



# Habitat Grazing Impacts

- All habitats require some grazing
- Grazing capacity varies with habitats
- Grazing varies with plant species, soils, grazing animals, season, growth
- Pressures of grazing vary over seasons as well as over years

# Signs of Under-grazing

- Tall vegetation
- Litter layer or moss
- Few small herbs and flowers
- Coarse grasses
- Weeds
- Shrub or tree regeneration



# Signs of Under-grazing



# Signs of Under-Grazing



# Signs of Over-Grazing

- Very short sward
- Reduction or loss of herbs and flowering plants
- Selective grazing
- Mossy
- Some habitats can at least partially recover



# Signs of Over-Grazing



# Seasonal Grazing



# Seasonal Grazing



# Removal of Grazing



# Cross Compliance



# Poaching & Trampling

GBR19 Breach

GAEC 5 Breach



# Butterflies & Moths

- Specialist butterflies have declined due to habitat losses & food plant declines
- Generalist butterflies are stable or have increased



Red Admiral

# UK State of Nature Report

## Sept 2016



- 56% of UK species are in decline
- of 8,000 UK species assessed, 15% are threatened with extinction
- a by-product of changes in farming practices\*; climate change and development
- \*in the move towards greater agricultural efficiency land becomes more uniform & has lost small scale features

# Specialist Butterflies



- Small blue
- Kidney vetch
- Riverbanks, shingle



- Northern Brown Argus
- Rock rose
- Base rich soils

*Photographs from  
Butterfly Conservation*

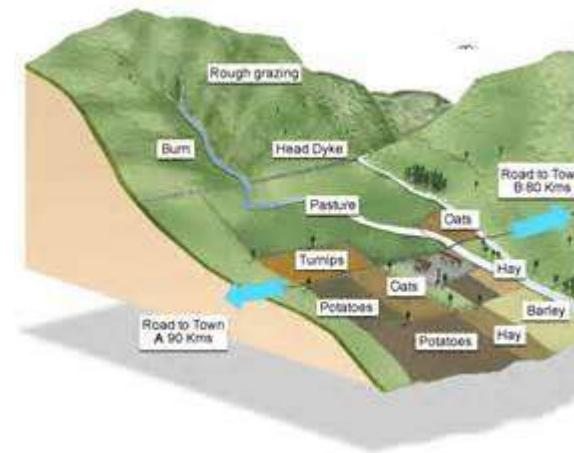
# Bees

- Honey bees declines
- Native bees (solitary bees, bumble bees) many have declined dramatically
- Habitat loss & neonicotinoids
- Threats to crop pollination: £400m/yr (UK)



# “Small Scale Features”

- Cropping
- Hedges
- Ponds
- Rough areas
- Scrub
- Tree-lines
- Woods



# Hedges



- Blossom for nectar
- Shelter
- Wildflowers
- Litter layer for over-wintering insects

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# “Sustainable” farming



# What is “Sustainable” Farming?



FARM  
ADVISORY  
SERVICE

- High Nature Value Farming (HNV) eg
- Low-intensity pasture systems
- Integrated farm management and organic agriculture
- Landscape and historical features such as natural floodplains, hedges, ditches and woods
- Priority habitats and associated wildlife

# Organic Farming Study findings

- Greater plant biodiversity
- More invertebrate biodiversity
  - Beetles, spiders, bees, and butterflies
- Enhanced soil life biodiversity
  - Soil microbial biomass, mycorrhizae abundance, earthworms
- More birdlife biodiversity
  - Particularly invertebrate feeders
- Increased mammal biodiversity
  - Total bat activity significantly higher on organic farms

# Soil Organic Matter

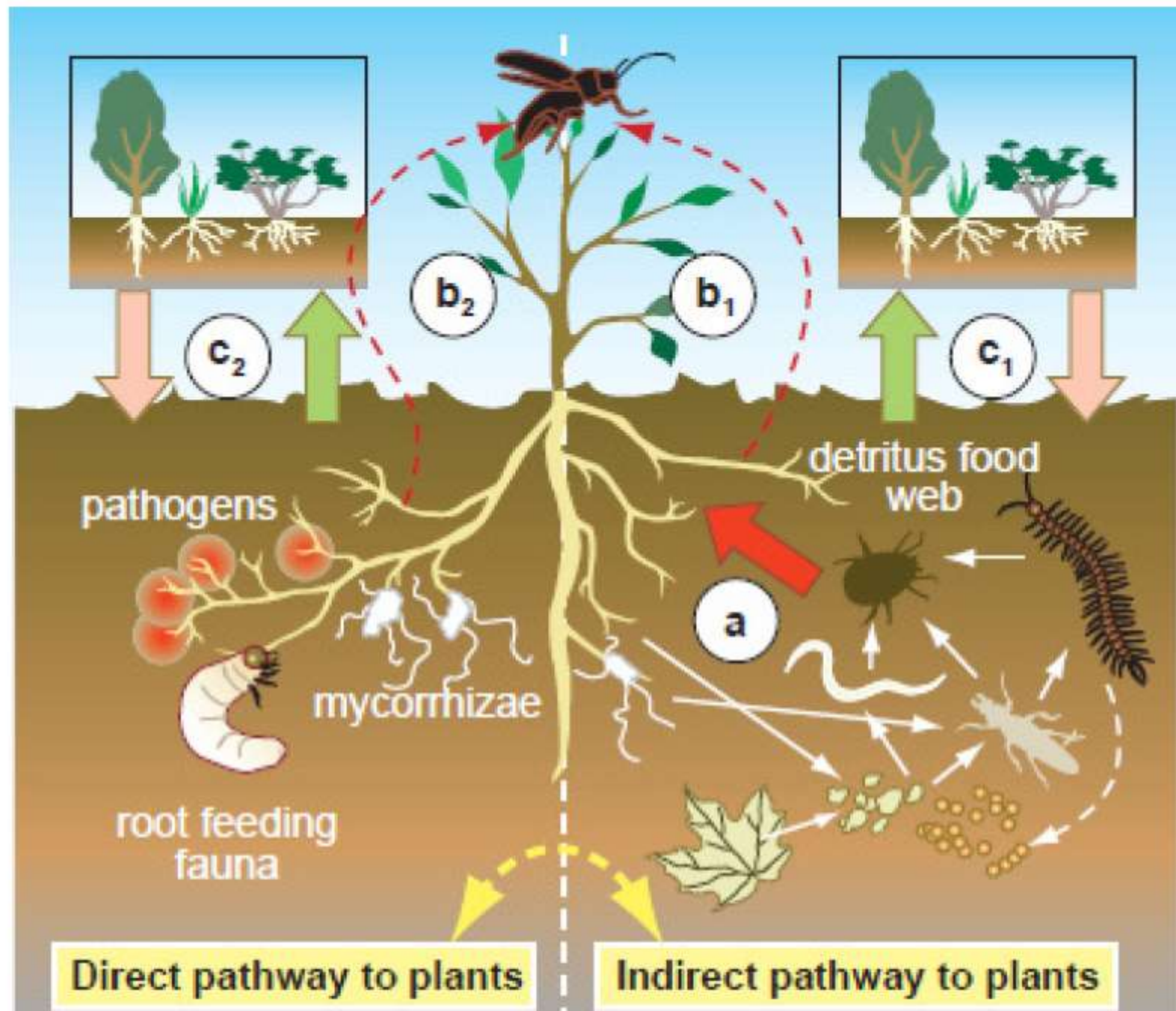
- Soil carbon is the second largest carbon store on earth
- 25% of all living organism live in the soil
- Diminished capacity within the soil ecosystem to function

# Species rich grasslands

- Pre 1998 losses of semi-natural grasslands were huge due to agricultural intensification and changes to farming systems
- Plant species diversity declining on enclosed grassland
- Loss of associated wildflowers, butterflies, etc



# Linkages between plants and soil organisms



# Grasslands

- Grasslands play a major role in carbon sequestration
- Total carbon can be higher in forestry but the below ground can be greater in grasslands - the most stable carbon is below ground.
- Greater storage of carbon can be achieved through increasing nitrogen fixing legumes, which absorb rather than release carbon to the atmosphere; and by using deeper rooting plants
- Fungi increase with soil organic matter (carbon) - helps restore natural grasslands

# Semi-Natural Woodlands



- Grants for livestock exclusion or restricted woodland grazing
- Fences, gates, water troughs



# Woodland Creation

- Capital grant
- Annual payment



# Thank You

