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National Biodiversity Data Series No. 4.

Local Communities:
actions to help pollinators

All-Ireland Pollinator Plan 2015-2020

Implementation coordinated by the National Biodiversity Data Centre

National Biodiversity Data Centre
Documenting Ireland's Wildlife

www.pollinators.ie

Guidelines 1

Local Community projects can play a leading role in implementing the Pollinator Plan

Most people appreciate the beauty wildflowers bring to our landscape, they want the option to grow their own fruits and vegetables, and they want to buy affordable Irish apples or strawberries in our shops. This can only happen in a landscape that supports pollinators and provides them with nesting areas and a diverse diet from spring to autumn. If we choose to manage our local communities in a highly manicured way, it is at the expense of pollinators who cannot survive there. Local communities can lead the way in driving a better and more sustainable balance and bringing more natural, flower-rich pockets back into our landscape.

These guidelines are aimed at all those groups who are interested in making their local community more pollinator friendly e.g., Tidy Towns, Keep Northern Ireland Beautiful, Entente Florale, Green Communities, youth groups, local wildlife/environmental groups, PURE mile groups, community gardens, historic graveyard groups, college campuses, residents associations.

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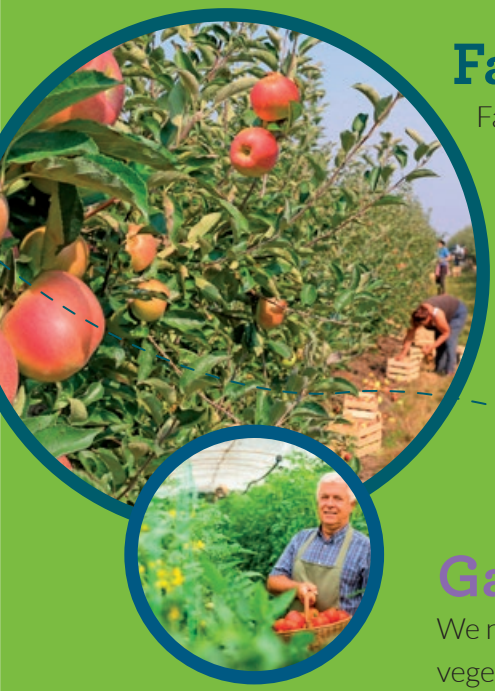
Why Do We Need To Help Our Pollinators?



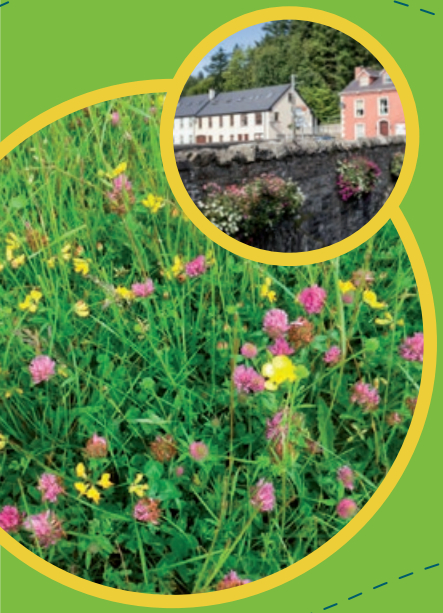
Farmers

Farmers who grow pollinator dependent crops like apples, strawberries or oil seed rape need pollinators to ensure reliable yields of high quality produce. Without them the livelihoods of farmers will be impacted. For consumers, this means it would be more difficult to buy local produce at an affordable price.

The value of pollinators to apples in Northern Ireland is worth £7 million pounds per year

Gardeners

We need a wide range of pollinator dependent fruit and vegetables to have a healthy diet. Until now we have had the option of growing our own fruits and vegetables to feed ourselves and our families if we wish. Without pollinators this ability could be lost to us and future generations.



Environment

Pollinators play a key role in our natural environment. 78% of our wild plants require insect pollination. Without these wildflowers, the landscape, cherished by us and crucial to our tourism sector, would be a less beautiful and colourful place. These plants provide food and shelter for our birds and mammals, as well as habitats for other animal populations, including many beneficial insects that attack crop pests.

Who Are The Pollinators In Ireland?

While other insects play a role, most pollination of crops and wild plants on the island of Ireland is carried out by bees.

There are 98 different species (types) of bees in Ireland. We have one honeybee, 20 different bumblebees and 77 different solitary bees. Bumblebees and solitary bees are known as wild pollinators. Research tells us that if we want our crops and wild plants to be pollinated we need an abundance and diversity of wild pollinators as well as healthy honeybees.

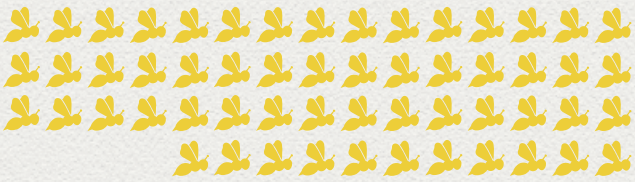
Unless you threaten them, bees will not attack humans. They are only interested in gathering nectar and pollen to feed themselves and their families. If a bee comes close to you just sit still and it will fly off when it realises you're not a flower!

20 + 77 = 97 Wild bee species

Only **1** Honeybee species

Bumblebee species

Solitary bee species



Solitary bees can be very efficient pollinators. One Red Mason solitary bee can do the work of between 120-160 honeybees.

Honeybee

Honeybees live in hives and are looked after by beekeepers. Beekeepers make sure the honeybees are healthy and have enough to eat, especially over the winter months. Honeybees are the only type of bees in Ireland who make honey.

Bumblebees

Bumblebees have fat, furry bodies. They are very important pollinators of crops like strawberries and tomatoes. Bumblebees make their nests on the ground, hidden in long grass or other vegetation. Like honeybees, bumblebees live in a colony with a queen, female workers and males. Queen bumblebees hibernate over winter and emerge in spring to begin their colony. To survive, it is vital that bumblebees have food from spring through to autumn. In late summer-autumn mated new queens need to fatten up before going into hibernation, while all the other bumblebees, including the old queen, die off.

Bumblebee © Sylvia Hetherington

Solitary bees

Solitary bees nest in tiny burrows that they make in bare soil or in cavities like holes in wood or hollow stems. Solitary bees exist as a single male and female. They emerge from hibernation in spring and make a nest. After mating, the female lays fertilised eggs and leaves a food supply of pollen beside each one. When this job is done the females and males die. The eggs hatch and the larvae eat the food supply left by the parent before overwintering in a cocoon to emerge the following spring.

Most solitary bees in Ireland are mining bees who nest in south or east facing slopes of bare earth (soil, sand, clay, peat)

Solitary bee bank © Una FitzPatrick

Solitary bee © Steven Falk

Pollinator Declines

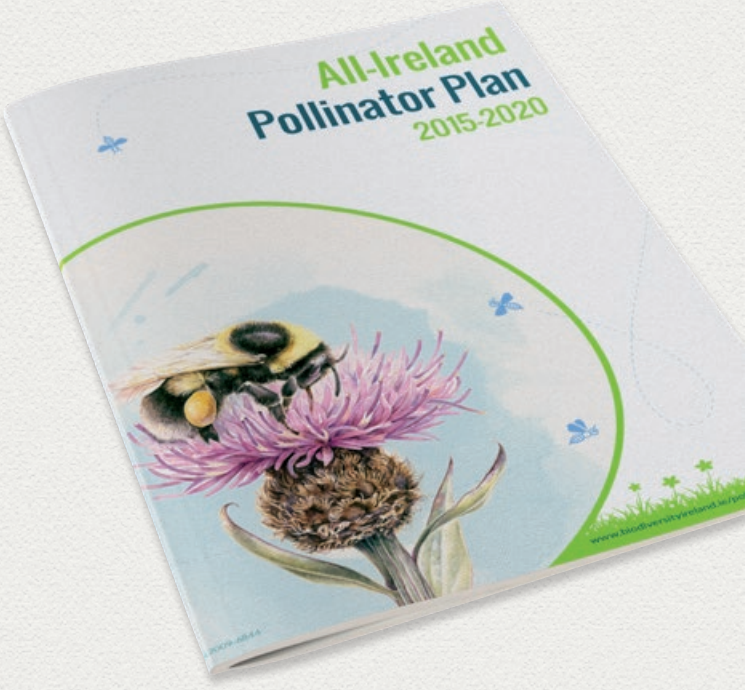
One third of our 97 wild bee species are threatened with extinction in Ireland. We are also seeing declines in honeybee numbers. Bees are declining because we've drastically reduced the areas where they can nest and the amount of food our landscape provides for them. We've also inadvertently introduced pests and diseases that negatively impact their health, and we subject them to levels of pesticides that make it difficult for them to complete their life cycles.

What Can We Do To Help Our Pollinators?

If we want pollinators to be available to pollinate our crops and wild plants for future generations we need to manage the landscape in a more sustainable way and create a joined-up network of diverse and flower-rich habitats. It requires all of us to help from farmers to local authorities, to schools, gardeners and local businesses. These guidelines explain how local communities can lead the way in making Ireland more pollinator friendly.

All-Ireland Pollinator Plan 2015-2020

The All-Ireland Pollinator Plan 2015-2020 is supported by 68 governmental and non-governmental organisations who have pledged to deliver 81 actions to make the island of Ireland more pollinator friendly. At its core it is about making the landscape a place where pollinators can survive and thrive. The actions that are suggested through the Pollinator Plan will have a positive impact on biodiversity in general.



www.pollinators.ie

Local communities: actions to help pollinators


Volunteers at Moneypenny's Lock © Heather Crawford

Providing food, shelter and safety

To help pollinators we need to ensure that they have food, shelter and safety from chemicals. The actions suggested will provide this in your local community. The more of these actions you can take the better.

Many pollinator friendly actions simply require us to manage the land in a different way than we have become used to. It is not about letting the landscape go wild, but about managing it in a more sustainable way so that pollinators can survive and continue to provide us with their vital service.

We have suggested actions that are not costly and in some instances may lead to cost savings. Multiple actions are suggested so that you can consider your own local community and decide which actions would work best and at which location. In all cases, public health and safety should be the key consideration.

"Protect pollinators so that you can grow your own fruit and vegetables, shop for local produce and have flowers and wildlife in your local landscape"

Food and shelter

A Identify and protect existing areas that are good for pollinators

Most local communities will already have some areas that are very good for pollinators and are acting as refuges in an otherwise inhospitable landscape. The most important thing you can do is to recognise and protect these.

Action 1:

Protect existing sources of food and shelter for pollinators

Where these exist, you should protect them in your local area: flowering hedgerows (food), patches of wildflowers on waste ground (food), small wild areas with bramble/ivy (food), existing earth banks (shelter), dry stone walls (shelter).

- Signage can be used to identify to the public areas within the local community that are important for pollinators.

Food

B Reduce the frequency of mowing of grassy areas

If you have areas of grass, reducing the frequency of mowing allows common wildflowers such as Clovers, Knapweed and Bird's-foot-trefoil to naturally grow amongst the long grass. This is the most cost-effective way to provide food for pollinators and other insects.

The following suggested actions (2-4) can be carried out side-by-side, transforming a large expanse of green grass to a mosaic of flowering areas of different heights. If the original grassed area is used for sports or picnicking, identify which parts are used in this way and retain these as short grass, framing them with the pollinator areas.

Info Box:
the use of fertilisers encourages grass growth and should be avoided if you want to gradually create a flower rich meadow

Note: there will be areas in your local community where it is not appropriate to have long grass due to health and safety concerns about littering or dog fouling. You should also avoid having long grass on verges that the public use for walking or running.

Info Box:
School groups, community groups or Mens's Sheds groups could get involved in making signage

Areas where these actions might apply in a local community are: parks, roadside verges, pavement verges, greenways, roundabouts, off-road walking/cycle routes, waterway towpaths, housing estates, school grounds, hospital grounds, old graveyards. In some cases it might involve working with local authorities or relevant NGOs.

Action 2:

Reduce mowing and aim to create a wildflower meadow

Meadows managed in the following way will allow wildflowers to bloom throughout the pollinator season. A further benefit is that bumblebees are provided with an undisturbed area for nesting. Over a number of years, the area will become more and more flower-rich with local species that are adapted to the site's conditions – all without spending money on wildflower seed!

1. Identify areas in the local community where it may be possible to allow a grassy meadow to grow
2. Wait until April to do the first grass cut - this allows the first flush of Dandelions
3. During the summer, let the grass grow long, perhaps cutting paths through the middle or keeping a short border at its edge to make it look tidier and allow the public to enjoy the resource
4. Cut again in early September. However if the grass growth is very strong and the vegetation is falling over under its own weight, cut sooner e.g. July and again in September. After a few years as soil fertility is lowered, this earlier cut will no longer be necessary and one cut at the end of the summer will be enough
5. The grass cuttings should be removed after each cut to reduce soil fertility over time. If the area is large and accessible to a tractor it can be baled for hay or haylage. Otherwise rake it off the meadow area and compost it or use it as mulch or dispose of it as green waste
6. Optional extra: collect wildflower seed locally and sow in trays and grow-on as small plants (plugs) which can be added to the meadow in spring and autumn

Info Box:

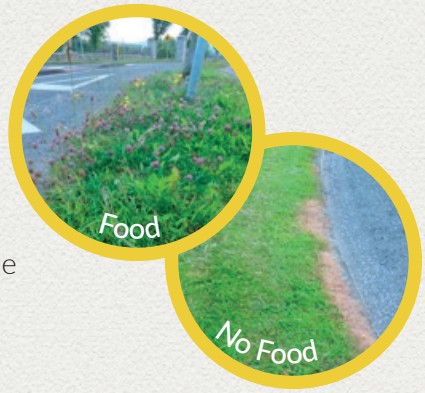
Grassy meadows (Action 2) can be made more flower rich at little cost by adding locally collected wildflower seed like Knapweed or Scabious. This seed can be grown in little pots and added as plugs to the grassy meadow in spring or autumn. Collecting and growing pollinator friendly wildflower seed might be something local schools or wildlife groups could get involved in

See website:
How-to-guide on collecting and using pollinator friendly wildflower seed.

Action 3:

Create a short flowering '6-week meadow'

Identify areas of grass that could be cut on a 6-weekly rotation to allow Clovers and Bird's-foot-trefoil to flower. This will provide food for pollinators where shortly mown grass does not. Such areas could be beside areas of shortly mown grass, a path or a meadow.



Action 4:

Let the Dandelions bloom!

Identify areas that will be mown under existing regimes, but aim to carry out the first grass cut of the year in April after the first flush of Dandelions, but before they set seed. Dandelions are a vital food source for bees in spring.

Pollinator friendly planting

Traditionally, a lot of deliberate planting in public spaces has been with annuals such as Begonia, Primula or Busy Lizzie. Unfortunately these are not good sources of pollen or nectar (as they have been bred to be very "showy") and do not provide food for bees and other insects. There are many other plants that can look similarly attractive but will also support our pollinators.

Areas where these actions might apply in a local community are: community gardens, roundabouts, road verges, parks or squares, housing estates, areas surrounding sports pitches, schools, car parks, shopping centres etc.

Action 5:

Clover lawn

Identify small areas where grass could be entirely replaced with a permanent clover mix. Red and white clovers will provide colour, and are a very important food source for bees.

Action 6:

Flowering trees and shrubs

Incorporate a mix of pollinator friendly trees and shrubs into the local community that will flower throughout the season [list in appendix]. An orchard can be a wonderful addition for pollinators and the community.

Action 7:

Perennial flowers for pollinators

Incorporate pollinator friendly perennial plants into the local community to provide food for pollinators from spring through to autumn [list in appendix].

Action 8:

Annual flowers for pollinators

Work with local authorities to ensure a component of annual planting in parks is with pollinator friendly annual plants - single rather than double flowered varieties [list in appendix].

Action 9:

Pollinator friendly urban planters

Identify some urban planters or hanging baskets where the standard annual bedding mix could be replaced by perennial pollinator friendly plants [list in appendix].

Action 10:

Pollinator friendly roundabouts

Work with local authorities to identify some roundabouts that could be planted in a pollinator friendly way e.g., bulbs (*Crocus*, *Alliums*) or pollinator friendly perennial plants in centre.

Action 11:

Plant a native wildflower meadow

Identify areas where it may be possible to create a native wildflower meadow using commercially purchased seed. This would be more flower-rich than the meadow in Action 2 but it is also more costly and requires careful planning and management. Please be aware that **most sites will be unsuited to the immediate creation of a wildflower meadow** due to high soil fertility, making it difficult to maintain after year 1 (and therefore very poor value for money). If you do have a suitable site, it is very important to buy a **pollinator friendly seed mix** that has been **grown in Ireland from native wildflowers** and is suitable for your soil type. See website: How-to-guide on creating and managing a native wildflower meadow.

Info Box:

At the Newry/Portadown branch of the Inland Waterways Association of Ireland, volunteers regenerated an area beside Moneypenny's Lock (Co. Armagh) for bees at very little cost by growing their own pollinator friendly plants from seeds, cuttings and root divisions.

D Provide wild pollinator nesting habitat: hedgerows, earth banks and hotels

Shelter

Nesting habitat for wild bees (bumblebees and solitary bees) is unobtrusive and easy to create. Wild bees live in small colonies and are entirely focussed on finding enough pollen and nectar to feed themselves and their offspring. They are not aggressive, have no interest in interacting with humans, and do not present any risk to the public.

Most solitary bees in Ireland are mining bees who nest in south or east facing slopes of bare earth (soil, sand, clay, peat)

Bumblebees nest in long grass, often at the base of a hedgerow. We have 62 species (types) of solitary bees who are mining bees. They nest by burrowing into bare ground or south/east facing banks of bare earth (soil, sand, clay, peat). The remaining 15 solitary bee species are cavity nesting bees who nest in south/east facing stone walls, masonry, wooden structures or commercially available bee nest boxes.

Areas where these actions might apply in a local community are: existing hedgerows, roadsides, verges, community buildings, housing estates, riverbanks, any free
common land where bee hotels could be kept (avoid popular areas that may be prone to vandalism).

Action 12

Hedgerows for pollinators

Flowering hedgerows that contain Hazel, Willow, Blackthorn and Hawthorn provide food in spring when wild bees come out of hibernation. Bramble is a good source of food in summer, and Ivy in the autumn. Bumblebees often nest in long grass at the base of hedgerows.

Where hedgerows exist:

1. Cut hedgerows every three years (outside the bird breeding season) to encourage flowering for pollinators and fruiting for birds. Avoid having all the hedges cut the same year, so that there is always some that will bloom and fruit in the area every year or cut one third of the hedge annually.
2. Make sure the base of hedgerows are not sprayed. This will allow flowering plants like Clovers, Vetches and Knapweed to provide additional food throughout the season and ensures nesting bees are safe.

3 Keep vegetation sparse on any sandy earth, or earth and stone banks e.g. by strimming, weeding, cutting, to provide nest sites for mining solitary bees.
4 If vegetation beside and under hedgerows needs to be cut, do so between September and March to allow bumblebees to nest during the summer.
5 For additional information see website: How-to-guide for creating and managing hedgerows

Action 13:

Earthbanks and drystone walls for pollinators

Where earth banks and drystone walls exist, visit them on sunny evenings in May–September to see if they are being used by nesting solitary bees. You will see small bees returning laden with yellow pollen. If you are lucky enough to find such nesting areas, protect these. Make sure no chemical sprays are used. Mark the area on maps and consider identifying the site as special and under protection from sprays for bees with a small sign or plaque.

Using just a spade, you can create and maintain earth banks for mining solitary bees where natural ridges/banks occur. This the best and most cost effective way to create nesting habitat for solitary bees. Once established, they should be maintained by manual scraping back to bare soil on an annual basis. See website: How-to-guide for creating wild pollinator nesting habitat.

Action 14:

Holes in wood for pollinators

Where wooden fencing exists in public areas, consider drilling small south or east facing holes for cavity nesting solitary bees. These holes should be 10cm in depth and 4-8mm diameter. A range of different diameters is best. They are added once, ideally at a height of 1.5-2m (or as high as possible). See website: How-to-guide for creating wild pollinator nesting habitat.

Action 15:

Bee hotels for pollinators

Incorporate small numbers of solitary bee nest boxes into the local community for cavity nesting solitary bees. Bee hotels can be useful and are a good awareness raising tool, but actions 13 and 14 are preferable ways to create nest sites. A number of small hotels is better than one large one in terms of minimising the risks of disease and predators killing the bees. See website: How-to-guide for creating wild pollinator nesting habitat.

E

Safety

Reduce the use of pesticides

In some cases, the use of pesticides (insecticides, fungicides, herbicides) is necessary e.g., the use of herbicides along railway tracks to ensure the health and safety of train passengers. In other cases, we have fallen into a pattern of using them as a way of tidying or sanitising our local areas. To minimise negative impacts on pollinators it is important that pesticides are used sustainably. This means they should ***only be used when necessary****, and efforts should be made to minimise their impact on non-target species like bees. Pesticides should always be applied* ***exactly*** *according to manufacturer guidelines*

Action 16

Eliminate the use of pesticides

Identify some areas where the use of pesticides could be eliminated. This could be streets/areas where your group is willing to take responsibility for manual weed control. Most herbicide use is along edging or tree bases that mowers can't access. Identify areas of south facing edging that could not be sprayed to provide solitary bee nesting habitat.

Action 17

Ensure best practise where the use of pesticides cannot be avoided

Identify areas that could be spot treated rather than with the use of blanket sprays. Spray in dry conditions with low wind speed to prevent drifting. Spray after sunset to avoid direct contact of pollinators with chemicals.

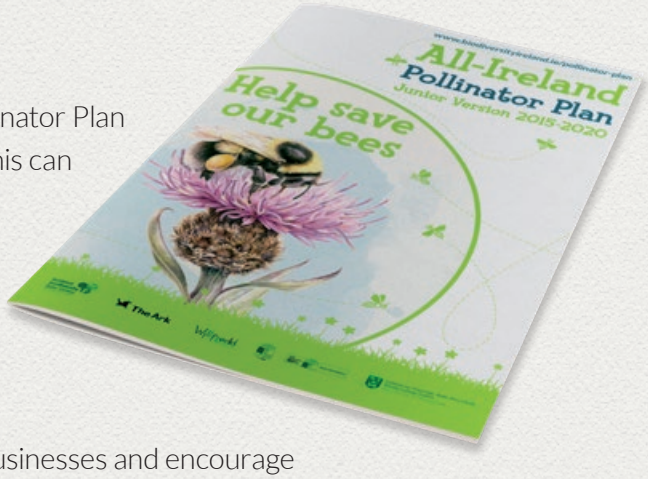
F Raise public awareness of pollinators within the local area

For the All-Ireland Pollinator Plan 2015-2020 to be successful we need to raise public awareness so that people know the importance of pollinators and understand why we all need to take action. Local communities can play a vital role in this regard.

Action 18:

Promote the Junior Pollinator Plan

Promote the junior version of the All-Ireland Pollinator Plan 2015-2020 to local schools and youth groups. This can be downloaded from the website **www.pollinators.ie**



Action 19:

Raise awareness within local businesses

Promote the All-Ireland Pollinator Plan to local businesses and encourage them to make their outdoor spaces pollinator friendly or to sponsor local pollinator friendly actions.

Action 20:

Put up signage

Put up signage explaining the importance of pollinators and what is being done locally to support the All-Ireland Pollinator Plan. Templates that can be used to create signage can be downloaded from the website.

Action 21:

Facilitate or deliver training

Facilitate or deliver training programmes locally on pollinators and how to take action to protect them. Resources will be available to allow interested parties to deliver training on: creating nest sites for wild pollinators; identification of common pollinator species; how to participate in the All-Ireland Bumblebee Monitoring Scheme; collection, storage and use of local wildflower seed to improve areas that are being managed as small grassy meadows in parks, schools, along greenways etc.

G Tracking progress and recognition for efforts

Progress in the implementation of the All-Ireland Pollinator Plan 2015-2020 will be carefully tracked. Success is not measured in having the Plan, but by knowing that it is working. A publicly available online mapping system will track pollinator friendly actions taken across the island and provide recognition to those who are helping.

The All-Ireland Bumblebee Monitoring Scheme is a citizen science initiative managed by the National Biodiversity Data Centre. It will be used to track changes in wild pollinators as the Plan is implemented.

Action 22

Log your 'Actions for Pollinators' on the mapping system

A publicly available online mapping system (Actions for Pollinators) will allow all those who take pollinator friendly actions to log their location and the action(s) taken. This will track the build-up of food, shelter and safety for pollinators in the landscape. It is hoped local communities will use the system to log what they are doing and show the creation of pollinator resources in their area. Once established, the system will help coordinate efforts locally between community groups, Local Authorities, Schools etc.

www.pollinators.ie

Action 23

Take part in the Bumblebee Monitoring Scheme

Identify interested people and set up at least one bumblebee monitoring scheme walk within your local community. In this scheme volunteers walk a fixed 1-2km route once a month between March and October and record the diversity and abundance of bumblebees that they see. The scheme is run by the National Biodiversity Data Centre who provide full support and training. The scheme is vital in tracking what is happening with wild pollinators in the landscape, and can be used to assess the effectiveness of any pollinator friendly actions that are being taken locally. If interested in taking part contact: info@biodiversityireland.ie

Action 24

Enter the Tidy Towns Pollinator award

If you are in the Republic of Ireland, make specific mention in your annual submission to the Tidy Towns competition (and your 3/5 year Tidy Towns Plan) that you are supporting the All-Ireland Pollinator Plan. Enter the Local Authority Pollinator Award in the national Tidy Towns competition.

Appendix

What plants are good for our pollinators?

Experts agree that inadequate nutrition is a major cause of pollinator declines. We want bees to be there when we need them, but our landscape doesn't provide the abundance and diversity of flowering plants that they need to survive throughout their life cycle. To have a healthy balanced diet, bees need to be able to feed on pollen and nectar from a range of different flowers from early spring to autumn. In local areas this can be a mixture of native and deliberately planted species.

Native plants

It is very important that we increase the amount of native plants in our local areas to provide food for bees and other insects. Often we can do this by managing the land in a slightly different way than we have become used to:

* Brackets denote the flowering period of the plant

✓ Plant more pollinator friendly native trees and shrubs: Hazel (Feb-Apr), Willow (Mar-May), Blackthorn (Mar-May), Hawthorn (Apr-Jun), Whitebeam (May-Jun), Rowan (May-Jun), Crab apple (Jun), Ivy (Sept-Nov). **You should source stock of local provenance where possible.**

✓ Maintain hedgerows and grassy banks or verges to encourage pollinator friendly native plants: Hawthorn (Apr-Jun), Bramble (May-Sept), Wild Carrot (Jun-Sept), Hogweed (Jun-Sept), Goldenrod (Jul-Sept), Rosebay Willowherb (Jun-Sept), Woundworts (Jul-Sept), Ivy (Sept-Nov).

✓ Have grassy meadows or areas of long grass to encourage pollinator friendly native plants: Dandelion (Mar-Oct), Vetch (Apr-Oct), Vetchling (May-Aug), Clovers (May-Oct), Bird's foot trefoil (Jun-Sept), Knapweed (Jun-Oct), Scabious (Jun-Oct), Self-heal (Jun-Aug), Yarrow (Jun-Oct), Thistle (Jun-Oct), Wild marjoram (Jul-Sept).

✓ Leave pavements, tracks or grassy edges unsprayed to encourage pollinator friendly native plants: Dead-nettle (Mar-Nov), Veronica (Mar-Sept), Forget-me-not (Apr-Sept), Geranium (Apr-Oct), Hawksbeard (Jun-Oct).

✓ Allow small areas to grow wild. Depending on where you are, you will encourage these pollinator friendly native plants: Butterbur (Mar-May), Coltsfoot (Mar-Apr), Bluebell (Apr-May), Brassicas (Apr-Aug), Red Bartsia (Jun-Sept), Foxglove (Jun-Sept), Fleabane (Jul-Sept).

These lists are **not** exhaustive, they simply provide examples of common pollinator friendly native plants that can be encouraged. The more native plants there are in our landscape the better, as they provide bees with a balanced diet.

Willow ©Tom Cuffe

Info Box:

Willow is a vital food source for bees in spring. In March-April observe Willows in your local area and note which are favoured by bumblebees and honeybees. Use these plants for hardwood cuttings next winter, creating a new willow plantation at little cost.

Deliberately planting horticultural or ornamental plants

Important: *In towns and villages non-native horticultural or ornamental plants can be an important food source for pollinators. However, you should* **not** *plant these in natural or semi-natural habitats. They should also not be planted in farmland (outside of farm gardens).*

Examples of pollinator friendly plants are provided below. Please note that these are **not** exhaustive lists. There are lots of other species that are also pollinator friendly. By observing bees in parks, gardens or even garden centres you can often see yourself which species they prefer.

Pollinator friendly annuals_Peter Cuthbert

Some garden centres and plant suppliers now use the Royal Horticultural Society (RHS) "Perfect for Pollinators" logo, so keep your eye out for this!

RHS PERFECT FOR POLLINATORS

Info Box:

Traditional bedding plants like Geraniums, Begonias, Busy Lizzy, Petunias, Polyanthus or *Salvia splendens* have virtually no pollen and nectar are of little value to pollinators.

Examples of pollinator friendly plants are provided below.

Please note that these are not exhaustive lists. There are lots of other species that are also pollinator friendly. By observing bees in parks, gardens or even garden centres you can often see yourself which species they prefer.

Trees/shrubs:

Berberis (April-May)
Broom (March-April)
Ceanothus (April-Sept)
Cotoneaster (May-Aug)
Deutzia (June-July)
Firethorn (May-June)
Forsythia (March-April)
Hebe (June-Oct)
Horse chestnut (May-June)
Lime (June-July)
Mahonia (Dec-May)
Sycamore (April-June)
Tetrodium (Aug-Oct)
Viburnum (April-May)
Non-native Willows (Feb-March)
e.g, *Salix aegyptica, Salix hastata 'Wehrhahnii'*

Herbs:

Basil (July-Sept)
Borage (April-Oct)
Lavender (June-Aug)
Oregano (June-Aug)
Rosemary (April-June)
Sage (June-Aug)
Thyme (May-Aug)

Fruit trees/bushes:

Apple (April-May)
Cherry (April-May)
Currants (April-May)
Plum (April-May)
Raspberry (June-Aug)

Berberis (April-May)

Borage (April-Oct)

Lavender_Dara Stanley

Perennial plants:

Perennial plants are generally better sources of pollen and nectar than annuals. They are also cost effective as they grow and flourish over the following years.

Perennial plants:

Helleborus (Feb-March)
e.g., Helleborus orientalis
Comfrey (March-June)
Pulmonaria (March-May)
Calamint (May-Sept)
e.g., *Calamintha nepeta spp nepeta*
Catmint (May-Sept)
e.g., *Nepeta* 'Six Hills Giant', 'Walkers Low'
Lamium (May-July)
e.g., *Lamium* 'Pink Chablis', *Lamium mac.* 'Album', *Lamium galeobdolon*
Poppy (May-Oct)
Rock rose (May-July)
Allium (June-Aug) e.g., *Allium aflatunense*, *Allium christophii*, *Allium giganteum*
Bellflower (June-Sept)
Delphinium (June-July)
Gaillardia (June-Sept)
Helenium(June-Aug) e.g., *Helenium* 'Moerheim Beauty'
Salvia (June-Sept)
e.g., *Salvia nemorosa* 'Caradonna', 'May Night', 'East Friesland'
Scabious (June-Sept)
e.g., *Scabious atropurpurea* varieties
Stachys (June-Sept)
e.g., *Stachys officinalis* 'Hummelo'
Viper's bugloss (June-July)
Aster (July-Oct) e.g., *Aster ageratoides* 'Asran', *Aster × frikartii* 'Mönch'
Coneflower (July-Oct)
Globe thistle (July-Aug)
Liatris (July-October) e.g., *Liastris spicata*
Perovskia (July-Oct) e.g., *Perovskia* 'Blue Spire'
Stonecrop (July-Sept) e.g., *Sedum* 'Autumn Joy'
Verbena (July-Oct) e.g., *Verbena bonariensis*
Eupatorium (Aug-Sept) e.g., *Eupatorium atropurpureum*
Heathers (Aug-Sept)
Perovskia (Aug-Sept)

In some cases particularly appropriate varieties are listed, otherwise any species/ variety of these plants will be good for pollinators.

Calamint_Peter Cuthbert

Info Box:

Bumblebees are particularly attracted to pollen and/or nectar rich plants in the blue-purple colour range

Annual plants:

Annuals can be useful sources of pollen and nectar for pollinating insects. If you are using annuals you should try to plant single rather than double flowered varieties. Good hardy annuals are:

Pollinator friendly annuals_Peter Cuthbert

Annual plants:

Californian Poppy
Cerinthe major **'purpurascens'**
Cornflower
Cosmos
Lavatera
Limnanthes douglasii
Annual poppy
Scabious
Night scented stock
Single sunflowers

Bulbs:

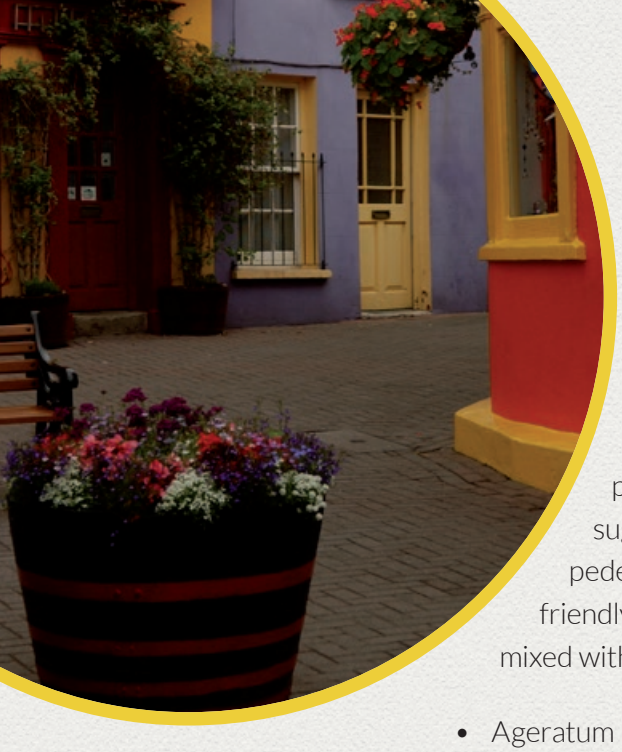
Snowdrop (Jan-Feb) e.g., *Galanthus nivalis*, *Galanthus elwesii*
Crocus (Feb-March)
Muscari armeniacum (March-May)
Allium (June-July)
Single flowered Dahlia, especially Bishop series (July-November)
Colchium (September-October)

Allium_Peter Cuthbert

Crocus (Feb-March)

Info Box:

Daffodils or Tulips are not a good source of food for pollinators. Bees will only use Daffodils if there are no other food sources available.



Hanging Baskets

Some hanging baskets could be planted to be more pollinator friendly. To minimise any public concerns, it is suggested that these are not those at head height along pedestrian areas. To make a hanging basket more pollinator friendly it is suggested that conventional trailing plants are mixed with some of these:

- Ageratum
- Alyssum 'Sweet White'
- Heliotrope 'Dwarf Marine'
- Verbena 'Blue Lagoon',' Desert Jewels Mixed'

Green manure

One of the most under-used methods of soil improvement is the use of green manures (or 'cover crops'). These are plants grown specifically to be dug back into the soil to improve it. If you have an area of poor soil, particularly in urban areas this can be a good approach. Buckwheat and Phacelia are an excellent green manure. Phacelia in particular is fast growing (average 7 weeks from sowing) and provides a great food source for pollinators. After flowering, they can be dug back in to improve the soil in anticipation of perennial planting.

Green manure with Phacelia_Peter Cuthbert

Winter Bedding

Winter bedding can provide an important food source in late autumn and early spring. Wallflowers are an excellent insect friendly plant at this time of year.

Wild flower seed

Please consider these important points before buying wildflower seed:

1. Wildflower meadows can be created naturally by reducing mowing regimes (Action 2). Overtime this will gradually lead to a flower rich meadow and avoids the need to purchase wild flower seed. This is the recommended option.
2. If you do decide to deliberately plant a wildflower meadow with commercially bought seed, it is important to use native species collected and grown on the island of Ireland. Please be aware that not all wildflower seed mixes will be pollinator friendly. Often wildflower seed bought commercially in supermarkets will not be native and may not contain pollinator friendly plants. Creating and managing a wildflower meadow from seed can be costly and requires careful planning and management to have any chance of success. See website for a how-to guide.
3. If you are considering "seed bombing" as a quick way of introducing wildflower seed please be aware that it is unlikely to be successful and is not recommended by the All-Ireland Pollinator Plan other than for awareness raising. If you do use seed bombs please try to ensure they are made up of native pollinator friendly species collected in Ireland.

Other useful sources of information:

www.heritagecouncil.ie/fileadmin/user_upload/Publications/Wildlife/wildlife.pdf
http://beekind.bumblebeeconservation.org/

Perennial plant_Lavendar © Andrea McDonagh

National Biodiversity Data Centre
Documenting Ireland's Wildlife

About the National Biodiversity Data Centre

The National Biodiversity Data Centre is a national organisation that collects and manages data to document Ireland's wildlife resource, and to track how it is changing.

Find out what biodiversity has already been recorded in your local area:
maps.biodiversityireland.ie

Help us to build up the knowledge of biodiversity in your local area by submitting sightings to **records.biodiversityireland.ie**

Northern Ireland Environment Agency
www.doeni.gov.uk/nieа

Wexford County Council

An Chomhairle Oidhreachta
The Heritage Council

Bord Bia
Irish Food Board

Department of Agriculture, Food and the Marine
An Roinn Talmhaíochta, Bia agus Mara

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