

Making space for nature in a changing world

Conservation in a Changing Climate

11th January 2011

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The lecture draws briefly on two recent reports:

Royal Commission on Environmental Pollution (2010).
28th Report. Adapting Institutions to Climate Change.
Cm 7843. The Stationary Office Ltd., London

Lawton, J.H., Brotherton, P.N.M., Brown, V.K. *et al.* (2010).
*Making Space for Nature: a review of England's wildlife sites
and ecological network.* Report to Defra
[http://www.defra.gov.uk/environment/biodiversity/documents/
201009space-for-nature.pdf](http://www.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf)

Deal with *Making Space for Nature* first

Impossible to do anything other than a very brief summary of
aspects of both reports

Terms of reference

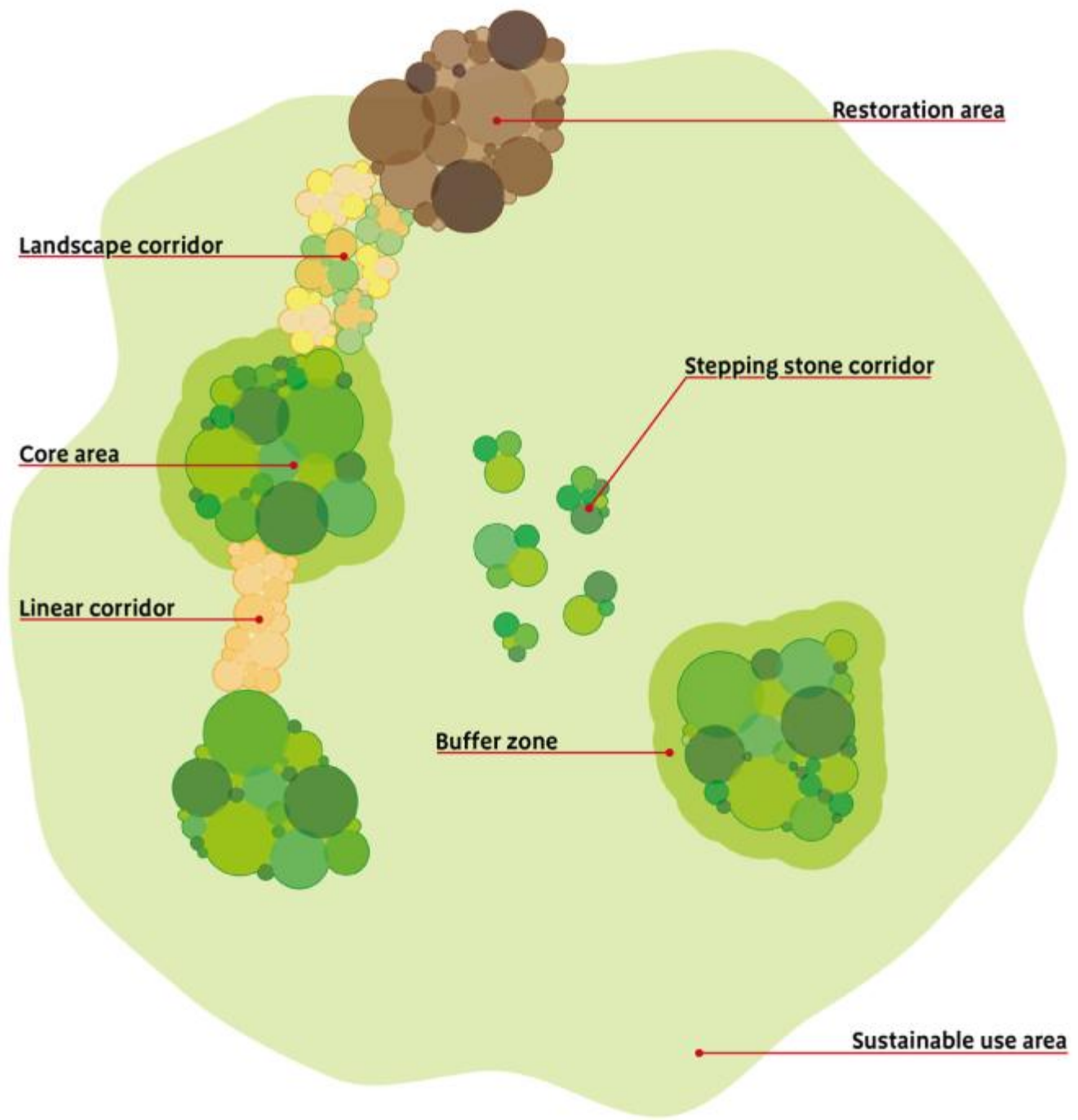
- **Examine evidence on the extent to which England's collection of wildlife sites represents a coherent and resilient ecological network capable of adapting to the challenge of climate change and other pressures (looked at 2°C temp. rise)**
- Examine the evidence base to assess whether a more inter-connected network would be more effective today and in the future and, if so, how this could be delivered
- Taking account of the ecological, economic and social costs and benefits, make costed and prioritised recommendations

Commissioned by Defra

Terrestrial, freshwater and coasts (i.e. not marine)

Looking forward to 2050

Natural England provided the Secretariat

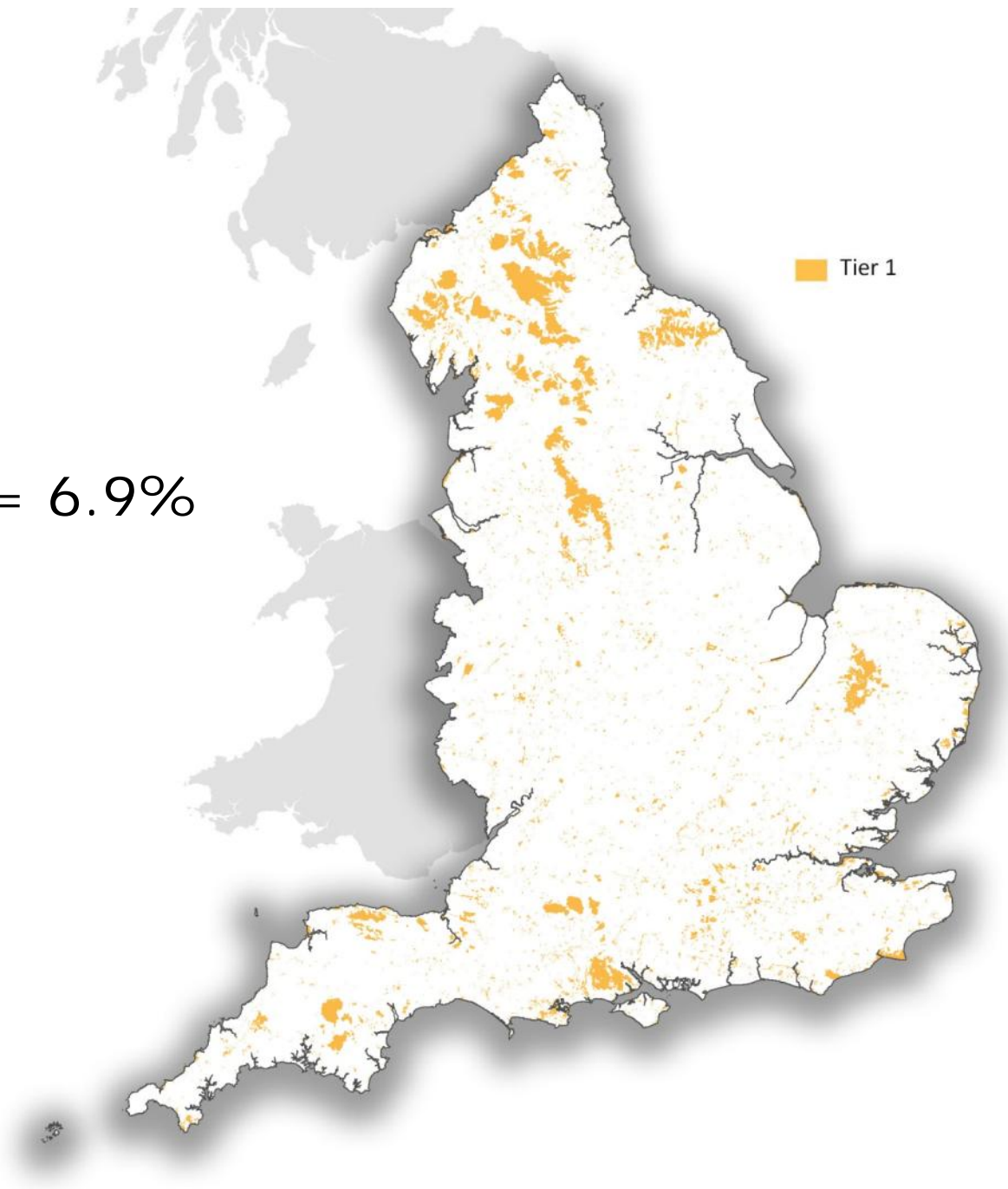


Three tiers of wildlife sites

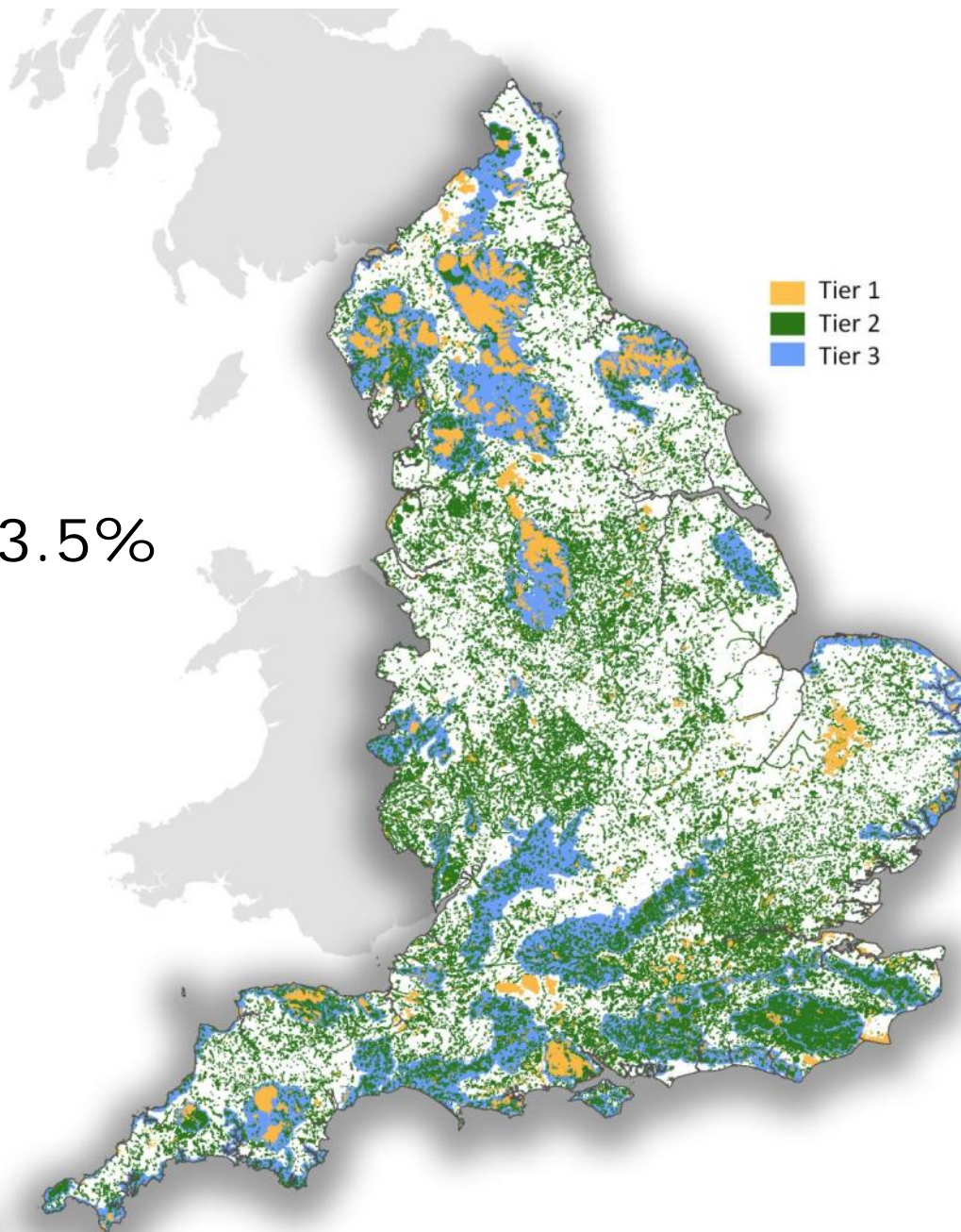
- Tier 1– sites whose primary purpose is nature conservation and which have a high level of protection either due to their statutory status or ownership.
SSSIs, SACs, SPAs, Ramsar, NNRs, Local Nature Reserves, and voluntary conservation-sector owned reserves
- Tier 2 sites - areas designated for their high biodiversity value but which do not receive full statutory protection.
Local Wildlife Sites and Ancient Woodland Inventory
- Tier 3 sites - primarily designated for other reasons but wildlife conservation included in statutory purpose
AONBs and National Parks

N.B. The review recognises (indeed emphasises) that there are other important areas for wildlife, that are outside 'sites'.

Tier 1 = 6.9%



Tier 3 = 23.5%



So why don't England's wildlife sites comprise a coherent and resilient network?

- Many of England's wildlife sites are too small (77% of SSSIs and 98% of LWS are smaller than 100 ha)
- Losses of certain habitats have been so great that insufficient remains to halt additional biodiversity losses
- With the exception of Natura 2000 sites and SSSIs, most of England's semi-natural habitats important for wildlife are generally insufficiently protected and under-managed
- Many of the natural connections in our countryside have been degraded or lost, leading to isolation of sites
- Climate change will make matters worse for many (but not all) species

What do we need to do? - ecological solutions

“MORE, BIGGER, BETTER AND JOINED”

- Improve the quality of current sites by better habitat management (and enhance heterogeneity)
- Increase the size of current wildlife sites
- Create new sites
- Enhance connections between, or join up, sites, either through physical corridors, or through ‘stepping stones’
- Reduce the pressures on wildlife by improving the wider environment, including through buffering wildlife sites

Better management of existing sites > Bigger sites >
More sites > Enhance connectivity > New corridors

The impacts of climate change mean that these actions will be even more important in the future.

Where you are matters



Increase habitat diversity
and quality



Create new habitat / increase
size of sites

Everywhere, but on a large
scale in **ECOLOGICAL
RESTORATION ZONES**

Take-home messages

- It's not all bad. We have made considerable progress with site management and species recovery and this needs to continue
- Our wildlife sites do not comprise a coherent, resilient ecological network but establishing such a network would provide an effective response, with benefits for wildlife and people
- Ecological networks, including **restoration areas**, need to be properly planned. This should involve (and be led by) local stakeholders but be informed by a national framework in partnerships
- Large-scale '**Ecological Restoration Zones**' should be established in some areas.
- Conservation needs a step-change in its ambition and vision



The Royal Commission
on Environmental Pollution

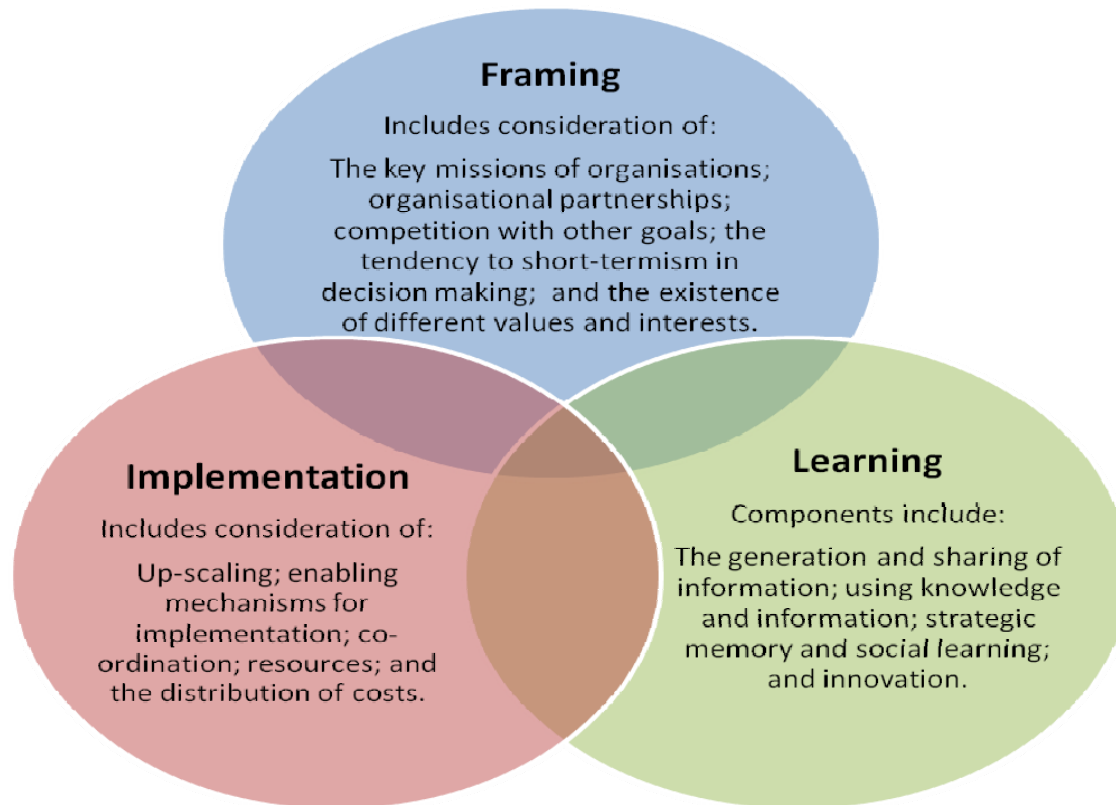
Adaptation is difficult

It will be impossible for conservationists to maintain the status quo. Eventually “all our nature reserves will be in the wrong place”

- Local impacts need local solutions
- No end-point
- Uncertainty about the magnitude and local impacts of climate change
- Complex institutional arrangements
- Need a step change in how address adaptation – traditional ways of working will not be enough
- Need to build adaptive capacity



The circles of adaptive capacity





The Royal Commission
on Environmental Pollution

The Report has 10 questions on adaptation e.g.:

Have you identified the possible range of impacts of climate change on the activities and responsibilities of your institution?

Do you understand the nature of, and the limitations in, the climate projections in UKCP09?

Do you understand that adaptation to climate change is an open-ended process, not a single action that will solve your problems or reduce your risks?

Are the objectives and aims of your institution fit for purpose in a changing world? Are you aware of the powers and duties that might affect your institution's ability to adapt to climate-change? Are there things you want to do but cannot? Are there things you must do but which will become increasingly difficult if not impossible?

As we seek to hang on to what we've got, and to create more space for nature (more, bigger, better and joined):

- Are we capable of using the flexibility inherent in the Habitats Directive and the Birds Directive intelligently, or do we risk too rigorous an interpretation?
- What do we do with protected sites that lose most of, or all, the species for which they are designated?
- How do we create protected areas for 'species that aren't there yet'?
- Are we too focussed on species? Should we instead be seeking to restore ecosystem processes and services, over large spatial scales (and let species sort themselves out)?
- The planning system is in a state of flux in England. Will it be able to deliver Ecological Restoration Zones?

Basically we broadly know what we need to do, but are our Institutions up to it?