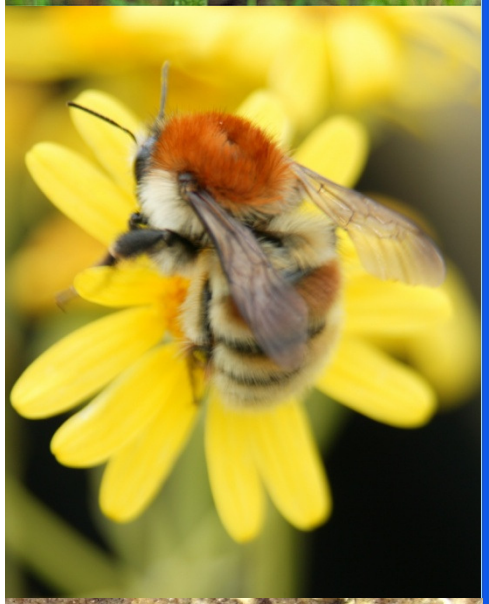

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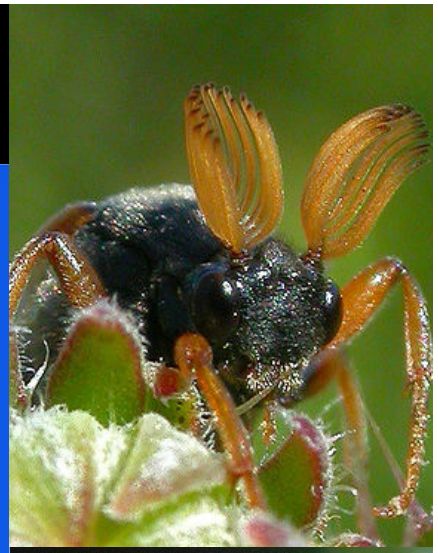

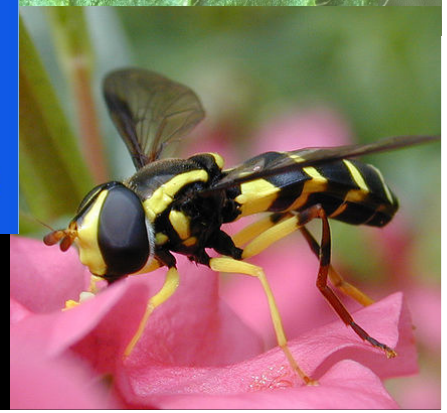

Pollinators, their decline and the decline of their habitats

Matt Shardlow
Chief Executive

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Pollinator declines

1. Pollination and why it is important
2. Pollinator declines and cause of declines
3. B-Lines concept

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How important is insect pollination?

One out of every 3 mouthfuls

90% of world's crop species

In UK worth £440m p.a. or 13% of UK agricultural revenue .

£13 billion across EU

£132 billion around the world (TEEB)

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How important is insect pollination?

80% of British wild plants

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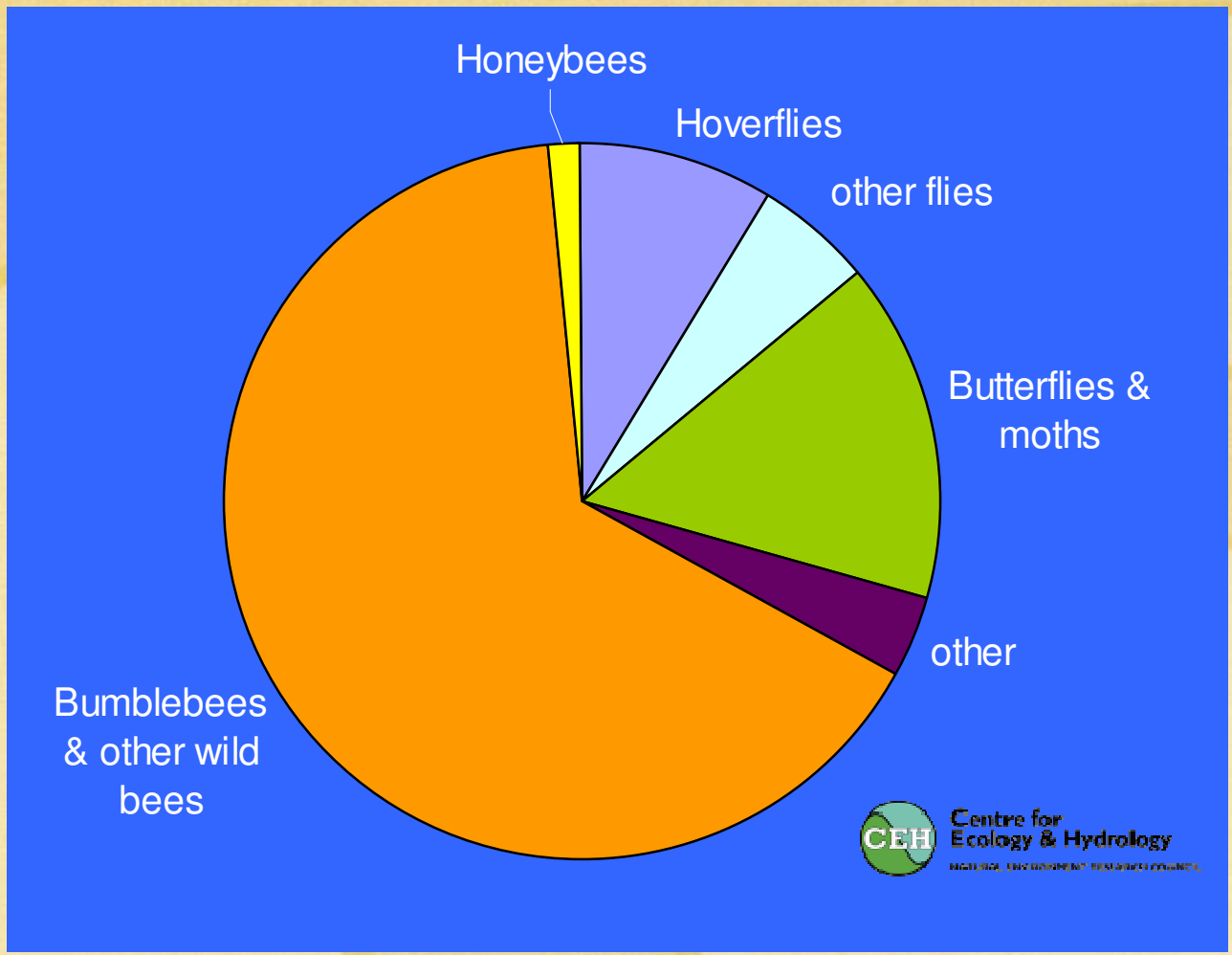
Pollination by different animals



Pie chart constructed using data from transect recording of insect-plant visitation in an ancient hay meadow at Shelfanger, Norfolk, by Lynn Dicks in 1999

Dicks, Corbet & Pywell (2002) Compartmentalization in plant–insect flower visitor webs. J Animal Ecology 71, 32-43

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Bumblebee Trends

Most species declining

Six of 25 species have declined in UK by at least 80% in last 50 years

Short-haired bumblebee extinct in early 1990s

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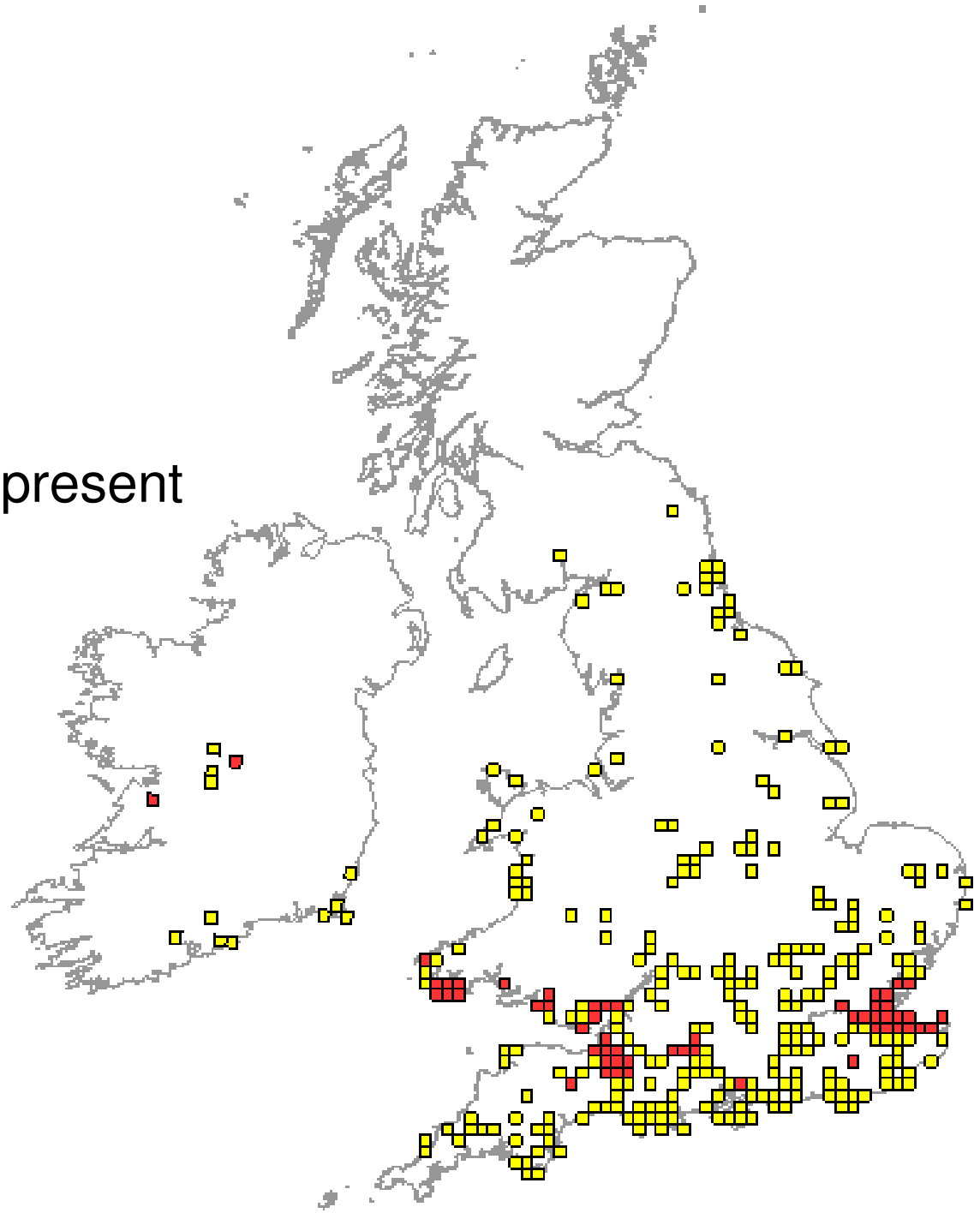
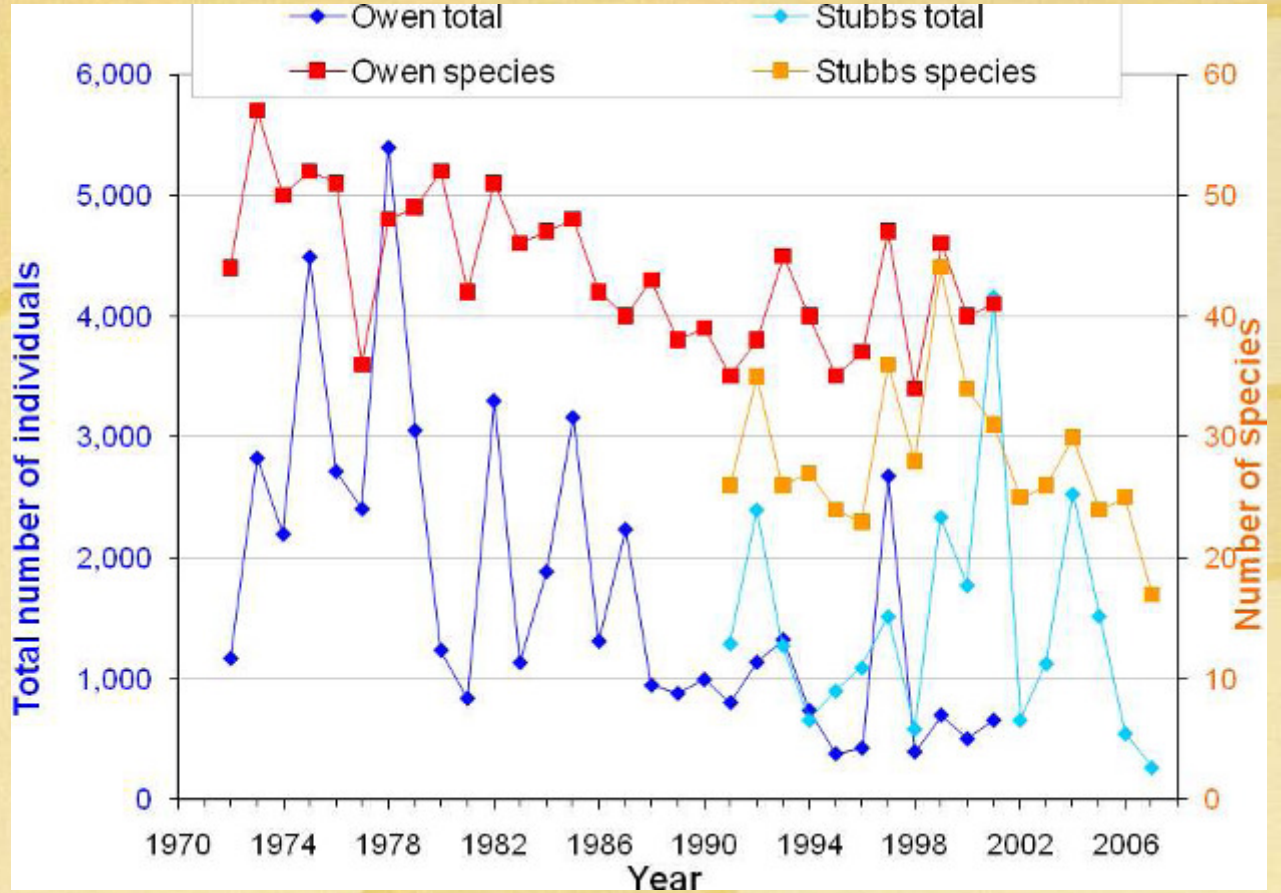
Shrill bumblebee

(*Bombus sylvarum*)

Red squares = 1995 to present



Hoverfly Trends



Hoverflies monitored in two gardens Compiled by Stuart Ball

Nationally change detectable in 1/3 of species and trend downward in 66% of these .

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EU Bee and Hoverfly Trends

38% of species in decline,

only 12% increasing

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Butterfly Trends

71% of British butterfly species are in decline

EU grassland species down by **70%** 1990-2009

Moth Trends

UK

66% of larger moth species have declined

75 species have declined by more than 70% in the last 35 years*

Netherlands

35% decline in abundance

70% of species in decline

** Fox R, Conrad, K. F., Parsons MS, Warren MS, and Woiwod, IP, (2006). The state of Britain's larger moths. Butterfly Conservation and Rothamsted Research, Wareham, Dorset.*

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Over 250 UK pollinators are in danger of extinction – listed on the UK BAP priority list

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If losses continue unabated –

Loss of 80% of wild plant species?

13% less agricultural production?

Fewer future food production options

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Pollinators in Europe (ALARM data)

62% of wildflowers are pollen transmission limited

Insect pollinated plants are declining faster than wind and water pollinated plants (cause or effect?)

Invertebrates and agriculture

Intensification of agriculture since 1950s and particularly in 1970s =

- Increased use of pesticides and fertilisers
- Increased field sizes and machine use
- Destruction of flower rich grassland
- Fragmentation of remaining natural habitats

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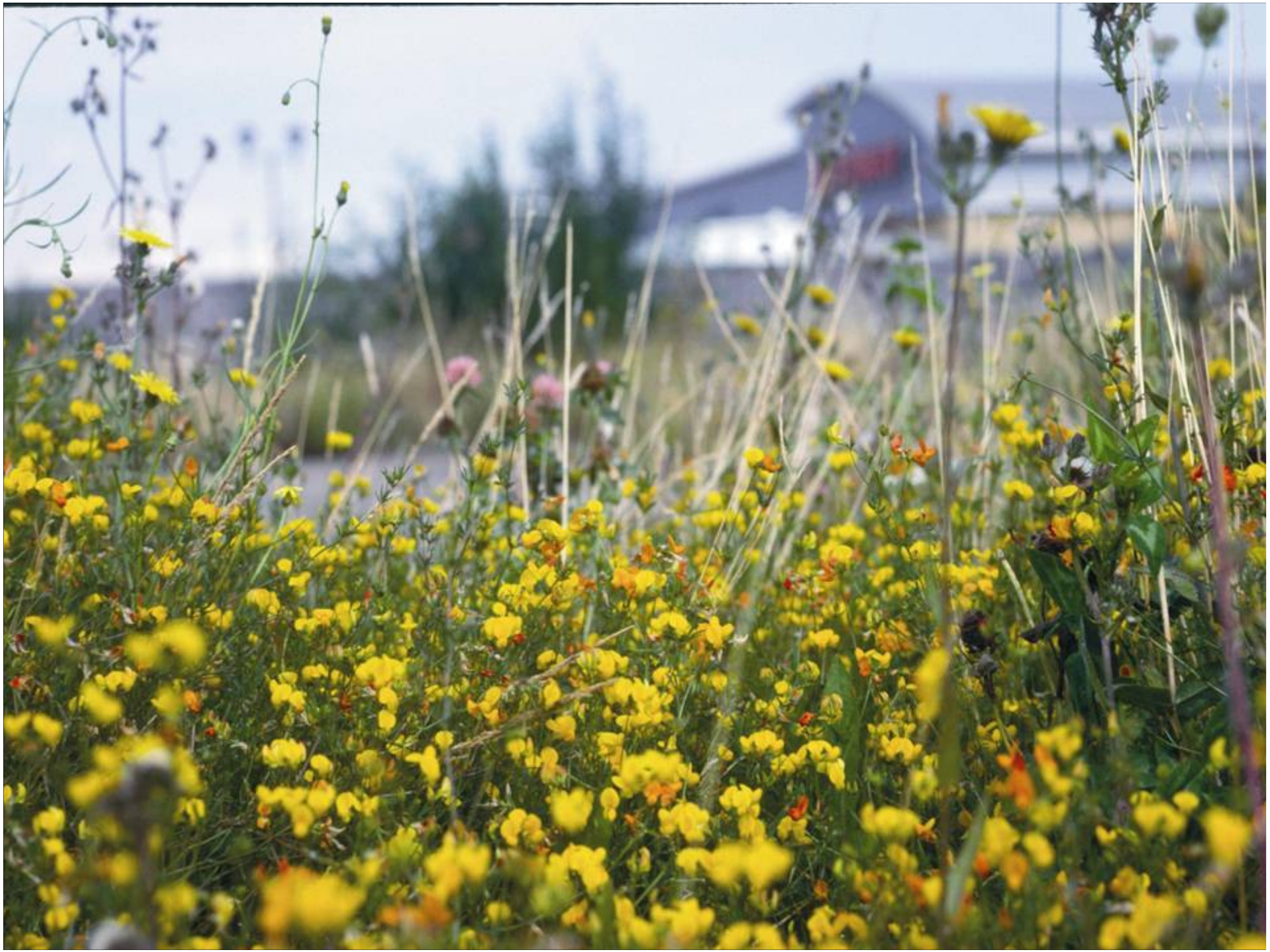

Britain's green and unpleasant fields

- 3,000,000 ha of flower rich grassland lost since the second world war, only 100,000 ha remain.
- Agri-environment schemes - 6,500 ha of ‘insect habitats’
- Only 0.3% recreated!

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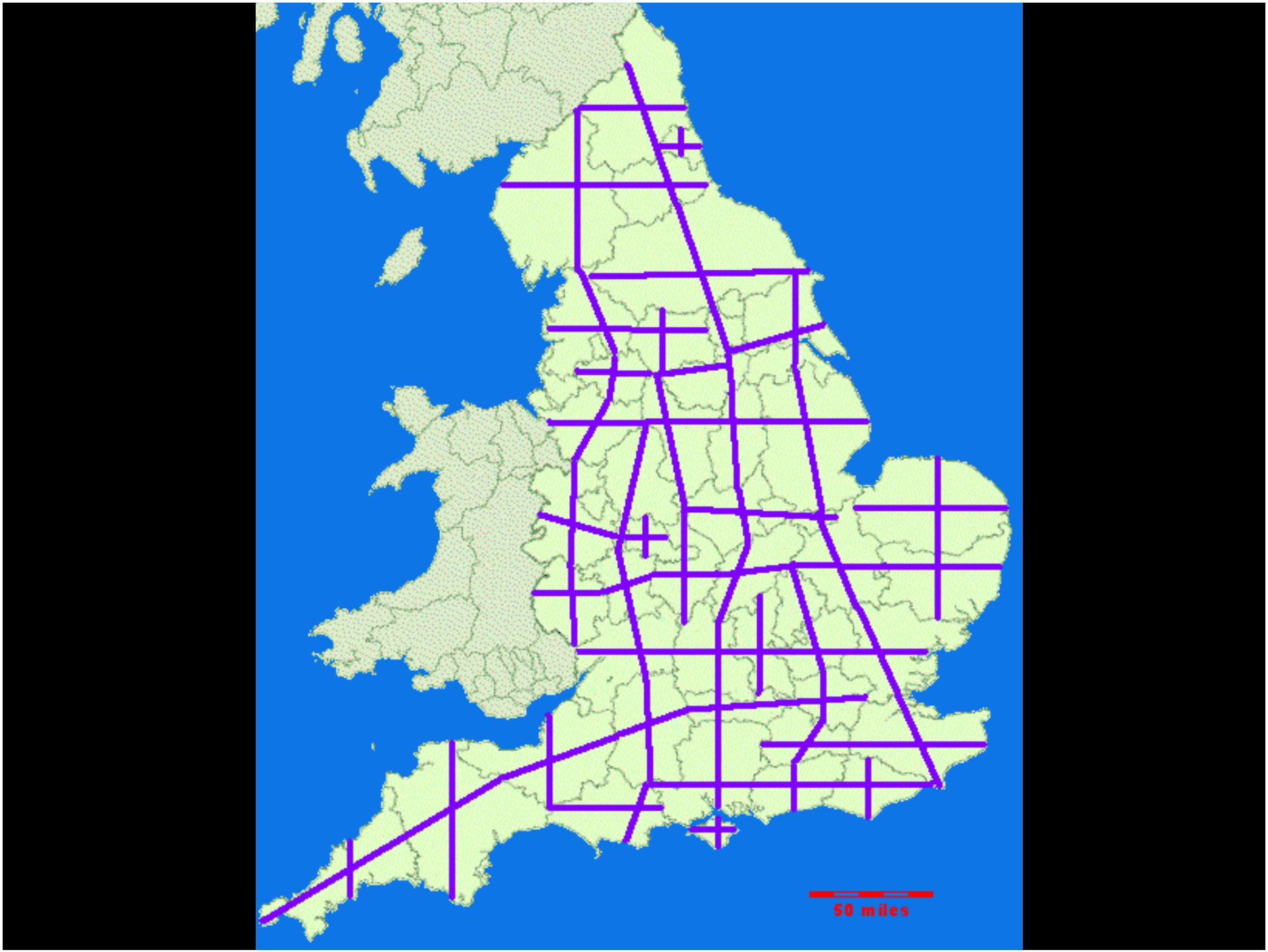
50 miles

B-lines

300m wide and 5,000 km long

- Create or secure 150,700 ha of wildflower rich grassland
- Cost 2.5% of agri-environment payments - £40 million/yr
- Tangible public resource
- Benefits for all grassland wildlife

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In Conclusion

- About two thirds of pollinator species are declining – vastly fewer than there used to be
- Loss of wildflower habitats similarly dramatic
- Bold steps needed to improve pollinator and flower resources to feed and enrich the lives of following generations

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Plan BEE

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