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DCs for BEEES

POLLINATOR PLAN

TECHNICAL APPENDIX



Host In Ireland

National
Biodiversity
Data Centre
Documenting Ireland's Wildlife



This technical appendix provides all of the instructions and information needed to effectively carry out each of the pollinator-friendly actions suggested in the *DCs for Bees Pollinator Plan*. It is divided into groups of actions for **outdoor spaces** and groups of actions for **indoor spaces**.

Outdoor Space Options

A. Protect what you have

Action 1:

Protect areas at your office or data centre land that are already providing food and shelter for pollinators

Your office or data centre's outdoor space may already have areas that are providing food and shelter for pollinators. The easiest and most important thing you can do is to identify and protect these spots.

- Where these already occur in your outdoor space, protect them and keep them free from pesticides: 1. Patches of wildflowers or "weedy" plants (food); 2. Flowering hedgerows (food); 3. Bare soil (shelter); 4. Long grass (shelter) 5. Dry stone walls (shelter).
- Create a map or diagram marking existing areas of food and shelter for pollinators. This kind of map is perfect to include in any of your sustainability work or environmental initiatives.
- If you use contractors to mow or manage your land, give them a copy

B. Reduce mowing

Action 2:

Mow 1/3 of all grassy areas at your office or data

If your office or data centre's outdoor space has areas of grass, reducing mowing is the most cost-effective way to provide food for pollinators. This allows wildflowers to grow naturally in the longer grass. Native plants are best for our pollinators, and reducing mowing is an excellent way to encourage them to grow.

Mowing 1/3 of all grassy areas under a pollinator-friendly regimen is simple:

1. Do the first cut on or around the 15th of April, and then cut on a 6 week rotation. The late first cut allows Dandelions to flower, but not to set seed. Dandelions are a vital food source for pollinators in Spring. Subsequently mowing on a 6-weekly rotation allows wildflowers to grow naturally and provide food. The clovers that will bloom in June or July if grass is managed this way are particularly important to bees. Areas of grass managed in this way tend to be colourful and still look tidy.
2. Cuttings should always be removed. Wildflowers grow best in less fertile soil. By removing cuttings, you prevent mulched grass increasing the fertility of the soil over coming years.

Mowing Regime	Approx. Cost Per Ha (2016)
22 cuts per year with grass mulched back in	€2,464.00+VAT (cost inclusive of equipment, labour and fuel)
5 cuts per year (6 week cycle) with cuttings lifted	€2,437.00+VAT (cost inclusive of equipment, labour, fuel and waste disposal)

Action 3:

Create a long-flowering meadow at your office or data centre

Identify areas of grass that could be transformed into a longer flowering meadow. Grassy areas managed in this way allow wildflowers to bloom throughout the pollinator season and provide space for nesting. Over a number of years, the meadow will naturally become more flower-rich – all without spending money on wildflower seed.

1. Cut these areas once in early September, then let the grass grow until the following September.
2. If grass growth is very strong and the vegetation is falling over under its own weight, for the first few years cut it sooner (e.g. July) and then again in September.
3. Always remove the cuttings to reduce soil fertility over time.
4. Cutting paths through the middle of wildflower meadows allows staff or visiting school groups to enjoy the space. You can also keep a small mown border to make these spaces look tidier.
5. If you don't have enough grassy area to create a whole meadow, follow the same mowing regimen on a strip or small patch. It will still be very useful for pollinators.

Top Tips for Diversifying Plants in Your Meadow:

- Fertilisers promote grass growth; avoid using them in areas where you want wildflowers.
- Consider using signage to indicate to staff and the public why the grass is allowed to grow. Signage templates can be downloaded from www.pollinators.ie.

For more tips and details, there is a detailed [How-to-Guide](#) in the Resources Section available on www.pollinators.ie.

C. Pollinator-friendly planting

In order to survive, pollinators need flowers that produce a lot of nectar and pollen. To make your property pollinator friendly, avoid 'hunger gaps' or times when no nectar or pollen-rich flowers are in bloom. Try to have pollinator-friendly plants in flower the whole time pollinators are active, from March all the way through to October. There is a huge variety of affordable plants to choose from that are attractive, low maintenance and provide pollinators with food.

Action 4:

Identify new and underutilised outdoor space - balcony, roof, window boxes for pollinator-friendly planting

Consider whether you have outdoor spaces such as balconies, roofs, or window sills where you could introduce some pollinator-friendly planting.

Five annuals for containers	Five perennials for containers
Sweet alyssum	Calamintha nepeta
Flossflower	Dianthus barbatus
Cosmea	Lamium pink chablis
Poached egg flower	Thyme lemon variegated or other Thymes
Garden heliotrope	Marjoram golden

NOTE: This suggested planting list is NOT exhaustive. A full list is available in the [Pollinator-Friendly Planting Code](#) on www.pollinators.ie.

Action 5:

Plant a clover lawn at your office or data centre

Identify small areas at your office or data centre where grass could be entirely replaced with a permanent clover mix. Red and white clovers are a very important food source for bees. This can be a good action for areas that have undergone other works as an alternative to normal reseeding.

Action 6:

Plant pollinator-friendly containers, window boxes, hanging baskets, or patio pots at your office or data centre

Incorporating some pollinator-friendly plants in window boxes or containers can be done on any property, but it is particularly useful for urban properties with little outdoor space.

Five annuals for containers	Five perennials for containers
Sweet alyssum	Calamintha nepeta
Flossflower	Dianthus barbatus
Cosmea	Lamium pink chablis

Poached egg flower	Thyme lemon variegated or other Thymes
Garden heliotrope	Marjoram golden

NOTE: This suggested planting list is NOT exhaustive. A full list is available in the [Pollinator-Friendly Planting Code](#) on www.pollinators.ie.

Action 7:

Plant pollinator-friendly bulbs at your office or data centre

Many commonly planted bulbs, such as daffodils and tulips, are not the best for pollinators. Increase the amount of flowers for pollinators in spring by planting pollinator-friendly bulbs this autumn.

Five pollinator friendly bulbs:
Snowdrop
Crocus
Allium
Grape Hyacinth
Single flowered Dahlia (especially Bishop series)

Action 8:

Plant heritage variety orchard trees on your property

Planting heritage variety orchard fruit trees such as apples, pears, plums, peaches, cherries, berries, grapes in an area of your data centre property will provide food and shelter for pollinators - with the added bonus of delicious seasonal fruits.

Action 9:

Plant pollinator-friendly trees and shrubs on your property

For future tree and shrub planting, select from pollinator-friendly species. Planting pollinator-friendly shrubs that flower early in the year is an excellent way to provide bees with crucial spring food sources. Try to choose native species where possible.

Five pollinator friendly native trees	Five pollinator-friendly ornamental shrubs (flowering times)
Willow	Laurustinus (winter)
Rowan	Darwin's barberry (spring)
Hawthorn	Oregon grape (spring)
Wild cherry	Russian sage (summer)
Crab apple	Firethorn (summer)



NOTE: Never plant ornamental plants in natural or semi-natural habitats. Wherever possible, purchase and plant native, locally sourced stock.

Action 10:

Participate in Native Woodland pollinator-friendly tree planting

Your company can support the DCs for Bees Pollinator Plan by engaging in the Host in Ireland DCs for Bees planting days. You can also engage with organisations such as the Native Woodland Trust (info@nativewoodlandtrust.ie), or similar, to participate in their planting activities.

Action 11:

Create a pollinator-friendly flower bed at your office or data centre

Traditional bedding plants, such as Begonias, Busy Lizzy, Polyanthus, Geraniums and Petunias, have virtually no pollen and nectar, so are of little value to pollinators. Try incorporating some pollinator-friendly perennial options to create a pollinator-friendly flower bed.

Five pollinator-friendly plants for a perennial bed:

Nepeta 'Walkers Low'

Rudbeckia 'Goldstrum'

Stachys 'Byzantina'

Calamintha

Sedum 'Autumn Joy'

Action 12:

Plant a native wildflower meadow at your property

Create a native wildflower meadow using commercially purchased seed. This would be more flower-rich than a long-flowering meadow, but it is more costly and requires expertise. Please be aware that most sites will be unsuited to the immediate creation of a wildflower meadow due to high soil fertility.

Top Tips for Creating and Managing a Native Wildflower Meadow:

- Ideally your property should have at least three pollinator-friendly plants (of any type) flowering in each season, spring, summer and autumn
- Aim to have 75% of new ornamental planting be pollinator friendly
- We suggest mixing pollinator-friendly perennials with traditional bedding options, as perennial plants can look less attractive when they finish flowering
- It is very important to buy pollinator-friendly seed mix that has been grown in Ireland from native wildflowers and is suitable for your site

For more tips and details, there is a detailed '[Creation and Management of a Wildflower Meadow](#)' How-to-Guide in the Resources Section available on www.pollinators.ie.

Action 13:

Plant pollinator-friendly containers in plant and machinery areas

Pollinator-friendly containers can easily be added to plant and machinery areas at your properties.

Five annuals for containers	Five perennials for containers
Sweet alyssum	Calamintha nepeta
Flossflower	Dianthus barbatus
Cosmea	Lamium pink chablis
Poached egg flower	Thyme lemon variegated or other thymes
Garden heliotrope	Marjoram golden

NOTE: This suggested planting list is NOT exhaustive. A full list is available in the [Pollinator-Friendly Planting Code](#) on www.pollinators.ie.

Action 14:

Plant native hedgerows for pollinators in plant and machinery areas

Native pollinator-friendly flowering hedgerows can be easily added to plant and machinery areas at your properties. Pollinator-friendly native species include Willow, Blackthorn and Hawthorn. A mix of 75% Hawthorn, and 25% made up of other native species, including Blackthorn, is recommended. Bramble will provide food for pollinators in summer and Ivy in autumn.

For detailed information on managing hedgerows, see the '[Hedgerows for Pollinators](#)' How-to-Guide on www.pollinators.ie.

D. Provide nesting habitats

A nesting habitat for wild pollinators is safe, unobtrusive and easy to create.

- *Wild bees (bumblebees and solitary 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 or employees.*
- *Bumblebees nest in long grass, often at the base of a hedgerow.*
- *Solitary bees nest in bare ground, or less commonly, existing cavities.*

Action 15:

Plant native hedgerows for pollinators

Data centres with larger outdoor spaces can plant flowering hedgerows or manage existing native hedgerows for pollinators by following these steps:

1. Cut hedgerows every three years (between September and February, outside the bird breeding season) to encourage flowering for pollinators and fruiting for birds.
2. Avoid cutting all hedges in the same year; instead cut one-third of the hedge annually so some will always bloom and fruit.
3. Make sure the bases of hedgerows are not sprayed. This will allow flowering plants like Clovers, Vetches and Knapweed to provide additional food throughout the season and ensure nesting bees are safe.
4. If vegetation needs to be cut, do so between September and February to allow bumblebees to nest during the summer.
5. When planting new hedgerows or filling gaps, use pollinator-friendly native species, e.g. Willow, Blackthorn and Hawthorn. Bramble will provide food for pollinators in summer and Ivy in autumn.

For tips and more information there is a detailed '[Hedgerows for Pollinators](http://www.pollinators.ie)' How-to-Guide on www.pollinators.ie.

Action 16:

Create earth banks for solitary mining bees

Most of Ireland's solitary bees (more than 80%) are mining bees. They need bare soil in order to dig their nests. Creating an earth bank for these mining solitary bees on your property could not be easier:

1. Choose an open, well drained, sunny location. The soil should be gently packed, and south facing slopes are preferred.
2. Using a spade, gently clear off any vegetation on the area. Remove bits of moss, grass and anything that blocks the bee from getting to the soil. The area can be just about any size, but aim for a minimum of 10 by 10cm.



3. Once a year in late autumn, clear any vegetation that has grown by manually scraping back the area to bare soil. Never use pesticides of any kind (including herbicides) on an area meant for solitary bee nesting.

For more information, there is a detailed '[Creating Wild Pollinator Nesting Habit](#)' How-to-Guide in the Resources Section on www.pollinators.ie.

Action 17:

Drill holes in wood at your property

A small number of Ireland's solitary bees are cavity-nesters that prefer to live in existing holes in wood, stone or other materials. You can create nesting habitat for these bees by drilling small south or east facing holes in wooden fences.

- A. Ensure wood is free from treatment or preservatives (no varnish, stain, paint); alternatively, attach untreated wood blocks to existing structures.
- B. The holes should be 10cm deep and range from 4-8 mm in diameter. Create holes of different diameters to attract different types of bees. Make sure not to drill through the structure. Try to drill with the grain to avoid cracks.
- C. Holes should be as smooth inside as possible to attract nesting solitary bees. Use a countersinking drill bit or sandpaper to ensure the holes are splinter-free.
- D. Make sure the holes are at least 1.5-2m off the ground and not blocked by any vegetation. The entrance holes should ideally face east or southeast, so they get the morning sun.

For more information, there is a detailed '[Creating Wild Pollinator Nesting Habit](#)' How-to-Guide in the Resources Section on www.pollinators.ie.

Action 18:

Install a bee hotel at your property

Bee hotels are a great addition to your property to provide nesting habitat for solitary bees, as well as being a visible tool for raising awareness. You can purchase a pre-made hotel or build your own.

The estimated cost of materials for a small bee hotel is < €40.

Top Tips for Bee Hotels:

- Several small bee hotels are preferable to a single large one, as nesting bees are less likely to suffer from disease or predation in smaller hotels.
- Many commercially available bee hotels do not offer the right size cavities for Irish bees. Make sure to check the dimensions.
- If you do install a bee hotel, don't forget to provide nesting habitat for ground nesting bees too.
- For guidelines on creating a bee hotel there is a detailed '[Creating Wild Pollinator Nesting Habit](#)' How-to-Guide on www.pollinators.ie.

Action 19:

Introduce bee hotels in plant and machinery areas

Bee hotels are a great addition in plant & machinery areas at your property to provide nesting habitat for solitary bees, as well as being a visible tool for raising awareness. You can purchase a pre-made hotel or build your own.

The estimated cost of materials for a small bee hotel is < €40.

Top Tips for Bee Hotels:

- Several small bee hotels are preferable to a single large one, as nesting bees are less likely to suffer from disease or predation in small hotels.
- Many commercially available bee hotels do not offer the right size cavities for Irish bees. Make sure to check the dimensions.
- If you do install a bee hotel, don't forget to provide nesting habitat for ground nesting bees too.
- For guidelines on creating a bee hotel there is a detailed '[Creating Wild Pollinator Nesting Habit](#)' How-to-Guide



E. Reduce use of pesticides

Pesticides include insecticides, fungicides and herbicides. All of these can be harmful to pollinators, either directly, or by removing the food plants and damaging the habitats they depend on. It is important that pesticides are used sustainably, and only when absolutely necessary, for instance when treating invasive species.

Action 20:

Eliminate the use of insecticides

Insecticides pose the greatest direct hazard to insect pollinators. Support the *DCs for Bees Pollinator Plan* by eliminating the use of these.

Action 21:

Reduce or eliminate the use of herbicides

Herbicides indirectly harm pollinators by killing wildflowers that could otherwise provide food. Try physically removing unwanted weeds from your outdoor space instead. In particular, avoid spraying the base of trees and edging along the sidewalk; trim these areas instead, or let the grass grow long if appropriate.

Action 22:

Adopt the pollinator-friendly pesticide code

If there are areas on your data centre or office property that must be treated with pesticides, adopt the pollinator-friendly pesticide code (see appendix) to ensure the least possible harm to pollinators.

Always follow the manufacturer's guidelines exactly when applying any pesticide.



Indoor Space Options

F. Raise awareness: communication actions

You can support the DCs for Bees Pollinator Plan by raising awareness in your supply chain, local community or workplace, i.e. at your offices and on-site. More people are starting to understand how important pollinators are and what we can do to help them, but we need to keep spreading the word. This will help the data centre industry contribute to the conservation of pollinators and biodiversity beyond your own property.

Raise awareness in your supply chain

Action 23:

Influence suppliers and contractors to take actions within the DCs for Bees Pollinator Plan

Encourage your suppliers and contractors to support the *DCs for Bees Pollinator Plan*.

1. Promote the *All-Ireland Pollinator Plan*'s pollinator-friendly business guidelines to your Irish suppliers and contractors, and encourage them to sign up as supporters. See www.pollinators.ie/businesses.
2. Share the benefits your company has experienced to help us increase the number of businesses supporting the *DCs for Bees Pollinator Plan*.

Raise awareness with local businesses

Action 24:

Ask local businesses to sign up to the DCs for Bees Pollinator Plan

Encourage local businesses to support the *DCs for Bees Pollinator Plan*.

1. Promote the pollinator-friendly business guidelines to your local businesses
2. Share the benefits your company has experienced.

Action 25:

Involve local businesses in your pollinator actions

It may be that some chosen actions above can be a shared commitment from neighbouring businesses or those in your local community where you can extend your reach as well as share in costs.



Action 26:

Influence your business network to take actions within the *DCs for Bees Pollinator Plan*

Share the news of your efforts and accomplishments with your business network and invite others to partake in some actions in the *DCs for Bees Pollinator Plan*.

Action 27:

Influence your local authority to take pollinator-friendly actions

The *All-Ireland Pollinator Plan* has published a specific pollinator-friendly guide for Councils. Share this with your local council and encourage their participation to benefit your company's local community.

Action 28:

Influence your building management company or business park management company to take pollinator-friendly actions

Having the support of your management company may influence and encourage other local businesses to sign up as a business supporter, as well as help spread the positive message of the actions.

Raise awareness in your local community

Action 29:

Fund printing of pollinator-friendly guidelines for community groups

The *All-Ireland Pollinator Plan* has published a guide for gardeners and local communities. Your company could fund a print run of these booklets to be distributed to a group in your community, such as Community Gardens, Local Libraries, Tidy Towns (ROI), or Keep Northern Ireland Beautiful groups.

The estimated cost to print 100 booklets is < €500.

Contact the All-Ireland Pollinator Plan team at pollinators@biodiversityireland.ie to organise funding a print run of this publication.

Action 30:

Develop a community campaign

Your company can raise awareness and enable community action to support the DCs for Bees Pollinator Plan by developing and funding community campaigns to plant native seeds, bulbs, and trees in the local area.



Action 31:

Fund printing of the Junior Pollinator Plan for local schools

The All-Ireland Pollinator Plan has published a Junior version of the pollinator plan for schools. Your company could fund a printing of this publication for a local school or class.

The estimated cost to print the Junior Pollinator Plan for a single class of 30 pupils is €140. The estimated cost to print for a primary school with 8 classes is < €1000.

Contact the All-Ireland Pollinator Plan team at pollinators@biodiversityireland.ie to organise funding a print run of this publication.

Action 32:

Sponsor signage for community groups

For local communities (such as schools, Tidy Towns, or Community Gardens) that are taking pollinator-friendly actions, your company can sponsor the printing of signage.

High resolution signage templates (with space for company logos to be added) are available for download on www.pollinators.ie.

The estimated cost for A3 sized cardboard signs is < €100. Metal signs have also been made by other partners at a cost of < €100.

Action 33:

Sponsor pollinator-friendly planting in local communities

Community groups and schools are often interested in doing pollinator-friendly planting, but don't have the resources to purchase trees/shrubs/perennials. Your company could help offset the costs of a planting project by these groups.

A €500 contribution from your company could:

- Plant a pollinator-friendly flower bed
- Plant a herb garden in a local school yard
- Plant pollinator-friendly bulbs

Reach out to local schools and community groups to engage with them about possible projects.

Action 34:

Fund construction or purchase of bee hotels for local community groups

Bee hotels can be excellent awareness-raising tools for the community. You can purchase a pre-made hotel, or the materials needed for groups to build their own.

The estimated cost of materials for a small bee hotel is < €40.



NOTE: several small hotels are preferred over one large one, as this minimises the risk of disease and predation for the bees.

Action 35:

Sponsor a pollinator-friendly award

Your company can offer to sponsor a pollinator-friendly award in your local community, such as a pollinator-friendly garden award, a photo competition or a school award. Reach out to your local community groups to engage with them.

Action 36:

Purchase native wildflower seed for a community group

If your company is planting your own wildflower meadow, you could consider doubling the amount of wildflower seed and donating it to a local community group for their use, too.

The estimated cost is €1000+, depending on the size of the site.

Action 37:

Sponsor an expert to do a school visit

Sponsor an expert, such as a Heritage Expert from the Heritage in Schools scheme (<https://www.heritagecouncil.ie/projects/heritage-in-schools-scheme>), to come to talk to primary and secondary school classes about the Junior Pollinator Plan.

The estimated cost is less than €500. If interested, reach out to your local school to engage with them.

There are also lots of presentations and videos/animations available on www.pollinators.ie if you would like to present to community groups/schools directly, explaining your actions and help raise awareness of the importance of pollinators.

Action 38:

Sponsor All-Ireland Pollinator Plan projects

There are opportunities for companies to sponsor projects with the All-Ireland Pollinator Plan. If you're interested to explore this further, reach out to the team at pollinators@biodiversityireland.ie.

Raise awareness in your workplace

Action 39:

Hold a training session/workshop on pollinators for your staff

You could raise awareness in your workplace by holding pollinator awareness training sessions/workshops for your office or data centre staff.

Topics could include:



- Pollinator-friendly measures for gardens
- Recording pollinators
- Info on the Pollinator Plan

There are presentations, animations and videos, including videos of conference presentations available at www.pollinators.ie that can be downloaded and shown to your staff at no cost.

Alternatively you can arrange for ecologists from the National Biodiversity Data Centre to run a bespoke workshop for your staff. The estimated cost for a 1-day bespoke workshop for up to 30 employees (including staff time, travel, and workshop materials) is €500.

Action 40:

Fund printing of pollinator-friendly 'Garden Guidelines' for your staff

The All-Ireland Pollinator Plan has published 'Garden Guidelines' for homeowners. Your company could fund a print run of this publication for your staff, to help them understand and action the principles of the pollinator plan.

The estimated cost to print 100 booklets for your employees is < €500.

Contact the All-Ireland Pollinator Plan team at pollinators@biodiversityireland.ie to organise funding a print run of this publication.

Action 41:

Appoint a Pollinator Plan Advocate in your company

Appoint a Pollinator Plan Advocate in your company to track progress of your plan and to advocate within the organisation, to create awareness both within Ireland and within other territories.

Action 42:

Use pollinator-friendly give-aways for marketing events

Consider using pollinator-friendly items (such as materials, posters, pamphlets or identification swatches from the All-Ireland Pollinator Plan; pollinator-friendly herbs, trees, native wildflower seed or a contribution in their name to Native Woodlands Trust) as give-aways for your company marketing events.