

Re-imagining our green spaces

- Challenging the traditional lawn
- Hedgerows
- Ponds
- Advice for council housing tenants

#STATEOFNATURE

OF 8,431 UK SPECIES ASSESSED,
ONE IN SEVEN IS AT RISK
OF EXTINCTION.

58% of species are in decline

97% wildflower meadows lost since 1930s



Can our gardens make a difference?

UK Gardens

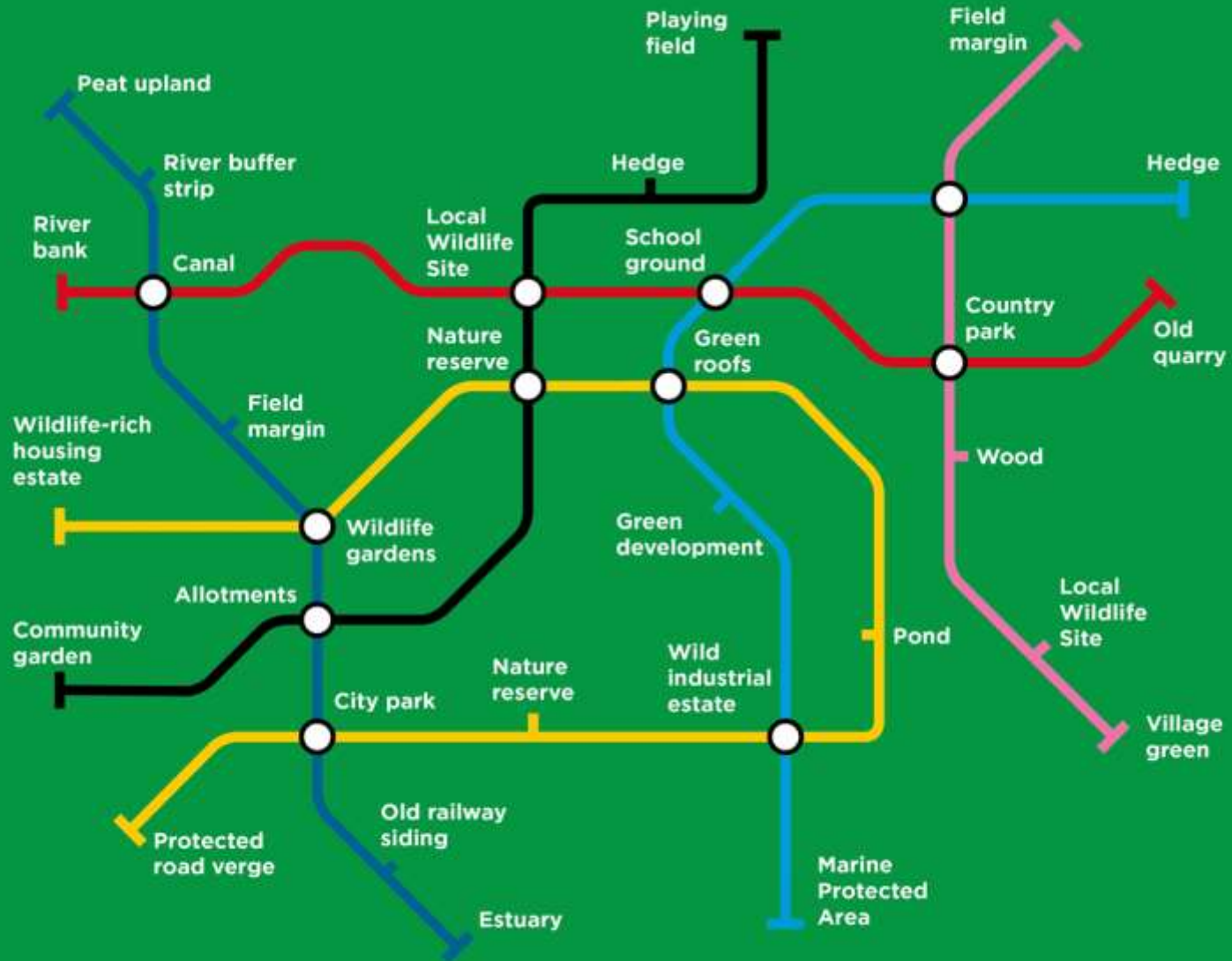
- c.23 million gardens in UK
- 500,000ha of urban gardens in GB
- 30% urban areas
- Assuming 25% is lawn
- ...the size of **Bedfordshire**

(Ordnance Survey)

A whole 'county's-worth'
of land hidden in plain sight



Connectivity





English Landscape Garden Movement

18th century status symbol

High carbon footprint

High maintenance

Lost opportunity for biodiversity

Social obligation

Working against natural processes

No Mow May[®]

The ideal lawn?

Mowing every week? - Why chain yourself to an oar?









A photograph of a multi-functional lawn. The lawn is a mix of green grass and various wildflowers, including yellow daisies, white daisies, and purple flowers. The lawn is in the foreground, and a brick wall is visible in the background. The text "The multi-functional lawn" is overlaid on the image in a dark green font.

The multi-functional lawn





No Mow May[®]



Carbon from lawn mowing emissions

- 30 million hours of domestic lawn mowing
- 80,000 tCO₂e/yr from mowing
- 45 million litres of petrol
- Equal to carbon footprints of about 10,000 average households

[based on Lerman and Contosta 2019, assuming all small-medium petrol pedestrian mowers]

Carbon in lawn soil

- Carbon stored in soil below intensively managed lawns over 180 MtCO_e
- More diverse lawns could capture up to an additional (c.10%) 20 MtCO_e
- More than the domestic annual emissions for HGVs in UK

[based on Ward et al 2016]



A more diverse lawn stores more carbon below ground

- 90% of carbon stored below ground
[Bai et al. 2022]
- Strong link between vegetation type above ground and amount of carbon stored below ground

Grasses (50mm)
Wildflowers (500mm)
Shrubs (1000mm+)



Grassland
Natural or semi-natural?



Principal pressures on grassland wildlife

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

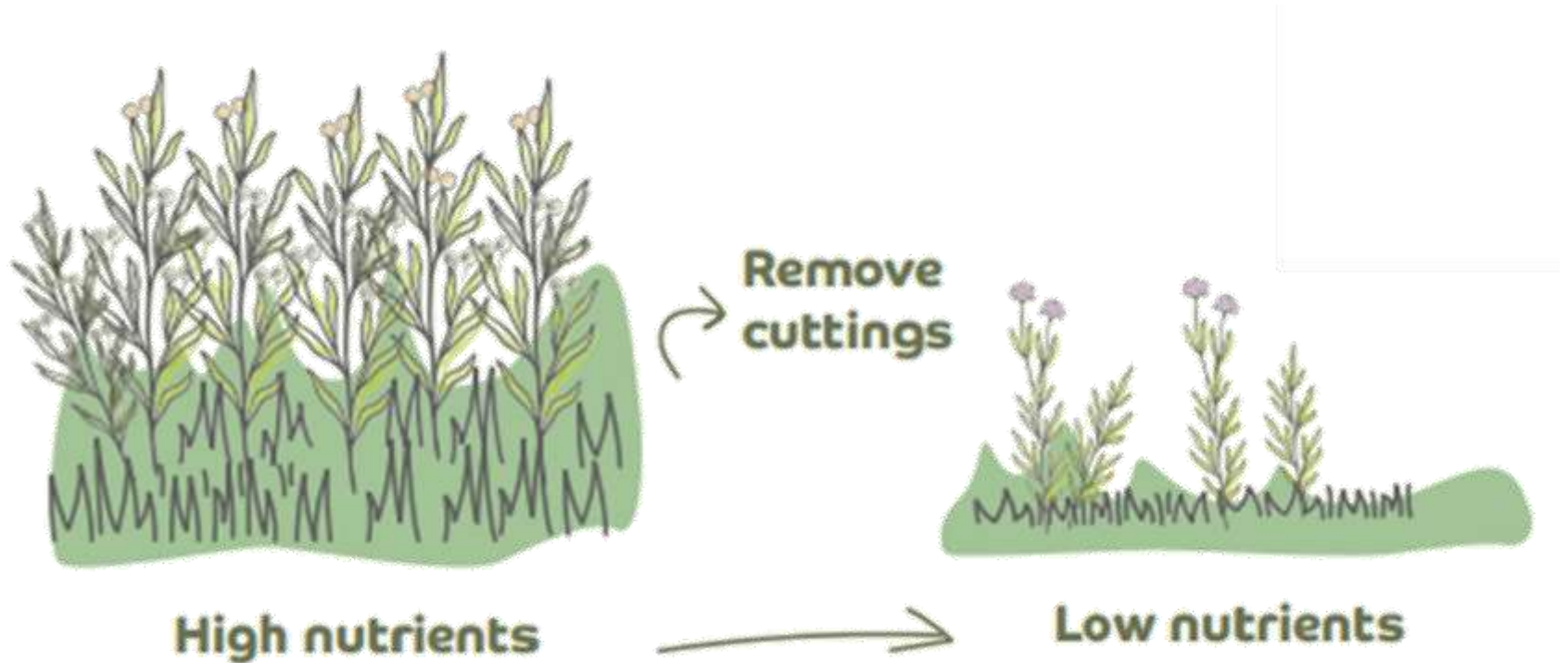
Mulching cuts, direct fertilisation, indirect chemical inputs from agriculture and vehicle emissions



CS2000 (Lowland England, Scotland and Wales)

Cutting and collecting

A way to reduce nutrients in the soil,
leading to reduced regrowth – and less effort/cost to maintain



Depletion of nutrients through biomass removal
Quicker results (2-3 years) on lighter soils

Carbon-cutting use of grass cuttings

- Compost
 - Peat replacement
 - Soil improver
 - Ingredient of growing media
- Mulch
 - Suppress weeds, retain moisture, fertilise



Management calendar for green spaces


- Maintaining safe thoroughfares takes priority
- Wildlife-friendly grassland doesn't mean no cutting at all

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 - *avoid April-July*

If only *one cut* possible - cut between *August and September*


Remove cuttings where possible




Flowering Lawn
(mow every 6-8 weeks)



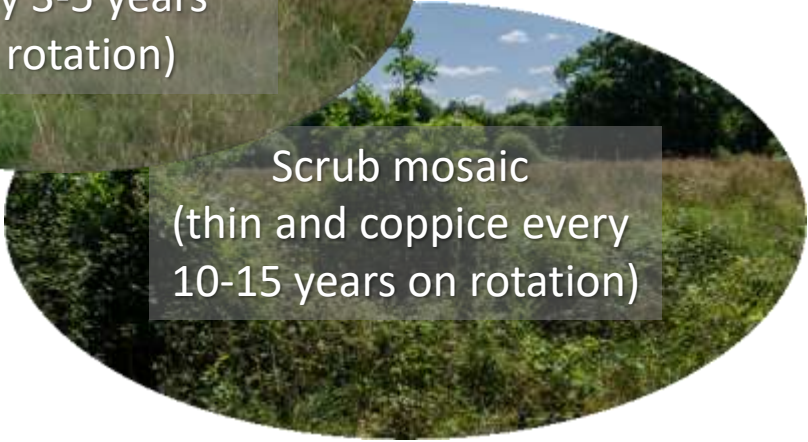
Wildflower-rich meadow
(Cut and clear twice per year
avoiding April-Aug incl.)



Tall herbs
(mow every 2 years)



Rough grassland
(scrub management
every 3-5 years
on rotation)



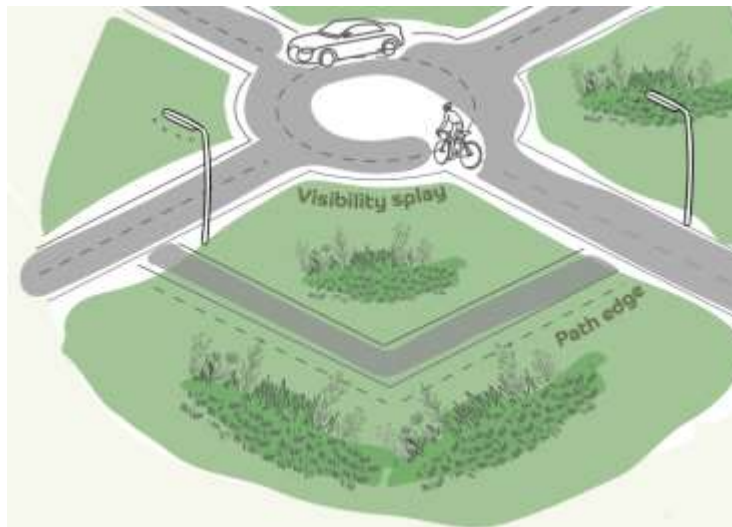
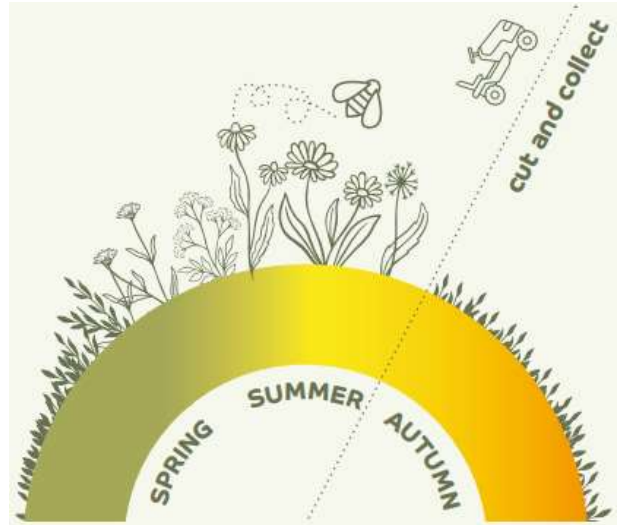
Scrub mosaic
(thin and coppice every
10-15 years on rotation)

Different 'flavours'
of grassland



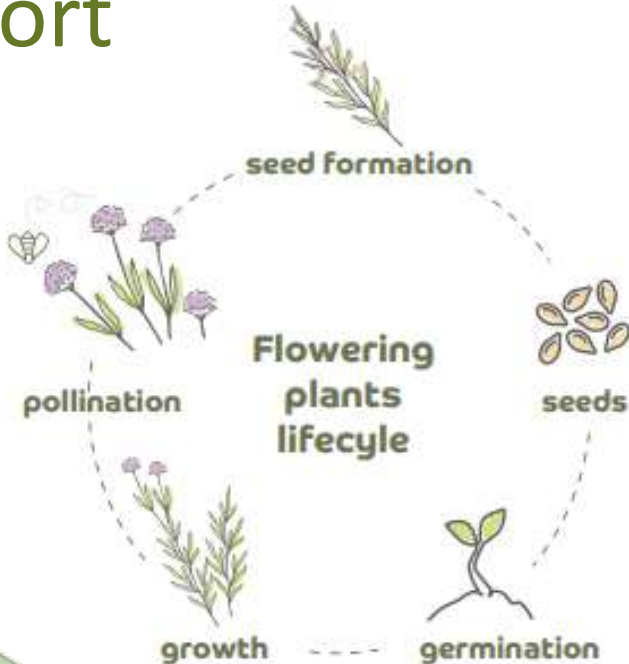
Increasing frequency
of intervention

Consider '**zones**' of grassland depending on function and recreation

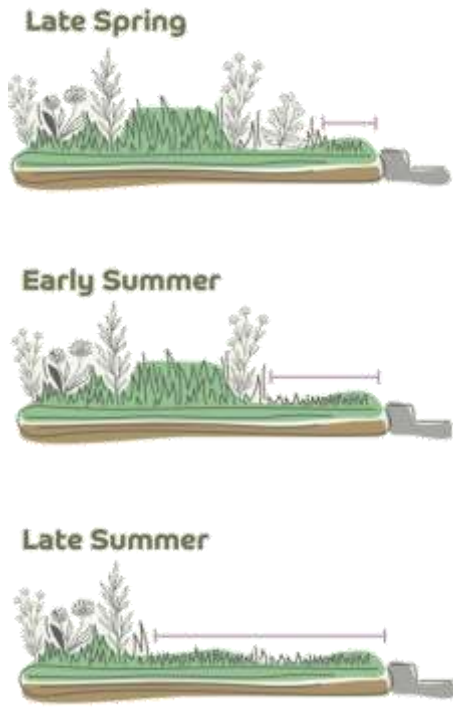


Spreading the effort over the year

Rotational management



Incremental management



Publications

- 'wildlife gardening RSPB'



- 'wildlife gardening Wildlife Trusts'

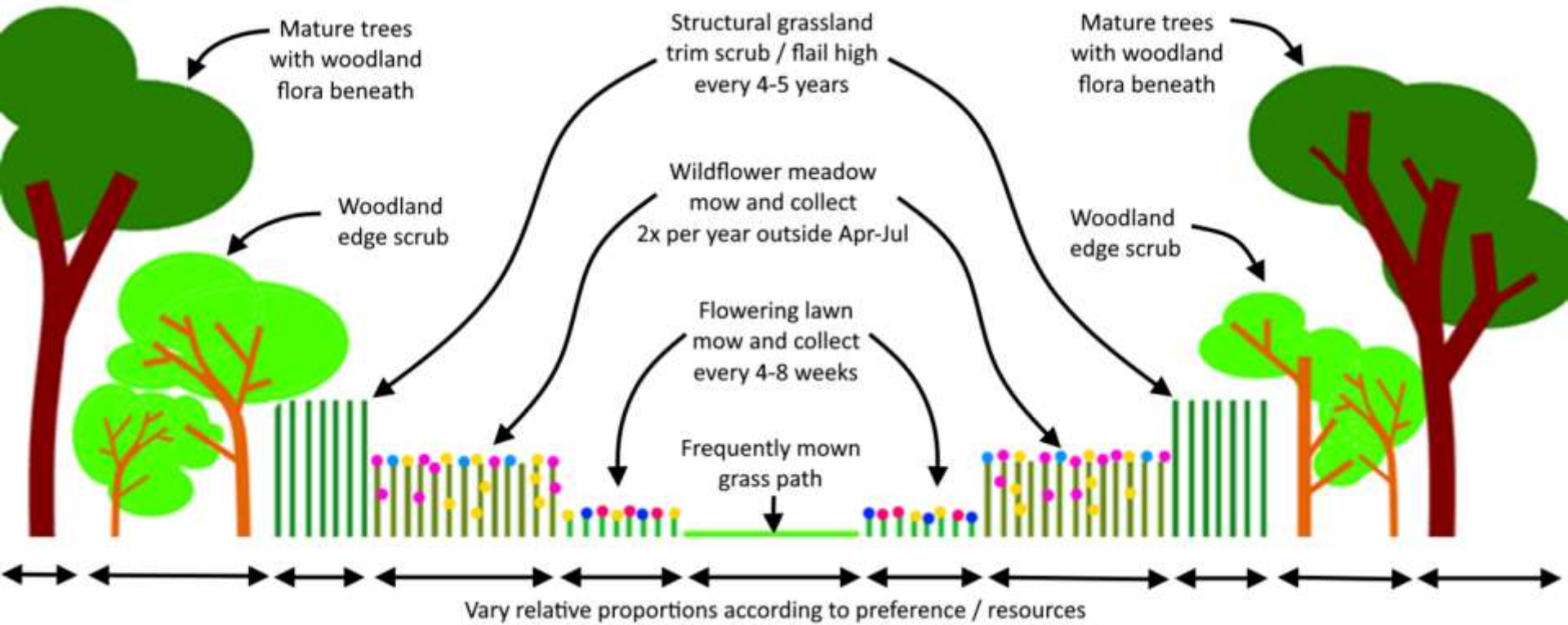


- Nature isn't Neat (Monmouthshire)



High to low maintenance zones

Balance proportions to suit your requirements, time and resources









Climate adaptation and resilience



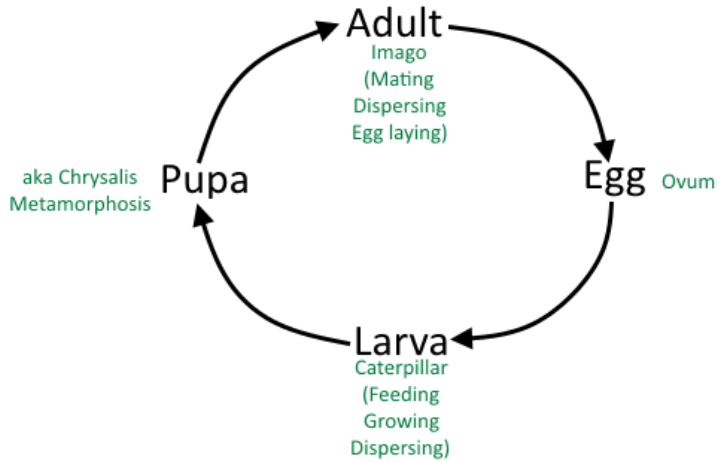
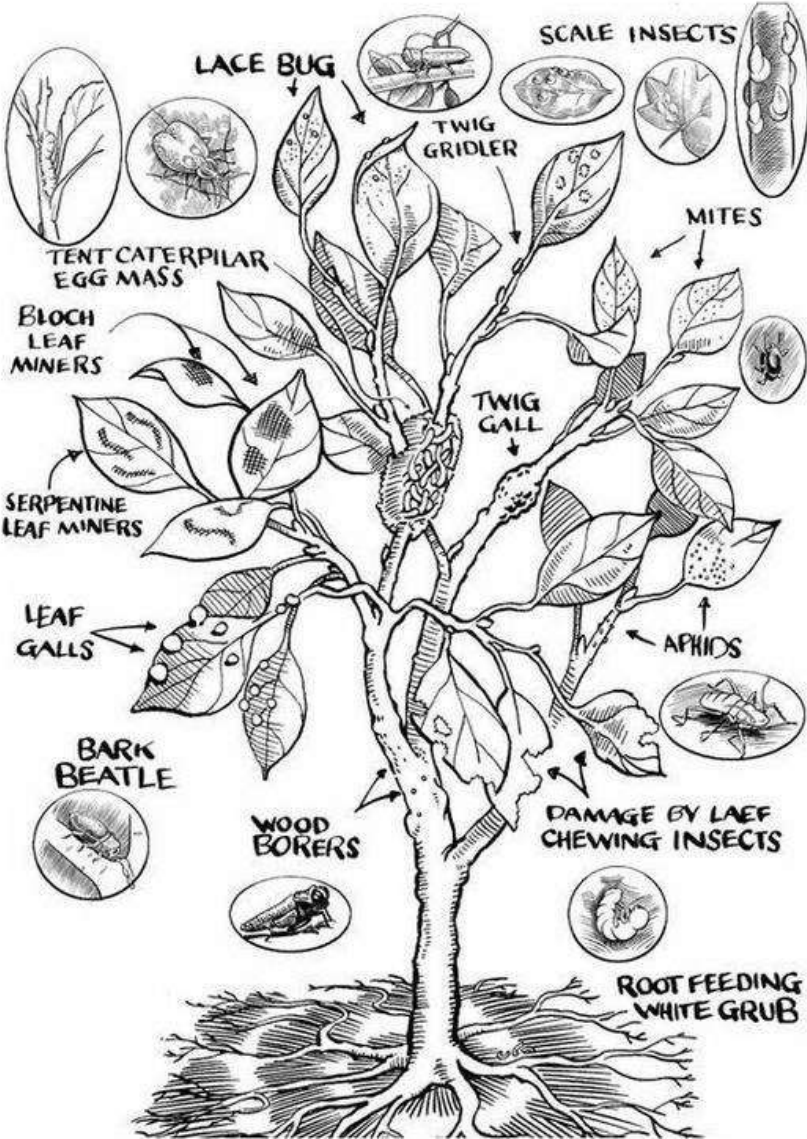
2018 summer drought in UK

- Grass was brown
- Forbs were green and still flowering



Not just nectar and pollen!

Vegetation structure provides for ecological niches and lifecycle stages





Tall herbs in 'structural' areas





Injurious Weeds?: Docks, thistles, ragwort



Hedgerow planting and management

Trim every 3 years mid-Jan to end Feb
Plant native species including hawthorn, blackthorn,
dogwood, holly

Cutting frequency ↓
every year → every 3 years
Flower abundance **x 2.1**
Mass of berries **x 3.4**

Moth abundance and diversity ↑ with ↓ in
cutting frequency and **cutting in winter rather
than autumn**

Most hedgerow berries, on non-cut hedges, had
been **foraged by mid-January**



Woodwise Summer 2014

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



Village verge restoration





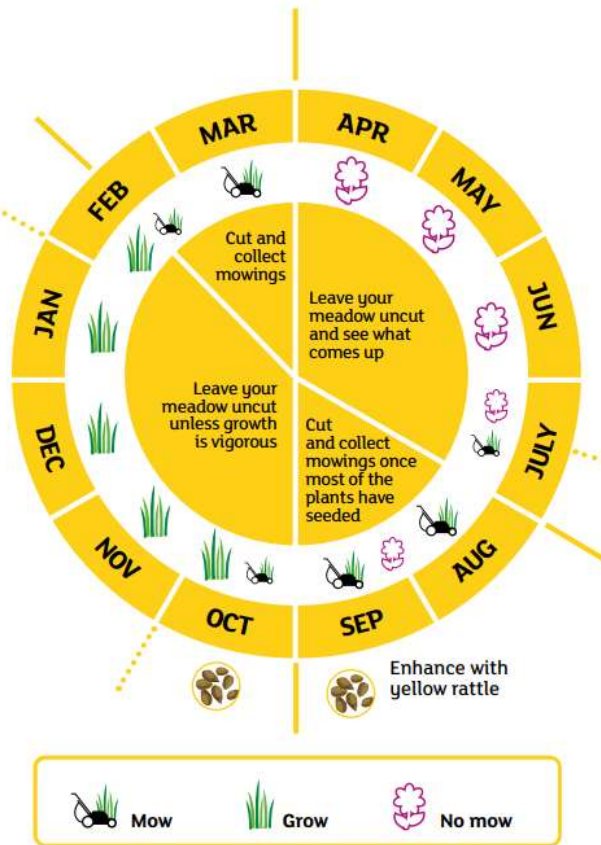
Two phases of establishment

1. Establishment year (frequently mown)

2. Ongoing meadow management from year 2

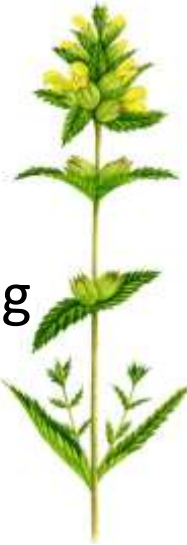
ENHANCE a meadow

If you already have some wild flowers present, simply follow the annual plan below to see even more flowers return over time



Augmentation:

- Scarify to 50% bare and over-sow
- Patch clearance and sowing / planting
- Addition of yellow rattle



Restorative management

If:

- Dominated by tall-growing, coarse grasses,
- Presence of nettle, thistle, dock, cleavers, hogweed

What to do:

- Cutting 3-4 times per year depending on growth and collect the cuttings.
 - can include summer cuts e.g. late May and early July
 - cut creeping thistle when flowers in bud
 - No Yellow Rattle yet!
- Move to meadow management when lower-growth, more wildflowers, finer grasses

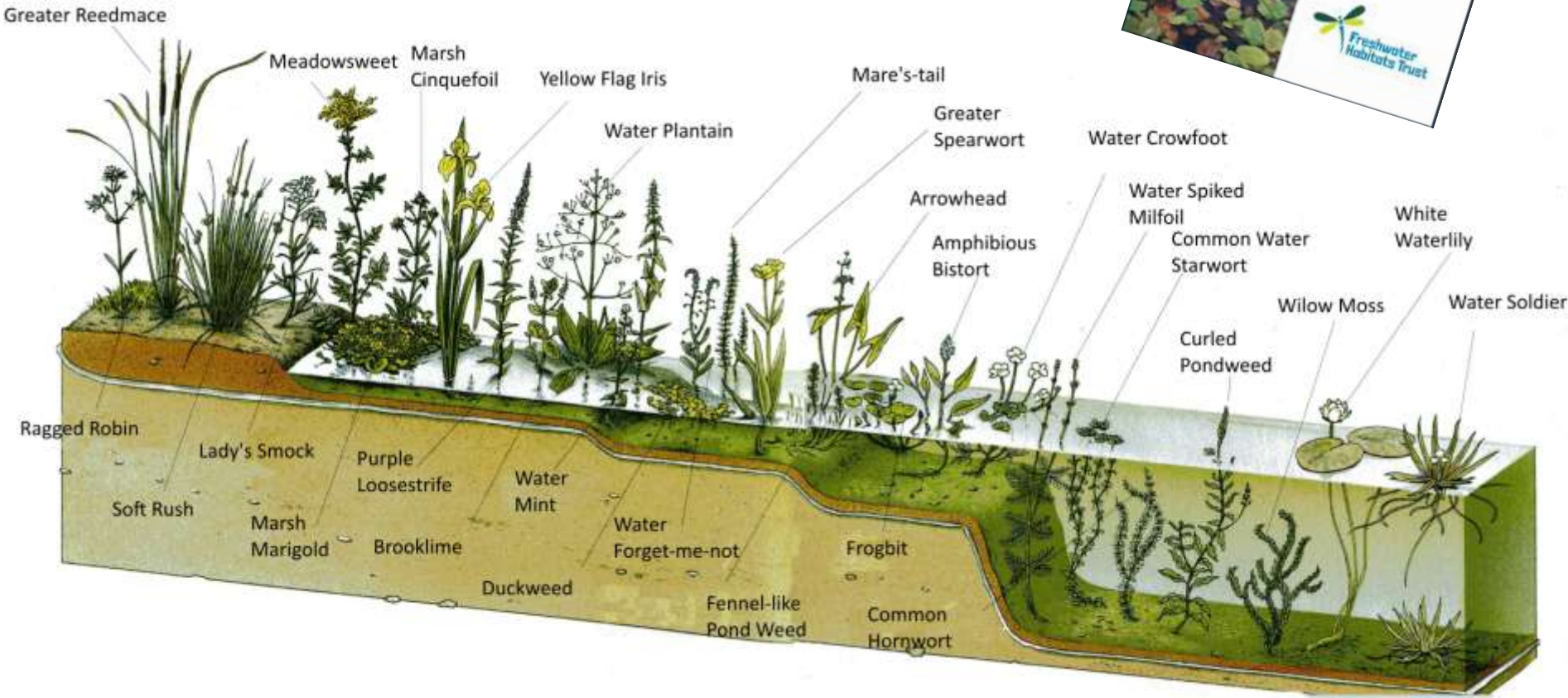
Restorative phase:

1. Late May (restorative cut)
2. July/August (hay cut)
3. October (aftermath cut)

Meadow management:

1. Late July to September (hay cut)
2. Oct/Nov or March (aftermath cut)





Flowering pond edges

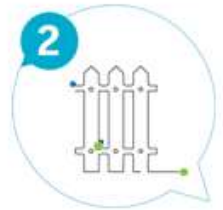
- Water Mint
- Yellow Flag Iris
- Ragged Robin
- Meadowsweet
- Purple Loosestrife
- Lesser Spearwort

Child safety

Best



1 Grille it!



2 Fence it!

Worst

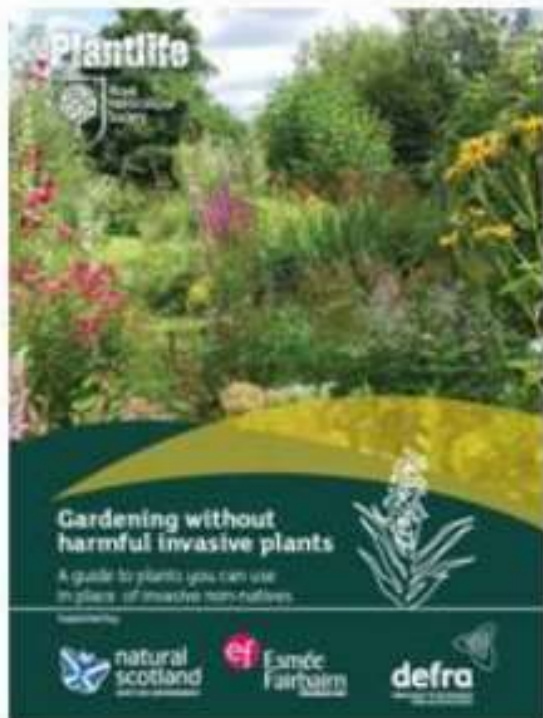


3 Fill it!





www.nonnativespecies.org



Perennials versus annuals

Perennial meadows produced up to **20x more nectar** and up to **6x more pollen** than annuals

Perennial meadows produced resources **earlier** in the year than annuals

Hicks et al. (2016)



Native versus non-native

Early season nectar and pollen supplied almost entirely by **native weeds**

Greater abundance of total **pollinators** visited **native and near-native plants** compared with the exotic plants.

RHS – Salisbury et al. (2015)



Wild flowers and their pollinators - an ancient partnership

Artificially selected plants can have negative impacts on native genetic diversity and have less ecological value

**Source locally, organically,
UK provenance, locally occurring**



Plantlife

Keeping
the
wild
in
wildflower