Plantlife

Public space grassland

- future solutions

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- **58% of species are in decline**
- **1 in 7 UK species at risk of extinction**
- **97% wildflower meadows lost since 1930s**

Value of public green space for biodiversity

Sanctuary

- Over 700 species of wildflowers grow on verges
- Nearly 45% of our total plant diversity
- 87 species threatened with extinction

A whole ‘Cornwall’s-worth’ of land hidden in plain sight

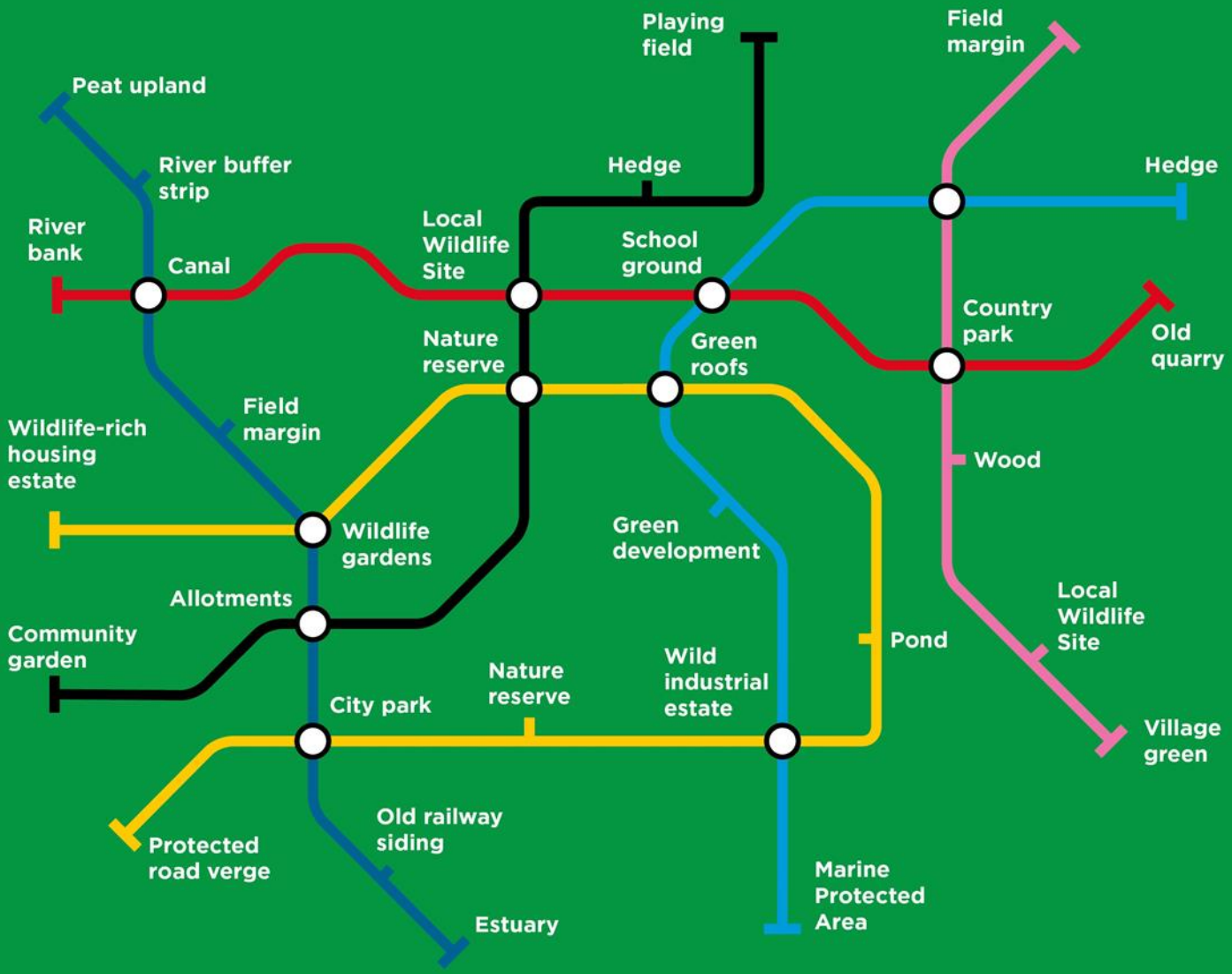
GB Road verges: (Phillips et al. 2021)
>400,000km length
260,000ha (1.2%)
- approximately the size of **Dorset**

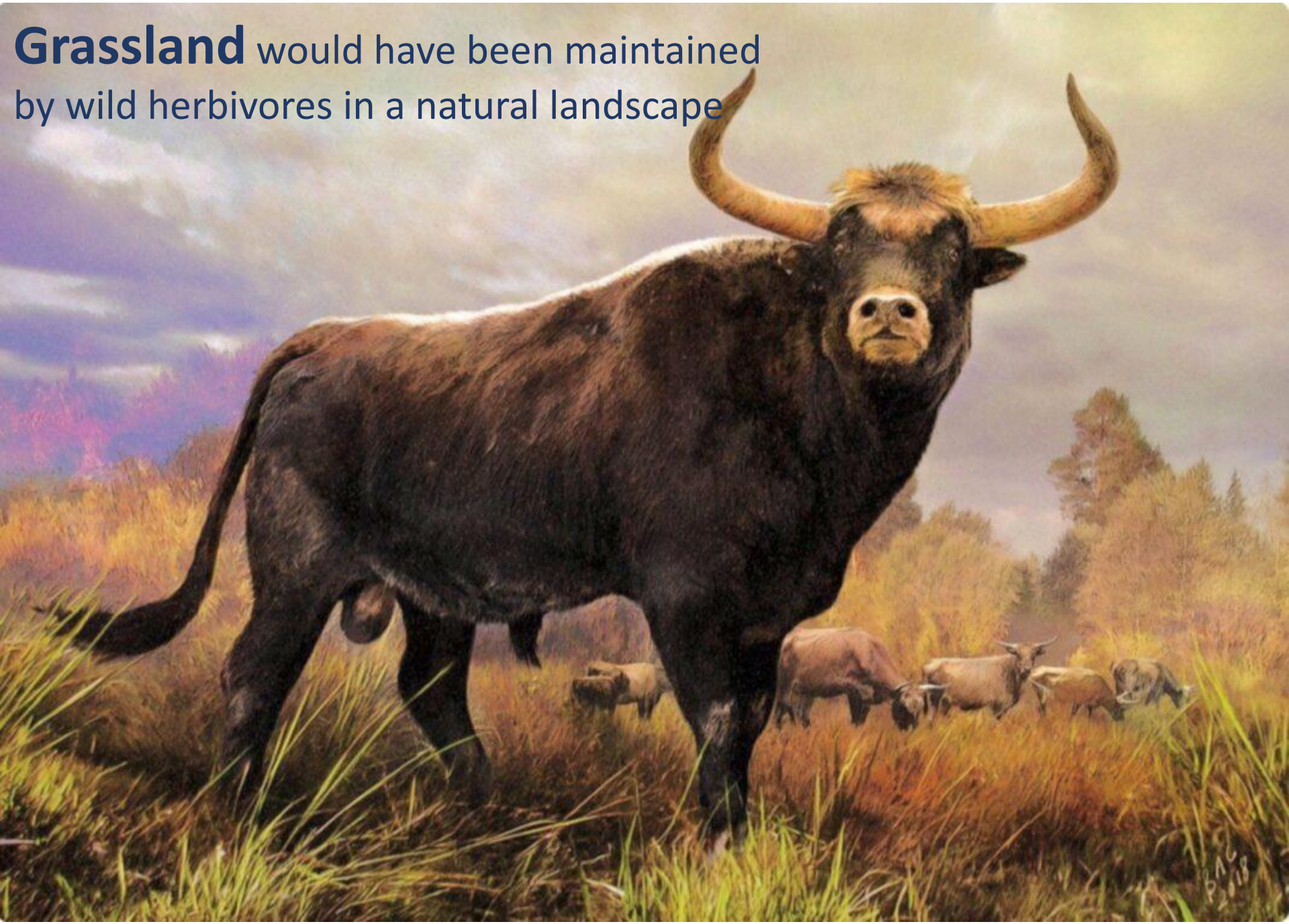
GB green space (public): (OS 2017)
41,600 sites
84,610ha
- nearly the size of **Rutland**

Totaling the size of **Cornwall**

> 1.5x priority grassland in GB
(UK NEA)

Connectivity




Grassland would have been maintained
by wild herbivores in a natural landscape

Principal pressures on public grassland

Cuts too frequent or too infrequent

Too many cuts: diversity lost

No cuts: tussocks → scrub → trees

- >2 cuts per year / no cuts

Smothering mulch

Only vigorous minority of species survive

- No collection of cuttings

Accumulating fertility

Tall growth of nettles, hogweed, thistles

- Mulching cuts, indirect chemical inputs from agriculture and vehicle emissions

CS2000 (Lowland England, Scotland and Wales)

Timing of management is key

Wildlife-friendly grassland doesn't mean no cutting
Grassland depends on disturbance

Management option		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
One cut									full cut				
Two cuts	Summer and autumn cutting								partial cut		full cut		
	Late winter and autumn cutting		full cut							full cut			
	Dry verges (short vegetation)	regular cuts								regular cuts			
	Species-rich verges with mown edge		1m strip							full cut			

A ***two-cut*** management approach is ideal

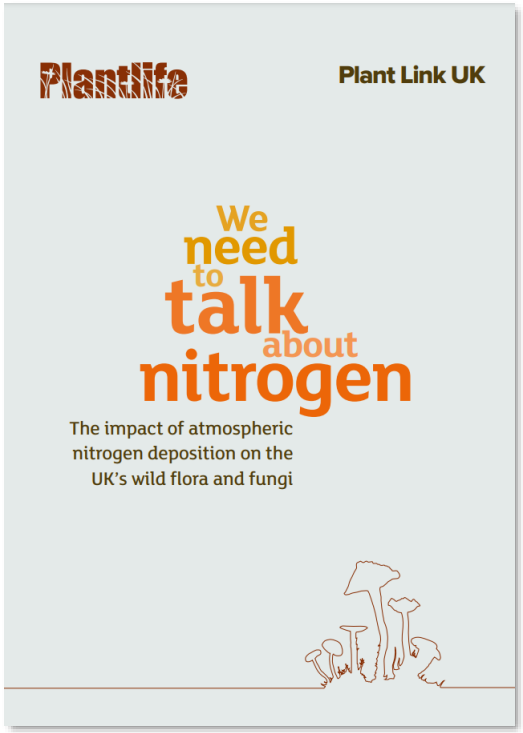
- suppresses coarse grasses and taller herbs

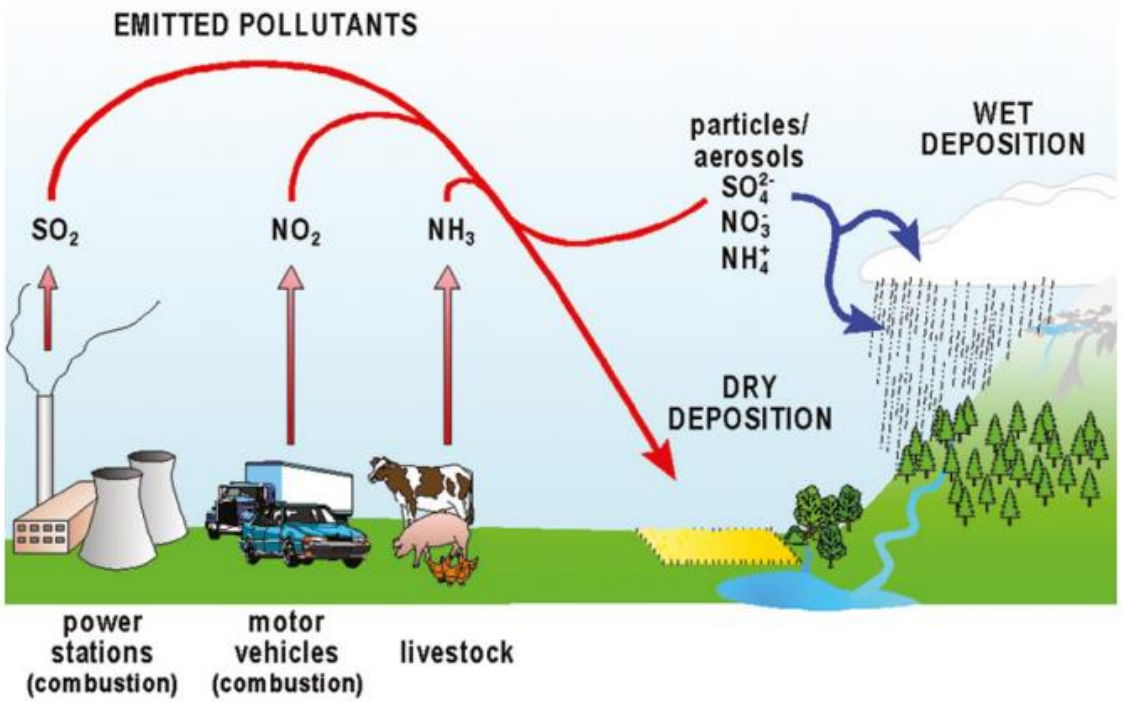
If only ***one cut*** possible:

- cut once between Aug and Sep

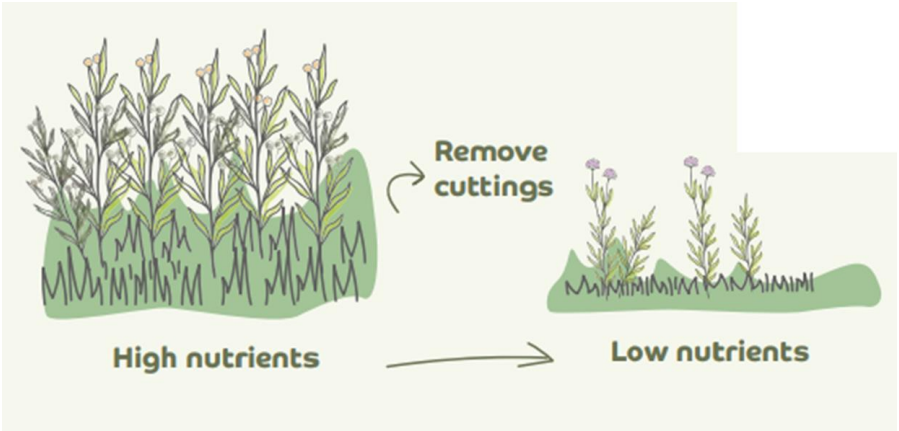
Remove cuttings where possible **!**

The fertility pollution problem





Managing down the maintenance

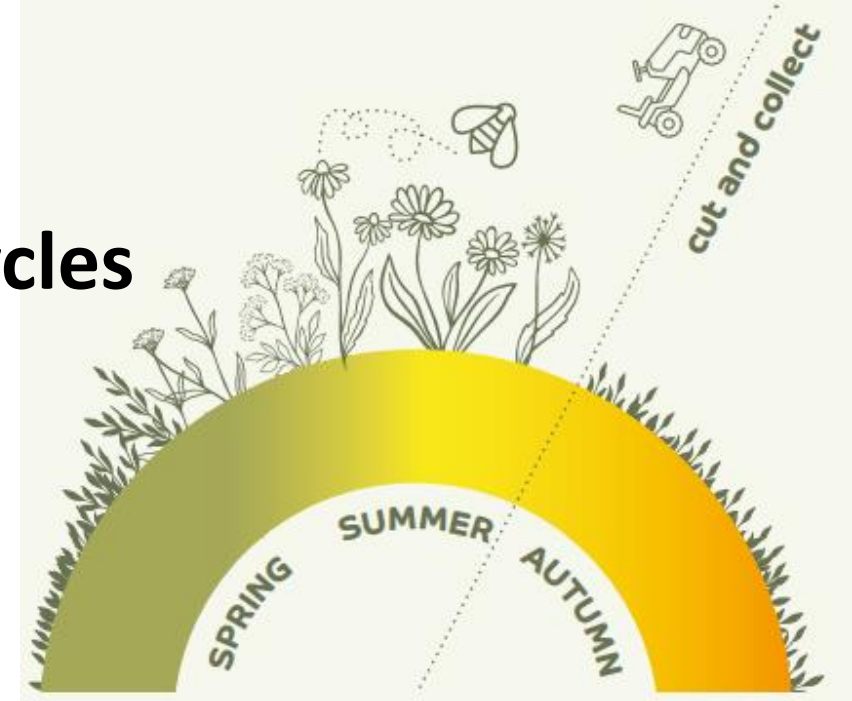


Depletion of nutrients through biomass removal

Quicker results (2-3 years) on lighter soils

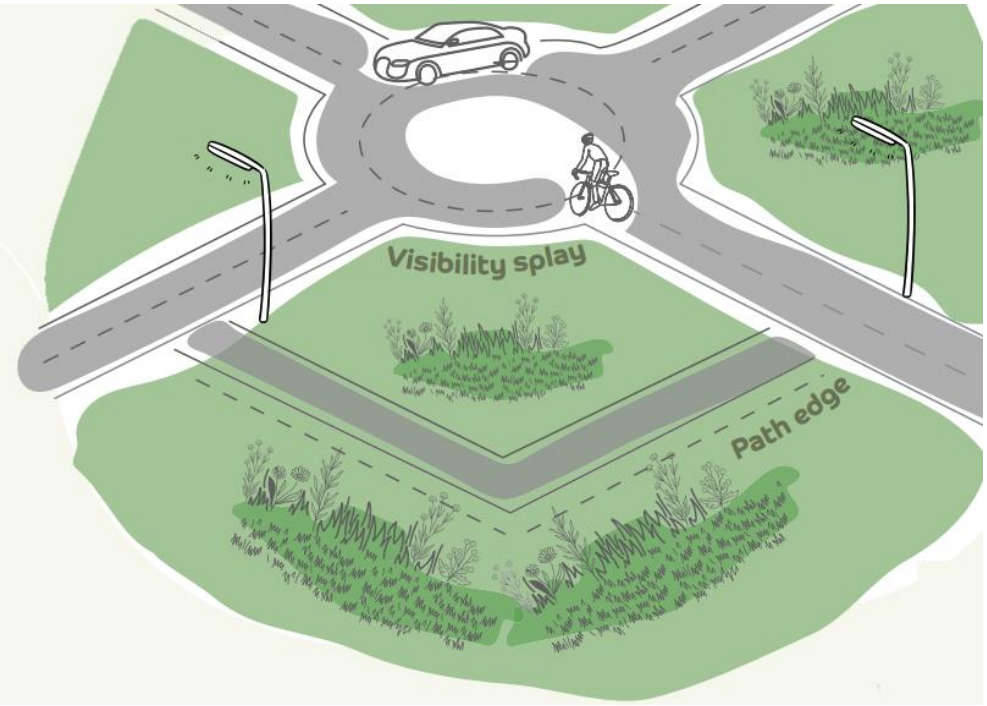
GRID GWYRDD GWENT
GWENT GREEN GRID

Mowing cycles



nature isn't neat
Code of Action
Handbook

Mowing patterns



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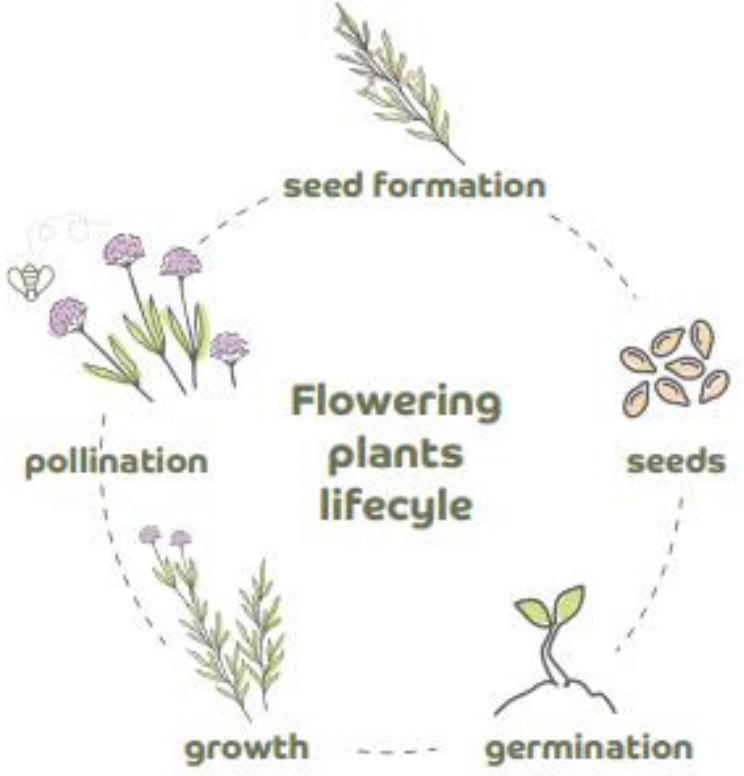
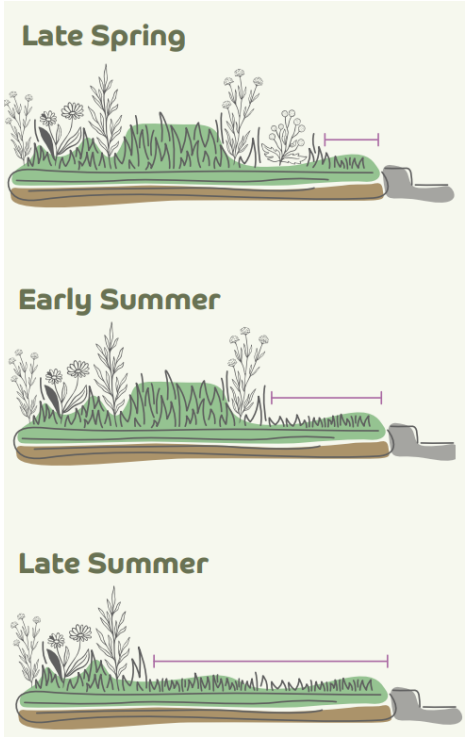


Rotational management

Spreading the effort over the year

Incremental management



Sanctuary strip mowing

Flowering Lawn
(mow every 6-8 weeks)

Tall herbs
(mow every 2 years
along back verge)

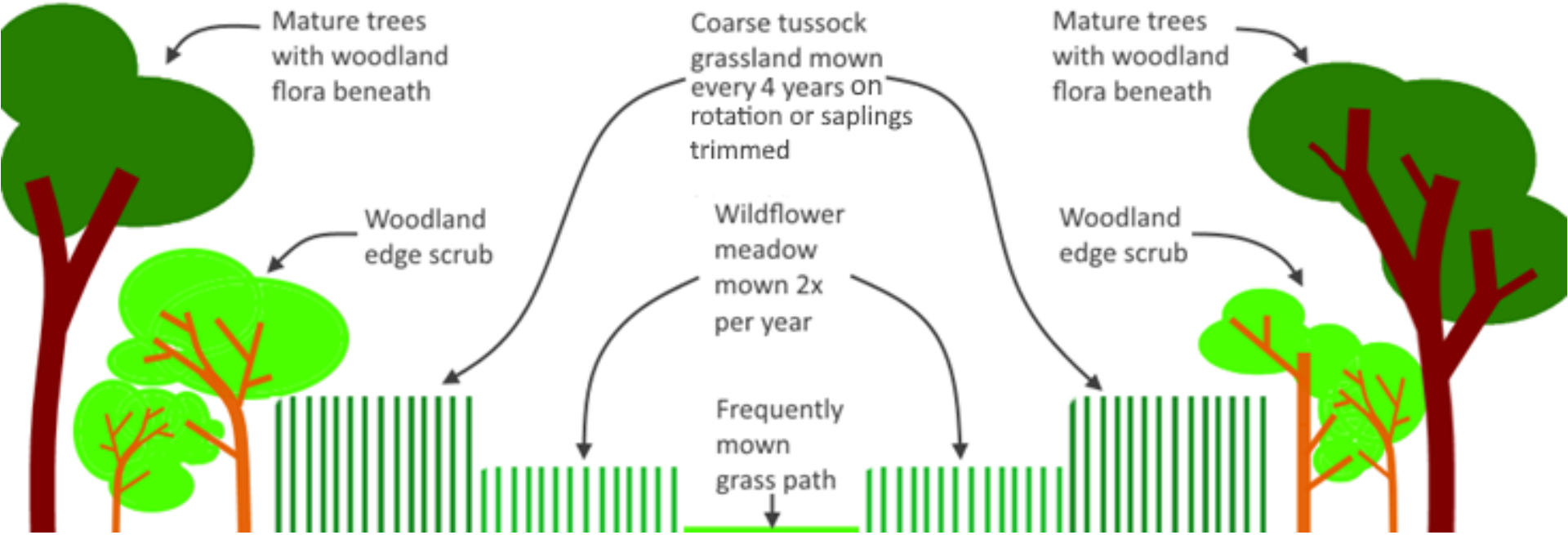
Wildflower-rich meadow
(Cut and clear twice per year
avoiding April-Aug incl.)

Rough grassland
(minimal management every few years
for encroaching scrub on rotation)

Scrub mosaic (Thin and coppice
every 10-15 years on rotation)

Stepped intervention model

- Adapt to available resources / usage scenarios



Potential solution: Biomass harvesting with anaerobic digestion of cuttings

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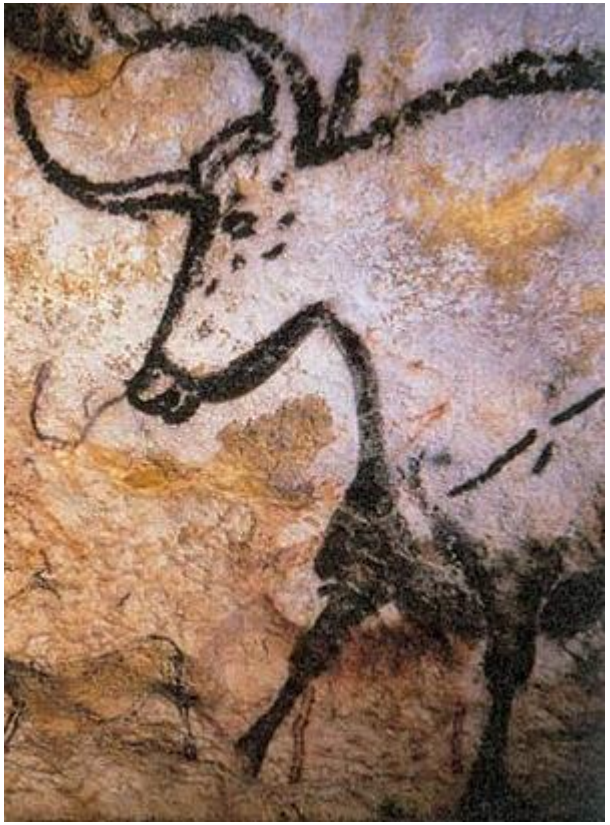
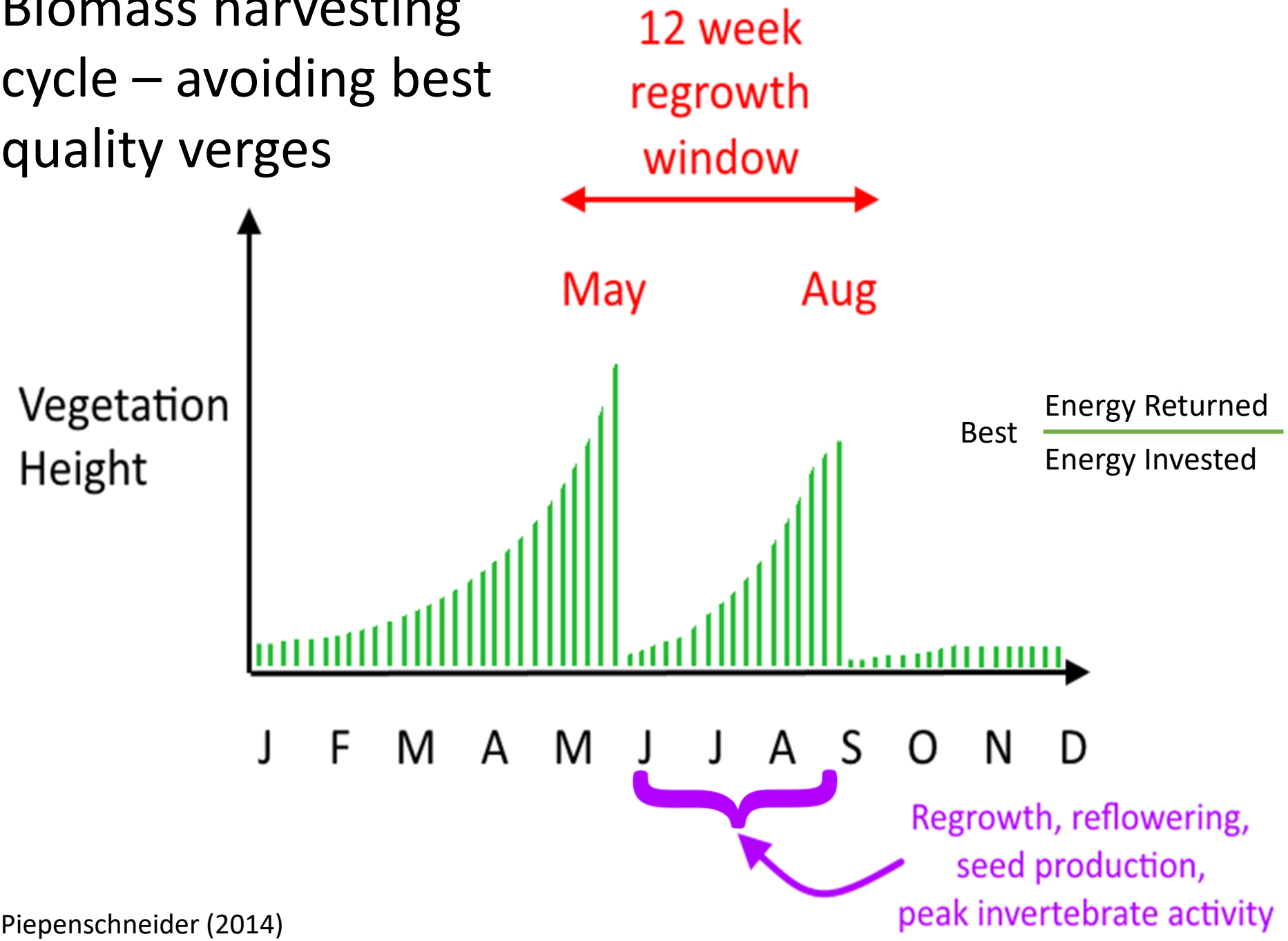
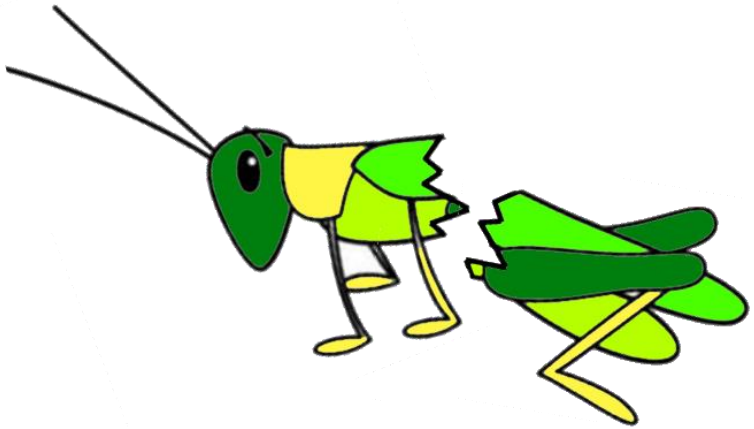


Biomass harvesting cycle – avoiding best quality verges



Piepenschneider (2014)

Risks of biomass harvesting and how to mitigate them



Potential risks of biomass harvesting

- Damage to invertebrate populations
- Interruption of plant lifecycles and removal of seed
- Removal of shelter for wildlife

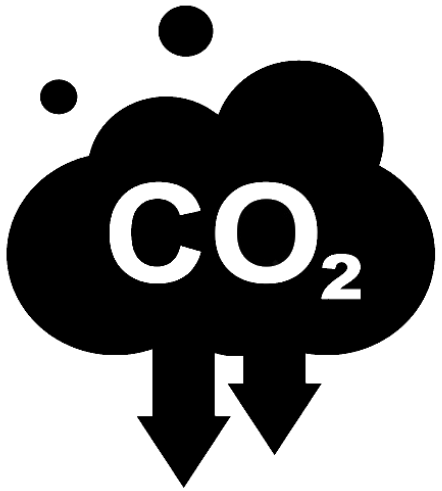
How could we mitigate that risk?

- Establish map of green space quality and biodiversity opportunity
- Optimise management of the best and ‘mainstream’ better management for the rest
- Incremental and rotational management with sanctuary zones

Machinery for managing roadside verges and wildflower grasslands

https://www.youtube.com/watch?v=8IKDgkSdL5A

The case for carbon



How much grassland could we enhance?

ONS statistics for Great Britain's **'functional green space'**
(½ golf courses, ¼ public parks and gardens and 10% of rest)

-> Biomass harvesting 2x annually from **25,000ha** 

This could generate energy equivalent to:

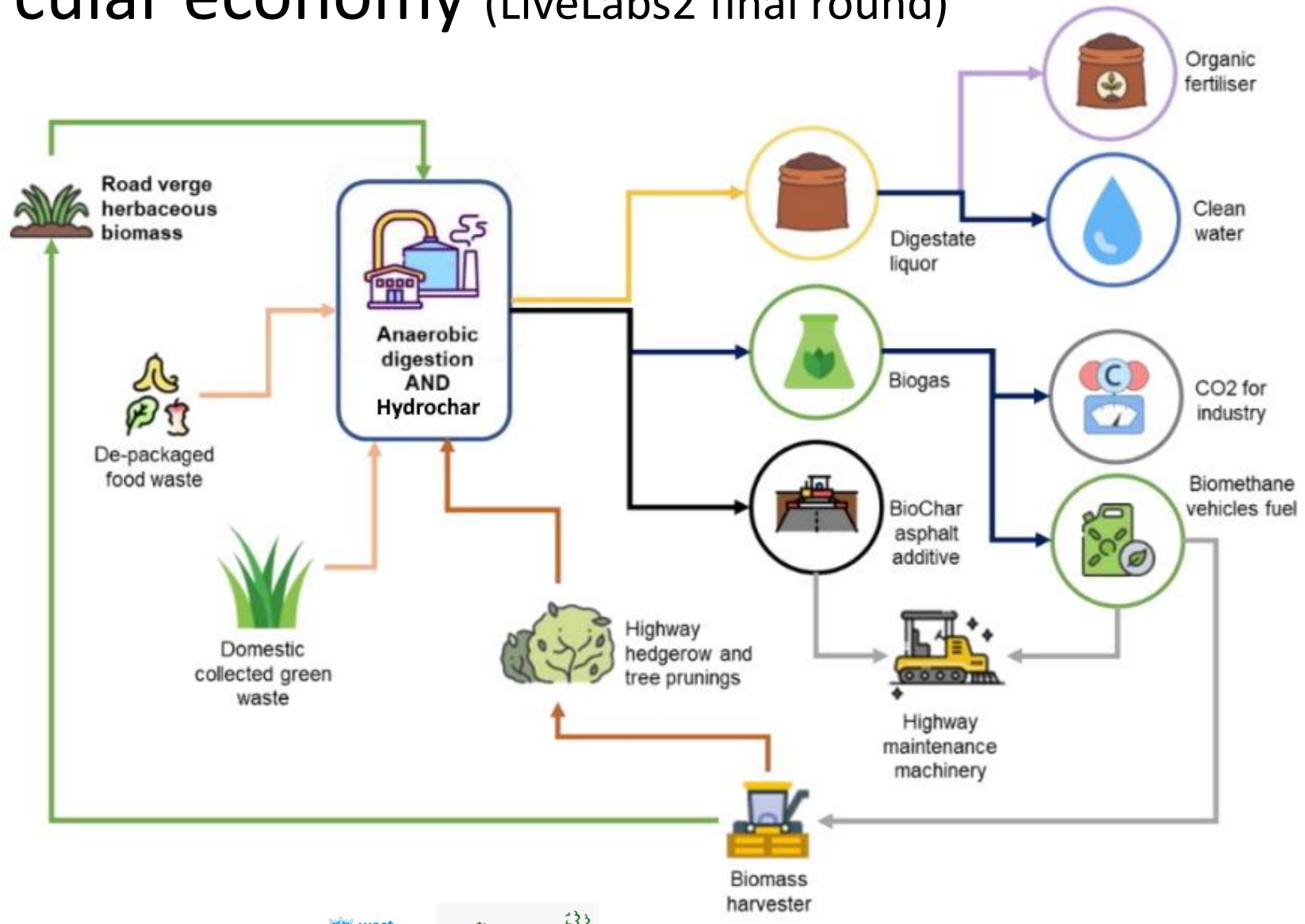
- **26** average **onshore wind turbines** 
- **50,000** average **UK households' electricity demand** (medium sized town) 

Or **save 37Mkg CO2e** if replaced diesel emissions 

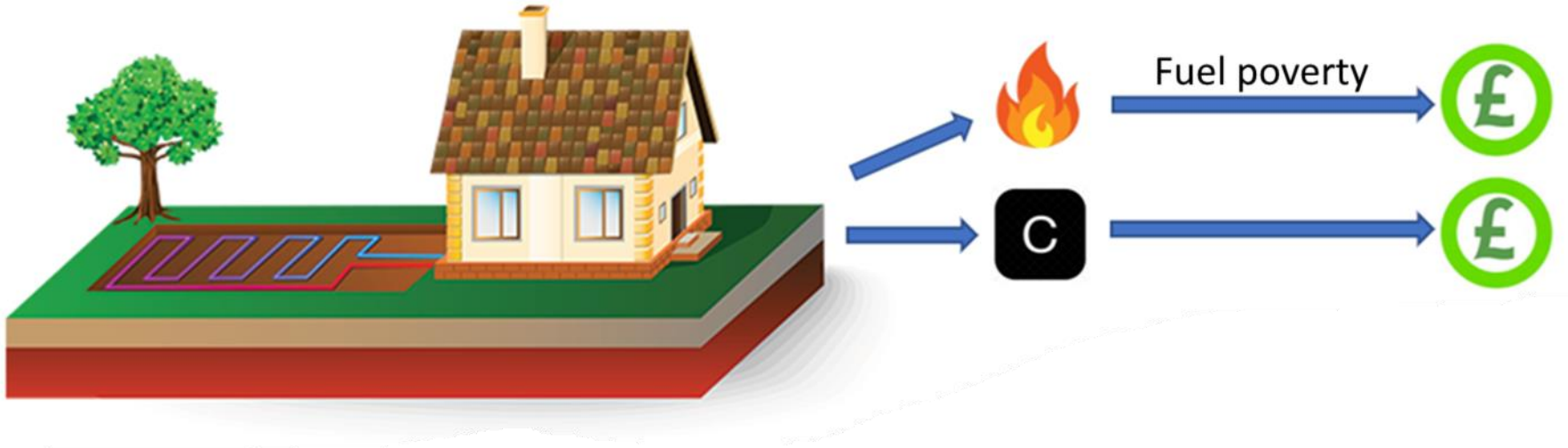
This would **enhance carbon storage in grassland soils**
by up to 10% resulting in **2Mt CO2e** equivalent to more than
10% of GB's annual domestic HGV emissions

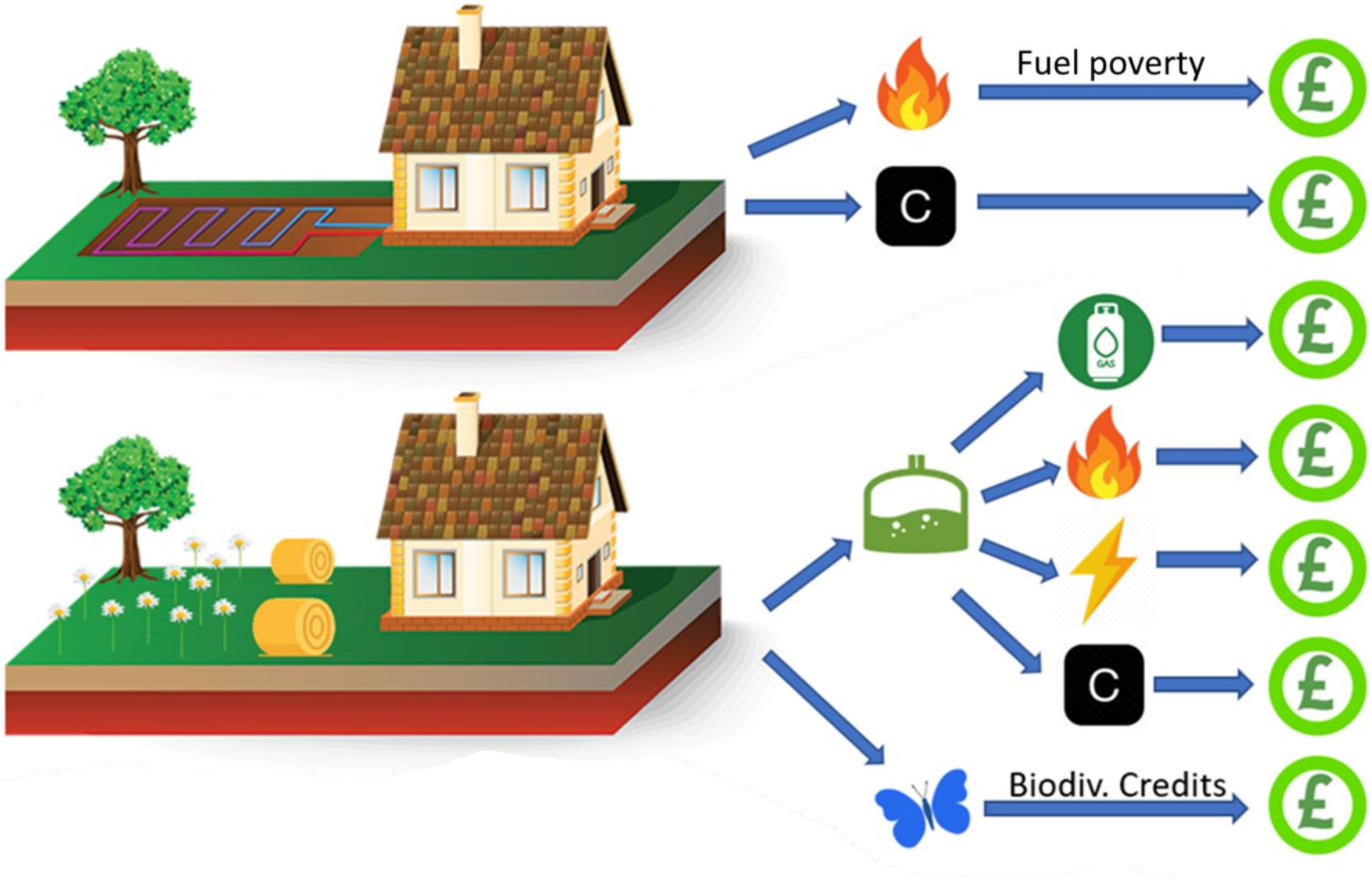
(Grassland average = 925t CO_2e/ha)

Novel nature-based solution for circular economy (LiveLabs2 final round)



amey · Peakhill Associates Delivering Sustainability · Plantlife · west sussex county council · South Gloucestershire Council


Fuel poverty
C


Fuel poverty
C
GAS
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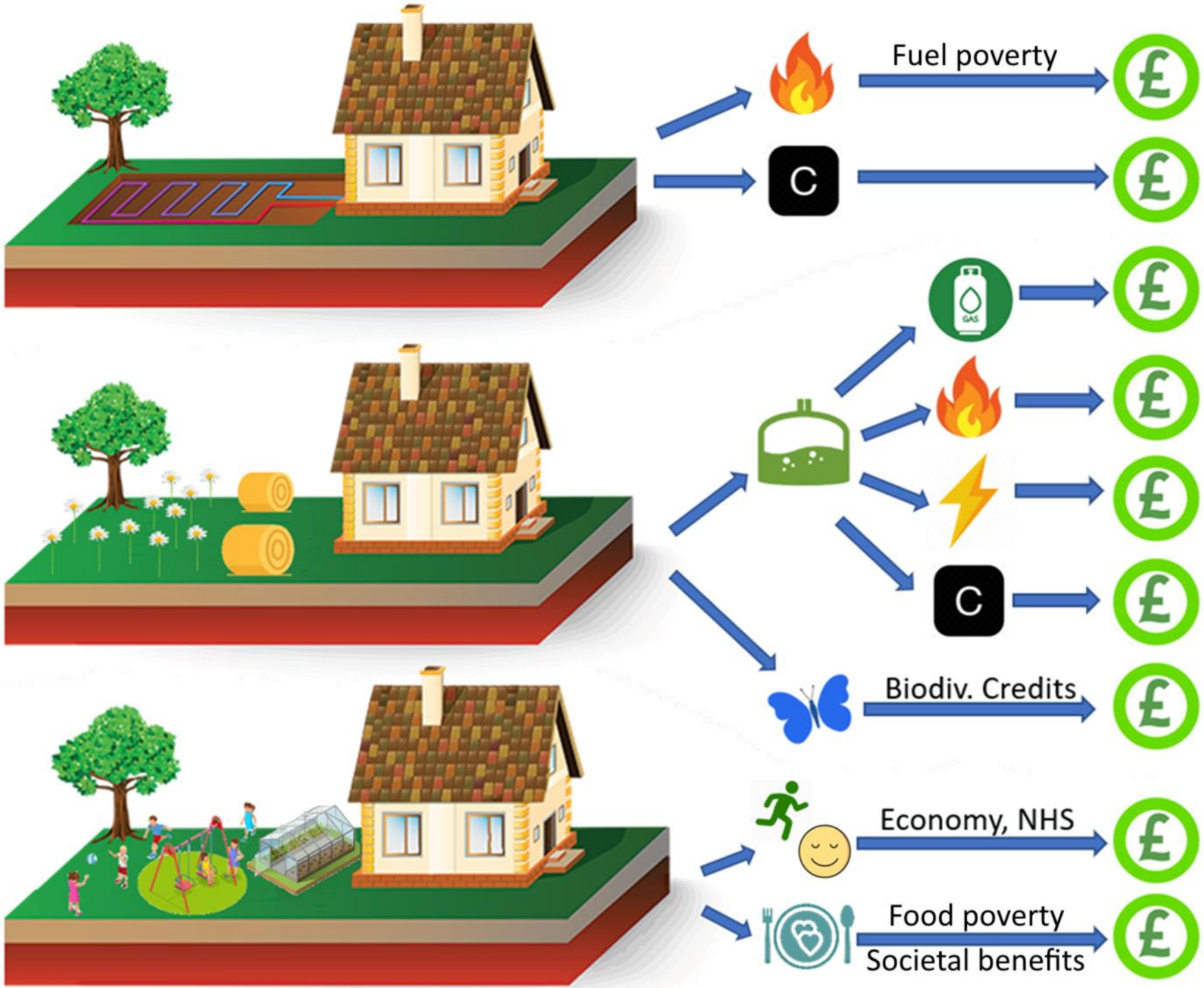
Biodiv. Credits


Fuel poverty
C
GAS
C
Biodiv. Credits
Economy, NHS
Food poverty
Societal benefits

How to make a meadow
with native wild flowers

Even if you only have a small area, you can enjoy a meadow full of native wild flowers. Your local wildlife will thank you for it. All you have to do is mow differently...

Choose an open, sunny area for your meadow, with no nettles or brambles. Then take a closer look in spring and summer – what's already growing there?

A good meadow can be home to more than 100 different grasses and flowers.

If your area is bare ground or has fewer than five wild flowers

CREATE a meadow

If your area has more than five different wild flowers already

ENHANCE a meadow

Restorative management

Cut 2-3 times per year depending on fertility and collect the cuttings.

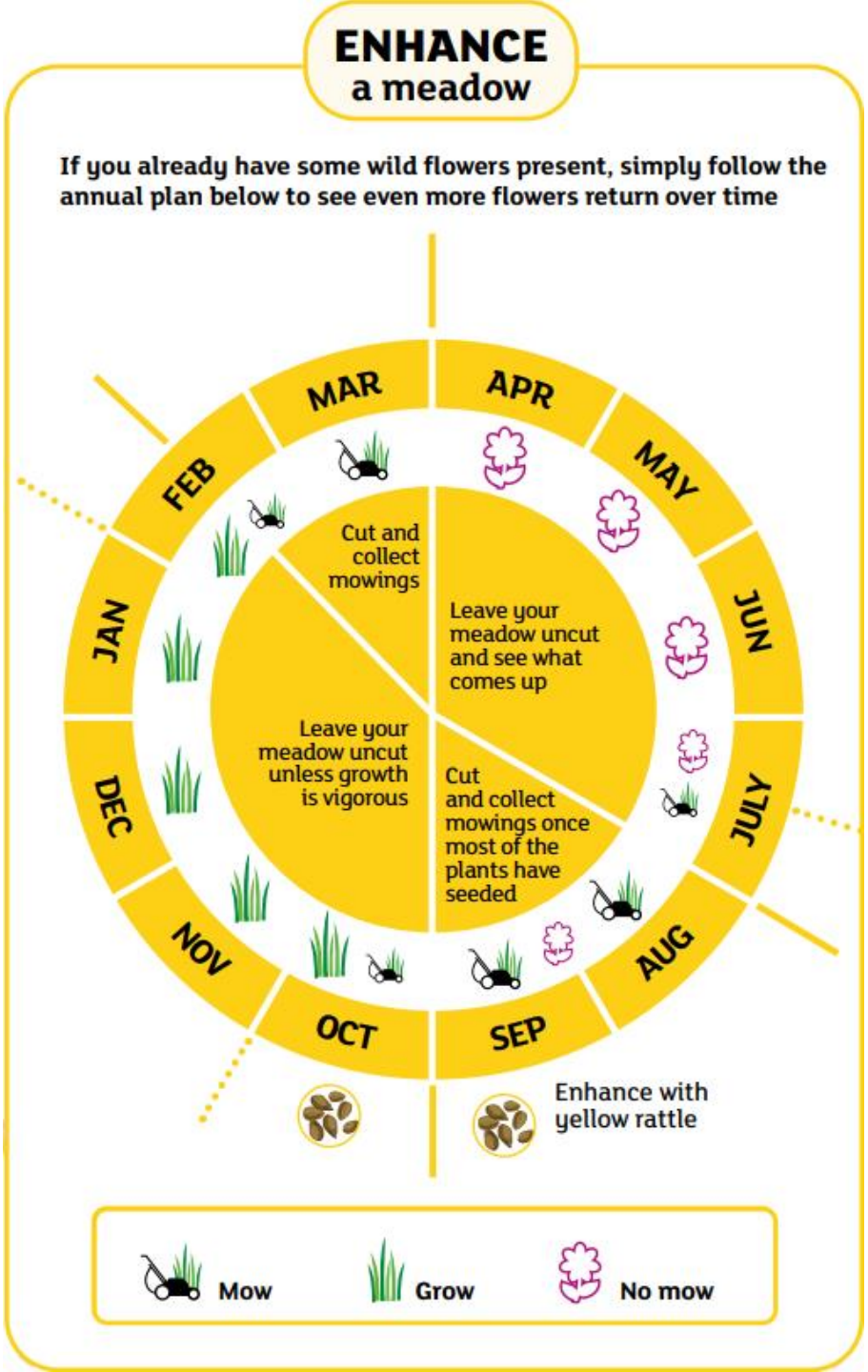
Tall-growing, high abundance of grasses, presence of nettle, thistle, dock, cleavers

Cut (and collect!):
1. Late May (**restorative cut**)
2. August (**hay cut**)
3. October (**aftermath cut**)

Low-growing, more wildflowers, finer grasses

Cut (and collect!):
1. Late July to September (**hay cut**)
2. Oct/Nov or March (**aftermath cut**)

Note: Restorative cutting incompatible with yellow rattle



You can augment:

- Scarify to c.10-20% bare and over-sow
- Plug plants / sow into cleared patches
- Addition of yellow rattle

CREATE a meadow

Starting from scratch

Creating bare soil

- >50% bare soil
- Desiccate and deplete weeds with second cultivation

Green hay / hand-gathered seed

- 1:3 donor to receptor area
- 1 in 3 year take max

magnificentmeadows.org.uk/advice-guidance


Cutting and collecting


Turf stripping

Example: Village verge restoration

Lincolnshire Wildlife Trust


Scarifying


Plug planting + sowing

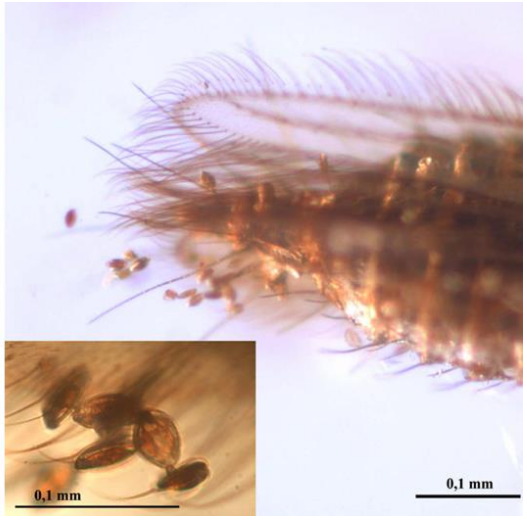

Example: Church land restoration
Lincolnshire
Wildlife Trust


Phase 2: 1st year
Phase 1: 2nd year
Original

Donor site local Wildlife Trust reserve in Lincolnshire Wolds

Flowering Lawn

An ancient partnership



A matter of perspective

An unseen beauty….

Bjørn Rørslett

Wild blooms versus hybrids and cultivars

100 million years of co-evolution lost in a few generations!

Native Dog Rose - open, accessible

Cultivated rose - enclosed

When we sacrifice:

nectar, pollen, UV detail, scent, edible foliage, accessibility

we effectively DELETE these plants from the ecosystem.

Keeping the ‘wild’ in wildflower

- Commercial ‘wildflower’ seeds are rarely wild.
- These mixes could threaten the distinctiveness and natural genetic variation of our local flora.
- This makes our wildlife less resilient to environmental stresses.

Plantlife recommends:

- Protect pockets which can spread
- Natural regeneration
- Green hay or hand gathered seed from local nature reserves (supplement native mixes)
- Link flower-rich habitats across landscapes

Communication and engagement

- *communicate* that management is changing; signage and info
- '*frame' edges*

- looks intentional
  - 'neglect' versus 'neat and tidy'

- *engage* communities, volunteer involvement

Raising the bar together

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meadows.plantlife.org.uk

roadverges.plantlife.org.uk

magnificentmeadows.org.uk

- ***connecting through:***
  APSE, LGTAG, ADEPT, CIHT, LCRIG, CIEEM, CIRIA….
- ***working with:***
  councillors, parks teams, highways teams, waste teams, contractors
- ***providing:***
  guidelines for LAs and communities
  business cases/ workshops / strategies
  publicity - sharing good news