



# Silent Earth

AVERTING THE INSECT APOCALYPSE

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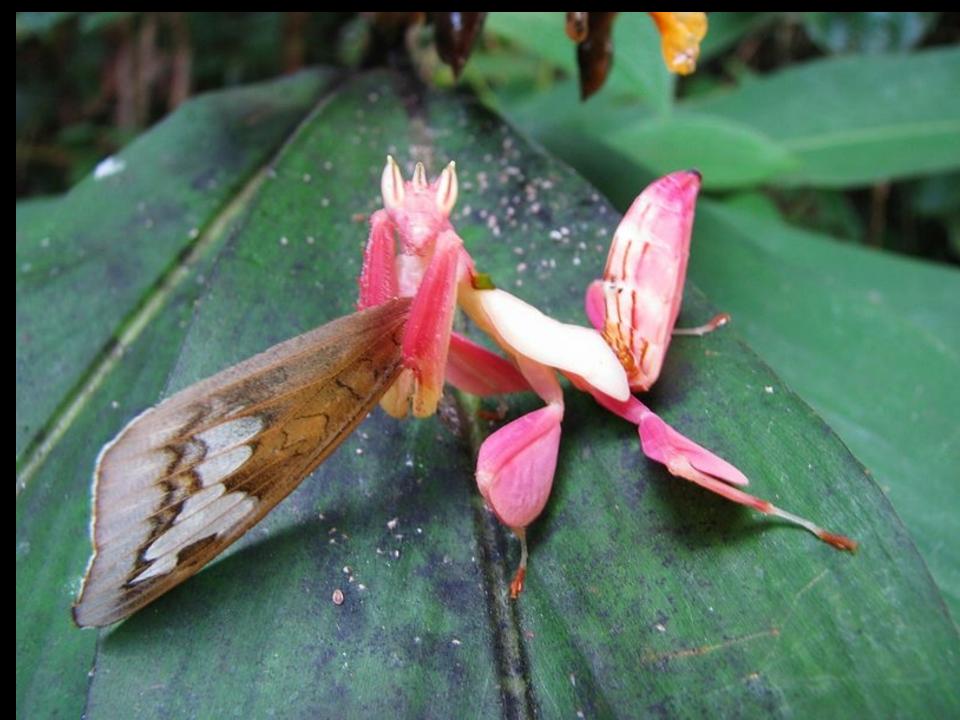




























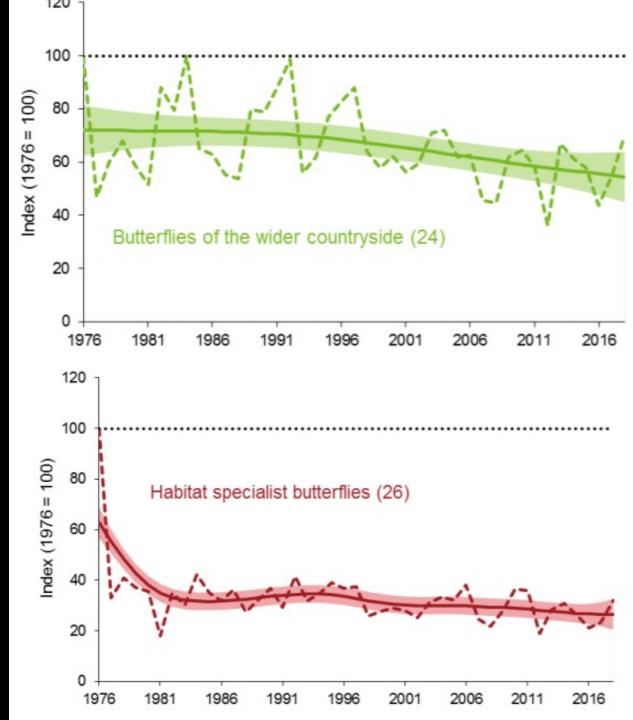
## **UK** butterflies

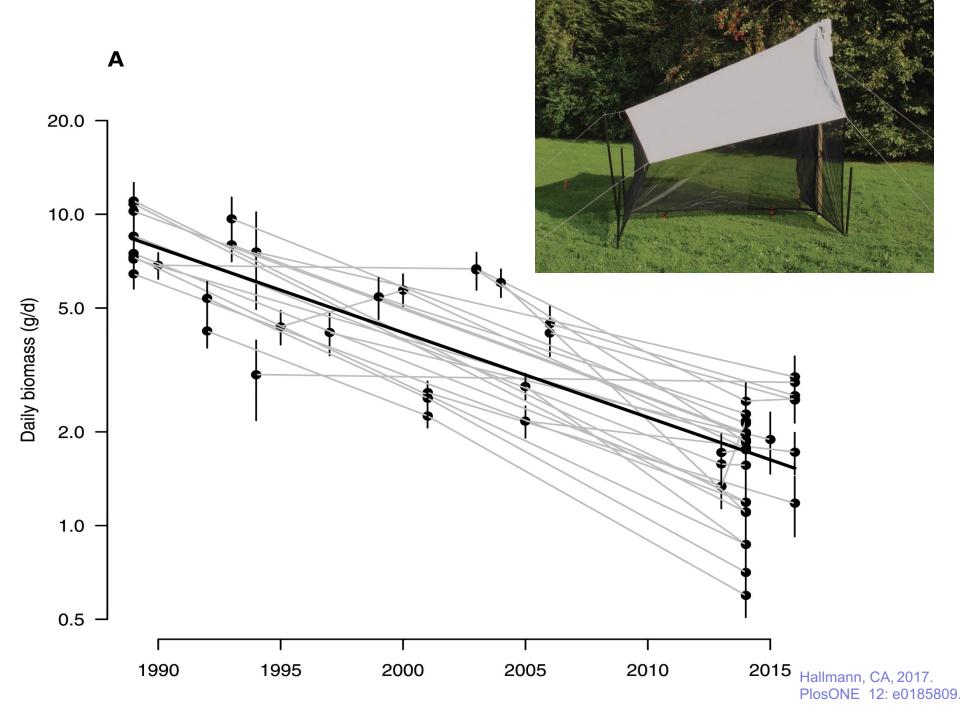
#### Down by 46%



#### Down by 77%











### Shrill carder, *Bombus sylvarum*

#### Post-2000

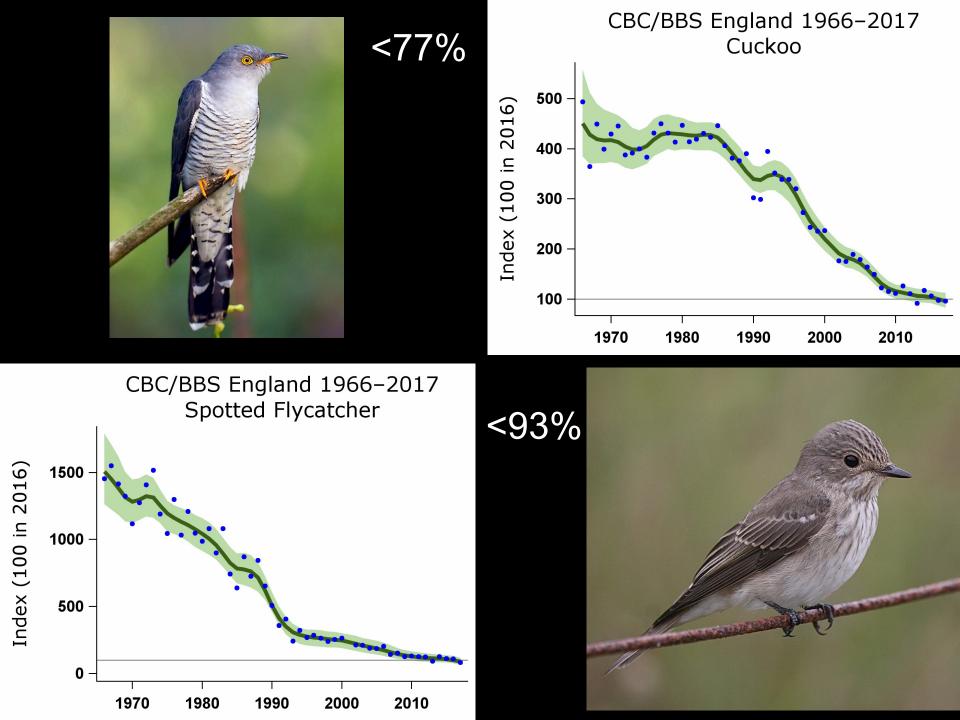
Why does loss of insects matter?

*"If all mankind were to disappear, the world would regenerate back to the rich state of equilibrium that existed ten thousand years ago.* 

If insects were to vanish, the environment would collapse into chaos."

E O Wilson



























Your produce choices without bees

Thuring

# Don't all insects deserve to live, regardless of what they do for us?



Causes of insect declines?

Loss of habitat

Pesticides

Foreign diseases

Climate change

**Fertilizers** 

Light pollution



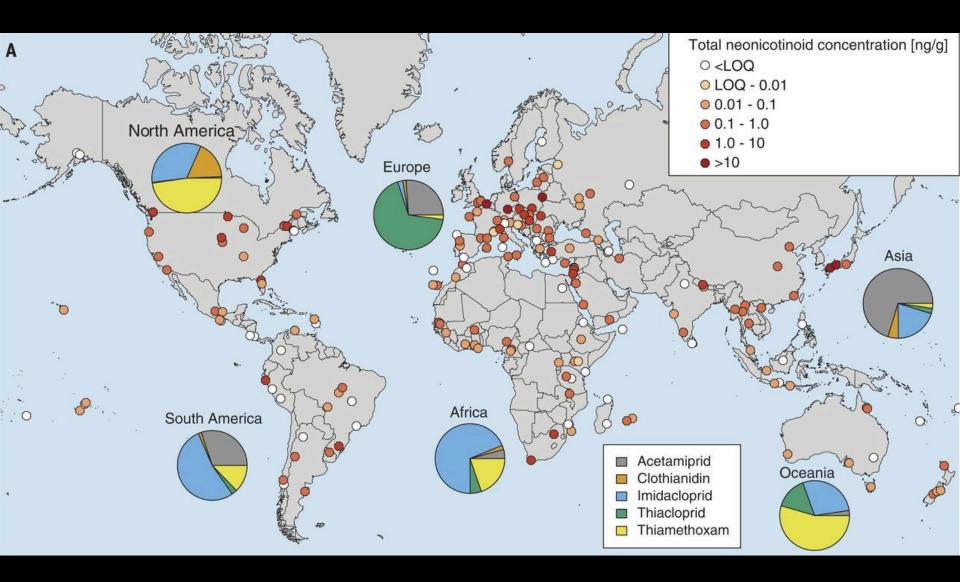




## Pesticides 3 million tons / yr globally







Mitchell et al. 2017 Science 358: 109-111

#### What can we do?









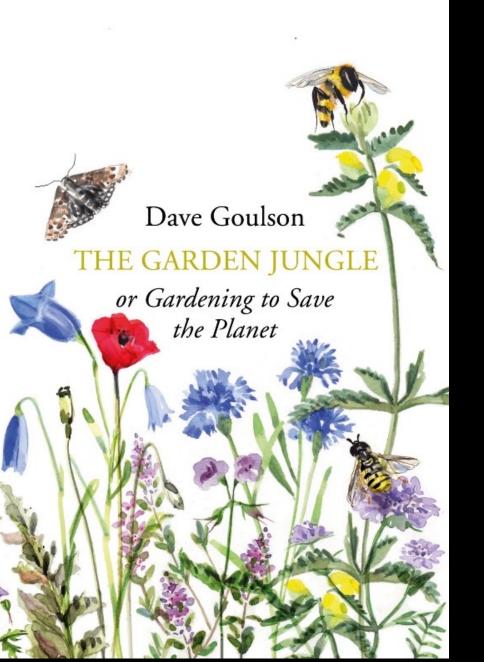


What can we do?

Promote wildlifefriendly gardening

Turn our cities, towns and villages into a network of insect reserves





#### Dave Goulson

#### GARDENING for BUMBLEBEES





A Practical Guide to Creating a Paradise for Pollinators























## What about farming? Is this approach to farming the only way to feed the world?





# Globally, farming is damaging our environment; this is not sustainable



#### What might sustainable farming look like?

- > Produce a diverse and healthy diet for humans
- > Look after soil
- > Work with nature
- > No pesticides



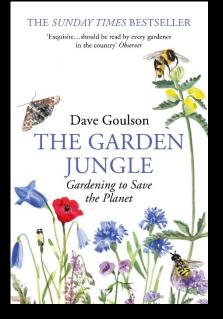
## Agroforestry

# Permaculture















A Sting in the Tale Dave Goulson





My Adventures with Bumblebees







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