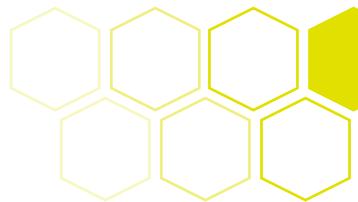


# Pollinators in Planning and Construction

A brief guide for the development sector



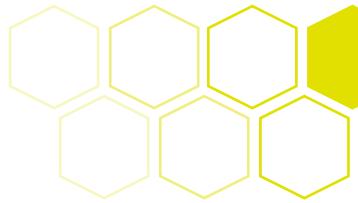
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# Supporting Scotland's Pollinator Strategy



## The development and planning sectors

The [Pollinator Strategy for Scotland 2017 – 2027](#) addresses pollinator decline and sets out a 10-year plan to help pollinating insects thrive. Support is needed from development and planning sectors to build a more resilient and nature-rich environment and to ensure that the critical services of pollination are available for future generations.

As the protection and enhancement of nature becomes more recognised in National Planning Policy, and people demand developments that improve their environment, it is time to fit pollinators into the design and construction process. If you work in this sector, you have the opportunity to create high quality developments that benefit your business and are more compatible with nature.

## What are pollinators?

Pollinators include bees, wasps, moths, butterflies and flies. Their pollination services support our food and farming industries and contribute to our economy. They help to maintain healthy plant populations and support other wildlife, shaping the nature and landscapes we all enjoy and benefit from.

## Why do they need help?

Pollinator populations have been declining due to changes in land use, habitat loss, diseases, pesticides and climate change. Over 75% of the leading crops and nearly 90% of global flowering plants depend, at least in part, on animal pollination. Threats to pollinators affect us all.

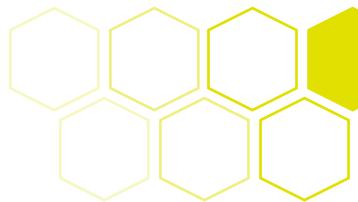
## Who is this guidance for?

It is for planners, developers, consultants, architects, landscape architects, land managers and others involved in the development business.

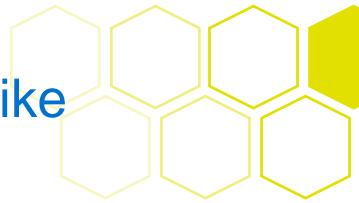
There are steps to suit all project budgets, sizes and ambitions.

This guidance isn't comprehensive but provides options and advice to enable your company or organisation to help pollinators. We recognise that 'development' covers a range of unique projects, and we encourage innovation to implement actions that best suit your conditions.

# Importance of our pollinators



# What a pollinator-friendly development looks like



A pollinator-friendly development improves or creates nectar-rich habitat that provides food and shelter for pollinating insects.

This can be achieved, for example, by including wildflower meadows, semi-natural grassland, flowering trees, hedgerows, nectar-rich ornamental plants and herbs, window boxes, green roofs, living walls and Sustainable Drainage Systems (SuDS). These measures will expand the pollinators' habitats, while creating attractive and greener developments for us all.

Many actions benefiting pollinators don't need extensive planning, some can even be added at the end of development without additional cost.

However, detailed planning allows conditions, such as soil type and aspect, to be considered and thus help you decide what to plant. Remember to ensure that there is easy access for long-term management of the site.

## Management

The full potential of pollinator-friendly management is achieved by good pre-arranged maintenance contracts. Pollinator habitats normally need less management in the long term, with some actions leading to financial savings.

## Partnerships

Partnership with Local Authorities, ecologists and environmental organisations can help meet developer's needs, as well as local and national pollinator and biodiversity aims.

### A note on biodiversity net gain

In development, biodiversity net gain is where biodiversity is left in better condition at the end of a project than it was before. The aim is to encourage the design, building, operating and maintenance to improve biodiversity to sustain a healthy society, economy and environment.



# Pollinator-friendly development



## Food

A variety of 'pollinator-friendly' food sources from early spring until late autumn. Wildflowers, plants, flowering trees and shrubs are all needed – so the more the better!

## Shelter

Pollinators need safe nesting areas and shelter. Bumblebees will nest in long grass and hedgerows. Many solitary bees nest in the ground. Others will take advantage of spaces in dry stone walls and wood.



## Habitats

Whether it's flower-rich grasslands, flowering trees and hedgerows or small patches of nectar-rich roof top and window box planting, more good-quality habitats are needed.

## Pesticide-free

Minimise pollinator exposure to pesticides by designing for and managing areas of land without them. Source plants and seeds which have been grown pesticide-free.



# Incorporating pollinators into the development process



## Local Development Plan (LDP), feasibility and planning

Identify the role of pollinators in the long-term local development vision

Understand what pollinators need and include appropriate actions in the policy/site requirements

Planning authorities should consider how:

- The LDP can incorporate the Scottish Pollinator Strategy
- pollinator-friendly actions can help promote national policy. Paragraph 194 of the Scottish Planning Policy (2014) states the planning system should '*seek benefits for biodiversity from new development where possible, including the restoration of degraded habitats and the avoidance of further fragmentation or isolation of habitats*'

Enhancement and retention of green/pollinator networks should be a requirement in developments



## Detailed design

Landscape and planting designed for pollinator food and habitat

Consider the following for biodiversity net gain:

- trees and shrubs
- wildflowers and naturalised grasslands
- SuDS and green roofs/walls
- bare ground for nesting

Integrate pollinator actions into site surveys/assessments:

- topographical surveys (SuDS)
- soil assessment (planting)
- building assessment for green infrastructure (green roofs)

Protect or enhance existing good quality pollinator habitat

Consult with ecologist

Work closely with the Local Authority



## Implementation

Implement site monitoring and intervention where required. Plant at correct time of year and with knowledge of ground conditions and topography

Add low fertility top soil to encourage wildflower growth

Explain the benefits of pollinator-friendly actions to all staff on site

Consider how left-over building material can be used to encourage wildlife (e.g. soil mounds as nesting sites for solitary bees)



## Aftercare

Recommend or implement a pollinator-friendly management plan

Go above and beyond? Carry out a pollinator monitoring survey to find out what species are using the site

Monitoring and maintenance ensure the successful establishment, protection and management of sites for pollinators

## Reasons for considering pollinators



- improved applications submitted to local authorities
- supports local authorities in meeting biodiversity priorities\*
- helps local authorities achieve pollinator action plans
- contributes towards a BREEAM rating
- helps meet National Planning Policy Framework (NPPF)
- contributes to the Considerate Constructors Scheme
- creates a positive ecological impact
- creates a good practice case study in your field
- contributes to the 'planet' component of your Corporate Social Responsibility
- provides a leading example for environmentally friendly action and demonstrates 'best practice'
- helps meet other environmental targets, such as reduced exposure to flooding
- creates more attractive environments for living, working and travelling
- enhances resilience of pollinators and plant communities to climate change



© Lorne Gill/SNH

### Not just for pollinators

A rich diversity of plants, trees and shrubs are all needed to make good, colourful greenspace, and planting species which benefit pollinators brings multiple benefits.

Attractive and diverse greenspace in urban areas are known to improve our health and wellbeing.

\* The Nature Conservation (Scotland) Act 2004 places a statutory duty (The Biodiversity Duty, 2004) on public bodies to further the conservation of biodiversity.

## What can you do to help?



### Protect what exists

Protect wildflower habitats, hedgerows and woodland from loss or damage during development in your site. This will integrate new buildings into an established environment, raising the quality of your development. Consider consulting an ecological expert.

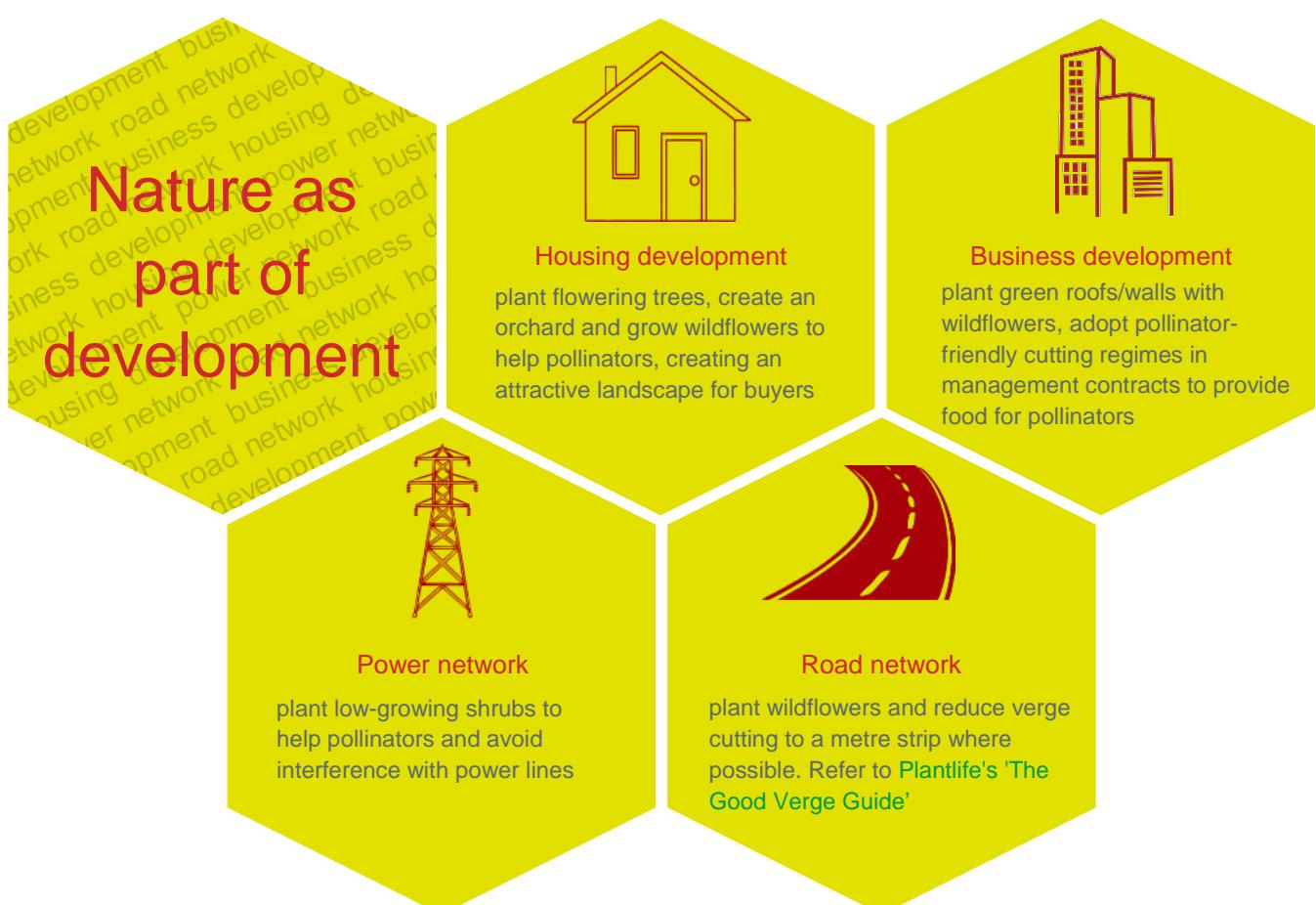
### See nature as part of development

Don't just think about the house, business or energy network that is being built, but also about the surrounding environment and how your development can connect with the wider landscape.

### Create habitat for pollinators

Creating good-quality habitats for pollinators are amongst the best things you can do to help reverse pollinator decline. All sites, no matter their size and longevity, can take part. Follow [Lawton's principles](#):

Bigger	increase the size of pollinator sites
Better	improve the quality of existing habitats and introduce sympathetic management
More	create new pollinator sites
Joined-up	connect site with surrounding good-quality habitat.





## 9 pollinator-friendly actions to build into developments



1. Manage grasslands for pollinators

2. Create wildflower-rich grasslands



3. Adopt a pollinator-friendly management plan

4. Plant for pollinators



5. Make green infrastructure pollinator-friendly

6. Reduce or avoid use of pesticides



7. Create nesting places

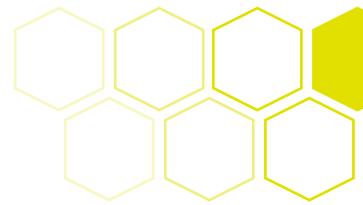
8. Make use of temporary programmes for nature



9. Go the extra mile



# 1. Manage grasslands for pollinators



Simple changes to management of grasslands will give wildflowers a chance to grow. This is one of the most cost-effective ways to provide food for pollinators and other insects, and will not just benefit pollinators; well-managed grasslands can produce magnificent and colourful displays in summer. It will also help reduce pollution, improve soil structure and reduce flood risk.

However, bear in mind that restoring grasslands takes time and shouldn't be viewed as a quick fix.

## Change mowing regime

Identify areas that could be left uncut and allowed to grow long throughout the summer. Seeds already in the ground will be given a chance to germinate and bloom, and you are likely to be left with a mosaic of long and short grass that is beneficial to pollinators. Remove cuttings to reduce soil fertility and encourage flower-rich growth.

### a) Introduce rotational cutting

Cut vegetation at different times of the year to create patches of different stages of growth. This provides a continual source of food for pollinators.

### b) Increase the cut height

Cut grass to a height of about 7-10 cm.

### c) Reduce grass cutting

Reduce the number of cuts per year to provide a longer flowering period.

### d) Delay the first cut

Delay until late August. This will allow more plants to reach flowering, which means **more nectar** for pollinators. This will also allow plants to set seed.

### e) Paths

Cut paths, path edges and management strips regularly.

### f) Signage

Signs educate and inform people about management objectives and avoid the risk of people thinking the area is being neglected.

## Take the Dandelion Dare

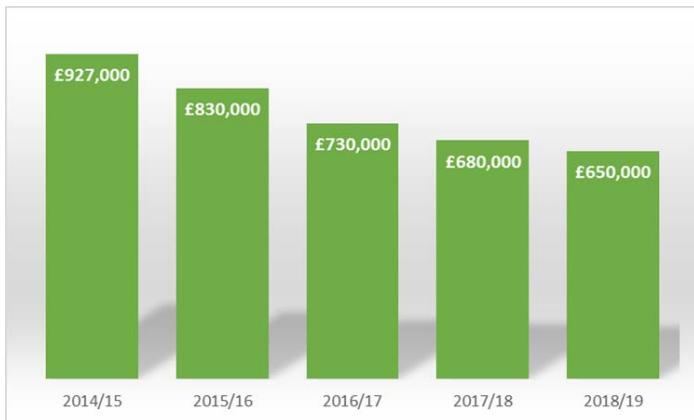
Let dandelions have their time in the sun during their peak flowering time of late March to May. We will be rewarded with bees, butterflies and hoverflies feasting on the flowers. A little concession on your part, a potential life-saver for hard pressed insects.



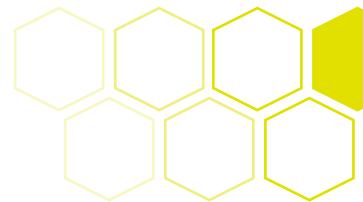
© Pauline Smith

## Mow less, save more

A number of local authorities have shown cost savings from reducing mowing of parks and road verges. The example below shows the annual budget for highway verge management at Dorset Council reducing year-on-year, following adoption of an ecological approach.



## 2. Create wildflower-rich grasslands



Wildflower grasslands are unlikely to succeed without introducing seeds if the ground has been heavily disturbed during construction. Under the right conditions, a more species-rich grassland can flourish and produce magnificent displays.

### Preparation

The types of wildflower-rich grasslands you can create are defined by the soil type, usually categorised as acidic, neutral, calcareous, or marshy and wet.

### Work with nature

Work with what you have. Low-fertility, light soils are best for sowing wildflower seeds.

Fertile and heavily compacted soils (e.g., former arable land or where frequent cutting has taken place over several years) are unsuitable for direct sowing.

Although soil conditions can be altered and enhanced, it is not always feasible to create wildflower-rich grasslands.

Wildflower-rich grassland creation and restoration takes time. Create a management plan from the start.

Allow other wild flowers to colonise.

### Conditions to consider before sowing wildflowers

#### Soil fertility

Wildflowers thrive best on low-fertility soil, so preparation of the site ahead of sowing seed is essential to ensure success (see page 14 for how to reduce soil fertility).

High-fertility soil, which is indicated by tall, vigorous grass and plants such as hogweed or curled dock, can be reduced by removing the top 5-14cm of soil.

If you don't strip the soil, sow yellow rattle in the first year.

#### Seed choice

Use a seed mix that is suitable for your soil type.

For best results take soil samples and consult a wildlife expert.

#### Hydrology

Choose plant species appropriate to soil moisture.

#### Soil structure

This is difficult to alter – consider other pollinator-friendly options on compacted soils.

#### Geographical location

This will define the choice of wildflower species.

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Adapted from Rothero, E et al., (2016). *Floodplain Meadows – Beauty and Utility. A Technical Handbook*. The Open University, Milton Keynes, UK.

## How to reduce soil fertility

Wildflowers will be smothered by grasses and other dominant species in fertile soils.

### a) Avoid fertilisers

This will reduce soil nutrient levels to favour wildflowers.

### b) Introduce yellow rattle

This is a hemi-parasitic plant that will reduce growth of the more robust grasses. Sow it in autumn on sunny areas. It can be sown with other wildflower seeds such as knapweed, bird's-foot trefoil and oxeye daisy.

### c) Reduce mowing

One cut per year will help to maintain lower fertility soils and give less dominant species a chance to flourish. Remember to lift the cuttings after a couple of days. This allows seeds to fall and also prevents the cut vegetation returning nutrients to the soil.

### d) Strip top soil

This will expose the less fertile subsoil. However, it may look unattractive for a while and a proportion of the seed bank may be lost. The exposed subsoil will have a lower fertility and will require little maintenance once weed growth is contained

Be creative with what gets done with the top soil. Can it be used elsewhere on the building site, perhaps for woodland planting or as south-facing mounds for nesting sites? Remember, taking soil off-site may require planning permission.

## Case Study

Dorset County Council discovered the best way to benefit biodiversity and reduce costs is to stop using top soil during the construction phase.

At Weymouth relief road, a number of road banks were left with no top soil, rather than finishing with 150 – 300 mm of high-fertility soil.

Wildflower seeds were sown directly into the sub soil and the result was a spectacular wildflower-rich display.

Avoiding top soil reduced management costs from £2,700 to £500 per year.



© Bryan Edwards

## Introducing wildflowers

Introduce wildflowers from seed or as plug plants. If sowing, choose native wildflower seeds and use a specialist supplier who identifies the percentage of each type of seed in the mix. See guidance on reference page at end of booklet on how to grow from seed.

Plug plants can be used as an alternative to sowing. Plant them straight into existing or new grassland areas, into bare ground, under trees and in glades.

Although more expensive, plug plants have a greater chance of establishment. [British Flora](#) and [Boston Seeds](#) have wildflower species lists detailing habitat and flowering period.

## Pricing

Seed mixes and plug plants prices vary, but the table below offers a price comparison for different seed mixes and planting approaches.



© Lorne Gill/SNH

Plug plants are the more expensive option but give you the opportunity to involve the local community in growing and planting.

### Sample price estimates for different wildflower planting approaches

Approach	Cost
Wildflower grassland mix (20% wildflowers, 80% grass)	Approximately £11 - £15 / 100g; £70 – 90 / 1kg
100% wildflower seed mix	Sow at 2-3g/m <sup>2</sup> from approximately £10 - £35 / 100g <sup>A</sup> ; £100 - £350 / 1kg
Wildflower plug plants <sup>B</sup>	Approximately £70 for 150 plugs
Wildflower machine planting <sup>C</sup>	50,000 bulbs at ~£10,000

Based on price comparison from Scottish and UK suppliers.

A Price depends on seed mix (i.e. dry meadow mix, woodland mix, annual mix etc).

B Can also grow plug plants from seed if you have somewhere to store them.

C Based on bulb planting conducted by Edinburgh Council.

## Soil summary

Soil provides the foundations for plant growth and life on the planet.

Successful establishment of plants, trees, shrubs and grasslands in new landscapes, gardens and greenspaces needs structured and well-aerated soil.

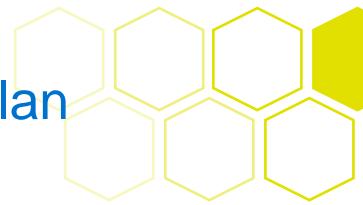
Over-compaction, and the removal and sealing of soil during construction can damage the soil structure and lead to water-logging and restricted rooting. This can not only make it harder for good-quality habitat to flourish, but can contribute to flooding.

For best results consider:

- protecting the soil from pre-construction planning through to landscape and habitat creation
- understanding the soil characteristics and land use before the development.



### 3. Adopt a pollinator-friendly management plan



How a site is managed is crucial to its success. The recommendations below are established practices, but other approaches may be equally effective.

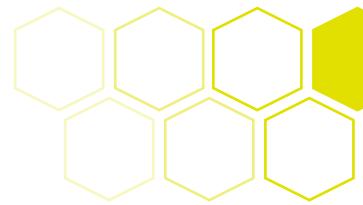
Often maintenance is outsourced to a contractor after initial development work. Remember to share your views on pollinator-friendly approaches with them to ensure continuity of management plans.

Consider whether residents and community groups can get involved in managing the planted space and tending the gardens. Community gardening projects support pollinators and provide wider social benefits through exercise, free healthy food, increased community support and improved mental wellbeing.

#### Pollinator-friendly management recommendations

Environment	Management recommendations
Natural grasslands (including amenity greenspace)	<ul style="list-style-type: none"> <li>- reduce cuttings to once or twice per year</li> <li>- remove cuttings from site to keep fertility low</li> <li>- to keep areas in use consider paths and perimeter areas for access. Cutting a 1m strip around the perimeter and one or more narrow paths through grasslands and verges will show that the site is 'open' to people but being managed. Use signage to explain the biodiversity potential of these sites</li> <li>- build pollinator-friendly management into maintenance contracts</li> </ul>
Wildflower meadows	<p>Each wildflower meadow is different – seek professional advice on management techniques. As a general rule:</p> <ul style="list-style-type: none"> <li>- the first year after sowing may require more cuts. Remove cuttings to stop some species from dominating</li> <li>- a reduced mowing regime with one or two cuts per year can then be established for subsequent years</li> </ul>
Living lawn	<ul style="list-style-type: none"> <li>- do regular cutting but with a raised blade (7 – 10 cm)</li> </ul>
Trees	<ul style="list-style-type: none"> <li>- can offer vital early spring nectar</li> </ul>
Shrubs and hedgerows	<ul style="list-style-type: none"> <li>- minimise the number of cuttings per year to allow longer flowering periods</li> <li>- if summer cuts are needed, cut in rotation to create a mosaic of different aged and structurally diverse shrubs</li> </ul>

## 4. Plant for pollinators



### Tree and shrub planting

We typically picture plants such as sunflowers and lavender as the most 'bee friendly'. However, bees benefit hugely from flowering trees and shrubs. Plant species with overlapping flowering periods from early spring onwards to ensure that there is food for pollinators throughout their lifecycle.

#### Trees

Trees such as hazel, alder, willow, apple and cherry are an excellent and localised source of food for pollinators. Fruit trees don't need much space to grow and even a couple can be wonderful for people and wildlife.

Non-native varieties such as maple and sycamore are good food sources but need lots of space to accommodate growth.

#### Hedgerows

Hedgerow species such as hawthorn and blackthorn create privacy, reduce noise, and provide excellent food and nesting habitats. A hedge blossom sequence of goat willow, blackthorn and hawthorn will provide 3 months of blossom from late February (later in the north). Hedges make good boundaries and can act as pollinator corridors for movement through the landscape.

Leaving a 1.5 m border at the base of hedgerows will give wildflowers a chance to grow.

#### Vertical surfaces

Climbing plants such as ivy and honeysuckle on fences and walls can brighten up vertical spaces and provide food sources for bumblebees before they go into hibernation.



#### Case Study

In the new village of Calderwood, West Lothian, Stirling Developments have planted up the greenways with food and nesting habitats for pollinators.

Crab apple, cherry plum, wild pear and hazel trees are plentiful, and wildflower seeds have newly been sown along meadow edges. A residential community garden is already sprouting colour and feeding pollinators.

## Pollinator-friendly bulb planting

There is an abundance of nectar-rich bulb plants to choose from to help pollinators and create a pleasant environment for people.

### Plant selection

- plant native wildflower bulbs such as bluebell
- select 'single' flowered species over 'double' flowers (which have been artificially created for appearance and lack pollen and nectar).
- choose plants that have been grown from local seeds or cuttings
- avoid seeds that have been treated with pesticides, which can be harmful to pollinators.

Putting together a planting scheme will help in planning what should be planted where and when.

The geographical location, time of year, size of site and type of soil will determine the suitability of different species to your site.

### Site selection

Planting in clusters will make food gathering more efficient for pollinators. Take advantage of:

- rail, road verges and pathways
- roundabouts
- under trees and hedgerows
- long grass areas
- window boxes and containers
- public spaces such as car parks
- SuDS
- green roofs and living walls.

### *Non-native species*

Planting species that are native to the local area will support Scotland's biodiversity.

Search the GB [Non-native Species Information Portal](#) and the [Online Atlas of the British and Irish Flora](#) to find out which species are native to your area.

## Case Study

As part of Edinburgh Living Landscapes, the 'Square Metre for Butterflies' partnership was set up by the Royal Botanic Garden Edinburgh and Butterfly Conservation Scotland.

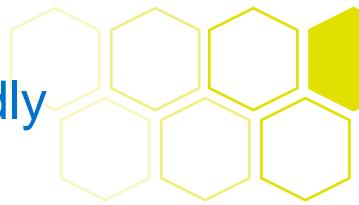
Pollinator-friendly plants were planted on rooftops around Arthur's Seat to help the Northern Brown Argus butterfly and other species expand their habitats. This project shows an innovative way in which nature can be built into urban spaces.



### Starter planting guide

	Trees and shrubs	Borders and planters	Meadows and grasslands	Fruits and Vegetables
<b>Spring</b>	Alder Blackthorn Field Maple Forsythia Hawthorn Hazel Horse Chestnut Mahonia Rowan Sycamore Willow	Bluebell Bugle Common Primrose Cowslip Comfrey Hellebores Heathers Lungwort	Cowslip Dandelion Dead-nettle Red clover Thyme Vetches White Clover	Apples Blueberries Cherries Cranberries Pears Plums
<b>Summer</b>	Buddleia Bramble Common Lime Cotoneaster Honeysuckle* Laburnum Privet Viburnum	Allium Aquilegia Basil Catmint Chives Columbine Cosmos Delphinium Foxglove Globe Thistle Lavender Mint Oregano Poppy Sage Thyme	Bird's Foot Trefoil Clovers Devil's Bit Scabious Knapweed Ox-eye Daisy Self-heal Speedwell Thistle Thyme Vetches Yarrow Yellow Rattle	Courgettes Blackberries Runner Beans Raspberries Strawberries
<b>Autumn</b>	Hebe Honeysuckle* Ivy Viburnum	Aster Cornflower Sedum Snakewort	Autumn Hawkbit Clovers Sage Vetches Yarrow	Autumn Raspberries Strawberries
<b>Winter</b>	Alder Goat Willow Gorse (whin) Ivy Cherry Viburnum	Celandine Crocuses Snowdrops Winter Aconite		
<p>* avoid Winter Honeysuckle as it is invasive</p>				
<p><b>Avoid being too tidy!</b></p>				

## 5. Make green infrastructure pollinator-friendly



High-quality green infrastructure sites within and around developments can create important habitats for biodiversity. Planted well, they bring added benefit to pollinators. For more information refer to [Green Infrastructure: Design and Placemaking](#): a guide published by the Scottish Government.

### Sustainable Drainage Systems (SuDS) and Rain Gardens

By mimicking natural processes, SuDS and rain gardens minimise flooding by reducing the volume and speed of surface run-off. If designed and managed appropriately, grassland edges around SuDS can encourage pollinator-friendly species such as clover, buttercups, dandelions and self-heal. Water-tolerant wildflowers add to species diversity.

Other nectar-rich, water-tolerant, species include culvers root, aster, black-eyed susan, columbine, inula helenium, sneezeweed, garlic, onions, elder, and marsh marigold.

#### Case Study

At Countesswells in Aberdeen a new community is being created which considered the natural elements of the site from the offset. Habitat connection corridors, greenspaces and sustainable urban drainage systems were created first. In conjunction with the North East Scotland Biodiversity Partnership, the site hosted its first BioBlitz in 2018 to connect residents with the surrounding nature and encourage them to develop environmentally-responsible behaviour.

### Green roofs and living walls

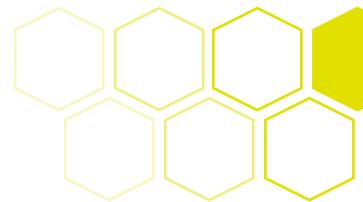
Green roofs and living walls with wildflowers or pollinator-friendly plug plants can provide vital habitats for pollinators in urban environments where space is limited and food sources are sparse.

Wildflower-rich green roofs are low-maintenance. Cut back once or twice a year and remove persistent weeds to maintain plant diversity. Pre plan how you will access these structures to make maintenance easier, and include maintenance into contracts from the outset.



© Countesswells Development Limited

## 6. Reduce or avoid use of pesticides



Pesticides (including herbicides, insecticides and fungicides) are harmful to pollinators and other species.

Pesticides can remain in the environment for some time and adversely affect pollinators for multiple generations.

Minimise pollinator exposure to pesticides by sourcing plants and seeds that have been grown pesticide-free.

If pesticides must be used, spray early morning or evening when pollinators are less active.

Fertilisers encourage grass growth. If you want to gradually create a wildflower-rich meadow or grassland, fertilisers should be avoided.



## 7. Create nesting places



Pollinators need more than nectar and pollen; they also need safe places to nest and hibernate.

Some bumblebees nest underground, in places such as abandoned rodent holes, under sheds and in compost heaps. Others nest above ground, in thick grass, hedgerows or trees.

Piles of logs could be perfect sites for nesting or hibernation. Dead wood that has been removed during the development and construction process can be put to use. Locate log piles in undisturbed areas where they do not warm up too quickly in the spring, causing the queen to emerge before there are sufficient flowers in bloom.

Create nest sites near flowers, bearing in mind the average honey bee or bumblebee range is a few dozen metres.

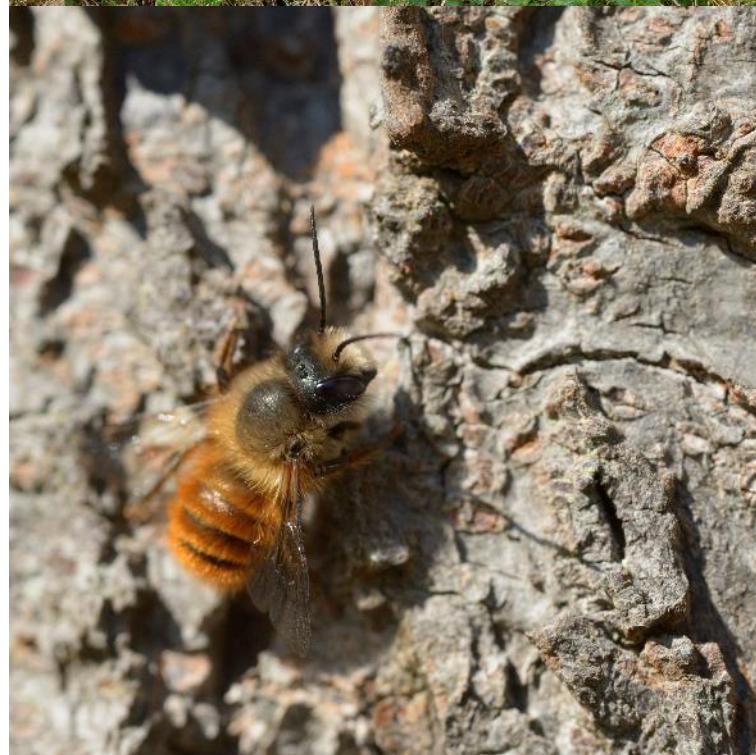
Some pollinators will hibernate in gaps or holes in wood or masonry. Try to preserve drystone walls.

Nesting sites don't need to look messy! They can be located under tree roots or at the base of walls and hedges to create a more 'natural' look. As people start to understand the benefit that these piles have for biodiversity, they will soon be seen as an important part of nature. Get creative with designs, and a sign near the site can tell people about its important function.

Protect potential nesting sites even if you don't see bees. Solitary bees are only active for 6-8 weeks of the year. So you may not be aware that they are nesting on a particular site. Leave potential sites undisturbed so that if present they can hibernate in peace.



© Lorne Gill/SNH



## 8. Make use of temporary programmes for nature



Development often works in cycles of construction and demolition, and large areas can be left abandoned for many years with no socio-economic benefit.

Defined as **brownfield sites**, these areas can provide good habitat for wildlife. Low-fertility soils allow a diversity of plants to flourish and benefit a variety of pollinators. If managed sympathetically and with very little effort, these sites can act as 'stepping stones' across an urban area and become part of our wider pollinator network. These sites can also be places of positive refuge and escape in built-up areas, providing similar social benefits to public parks and gardens.

The term 'Temporary Nature' applies where nature is temporarily allowed to thrive in an area '**outside of a green zoning category, and pending realisation of the land use defined by its zoning category**'.

### Case Study

'Muirton's Buzzing' was set up in partnership with Buglife, Tayside Biodiversity Partnership and Perth and Kinross Council to create temporary greenspace for people and pollinators in this area of stalled space.

Part of the area was actively managed by spreading sub-soil across the site and creating a species-rich wildflower meadow. This allowed pollinating insects to flourish, and people enjoyed the colourful displays.

Although the site has now been developed, it provided good forage and nesting to a wide range of species for a number of years.

Under this term, brownfield sites can be actively or passively managed for nature while not being actively developed. The potential of these sites to support biodiversity and deliver ecosystem benefits to society is considerable, even if public access is restricted.

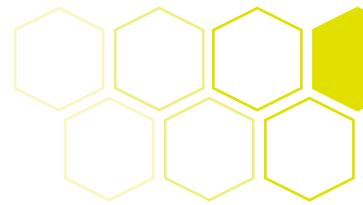
Temporary nature sites can help a business promote a green agenda. On large projects with multiple phases of development, actions such as clearing a site as close to the development time as possible to passively or actively allow the establishment of nature will favour the alternative of actively suppressing nature. This will allow plants and animals to have a temporary home for longer.

Further information on Temporary Nature can be found in the [Tractebel Engineering \(ENGIE\) report](#).



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## 9. Go the extra mile



Planners and developers play an important role in shifting development to something more compatible with nature. Establish partnership relationships and make use of the many resources available. Creating good quality habitat is the first important step; maintaining it, monitoring its impact and celebrating your own success stories will broaden its impact.

### Survey

Why not organise individual or group monitoring sessions to survey what is in your area? This is a great opportunity to find out more about the wildflowers, bees, butterflies and other pollinators using the habitat you've created, and can be a great outside team-building exercise.

The prime surveying season is from March to October. Here are some sources to get you started:

- take an inventory of what exists on site. The Centre for Ecology and Hydrology has online guidance on how to do a [flower species count](#)
- get in touch with the likes of the [Bumblebee Conservation Trust](#), [Butterfly Conservation](#), [Botanical Society of Britain & Ireland](#) and [Buglife](#) and record what you find.

#### Inform staff

- create PowerPoint Presentation slides to run your own information talk with staff
- publish pollinator-friendly landscape infographics and short notes
- promote how considering pollinator friendly-actions benefit your organisation
- encourage staff to attend training courses for identifying important wildflowers
- publish a management plan and maintenance guidelines

#### Inform the public

- create a page or section on your website dedicated to the work that you're doing for pollinators and other wildlife
- locate information signs on site explaining the use of the area for pollinators. This will help the site look managed and cared for
- team up with local wildlife and environment groups and display additional information on plant and pollinator species that might be seen nearby. This will enable users to learn about the local biodiversity and establish a connection to their natural surroundings

#### And finally...

Raise awareness of the good work you do for pollinators! Our resources could be a good place to start:



[nature.scot](#)

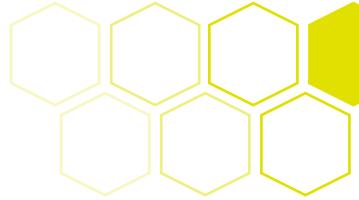


[@ScotPollinators](#)



[scottishpollinators.wordpress.com](#)

## References and resources



[Pollinator Strategy for Scotland 2017 – 2027](#), Scottish Natural Heritage.

[Lawton's Principles](#) for 'bigger, better and more joined up' nature. Page 15 of State of Nature, 2016.

[Grassland Restoration and Management](#). Published by Pelagic Publishing, Exeter, UK. Blakesley, D. and Buckley, G.P., 2016.

CIEEM [webinar](#) on wildflower grassland restoration.

Buglife [grasslands](#) and their [restoration, creation and management](#).

[Floodplain Meadows – Beauty and Utility. A Technical Handbook](#)

[British Flora Species list](#)

Boston Seeds – [Wildflower Species Guide](#)

GB Non-native Species [Information Portal](#)

[Green Infrastructure – Design and Placemaking](#)

Information on [Temporary Nature](#)

### Additional planting guides

[Gardening for bumblebees](#) by the Bumblebee Conservation Trust

Central Scotland Green Network Trust

Royal Horticultural Society

Centre for Ecology and Hydrology

Plantlife's [The Good Verge Guide](#)

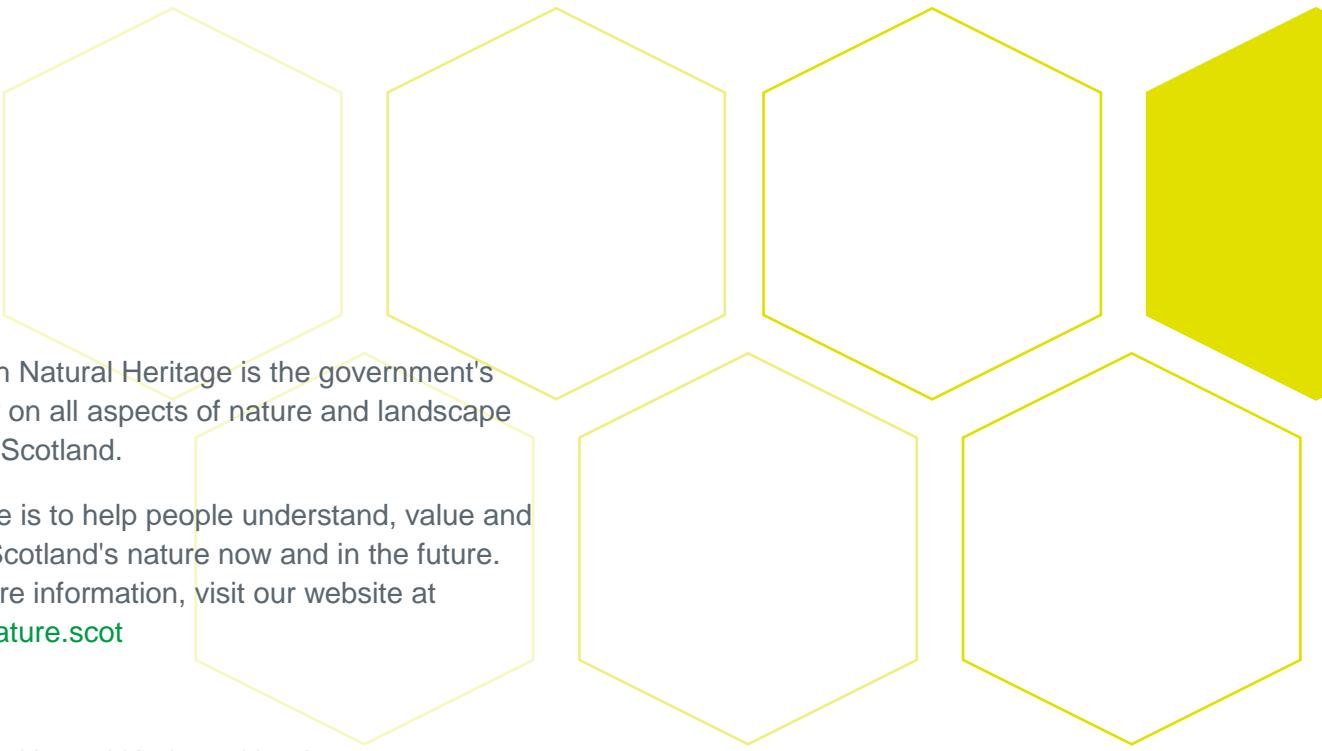
Scotia Seeds guide [Adding wildflowers to existing grassland](#)

Scotia Seeds guide [Sowing & managing your meadow](#)

Scotia Seeds guide [Sowing and managing your wildflower plot](#)

Scotia Seeds guide [Yellow Rattle and how to use it](#)





Scottish Natural Heritage is the government's adviser on all aspects of nature and landscape across Scotland.

Our role is to help people understand, value and enjoy Scotland's nature now and in the future.  
For more information, visit our website at  
[www.nature.scot](http://www.nature.scot)

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