

Creating a Wildflower Meadow On Your Patch



Lincolnshire
Wildlife Trust

About us



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Wildlife Trust

Lincolnshire Wildlife Trust is a voluntary charitable organisation which cares for Lincolnshire's wildlife and countryside. It is one of 47 similar Wildlife Trusts covering the UK which are affiliated to the Royal Society of Wildlife Trusts.

Lincolnshire Wildlife Trust is one of the oldest of these county trusts, having been founded in 1948. The Trust covers the whole of the historic county of Lincolnshire - from the Humber to the Wash.

Membership

We could not do what we do without the support of our members. Add your voice to over **26,000** others and make a difference for Lincolnshire's wildlife and wild places.

See www.lincstrust.org.uk/membership for more information

Leaving a legacy

Some gifts are never forgotten. Imagine leaving a gift that could truly last for generations, a gift that means your generosity can allow others to enjoy Lincolnshire's wildlife and wild places for the future - just like you did. Leaving a legacy in your will to Lincolnshire Wildlife Trust could make that difference.

Want to know more?

We're here to talk when you're ready. We know you'll want to take time to think about your family, loved ones and others you care for as you consider your will, but when the time is right, you can call us for an informal conversation about what a lasting legacy gift could mean. Please see www.lincstrust.org.uk/legacy or call 01507 526667 for more details.

Reserves

The Wildlife Trusts manage 2,300 nature reserves across the UK, the Isle of Man and Alderney. These include heathlands, meadows, ancient woodlands, islands, beaches, moorland and mountains. Almost **100** of these reserves are in Lincolnshire. Find your local reserve at www.lincstrust.org.uk/wildlife/reserves

Why create a wildflower meadow?

- Provides essential habitat for **butterflies, bumblebees and birds.**
- Unfortunately, **97% of our lowland wildflower rich grassland across the UK has been lost since the 1930's.** Help us to halt this decline. (*Grasslands Trust*)
- Help to provide a **valuable wildlife refuge** in your **local patch.**



Wildnet, Anon

What to consider ?

Perennial rye-grass
(*Lolium perenne*)

- **Select a Site:** Wildflowers thrive in thinner soils rather than deeper, more fertile soils. Avoid large patches of competitive/ invasive species such as bramble, dock, thistle, nettle, hogweed and rye-grass.
- **Annual Management:** Allow your grassland to flower and seed but cut in late summer to maintain a flower rich meadow. Removing cuttings is **essential** to prevent nutrient build up and seedling suppression. Select an area that is manageable for you in the long term.



AVOID:

Rich soils and vigorous growth



IDEAL:

Thin soils = more diversity

Enhancing what's there

Rather than starting from bare earth you can choose to enhance your grassland if perennial ryegrass constitutes no more than one third of the turf and you don't have an issue with invasive species.

- Prepare a sowing/planting zone by creating bare earth strips or square patches. This can be achieved by using a turf stripper or scarifier. See 'Tools for the job' on pg.8 for more details.
- Alternatively, lay groundsheets (for c.4-6weeks) to wither grass beneath, peeling back to allow weeds to shoot, then replacing again to kill weeds. This should reveal a ready seed bed with no competing turf and an exhausted weed seed bank. This eliminates the need to dig/scarify. Be careful not to disturb soil before sowing wildflowers because this will stimulate the deeper weed seed just sow on the surface and tread or roll in.



- Sow prepared area with UK provenance seed to match the soil and light conditions. See pg.5 for sowing instructions.

- Introducing pot grown plants (*left*) will help to boost diversity quickly. Local stock can be bought from nurseries or grown from seed but remember to stay peat and fertiliser free. Plant them in groups into the turf. Autumn planting is best to allow the roots to become established while planting in spring is next best. To help reduce nearby competition, cut the turf out, replace the turf upside down and plant into this bare patch. Space at 6-10 per m².

Local green space or small holding



Yellow rattle

On a larger scale it would be advisable to treat several, alternate 2m wide strips with *herbicide to control grass effectively. Sowing these strips with the grass parasite, Yellow Rattle (*Rhinanthus minor*) at 2g per m² will help to control grass regrowth. Autumn sowing is essential with this species to ensure successful germination. These Yellow Rattle strips should be allowed to flower and set

seed for at least two years before introducing a wildflower-grass mix and/or pot plants in the third year. See 'Sowing' pg.5 for further guidance.



Band spraying

* Remember to use herbicide in accordance with the product label instructions. Make sure anyone spraying holds a certificate of competence for herbicide use or works under direct supervision of a certificate holder.

Starting from scratch

This is the best way to create a wildflower meadow if vigorous grasses and invasive plants have taken over and no special species are already present. Good ground preparation is essential. Establishing and maintaining a naturally low soil fertility will be key to success, as well as the control of invasive weeds in the early stages .

Establishing low fertility, clean seed bed

You can reduce fertility by stripping off the top 5-10cm of vegetation with a turf cutter (*right*) or by burying vegetation and the top layer of soil with a rotovator or excavator, leaving mineral soil at the surface.

After allowing the seed bank of weed species to germinate and letting weed seedlings begin to grow, you can then rake to kill the weed seedlings. By repeating this process you will exhaust the weed seed bank and reduce any residual problems in future. On more difficult sites, consider applying herbicides during the growing season. If you are working with only a small area, patches of turf can be removed with a spade and emerging weed seedlings can be hand weeded. Prior to seeding, roll or tread in the area to consolidate the soil.

Please note that clean seed bed preparation may take more than one year on 'weedy' ground but is essential for meadow success.



Turf cutter

Sowing

- Use a suitable grass and wildflower seed mix suitable for your site. Standard mixes are 80% meadow grasses to 20% wildflowers. See pg.7 for suitable plants.
- Sow in Autumn as some species require winter chill. Autumn sowing also avoids spring competition and the risk of drought.
- Seeding rate should be 2-4g per m² to avoid over crowding.
- Divide up seed equally between buckets and mix with builders sharp sand to allow for even distribution.
- Roll or tread-in seed to ensure good seed to soil contact.



Garden roller



Broadcasting seed

Meadow establishment

Aftercare

The management program during the first growing year is critical for success. Follow these key steps :

- Do not let the grass grow above 6 inches/ 15cm in the first year. Regular cutting will encourage the grass to tiller and help to colonize the ground quickly. This will also knock back unwanted 'weeds' such as groundsel and chickweed.
- If you have included yellow rattle seed within your mix only top the new growth at 6 inches so that this annual plant can flower and set seed.
- Any thistles and docks should be pulled up or spot treated with herbicide.
- Always rake off the cuttings to prevent a build up of dead plant material and fertility.

Future management

Following establishment, cut your meadow on an annual basis from mid July to mid August. This will allow the majority of wildflowers to flower and set seed. On fertile sites with lush grass growth consider an additional autumn or early spring cut and remove. See pgs. 10-11 for organising your annual meadow tasks.

Costs: Maintaining a meadow will cost much less over time than frequent cutting. You may find volunteers who are willing to help with key tasks such as raking.

Remember

**ALWAYS REMOVE THE CUTTINGS TO ENSURE
WILDFLOWER DIVERSITY FOR THE FUTURE**

If you want to put wildlife first...

Cutting a whole meadow in one go can take away all the food and shelter needed by insects, hedgehogs, amphibians and reptiles, so leave some areas uncut for them. The best way to do this is to cut parts of your grassland in rotation (every 2-4 years). For example, leaving 1/4 uncut each year is an example of how you can maintain neatness but also important habitat. When using a strimmer, please make sure that you are not injuring or killing small animals such as amphibians, lizards and small mammals.



Tom Marshall

Selecting your seed & plants

As with all plants in the garden, wildflowers need to be chosen to suit site conditions. Key factors are: soil type, acidity, drainage, light or shade and the levels of soil nutrients. Below is a list of plant communities that will give you ideas to suit your location but remember that seed suppliers can tailor seed mixes according to your site.

Fertile/clay grassland meadow

In a fertile grass area generally the taller and more vigorous wild flowers must be used. Ideal species are: Oxeye Daisy, Black Knapweed, Meadow Cranesbill, Musk Mallow, Field Scabious, Devil's-bit Scabious, Red Campion, Bulbous Buttercup, Selfheal, Yarrow, Cowslip, Bird's-foot Trefoil (*right*), Betony, and Rough Hawkbit. Scrambling plants such as Tufted Vetch, Common Vetch, Meadow Vetchling, Hedge Bedstraw and Lady's Bedstraw and can also do well especially if they can climb hedges or other structures.



Susanna Bird

Limestone meadow

This low-growing sward can comprise the broadest range of wildflower species. Examples are: Cowslip, Birds-foot Trefoil, Horseshoe Vetch, Small Scabious, Lady's Bedstraw, Clustered Bell Flower, Field Scabious (*left*), Greater and Common Knapweed, Wild Marjoram, Wild Thyme, Selfheal, Dropwort, Harebell, Salad Burnet, Common Restharrow, Burnet Saxifrage, Wild Carrot, Kidney Vetch, Yellow Rattle and Viper's Bugloss.

Acid/sandy grassland

These grasslands generally have less botanical interest but important species include Tormentil, Heath Bedstraw along with Selfheal, Yarrow, Common Cats-ear, Common Bird's-foot Trefoil, Harebell (*right*), Meadow Buttercup and Sheep's Sorrel. The taller growing, deeper rooting plants which do not depend upon high amounts of lime are generally better suited to coping with the dryer conditions in sandy soils e.g. Yarrow, Common Knapweed, Wild Carrot, Viper's Bugloss, Lady's Bedstraw, Oxeye Daisy, Musk Mallow, Bird's-foot Trefoil, Hoary Plantain, Cowslip, Selfheal, Meadow Buttercup, Bulbous Buttercup, Common Sorrel and Bladder Campion.



Bruce Short land

Tools for the job

Cutting your meadow



For small holdings and community green spaces a pedestrian power scythe or ride on brushcutter mower will crop tall vegetation. For larger sites where pedestrian machinery is impractical consider a compact tractor and drum mower. For smaller sites with several obstacles such as churchyards or gardens opt for a professional brushcutter/trimmer or traditional scythe. Appropriate personal protective clothing should be worn in accordance with the operating instructions.

Equipment suppliers

Pedestrian power tools for turf cutting, rotovating, scarifying and grass cutting can be hired and delivered at an affordable rate from local tool hire companies. Search online for your local supplier.

Traditional scythes

Austrian scythes provide an environmentally sensitive and traditional method for managing your grassland. These are light, easy to maintain and can last a life time. For further information on suppliers and courses see the Scythe Association of Britain and Ireland www.scytheassociation.org

Tools for the job

Collecting your cuttings



Power rake



Mini-baler



Raking off cuttings



Moving cuttings

For small holdings and community green spaces where there is local demand for hay, a pedestrian power rake for turning and drying and mini baler to collect are ideal. For smaller sites where traditional hay making is not possible use traditional wooden rakes and large builders bags to remove and transport cutting easily. A fun activity for groups!

Compost

Use your cuttings to compliment your compost. Affordable composting bins can be easily constructed from old wooden pallets tied together over a weed free ground layer. Remember, **do not** apply compost to the meadow!



Meadow management calendar

	Jan	Feb	Mar	Apr	May	
Control any encroaching scrub and bramble. Avoid nesting birds i.e. March–September inclusive						
Consider spring cut and remove to control vigorous grass growth. Avoid if flowering spring flowers present i.e. cowslip						
DO NOT CUT meadow areas. Allow for 12 week flowering period. Cut picnic/path edges as normal i.e. maintain as short grass.						
Hand pull or spot treat thistles, ragwort, docks, cow parsley, hogweed.						
Mow meadow areas. Ideally, leave cuttings for 3-5 days for seeds to fall to ground. Rake AND collect cuttings						
Ideally, cut and remove autumn grass regrowth						
Consider pot planting additional wildflowers						
Enhancement phase: Create bare earth strips in meadow areas and scatter additional wildflower seeds and yellow rattle to control grass growth.						

← For newly seeded meadows: Allow to grow

June	Jul	Aug	Sep	Oct	Nov	Dec
LEAVE TO FLOWER						
	CUT					
ow to 15cm/6inch—cut back to 5cm/2inch. Repeat throughout year 1.→						
				Ideal		
				Ideal		

Soil fertility too high? ...try a cornfield annual mix

The soil fertility will largely determine whether your meadow is going to be successful and the types of wildflower seed needed. Some soils are too rich to attempt meadow creation.

Garden centres supply inexpensive soil testing kits which will help to assess fertility. Common Nettle, Creeping Thistle and Broad-leaved Dock as well as a tall growth height all indicate a higher fertility.

Do not despair if the soil is too fertile, you could create a cornfield flower patch instead. Simply sow a mixture of cornfield annuals such as common poppy; cornflower; corncockle; corn marigold; and corn chamomile (below) in autumn or spring over bare soil for a colourful display. After the flowers have set seed, rake over the soil so that there is open ground for them to grow the following year.



Paul Hobson

Flowering lawn

If traditional meadow management is not for you consider a flowering lawn. These are mixed, shorter growing swards made up of grasses and a range of wild flowers that are extremely tolerant of cutting but provide a valuable nectar source for pollinators. Some, if not all of these species are already likely to be present. Key points:

- The grass is cut four to six times during the season. Rake off for best results.
- Use a push mower on a higher blade setting to cope with the slightly taller growth.

Ideal lawn species to sow or plant:

Common Bird's-foot Trefoil, Common Cat's-ear, Selfheal, Red clover (right), Rough Hawkbit, Lady's Bedstraw, Hoary Plantain and Ground Ivy.



Landscaping with flowers

If space is limited it is possible to create a spectacular display by using restricted colour schemes of one or a few species in clearly defined blocks. Set out below are some design ideas that have proved highly successful:

Cowslip meadow

Cowslips (*right*) can be planted into a lawn which is kept mown at 5 cm until late February/early March. Grass cutting is stopped and the cowslips are allowed to flower for at least six to eight weeks in April and May. Cutting can be started after flowering is finished or in mid June to allow for seed dispersal. Thereafter the lawn is cut as normal.



Robert Enderby LWT



Paul Lane

Red campion hedgerow

A particularly effective way to use Red Campion (*left*) is to plant along the edge of woodland and hedges. These vivid pink wild flowers can create a solid mass of colour in May and June. The plants can be cut back any time after flowering.

En masse effects

Oxeye Daisy (*right*) planted at 10 per square metre will, within two years, create a dramatic, highly visible and reliable block of white flowers from June to August. The key to sustainability is to open up the grass sward after the Autumn cut, for example by vigorous raking. Other effective plants to use in solid drifts include Chicory on dry sites, Musk Mallow, Greater and Black Knapweed, Field Scabious, Sainfoin and Meadow Cranesbill. The white of wild carrot can work very well with Viper's Bugloss, Scabious or Musk Mallow.



A.Neary LWT

Supporting your local ecosystem

Benefiting pollinators:

By growing wildflowers that overlap in flowering period throughout the year you can provide a much needed continuity of nectar supply for pollinating insects. Most flowers appear mid-season so try to spread out the food supply to ensure you have both early and late season nectar sources.

Early Season: Snowdrop, Cuckooflower, Garlic Mustard, Apple/Cherry blossom, Blackthorn, willows, Lesser Celandine, Red and White Dead-nettle, Ground Ivy, Common Daisy, Primrose, Germander Speedwell, Violets.

Late season: Ivy (especially on south-facing walls), Devil's-bit Scabious, Hedge and Lady's Bedstraw, Clustered Bellflower, Wild Carrot, Harebell, Wild Marjoram, Wild Basil, Sedum, Common Restharrow, St John's-worts, Selfheal, Creeping Cinquefoil, Ragwort, Yarrow.

Inviting butterflies and moths:

Flowers that suit the tongue length of butterflies and moths include the Greater and Black Knapweed; Field, Small and Devil's-bit Scabious; thistles, Red Valerian, Wild Marjoram, Purple Loosestrife and Honeysuckle. As well as nectar for adult insects, butterfly and moth larvae often need specific food plants. Just by leaving grass uncut you will be supporting Ringlet, Speckled Wood, Meadow Brown and the Large, Small and Essex Skippers as well as many moths. Information about specific food plants can be found at

www.ukbutterflies.co.uk



*Marbled White on Greater knapweed.
(Dean Eades)*

Keeping ponds native:

Creating a pond adjacent to your meadow will bring additional wildlife benefits to your local patch or garden. Establishing a variety of plants tailored to both shallow and deep water areas will allow animals to find their niche. Remember to avoid invasive plant species as these can spread to watercourses and still waters.

Advice on pond design and suitable plants can be found at the Freshwater Habitats Trust. See freshwaterhabitats.org.uk for more details.

Sources of further information

Meadow creation guidance

- Flora locale restoration library: www.floralocale.org. Click on the 'Restoration Library' tab on the home page for a host of information relating to meadow creation and management techniques .

Seeds and plants:

REMEMBER: It is important to always use locally sourced seed and plants to if you wish to help conserve the local varieties of wildflower best adapted to your area. This will also increase your chances of success. Never use imported seed or plants grown from unreliable sources.

For a list of approved, UK provenance suppliers please visit the directory page at Flora Locale www.floralocale.org. Seed suppliers can also tailor seed mixes according to site soil and light conditions.

Suppliers in the East Midlands:

- British Wildflower Plants (Norfolk) www.wildflowers.co.uk
office@wildflowers.co.uk, 01603 716615.
- Naturescape (Nottinghamshire) www.naturescape.co.uk
sales@naturescape.co.uk. Tel: 01949 860592.
- Emorsgate Seeds (Norfolk) www.wildseed.co.uk
enquiries@emorsgateseeds.com . Tel: 01553 829028.

Further reading:

- "Where have all the flowers gone?" Charles Flower, Papadakis, ISBN 978-1901092820.
- "RSPB Gardening for Wildlife" Adrian Thomas, A & C Black Publishers Ltd, ISBN-13: 978-1408122303.
- "Making Wildflower Meadows" Pam Lewis, Frances Lincoln Ltd., ISBN 978-0-7112-2133-8.
- Wildlife Gardening downloads :www.lincstrust.org.uk/wildlife-gardening

Lincolnshire Wildlife Trust Meadow Knowledge Hub. Coming soon in spring 2017. Visit www.lincstrust.org.uk for more details

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