

Making Space for Nature and Ecological Restoration: Some thoughts about the future

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Weather extremes linked to warming

Global warming is responsible for three out of four hot temperature extremes around the world, and almost one-fifth of heavy precipitation events over land.

Erich Fischer and Reto Knutti at the Swiss Federal Institute of Technology in Zurich used climate simulations to compare the frequencies of daily hot and wet extremes over the past century with those projected for the twenty-first century under a high-emissions scenario.

They found that with 2°C of warming above pre-industrial levels, extreme events that were once expected to occur every 30 years or so might happen every 10–20 years.

Nature Clim. Change <http://dx.doi.org/10.1038/nclimate2617> (2015)



A project commissioned by the
Association of British Insurers

The financial risks of climate change



Warming temperatures are expected to influence the pattern and intensity of rainfall, winds and storms in the future. This means the amount of inland flooding and storm damage, as well as its geographic spread, is likely to change. This is a major consideration for insurance companies providing cover for weather-related losses. Understanding how future claim levels may change is essential for the insurance industry to ensure premiums are set at the right level and there is enough capital to cover potential claims. While there is considerable uncertainty over the exact extent of changes in our climate, the industry nevertheless must assess the potential impacts to allow a controlled approach to risk.

Post-Christmas flooding 2015

Across the whole of the North of England about 16,000 homes and businesses were flooded.

The preliminary estimate of the cost of the flood damage is £1.3bn, and rising.

The cost in terms of human misery is unfathomable.

For the record floods in Yorkshire in 2000, 2007 and again in 2015 were all “1:200-1000 events”



For days on end before and just after Christmas 2015, exceptionally heavy rain fell on the northern Pennines centred on the Yorkshire Dales National Park and North Pennine AONB, on ground that was already saturated.

Exactly what the climate-change models predict will become a much more regular occurrence.

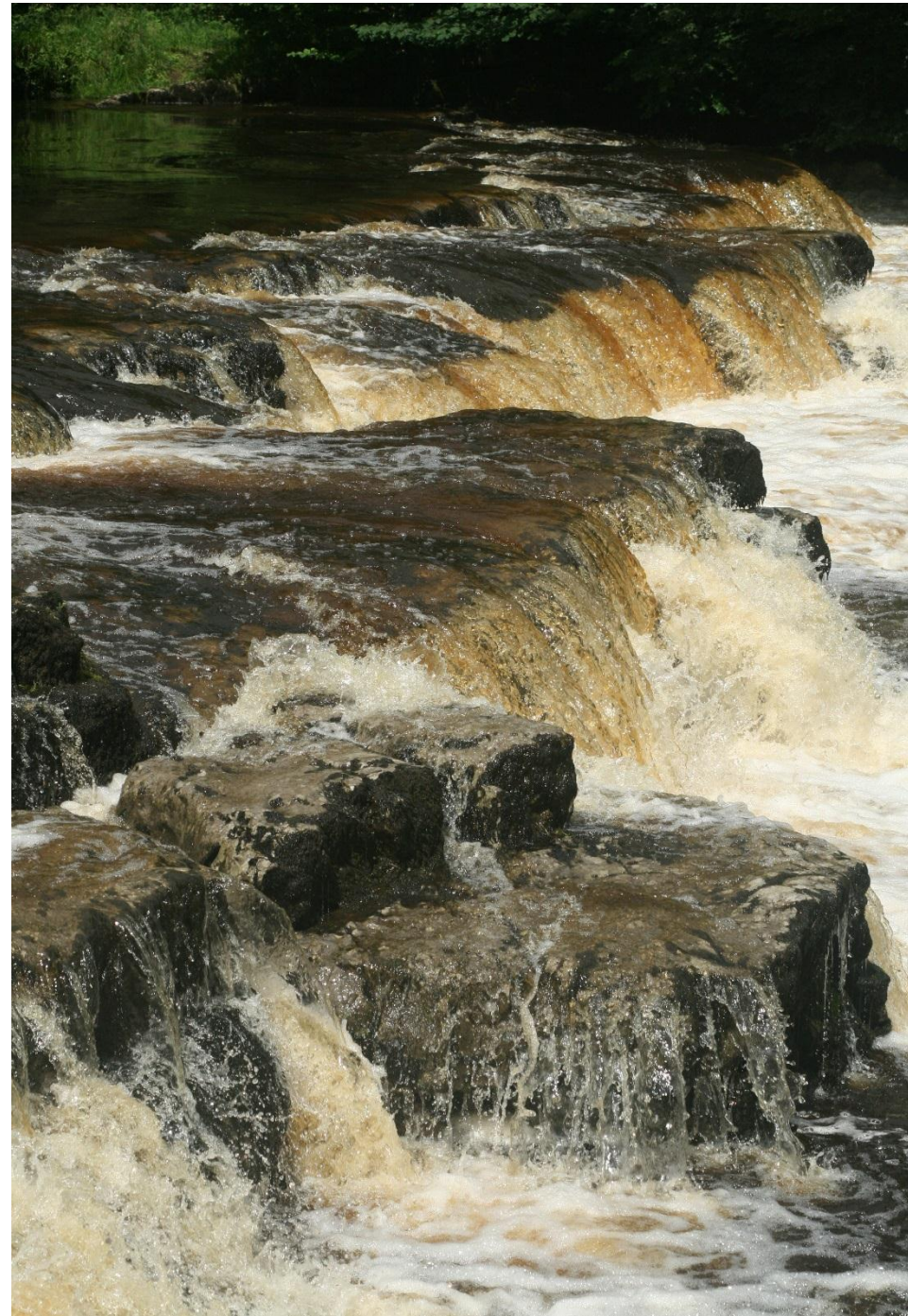
Water poured off the saturated fells, heading for York, Leeds, Tadcaster, and places like Whalley on the western side of the Pennines.

But the impacts of the extreme rainfall were made worse in the uplands by:

- **Overgrazing**
- **Excessive heather-burning**
- **Moorland drainage**
- **De-forestation**
- **Dredging and canalising the upper reaches of rivers “to get the water away”**

THE ‘SPONGE’ HAS BEEN SEVERELY DEGRADED

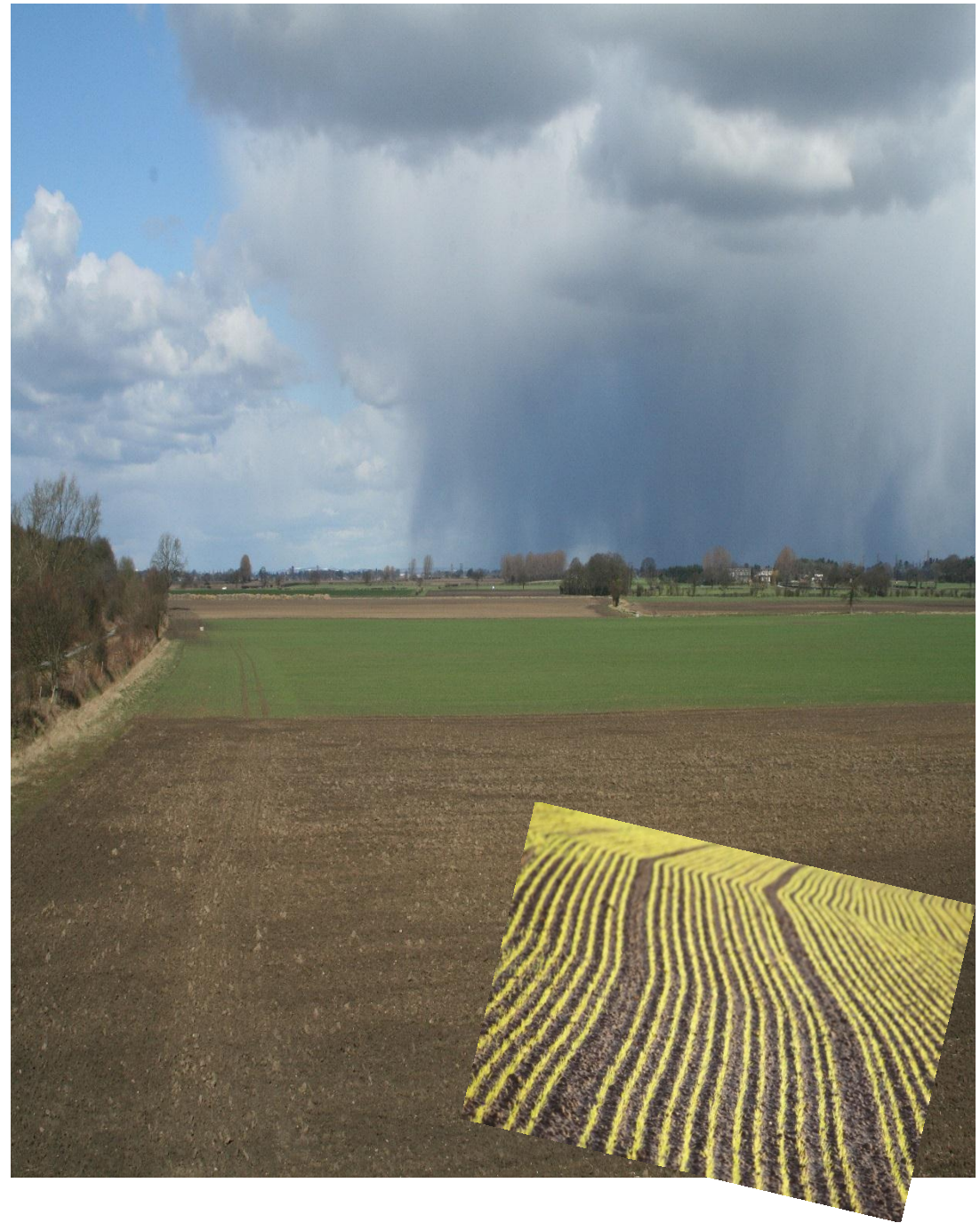
So the water just roared off heading for York and numerous other northern towns and villages







**Downstream we do yet more canalisation and are obsessed by dredging.
Grasslands converted to arable again no longer have the capacity to act like a sponge.
So the water whooshes on, in to York etc.**





What a fantastic opportunity to *Make Space for Nature* upstream of cities like York to reducing the risks of flooding, by working with nature and water, not against them.

- Restore the upland sponge by blocking grips and drains
- Greatly reduce or eliminate grazing in critical upland catchments to restore vegetation
- Strategically plant trees
- Restore river meanders and put natural blockages back in the rivers (the exact opposite of canalisation and dredging!)
- Replace arable with pasture
- Create new wetlands to hold water that will otherwise end up in York



Catchment-scale management that works *with* water and wildlife, not against them, to benefit and protect people and property

Recommendation 4 of *Making Space for Nature* said:

Public bodies and statutory undertakers planning the management of water resources should:

- make space for water and wildlife along rivers and around wetlands
- restore natural processes in river catchments, **including in ways that support climate change adaptation and mitigation.**

Recommendation 6 said:

Government should produce a strategy to ensure that we protect and secure multiple benefits from carbon-rich soils and **peatlands**, to maximise their contribution to ecological networks.

“Multiple benefits” include carbon capture and storage and holding water back on the fells.

Recommendation 17 said:

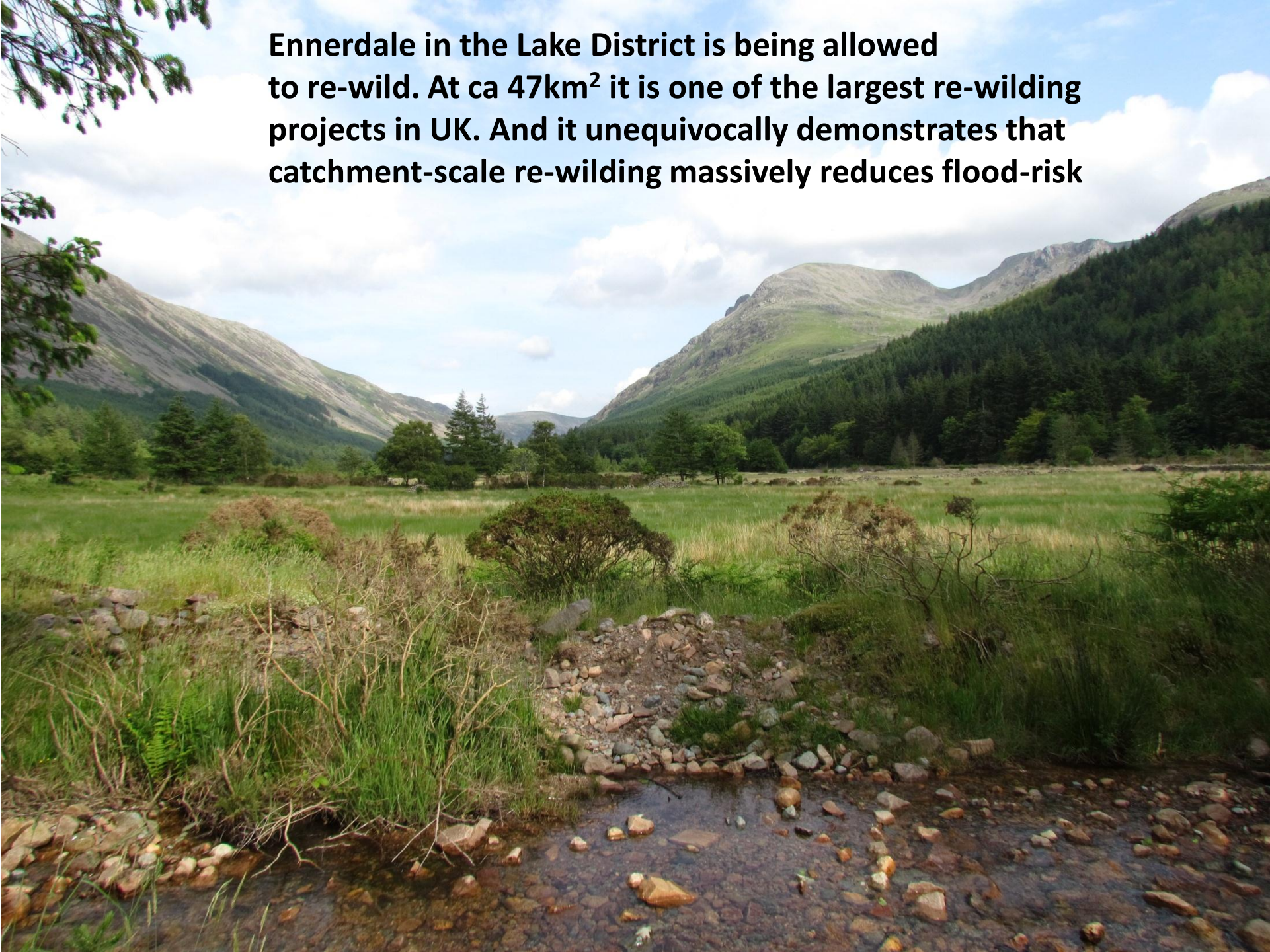
The government should promote economic approaches that will favour conservation management by stimulating the creation of new markets and payments for ecosystem services, to ensure that the values of a wider range of ecosystem services are taken into account in decisions that affect the management and use of the natural environment.

The accompanying text explicitly lists “flood risk management”.

Governments have very short memories. Oliver Letwin (Minister for Government Policy in the Cabinet Office) is chairing a new committee – the **National Flood Resilience Review** – to recommend responses to the events of Christmas 2015.

On 19th January I wrote to him in my capacity as President of the Yorkshire Wildlife Trust, but on behalf of all the UK’s Wildlife Trusts, to remind him of what *Making Space for Nature* says, and asking for a meeting to offer help and advice.

Ennerdale in the Lake District is being allowed to re-wild. At ca 47km² it is one of the largest re-wilding projects in UK. And it unequivocally demonstrates that catchment-scale re-wilding massively reduces flood-risk



Arguably easier in Ennerdale than in other Lakeland valleys because just three organisations own virtually all the land:

- National Trust
- Forestry Commission
- United Utilities

Working in partnership





- Sheep have been taken off the hills and valley-bottoms to restore grasslands
- The river has had meanders and blockages put back in
- Downstream from Ennerdale Water neither Ennerdale Bridge nor Egremont (or other smaller villages) flooded on at least two occasions in the last six years (including recent events in 2015) when torrential rain fell on the Western Lake District fells
- But towns and villages on the western edge of the Lake District with rivers flowing down adjacent valleys, and subject to ‘traditional’ management and land-use, flooded terribly, and have done so more than once. They include Cockermouth, Workington and several other smaller villages
- Ennerdale Water itself rose “just a few inches” after recent torrential rain

It's not
rocket
science!



Consider the cost of “business as usual”

Rob Stoneman (the CE of Yorkshire Wildlife Trust) calculates that the (currently estimated) £1.3bn amount of damage done to property and possessions in the most recent floods in the north of England is **about 25% of the annual farm income for the whole of the UK, and almost certainly more than the total annual farm income for the whole of the north of England.**

We have to do something different. Pouring concrete and dredging on their own are not going to fix things.

We need incentives for farmers, other land-managers and land-owners to ‘do the right thing’; to become part of the solution, NOT part of the problem (as Recommendation 17 in M.S.f.N. argued – paying land managers to deliver ecosystem services).

(As an aside, what you **WOULD NOT** want to do is to pay arable farmers compensation for lost crops if they allow floods onto their land to protect towns and villages downstream. There is no benefit to nature in this approach, and it merely rewards arable farming in the wrong place.)



The new Countryside Stewardship Facilitation Fund (CSFF) that NE have developed looks to fit the bill admirably.

- It isn't just, or only, about flood-risk, but it can be used to reduce flooding by habitat management at catchment scales
- It uses an NIA approach of 'partnerships of the willing' – groups of farmers and other land-managers collaborating to manage landscapes for the benefits of people and wildlife, and being paid to do so
- Like the NIAs it is also competitive

But the issues are so pressing that additional government funds must surely become available ASAP as an outcome of Letwin's flood resilience review

And of course, there is more to making space for nature than managing floods!!!



Another exciting, important adventure into re-wilding is the Knepp Estate 20 minutes from Horsham railway station, West Sussex

- Private, visionary initiative, unique in England
- At ca 1400 ha it's quite small (ca one-third the size of Ennerdale), but this is the south of England!
- Crucially it reminds us that rewilding is a **process** designed to bring back nature at whatever scale is appropriate, and an **attitude of mind** that 'lets nature get on with it' as much as possible
- With remarkable results! For instance Knepp now has increasing populations of both nightingales and turtle doves

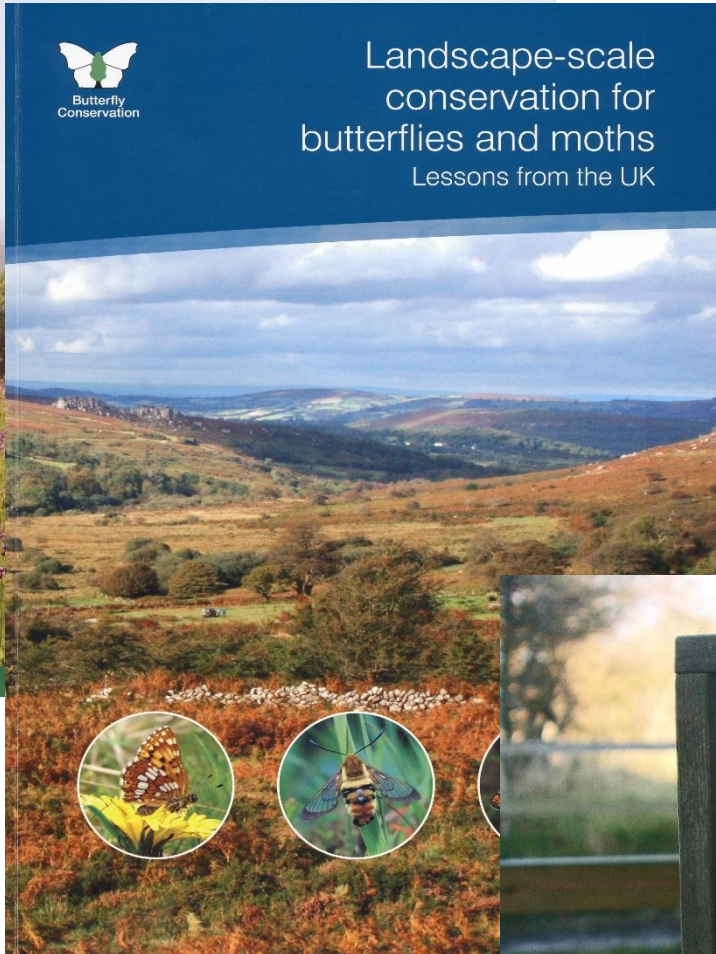


A Living Landscape

Valuing nature in a changing climate



Landscape-scale
conservation for
butterflies and moths
Lessons from the UK



As well as NIA's and private initiatives making space for nature, there are others:

RSPB's *Futurescapes*

Wildlife Trust's *Living Landscapes*

Butterfly Conservation's *Landscape-scale Conservation* initiative

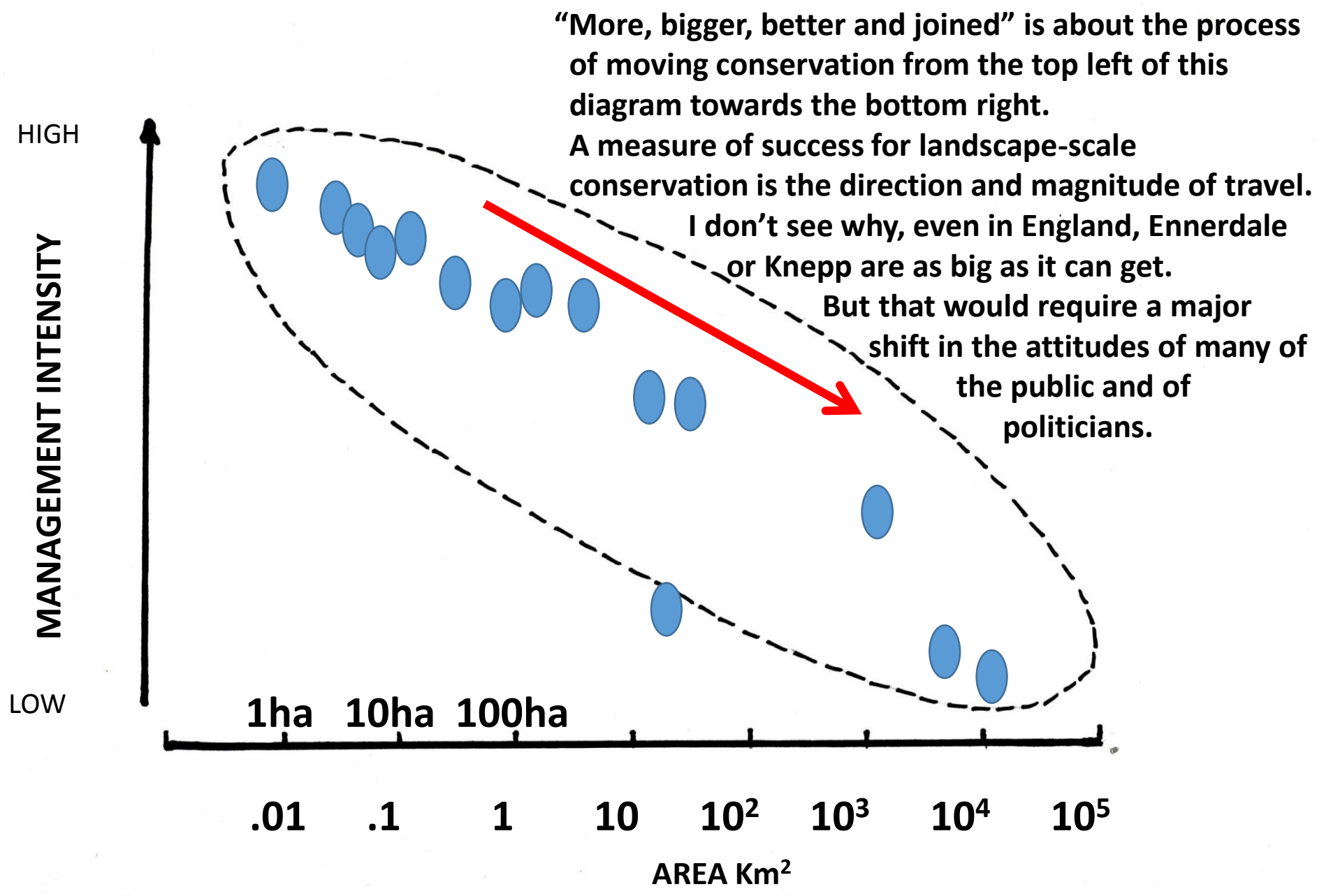
The National Trust's efforts on their huge land-holdings

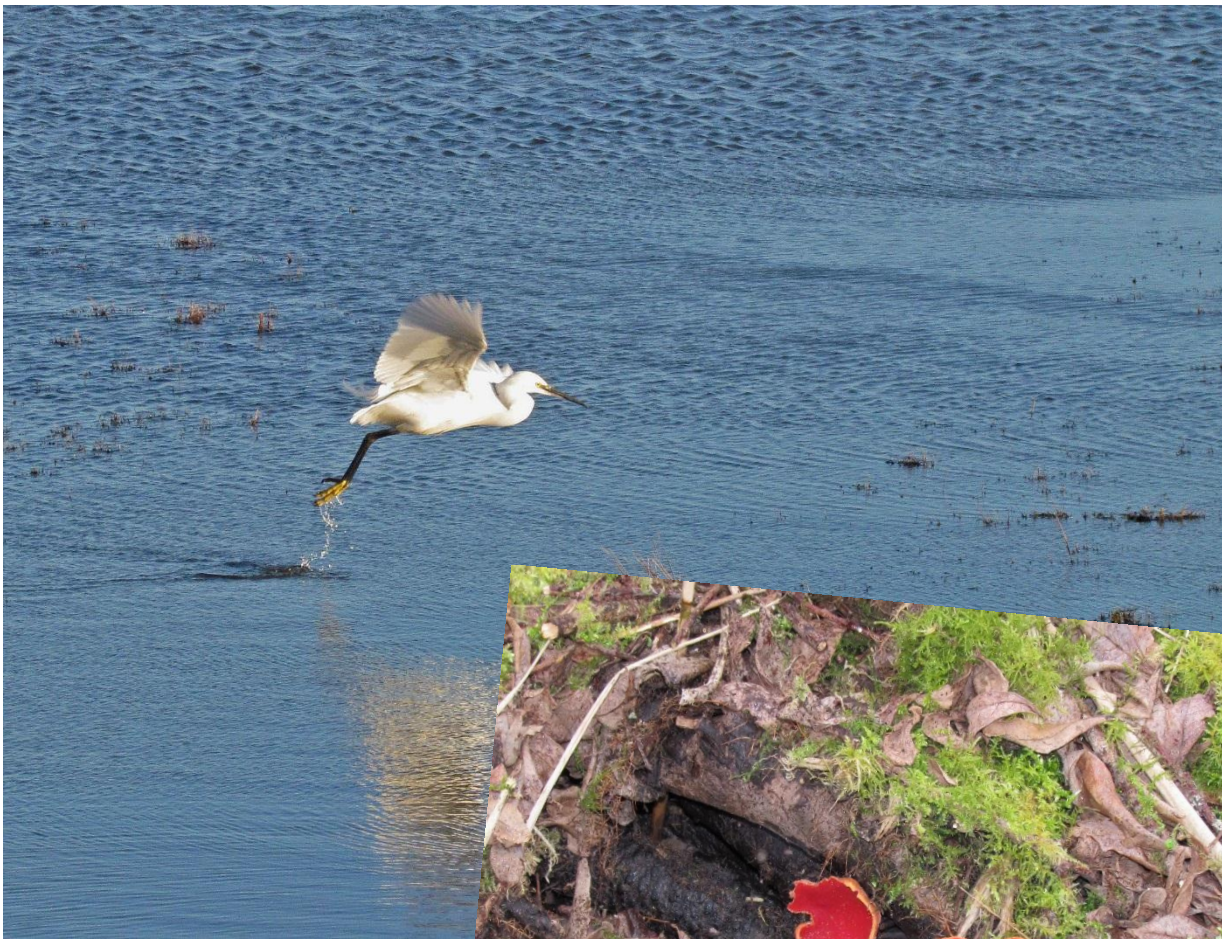
All delivering "more, bigger, better and joined" over thousands of hectares

At end of October, HLF announced a £36m investment for landscape level conservation in 13 areas across 3000km² from Orkney to Cornwall, and they hope to do more.



An e-mail to me from Drew Bennelick (Head of Landscape & Natural Heritage at HLF) on 5th Feb. asked me to say at this meeting that he hopes that their evolving Landscape Partnership programme will be able to support further work on NIAs in the future.





You are part of something new, exciting, big and getting bigger - for the benefit of people and wildlife

You should be very proud!!!

THANK YOU

