

# Rewilding - a field of dreams?

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BES Conservation Ecology SIG meeting - What are the  
ecological consequences of rewilding as a long term  
conservation strategy - Gregynog July 12-14 2007

# BES Issues - Rewilding

- Scientific evidence - ecological issues
- Social, economic and policy drivers -  
Past issues include ....
- Commercial fishing, N deposition

## Acknowledgements

Working group:

James Bullock - CEH

Steve Carver – University of Leeds

Keith Kirby - NE

Sophie Lake – GAP

Nigel Webb – CEH Fellow

Also:

Jim Harris – Cranfield University

Nick Dusic - BES

# Rewilding?

## Catch-all?

- Landscape – scale conservation management
- Minimum intervention
- Reintroduction of charismatic wildlife
- Providing landscapes – wilderness experience



## Catching imagination

- Sec of State - ‘re-wilding – as woodlands, heathland and fenland’  
*A Land fit for the Future Milliband 07*
- Marketing - ‘piggybacking onto the popular wilderness preservation movement is a good way to do it’ Foreman 2004).



## Conservation Radical vision for disused farmland



**Back to be wild**  
The Oostvaardersplassen reserve on about 5,600 hectares of reclaimed land near Amsterdam, seen as a model for farmland in Britain which becomes uneconomic.  
Photograph: Hans Kemp

# Wild herds may stampede across Britain under plan for huge reserves

## SocietyGuardian Environment

# Recall of the wild

Conservation groups say they are in favour of restoring Britain's countryside but have done little to back this up. Is it now up to private landowners to

**P**icture a place where the farm animals make their own decisions. Cows, ponies and pigs can wander where they please through fen and copse, across open, gateless fields like wandering herds of big game. They decide exactly where to shelter for the night, where to find their daily sustenance, and who should be the leader of the pack. No, it's not Orwell's Animal Farm but a real place, in West Sussex, right next to the sea.

It all started on the opposite side of the Channel, in the middle of the North-Sea, on land no longer from the sea just 40 years ago and surrounded by some of the richest agricultural land in the world, the Oostvaardersplassen. This 5,600-hectare (14,000-acre) tract of unfinished fen, scrub woodland and wild grassland is one of Europe's great reserves. It is home to roaming numbers of wild birds, as well as free-ranging black cattle and Konik horses. These latter are the ponies we have in the wild cattle and horses of prehistoric Europe. If all goes well, they will soon be joined by wild horses from Poland. It should offer a little glimpse of the Pleistocene epoch.

This is a long way from the traditional British approach to nature conservation. We parcel up nature in reserves. No big wild animals, no exciting scenes of wildness, but plenty of testamarks, boardwalks and visitor centres.

Some people yearn for something a bit more adventurous. To them, the Oostvaardersplassen has caught the imagination. They call it "rewilding". Experiments of the return of the big beasts – wild cattle and horses, but also not lost beasts, such as beaver, wild boar, lynx, ibex and even the wolf. In the words of one enthusiast, it is about "encouraging wild imagings in our urban mindset". Get the wild beasts in, and not only does it feel good but it is good. The land will breathe an Arcadian sigh of relief and biodiversity will soar.

Yet, so far, it has been all talk and no lions. Hopes of rewilding parts of the Scottish Highlands came to grief after the Scottish executive refused to allow even a small-scale pilot scheme for introducing beavers. So the prospect for bigger beasts is not promising. True, there are a few wolves in the Highlands, scouted within high fences, but they have no chance of early release.

The idea of a haven of rewilding in the heart of the home counties would have seemed like fantasy until a few years ago.



A longhorn cow and calf living wild at the grounds at Knopp Castle, West Sussex, while wild horses run free at Oostvaardersplassen, in the Netherlands (below).  
Photograph: Knopp, Hans Kemp

But the NT has come in at its Ennsdale property in the Lake District, dubbed "a wild experience for people". But for the NT, "wild" means Galloway cattle in a big pen, not herds in the wild.

The first to have that in his "wildlife" Back

# Rewilding – ecological implications?

Focus:

## Pleistocene rewilding

- Release of old-world megafauna – California
- Ecological proxies for extinct keystone species

## Rewilding for ‘self-willed land’

- ...partial or total abandonment (‘re-wilding’)... Defra Rural Development Programme 2007-2013
- ‘the establishment of protected areas which are left to develop without human control’ Hochtli *et al* Italy 2005



# 1. Pleistocene rewilding Donlan et al 05, 06

Old world megafauna reinstate lost ecological and evolutionary processes in huge parks

Arguments against -



- escapes?
- public accept?
- Distraction from old world conservation
- fencing costs

See Donlan et al 2006

# Pleistocene Park – Siberia

- 10,000 years ago – grasslands
- Mammoths, woolly rhinoceroses, bison, horses, reindeer, musk-oxen, elk, moose, saiga, and yaks
- Warming climate – extinction..
- Or was it caused by humans?
- Zimov – Initiated park 1989
- Fenced park reduce hunting pressure
- Introduce grazers, musk oxen / bison
- Gradually increase grazed area
- Change from moss-grass
- Implications for C storage



# Pleistocene rewilding – ecological issues

- Assumption that plant communities essentially the same as 13,000 bp - processes reinstated not novel
- Effects on existing communities – hard to predict
- Introduction of novel pathogens / parasites
- Introduced mammals without old world diseases etc. - population trends - hard to predict
- Difficult to assess success given little knowledge of Pleistocene ecosystems

## 2. Rewilding & self willed land

Is rewilding.....

..reduction of conservation management to a minimum to enable functioning of natural processes?

**VOTE!**

# Rewilding for self-willed land

## 5 Myths of Restoration Ecology .....

Hilderbrand *et al* 05

Carbon copy - single endpoint

Field of dreams – if you build it....

Fast Forward – unrealistic expectations

Cookbook – insufficient allowance for site differences

Sisyphus Complex – perpetual management

# Sisyphus Complex vs Field of Dreams

## Sisyphus – control

- Active intervention – forever
- Treatment of symptoms not root cause



## Field of dreams

- System – self organise
- Intuitive appeal – limited time & budgets

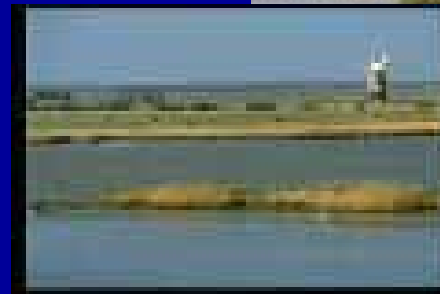
# Self-willed land – ecological issues

- What *additional* benefits does rewilding offer c.f. landscape scale management?
- Are there ecological processes that could *only* be achieved by rewilding?
- Evidence supporting claims for increase in gamma diversity?  
Arguments against – invasive species, atmospheric inputs altering soil processes...

# Assumptions - significance of WILD NATURE

BUT is the causal link pristine, pre-human past real?

- Landscape signatures of past humans often subtle or hidden
- 1950s - Norfolk broads shaped by ancient peat cutting (Lambert)
- Rainforest = grand wilderness? Ancient towns in Brazilian Amazon –



# Assumptions - mega-fauna keystone

- Concentration on horse, bison, wolf – management intervention initiating rewilding
- Ecological engineers in other taxa:
  - Hemi-parasite *Rhinanthus* – reduce competition from grasses
  - Mycorrhizae
  - Parasites
  - Ants
  - etc

Do big things or little things run the earth?  
E O Wilson



# Assumptions - increased resilience

Changes – species ranges, phenology –

- Management by natural processes – dynamic landscape
- US fire regimes / floodplain inundation – evaluation clear
- Other systems – monitor?
- Is there evidence to show that rewilding – adaptation to climate change?

# Adapting management – climate change



- Monterey pines in N. California – once removed from woodlands as an exotic.
- Now declining in S California.
- Strategy changed in light of climate change and palaeoecological research – showed repeat expansion & contraction of range.
- Now encouraged in Northern locations as a *neonative*

Neonative?



# Self-willed land – informing the debate

- Can the impacts of free-living large herbivores in the UK inform the debate?
- How accurately can we estimate land area required for wolves in Scotland?
- Can experiences of land abandonment in the mid 20<sup>th</sup> C inform the debate?

Others?

A natural landscape featuring a stream with green moss on its banks, surrounded by dense green trees and tall grasses. The scene is captured in a wide-angle shot, showing the stream winding through the landscape.

Why conserve?

*The one process now going on that will take millions of years to correct is the loss of genetic and species diversity by the destruction of natural habitats. This is the folly that our descendants are least likely to forgive us.*

E.O. Wilson Biophilia 1984

To keep every cog and wheel is the first precaution of intelligent tinkering...

Aldo Leopold



‘some wise principle of co-existence between man and nature, even if it has to be a modified kind of man and a modified kind of nature’ ....

Charles Elton 1958

...never imagining that we can flee into a mythical wilderness to escape history and the obligation to take responsibility for our own actions.....

William Cronon 1996 – The Trouble with Wilderness

# Next steps – BES ISSUES

- Incorporation of feedback from workshop
- Ensuring all interested parties consulted
- Circulation of draft outline
- Draft texts produced by working group
- Circulation of draft texts
- Issues booklet published