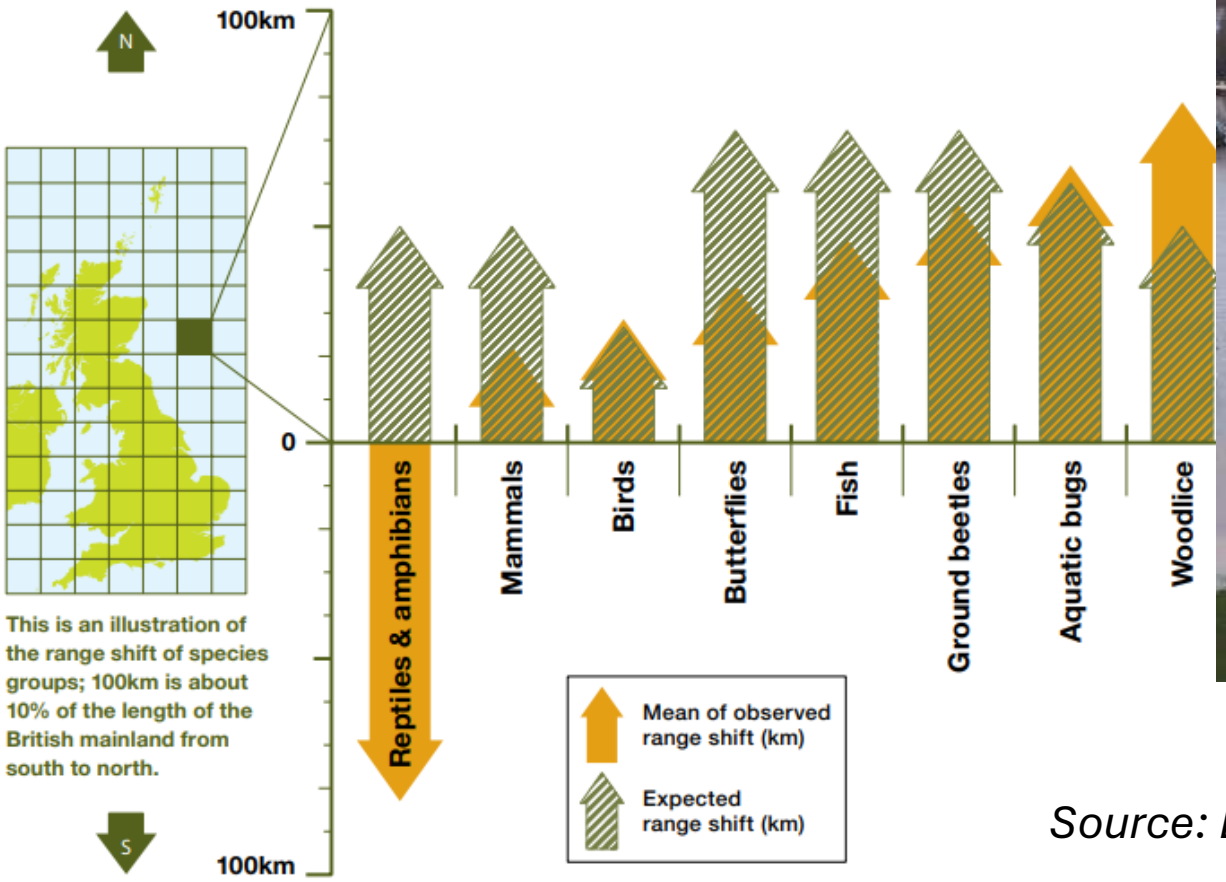
Wildlife protection in England

- Species (e.g. all birds, bats, badgers, certain threatened species listed in schedules of *Wildlife and Countryside Act* and *Habitats and Species Regulations*)
- Sites (SSSIs, SACs, SPAs, NNRs, MPAs, NPs, National Landscapes, LWS, Biodiversity Net Gain delivery areas, Conservation Covenants, OECMs, Agri-environment schemes…)



Global Average Temperature 1850 - 2024



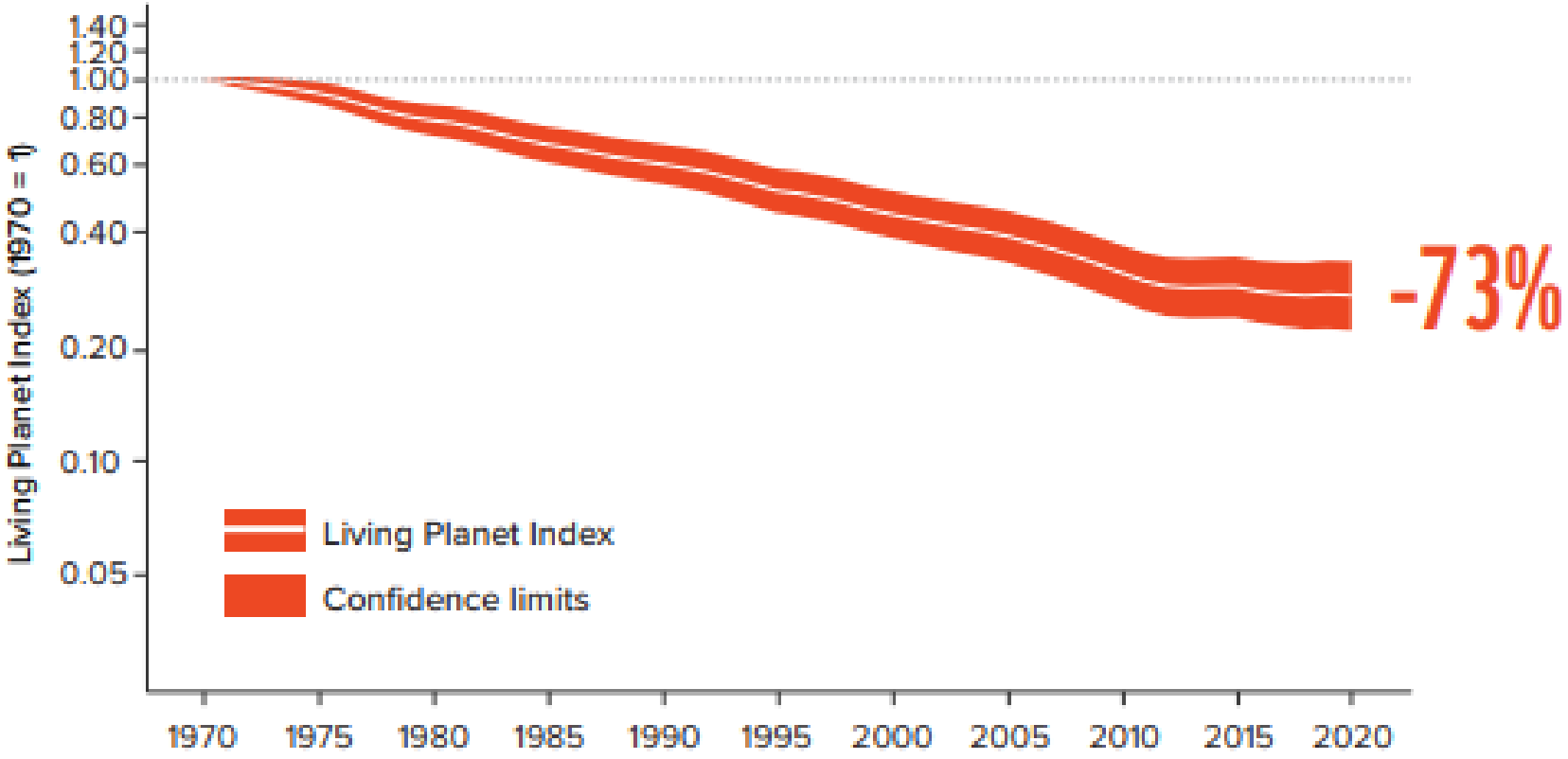


This is an illustration of the range shift of species groups; 100km is about 10% of the length of the British mainland from south to north.

Source: LWEC



Global Living Planet Index



Source: https://wwflpr.awsassets.panda.org/downloads/2024-living-planet-report-a-system-in-peril.pdf





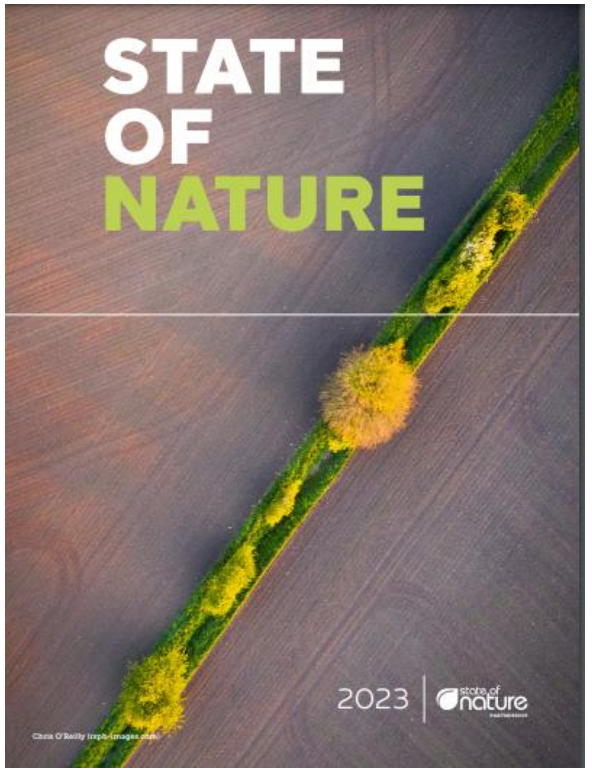




UK state of nature



“one of the World’s most nature-depleted countries”



Species

- >40% UK species are in decline
- 25% mammals threatened with extinction
- 73 million fewer birds over the past 50 years
- Flying insects (may) have declined by >60% in past 20 years
- Earthworms declined by >33% in past 25 years

Habitats:

Large historic and ongoing changes e.g.

- 90% wetlands lost in past 100 years
- >80% lowland heathland lost since 1800
- >95% flower-rich meadows lost since 1930

➢These losses matter

➢… but protection has prevented extinctions and slowed declines

England's biodiversity commitments

- Environment Act 2021 – legally binding targets
  - Halt the decline in species abundance by 2030, with 10% increase by 2042
    ('Apex target')
  - Reduce extinction risk by 2042
  - Increase area of habitat by 500,000 ha by 2042
- Additional targets and commitments including for:
  - water quality, woodland cover, waste, air quality, marine protected areas
  - 30x30

Environment Act 2021

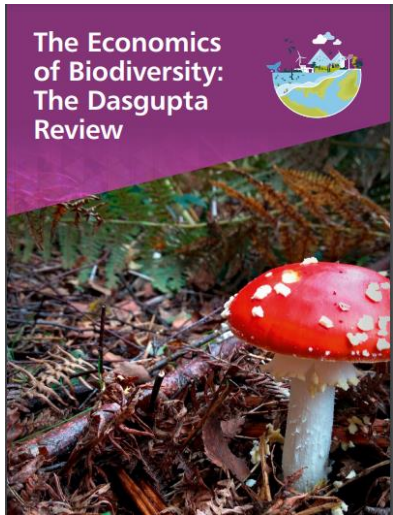


- Will these achieve the level of change needed to deliver health, happiness and security (alongside economic growth)?

We need Transformative Change

- **Moving from halting loss to thriving nature….** we need to change
  - how we use land and sea (requiring integrated spatial planning)
  - how treasured landscapes and seascapes look (more trees, more renewable energy)
  - what we eat and where food comes from
  - how we value nature in decisions (natural capital)
  - how we spend our money (including investing in nature by treating it as essential infrastructure)
- We need to bring people with us - to succeed we need more people to want (or at least accept) these changes
- <u>BUT all of this has to add up to change on the ground…</u>





England's biodiversity commitments

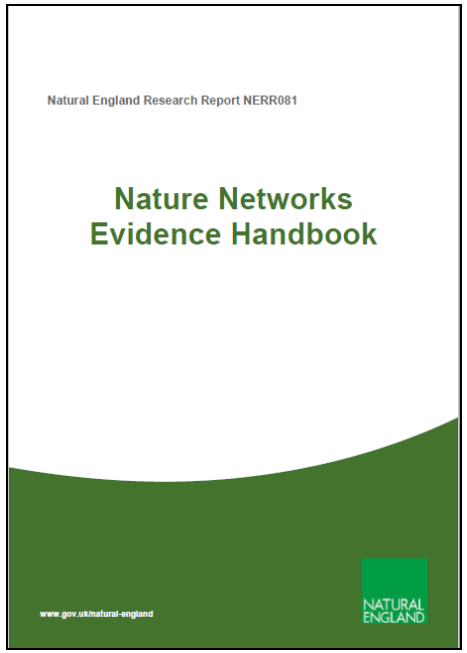
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SSSIs, SACs, SPAs, NNRs, NPs, National Landscapes, LWS, Biodiversity Net Gain delivery areas, Conservation Covenants, OECMs, Agri-environment schemes

How and where this is delivered will be crucial – nature needs big messy spaces, in particular in lowland areas

How big?





20-40 ha for immobile target species

>100 ha for some mobile target species

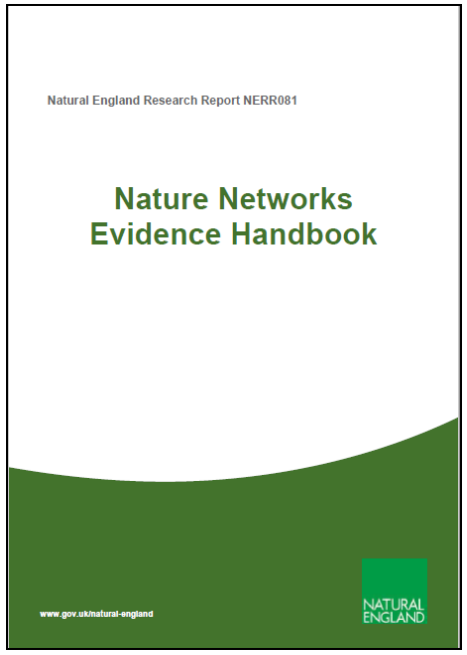
>5000 ha for resilient, dynamic natural systems



How big?



Source: Lawton report



Priority habitat	Number of habitat patches	Median patch size (ha)
Lowland calcareous grassland	4728	1.9
Lowland dry acid grassland	2904	1.8
Lowland meadows	5769	2.0
Upland calcareous grassland	955	3.1
Upland hay meadow	284	2.5
Lowland heathland	2987	3.0

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>100 ha for some mobile target species

>5000 ha for resilient, dynamic natural systems

Yet:
Over 75% SSSIs <100ha; 50% SSSIs <20 ha

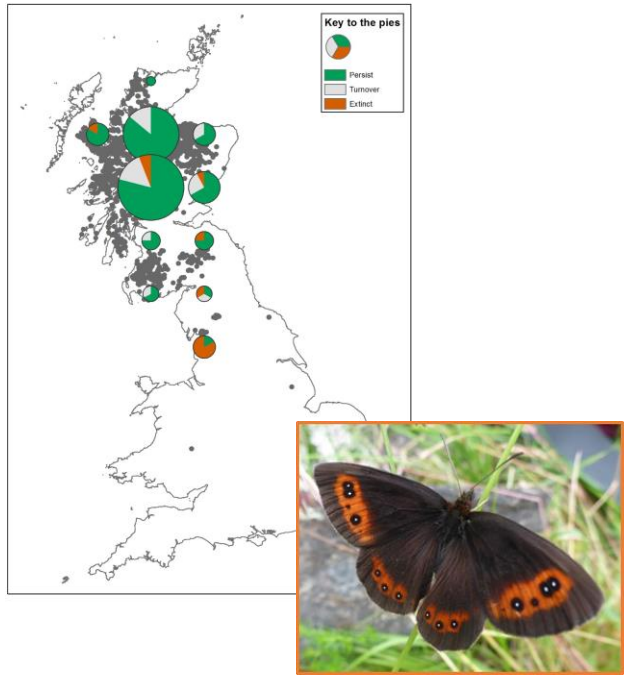
Most habitat patches in AES are even smaller….
These are not delivering core sites – they are delivering stepping stones (often just for a short time) and "soften" the matrix through which species move.

- This has given us the wiring but the not the power stations to drive nature networks

SSSIs have been the cornerstone of UK nature conservation, but…

- Many SSSIs are small, leaving them vulnerable to off-site pressures.
- They can be dependent on careful management based on now uneconomic forms of land use.
- They are often based on a static view in a world of rapid change – conserving ‘features’ that may need to move or have already gone.
- Legal processes underpinning designation and re-notification are protracted and costly.
- Simpler alternatives are available.

Erebia aethiops
(Scotch argus)



In praise of SSSIs…



SSSIs (and SPAs, SACs) are ‘special’ because:

- They are England’s best sites for wildlife and geology
- They are (effectively) permanent
- Their status enables control of damaging activities both within and outside the site
- Public authorities have a duty to further the conservation and enhancement of sites’ features
- Natural England has the power to require proper management of SSSIs and restoration following damage.
- [We need to be bolder in using these powers and duties.]

In addition, they have fantastic potential:

- As climate refugia and colonisation sites
- Large SSSIs include bogs, woodlands and coastal sites that, in good condition, can underpin climate change mitigation and adaptation.
- Even if currently in unfavourable condition, they often have environmental qualities - such as undisturbed soils and seed banks - that enable rapid recovery under the right conditions.

➢ This means that SSSIs are often the places where nature can recover fastest.

Changing our approach to SSSIs

- SSSIs need to be managed for the future, not the past. Natural England and other SNCBs are committed to stretching and testing the legal framework
- SSSIs can already be selected "where restoration or natural processes are likely to re-establish features of special interest in the foreseeable future*" (JNCC selection guidelines)*
- We need to simplify the process of changing current SSSI notifications and designating new ones
- Protected Site Strategies (for European Sites, SSSIs and MCZs) are being trialled to better manage off-site pressures
- NE continues to make the case for an SSSI premium - additional payments - through ELMS
- With partners, we are assessing the role of current and new SSSIs in supporting species recovery, notably through the Threatened Species Recovery Actions (TSRA) database
- NE is producing adaptative delivery plans for climate-vulnerable SSSIs

NE is producing “Adaptive Delivery Plans” for climate-vulnerable SSSIs

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START

SSSI

Set IoS, monitoring spec, explore jD delivery mechanisms

ADP - act suppo

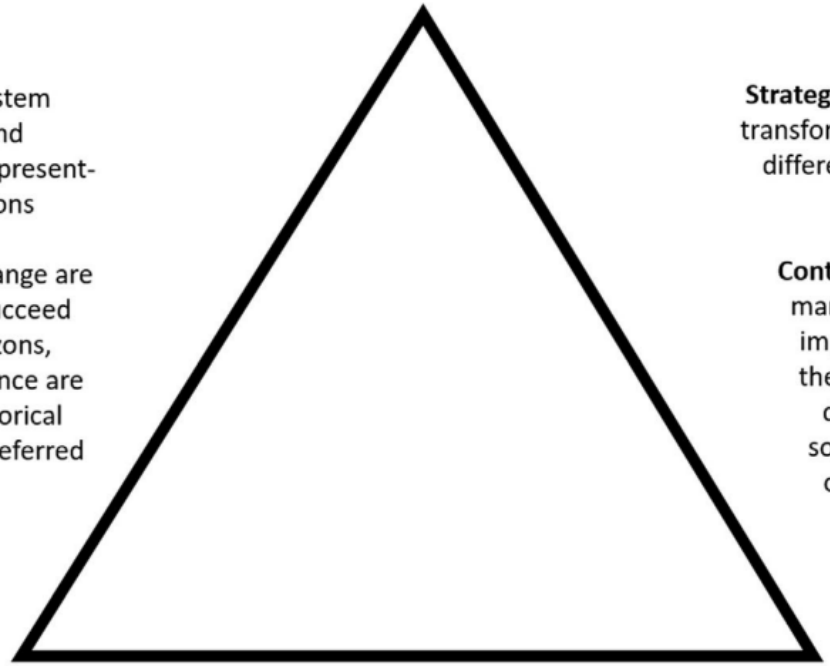
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Resist

Strategy: Maintain ecosystem processes, structure, and composition consistent with present-day or historical conditions

Context: Actions to resist change are feasible and expected to succeed within management horizons, resources to support resistance are available, and current/historical ecosystem conditions are preferred



Accept

Strategy: Allow current-change drivers to transform ecosystems to something that is different from present-day or historical conditions

Context: Changes cannot be feasibly managed, they are not sufficiently impactful to warrant a response, they are acceptable to (and even desirable by) stakeholders or society, or there is a lack of will or impetus despite sufficient knowledge or resources

Direct

Strategy: Steward ecosystems to conditions that are more desirable than what would be achieved with accepting change

Context: When change is so dramatic that resisting change is untenable and there is a feasible opportunity to direct change towards a more desirable outcome



Unleashing the potential of SSSIs to drive nature recovery

- Extinctions matter – and we don't know what species we will need to survive our uncertain future – so some sites will need to be managed to retain certain species, at least for the short term. Applying the RAD framework strategically may even suggest we need more refugia to increase network resilience.



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Unleashing the potential of SSSIs to drive nature recovery

- Our default approach needs to shift from managing for specific features to restoring ecosystem processes, accepting change and unpredictability (*learn from marine systems*).
- Build scale – aim for >5000 ha, protecting and enhancing ecosystem services alongside nature. Use new habitat creation to grow outwards from current sites, especially in lowland areas.
  - This is about embedding SSSIs as the core sites within wider, contiguous habitat restoration areas – e.g. in protected landscapes, alongside OECMs etc.



Final reflections



Final reflections

- We can take nothing for granted. We live in a nature depleted, nature disconnected nation. People say they do care, but it doesn't seem to affect how they vote.
- There is strong evidence that nature underpins our economy and that more nature will make people happier, healthier and safer. But we need better regulations and land/sea use policies to support this.
- We are struggling to make the case for nature based on evidence alone – so let's enable nature to speak for itself through establishing big, wild, fabulous (and useful) spaces, as well as bringing nature to people. All 'protections' will need to contribute to this, including SSSIs.
- Let's be ready for the next emergency. We need to plan for the underpinning regulation and investment to make transformative change. Nature needs to be seen as critical national infrastructure worth more than a railway line.

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Forest Research

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Cranfield University

UKCEH

National Trust

Acknowledgments – Funders – Natural Environment Research Council (NERC). **Landowners** for access to survey sites. **Students and volunteers** who helped with field and labwork.

Core group: Jim Harris (PI), James M. Bullock, Kirsty Park, Rosie Hails, Ben Woodcock, Elisa Fuentes-Montemayor, Kevin Watts, Mark Pawlett, Alexey Larionov, Daniel Simms, Samuel Hibdige, Oscar Aguinaga Vargas, Matt Guy, Ross Barnett, Sam Rogerson Maico Geert Weites, Melanie Freeman, Lynne Roxbee Cox, Emma Feeley, Ben McCarthy

UKRI Natural Environment Research Council

