

Pollinator-friendly management of Pump House Sites

All-Ireland
Pollinator Plan
2015-2020



National
Biodiversity
Data Centre
Documenting Ireland's Wildlife



pollinators.ie

Guidelines 6

WHO are our pollinators?

In Ireland, some plants are pollinated by the wind, but many are pollinated by insects. Most insect pollination is carried out by bees. We have one type (species) of managed honeybee and 98 different wild bees. That includes 21 bumblebee and 77 solitary bee species. If we want to protect pollination service, we need healthy honeybees, but we also need to have an abundance and diversity of wild bees, as well as other insects like flies, moths and butterflies.

WHAT do our pollinators need to survive?

Like us, pollinators need food and a safe place to live. It is lack of food (hunger) that is the main cause of declines. Bees rely solely on pollen and nectar from flowers for food. Wild bees don't make honey so they have no way of storing food. This means that they are never more than a few days away from starvation – so it's very important that there is a continual supply of flowers for them to feed on. To have a healthy balanced diet, pollinators need to be able to forage from a range of different flowers from MARCH right through to OCTOBER. Spring is when they are most at risk of starvation.

Pollinators also need plenty of safe nesting habitats. Bumblebees nest in long grass (often at the base of hedgerows). Most solitary bees nest by making little tunnels in bare soil, while a small number nest in existing cavities in dry stone walls, masonry or wood.

It is important that we protect pollinators from chemicals that can be harmful to them. Insecticides harm them directly, but equally importantly, the use of herbicides greatly reduces the wildflowers that pollinators depend on for food, making it hard for them to survive.

Large Carder
bumblebee
© Leon van
der Noll



Cutting, mowing and spraying so that the countryside looks tidy - to us - means that we are squeezing nature out and risk losing its important free services, like pollination.

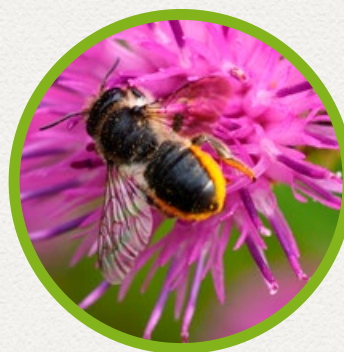
There are 99 different types of bee in Ireland:



Honeybee (1)



Bumblebees (21)



Solitary bees (77)

WHY do we need to help our pollinators?

Pollinators are important to farmers who grow pollinator-dependent crops and to those of us who want to grow our own fruits and vegetables. **Even if we don't currently grow these crops, we should aim to retain the ability to do so for future generations.** We know that three quarters of our wildflowers also benefit from being pollinated by insects – without bees we will lose the colourful and distinct natural beauty of our landscape, which makes it a pleasant place to live, an attractive destination for tourists, and a selling point for our agricultural produce abroad.

All-Ireland Pollinator Plan 2015-2020

Unfortunately our pollinators are in decline, and the problem is serious. **One third of our 99 bee species are threatened with extinction from the island of Ireland.** If we want them to be there to pollinate crops and wild plants for future generations, we need to manage the landscape in a more pollinator-friendly way.

The All-Ireland Pollinator Plan 2015-2020 is supported by over 80 governmental and non-governmental organisations who have pledged to deliver 81 actions to achieve this goal and make Ireland, North and South, more pollinator friendly. It is a shared plan of action.

Everyone, from farmers to councils, local communities, businesses, schools, gardens and transport authorities have a role to play in the Pollinator Plan. See www.pollinators.ie for how each sector can help through evidence-based actions.

“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”



Pump House Sites

Pump Houses are secure sites that are not grazed. If they were managed in a pollinator-friendly way, it would create an entire network of safe places for bees and other insects across the landscape. The positive impact this could have is enormous.

This guide is aimed at those who have responsibility for managing the land around pump houses and was developed in collaboration with the National Federation of Group Water Schemes (NFGWS). It explains 5 actions you can take to help pollinators. All these actions are evidence based, i.e. scientific studies show these actions have a positive impact on pollinators.

Pollinators need food, shelter and safety and fortunately many of the actions we can take to help provide this are simple. They are also often 'do-not' actions rather than 'do', so that nature itself does the hard work.



A pump house site in Tipperary.

5 ways to make the area around the pump house pollinator friendly:

1 Maintain native *flowering* hedgerows

Hedgerows that are managed to promote mature flowering growth are a vital source of pollen and nectar for pollinators at the beginning of their annual life cycle in spring.



2 Plant pollinator-friendly trees

Planting additional pollinator-friendly trees provides vital sources of food, particularly in spring.

3 Cut the grass less often

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.



4 Eliminate herbicide use

Less herbicide will mean more wildflowers for pollinators to feed on – this is an action you will already be doing!



5 Provide nesting places for wild bees

Wild pollinators need safe places where they can nest and breed in peace.



The following pages provide more details on these five actions.

More flowers + less chemicals = more pollinators

Maintain native flowering hedgerows

Hedgerows that are managed to promote mature flowering growth are a vital source of pollen and nectar for pollinators – low maintenance – saves time/money on annual cutting/flailing

What does a pollinator-friendly hedgerow look like?

- Contains a mix of native pollinator-friendly trees/shrubs that provide food.
- Managed so that as much as possible is allowed to flower each year – cutting annually stops the hedgerow flowering and fruiting. If not on a roadside, consider cutting on 3-5 year cycle.
- Allow some Bramble, Wild Rose, Honeysuckle and Ivy to grow – these plants are key nectar and pollen sources in summer and autumn.
- Should be as high as possible, at least 2.5m above the ground, and trimmed in an A-shape rather than in a box-shape.
- Has a 1.5-2m grass border at the base that is not sprayed. This allows wildflowers to grow and provide food. This long grass will also provide nesting habitat for bumblebees.
- It may have small areas of south or east-facing exposed bare earth at the base to provide areas for mining solitary bees to nest.

Native flowering hedgerows provide a vital source of pollen and nectar for pollinators at the beginning of their annual life cycle in spring

2.5m

A pollinator-friendly hedgerow should be flowering, at least 2.5m in height, and should be trimmed in an A-shape.

Blackthorn (Mar-May)

Wild Cherry (Apr-May)

Willow (Mar-May)

Whitethorn/Hawthorn (Apr-Jun)

Spring



The ideal native hedge is made up of 75% Whitethorn and 25% of at least 4 other species.



Intensively managed hedgerows don't offer flowers for bees or shelter for livestock.



Whitethorn/Hawthorn is also called the May bush. It is easy to see from a distance which hedgerows are pollinator friendly as they will be white in May.

Native flowering hedgerow plants that are good for pollinators:



Crab apple (May-Jun)



Elder (May-Jun)



Rowan (May-Jun)



Spindle (May-Jun)



Bramble/Blackberry (May-Sept)



Wild roses (Jun-Aug)



Ivy (Sept-Nov)

Autumn

Plant pollinator-friendly trees

Planting additional pollinator-friendly trees provides a vital source of food, particularly in spring, and are low maintenance once planted.

Willow is a very important food source in early spring when bumblebee queens emerge from hibernation. Having Grey/Goat Willow, or other native species like Blackthorn, Whitethorn, Rowan, Crab apple or Wild Cherry as individual mature trees around the pump house site will provide important food for pollinators.

Blackthorn



Willow



Trees on the Land is a cross-border initiative working to establish young native trees across the Republic of Ireland and Northern Ireland, providing simple schemes

for landowners to access quality native tree mixes each season.

They work with farmers, smallholders, community groups, councils, schools, colleges and many other landowners to coordinate sites to accommodate trees.

See www.treesontheland.com

Some non-native trees can also provide good sources of pollen and nectar. The following are low-growing options that are easy to maintain, and can be cut after flowering if necessary, without specialised equipment:

Dwarf Crab Apple, Damson Plum, American currant, Laurustinus, Orange ball tree, Weeping cotoneaster, Weeping willow, Juneberry Tree, Oregon grape, Hebe, Darwin's barberry, Firethorn.



Depending on the pump house site, you could also include a pollinator-friendly perennial bed or border.

The following ornamental plants are very low maintenance. Once the plants are established, they require only occasional weeding and mass pruning to approx. 10cm height when there is new growth appearing in spring.

Spring flowering	Early summer flowering	Late summer flowering
Helleborus	Calamint	Salvia
Comfrey	Comfrey	Stachys
Pulmonaria	Wallflower	Aster
Catmint	Thyme	Rudbeckia
Heathers	Oregano	Lavender



Tulips and Daffodils are not a good food source for pollinators. Where used, it is recommended they be combined with more pollinator-friendly bulb planting (e.g. Snowdrop, Crocus, Muscari, Allium).

For more information, see our Pollinator-friendly Planting Code



Cut the grass less often

With 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 saves time and money on cutting and is the most cost-effective way to provide food for pollinators and other insects.

There are different ways you can do this:

A Let the Dandelions bloom!

Continue to cut as usual, with one simple change; don't mow grass until mid-April, after the Dandelions have flowered but before they set seed. Dandelions provide a vital source of spring food for pollinators.

B Cut the grass every 6 weeks

Consider reducing mowing to a 6-week rotation. This will allow flowers like Clover to bloom, providing more food for pollinators.

C Cut just once a year to create a wildflower patch, strip or meadow

With some pump houses, the area around them may be large enough to allow portions of the grass to grow long throughout the year. This will provide native flowers for food. It could be the entire area, or alternatively small patches or strips around the site.

- 1 Wait until April to do the first grass cut to allow some Dandelions to flower.
- 2 During the summer, allow the grass to grow long.
- 3 Cut again in early September.
- 4 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 area and compost it, use as mulch or dispose as green waste.
- 5 If 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.
- 6 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.
- 7 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. For more information, see our How-to-guide for using pollinator-friendly wildflower seed on www.pollinators.ie

Heath bumblebee © Anneke Vrieling



Large Garden Bumblebee © Leon van der Noll



Eliminate herbicide use

POLLINATOR
ACTION | 4

Less herbicide will mean more wildflowers for pollinators to feed on. As Pump House sites are kept pesticide and chemical-free to protect water quality, they are already benefiting from this pollinator-friendly action!

Knapweed, Michael Keating



Eliminating herbicides means that you are not spraying weeds, many of which are important sources of food for pollinators. Although, it may mean that the site looks a bit less neat and tidy than we have become used to – this is important as it means we are allowing nature back into our landscape.

Clover



i

Knapweed provides more nectar than any other Irish wildflower!



white clover



Provide nesting places for wild bees

Creating good nesting habitats is simple and inexpensive. It is also completely safe: wild bees do not live in large colonies that need to be defended as honeybees do. Wild bees have no interest in humans, are not aggressive and pose no threat.

How to provide nests for Bumblebees

Bumblebees nest in long or tussocky grass.

- Leave long grass along the base of hedgerows, or around the area of the pump house, uncut from March until October.
- Bumblebee colonies die off in October/November (while mated queens go into hibernation for winter) so it is okay to cut or manage these areas in late autumn/winter.



Long grass with Clover and Bird's-foot-trefoil (Dara Stanley)



Red-tailed Bumblebee (Steven Falk)

Bumblebees commonly forage within 1km of their nest.



Solitary bees commonly forage within 300m of their nest.

Studies have shown that an increase in 150m between nesting site and food plants can reduce the number of viable offspring by more than 70%

How to provide nests for Mining Solitary bees

Our 62 species of mining solitary bees nest by making tiny burrows in bare earth (soil, sand, clay and peat). They will nest in flat well-drained areas, but generally prefer south/east-facing sheltered banks.

- Where there is south or east-facing exposed bare earth at the base of hedgerows, allow these areas to remain.
- In winter, create new earth banks elsewhere by scraping away top layer of soil – they just need to be stable and free draining. Avoid creating these areas anywhere that is vulnerable to soil erosion.



How to provide nests for Cavity-nesting Solitary bees

Our 15 species of cavity-nesting solitary bees make their nests in existing cavities in south-facing stone walls, masonry, wooden structures or commercially available bee nest boxes.



Megachile © Liam Lysaght

- Drill small south or east-facing holes in wooden fences or concrete structures.
- Alternatively, create your own bee box by drilling holes in untreated wooden blocks and attaching them to an outdoor structure. Installing a number of small boxes is better than one large one because it minimises the risk of disease and predation.
- Holes should be 10cm in depth and 4-8mm in diameter at a height of at least 1.5-2m. It is important to have holes of different sizes for different bees.



Help raise awareness

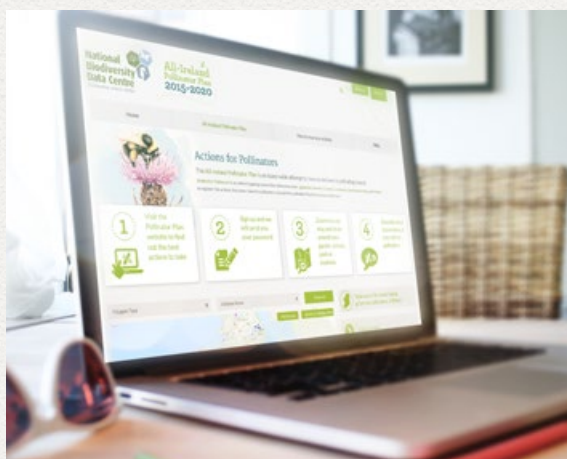
*The following simple actions will help to raise the profile of the **All-Ireland Pollinator Plan** and will contribute to the data used to help plan for the future conservation of our pollinators*

Put a sign at your pump house site

Download our signage template and put up at your pump house to show that it is a pollinator-friendly zone.

Log your actions

Don't forget to log your location and what you have done on our online mapping system, 'Actions for Pollinators' at: pollinators.biodiversityireland.ie so everyone can see how you are helping. This map tracks the build-up of food, shelter and safety for pollinators in the landscape.



Download your printable sign template from <http://pollinators.ie/resources/>

Maintain Ivy and Bramble as these are very important food sources for bees in summer and autumn.

If you would like to include some planting, choose low-growing, easy maintenance shrubs and trees. These can be cut without specialised equipment, after flowering, if necessary.

Could include:

- Dwarf crab apple x 7
- Damson plum x 5
- American currant x 3
- Viburnum tinus x 3
- Buddleja x weyeriana x 3
- Weeping cotoneaster x 3
- Weeping willow x 3



Manage hedgerows so they are allowed to flower.



Erect signage to show the site is managed as a pollinator-friendly zone.



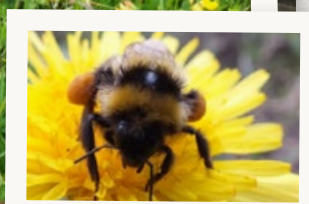
Along entrance borders, you may want to plant pollinator-friendly borders.

Could include:

- Purple toadflax
- Knapweed
- Bulbs such as Crocus
- Honesty
- Heathers



Strim grass just once a year, in autumn, and remove clippings to reduce fertility and encourage wildflowers to flourish.



This booklet is one of a series of Guidelines produced to help different sectors take actions under the All-Ireland Pollinator Plan. For more information and other useful resources, please see **www.pollinators.ie**



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**

Funding for design of this guide has been provided by the Department of Agriculture, Food and the Marine.

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

Photos generously provided by: Tom Cuffe, Zoë Devlin, Steven Falk, John Fogarty, Neil Foulkes, Michael Keating, Bryan Pinchen, Donna Rainey, Leon van der Noll, Anneke Vrieling

Text: Úna FitzPatrick & Juanita Browne (National Biodiversity Data Centre). Thanks to John Fogarty for input. Design: Vitamin Studio, Waterford.

Suggested citation: Pollinator-friendly management of: Pump Houses. All-Ireland Pollinator Plan, Guidelines 6. National Biodiversity Data Centre Series No.x, Waterford. April, 2018.

