ALL-IRELAND POLLINATOR PLAN

National Biodiversity Data Centre
Documenting Ireland's Wildlife

Juanita Browne
Project officer

We want to express our enormous thanks to those people across all sectors who have been championing the All-Ireland Pollinator Plan

WHY IS POLLINATION IMPORTANT?

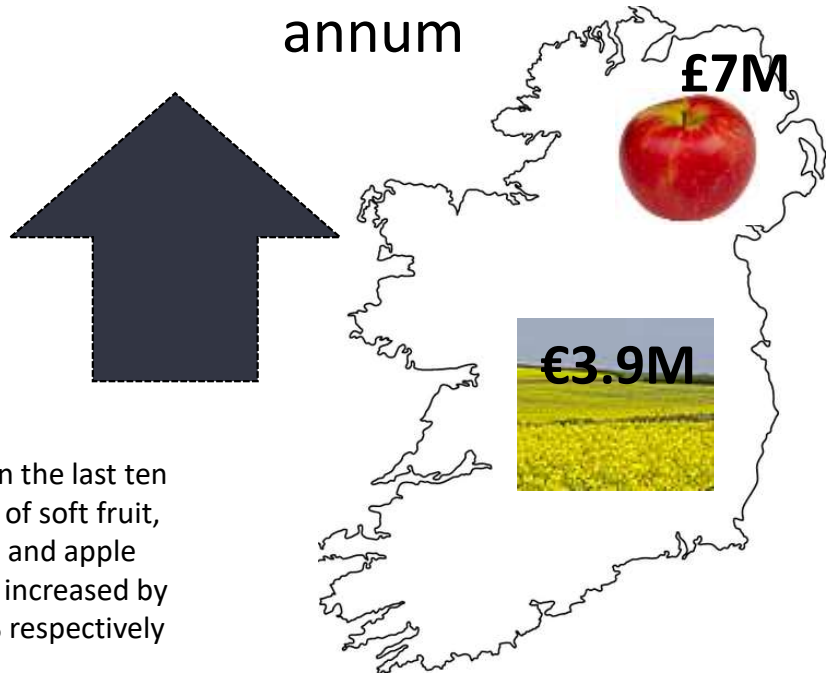
National Biodiversity Data Centre

Economy & Wealth

Health & Wellbeing

Wildlife & Landscape

€53million/ annum



In Ireland within the last ten years the value of soft fruit, field vegetable, and apple production has increased by 17, 21 and 24% respectively

Economy & Wealth

Health & Wellbeing

Wildlife & Landscape

100 crops provide

90% of the world's food

71 are pollinated by bees

Without pollinators it would be extremely difficult to have a healthy balanced diet

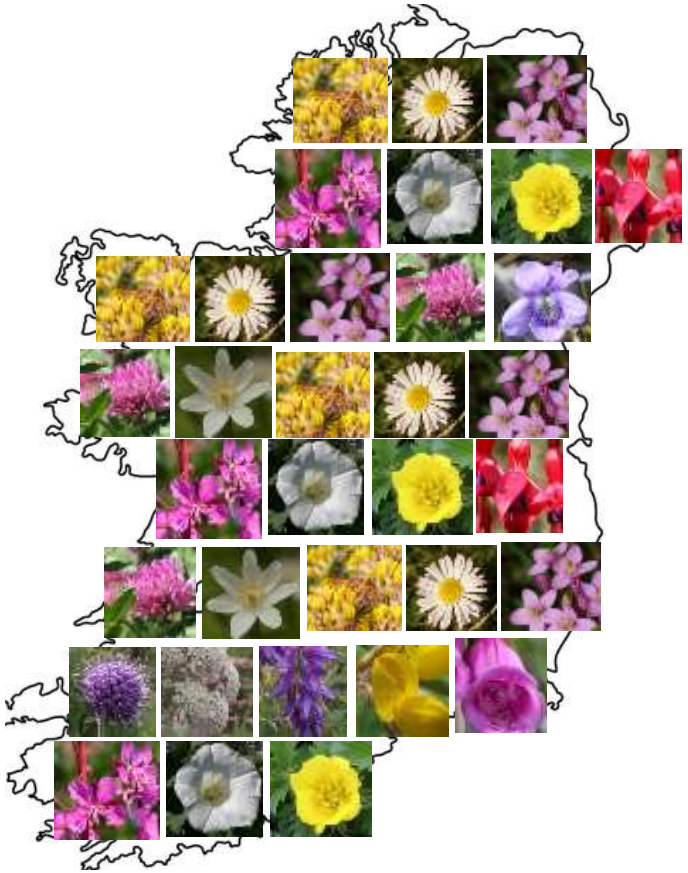
We need pollinators if we want to grow our own fruit and vegetables

Jan Feb March April May June July Aug Sept Oct Nov Dec

Economy & Wealth

Health & Wellbeing

Wildlife & Landscape

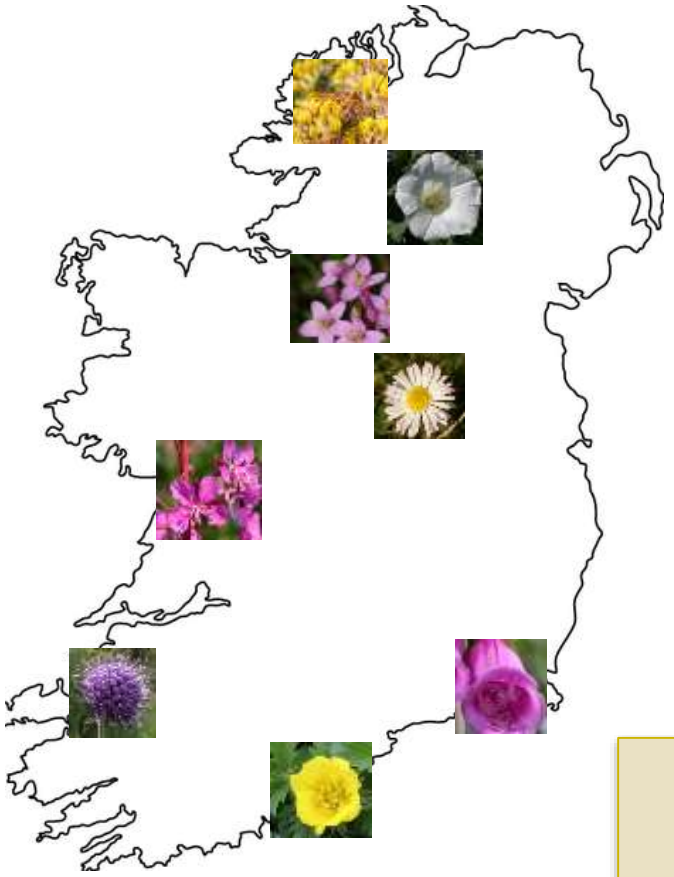


78% of our wild plants benefit from being pollinated by insects

Economy & Wealth

Health & Wellbeing

Wildlife & Landscape






Protecting pollinators protects the whole environment

- ✓ Benefits tourism
- ✓ Helps create our ‘green image’ which is a point of differentiation across international markets for our exports

Bees provide a simple vehicle that can be used to sell a wider biodiversity message

Without pollinators we'd have less diversity on our dinner plates and less colour in the countryside

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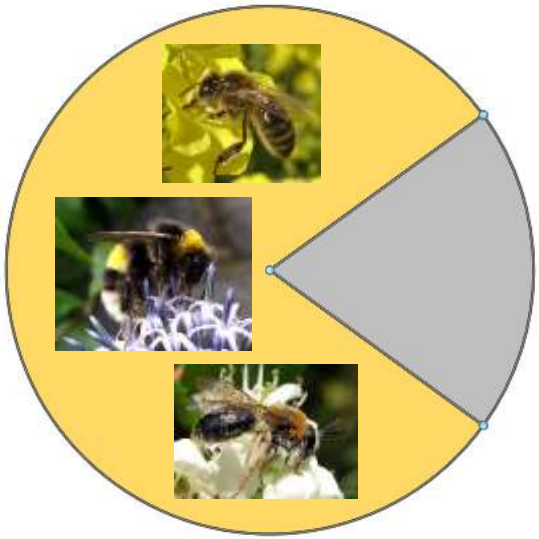
WHO ARE THE POLLINATORS IN IRELAND?



Most pollination of crops and wild plants is carried out by bees

The rest is provided by various other flower visiting insects, particularly flies

BEES IN IRELAND

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Ireland has **99** bee species:

Honeybee

Bumblebees

Solitary bees

WILD POLLINATORS

POLLINATION SERVICE CANNOT BE PROVIDED BY HONEYBEES ALONE

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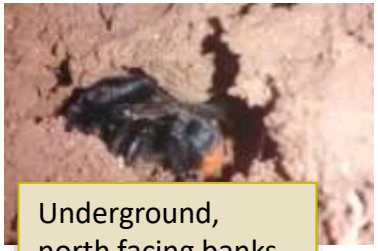
UK - if all honeybee hives were used for crop pollination, they could only provide about **one third** of the service required by crops. The rest is provided free of charge by wild pollinators.

The economic contribution of pollination by wild bees was recently assessed as £1,800 or €2,400 per hectare.

To maintain pollination you need healthy honeybees in combination with a diversity and abundance of wild bees and other insect pollinators

BUMBLEBEES – 21 DIFFERENT TYPES IN IRELAND

BUMBLEBEES - LIFECYCLE



Underground, north facing banks

Food source

Nest site

Long grass, hedgerows

Feeds & finds a nest

Queen emerges from hibernation in early spring

Prepares a pollen loaf and a nectar pot and starts laying eggs fertilised with sperm stored from previous year

Hibernation site

Female workers emerge and take over nest duties

Mated new queen feeds to build up reserves before hibernation. Workers, males and old queen die

Queen remains in the nest laying eggs

Food source

New queens and males leave the nest to find mates

In mid-late summer the queen lays unfertilised eggs which will become males. She also allows some new queens to develop

Food source

BUMBLEBEES NEED FOOD SOURCES THROUGHOUT THE YEAR

EARLY SPRING: queens are establishing nests

In the early days of the nest it is estimated that a *Bombus terrestris* queen may have to visit as many as 6000 flowers/day to get enough nectar to maintain the heat needed to brood her eggs



SPRING – SUMMER: nests are growing, workers are active






AUTUMN: queens are fattening up ready for hibernation

Bombus terrestris queens need to weigh at least 0.6 g to successfully hibernate and emerge next spring.


Bumblebees can travel up to 5km but commonly forage within 1-2km of their nest

Nest sites

Hibernation sites

Jan Feb March April May June July Aug Sept Oct Nov Dec

SOLITARY BEES – 77 DIFFERENT TYPES IN IRELAND

SOLITARY BEES - LIFECYCLE



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Nest site

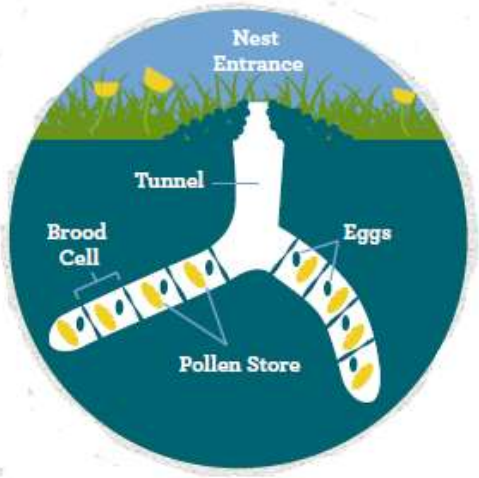
Mate

Females and males emerge in spring

Female prepares a nest

Food source

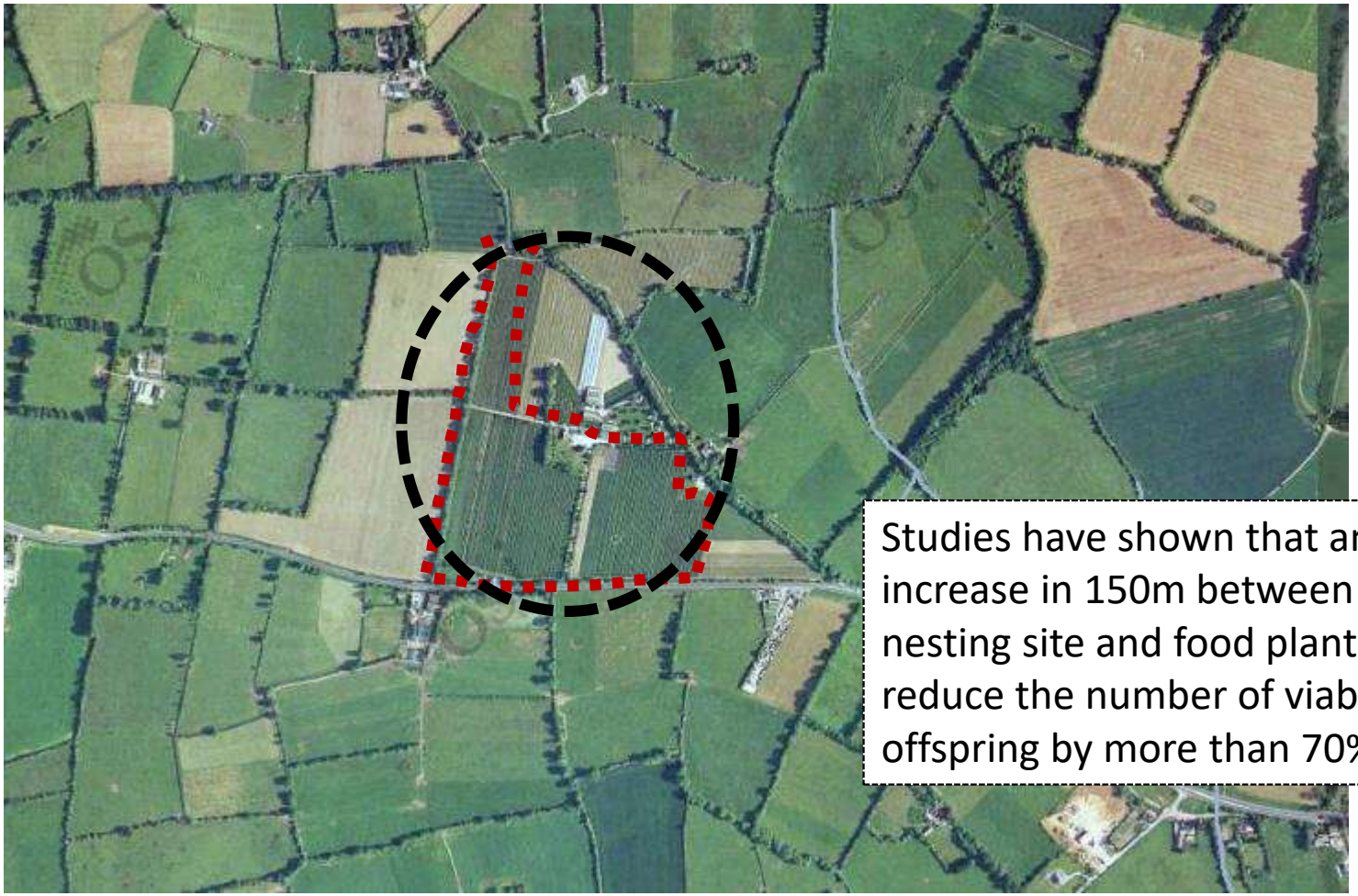
Female lays eggs and leaves a food supply of pollen



Males and females die

The larvae overwinter

Solitary bees can travel up to 1km but commonly forage within 100-200m of their nest



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

WHERE DO SOLITARY BEES NEST?

62 species (**80%**) are mining bees who nest in bare ground or south/east facing banks of bare earth (soil, sand, clay, peat)





15 species are cavity nesting bees who nest in south facing stone walls, masonry wooden structures or commercially available nest boxes

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ARE POLLINATORS DECLINING IN IRELAND?

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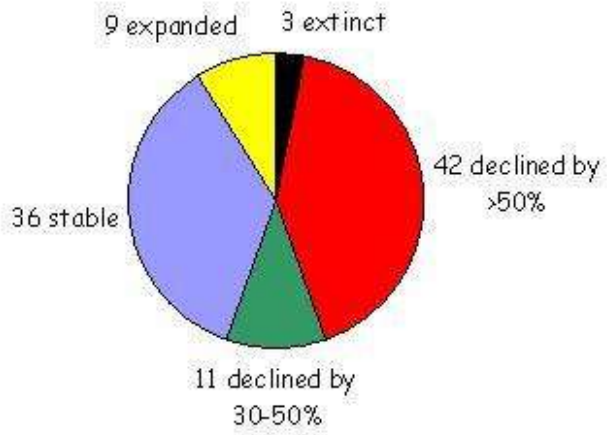

More than half of Ireland's bee species have undergone substantial declines in their numbers since 1980.

Two species have become extinct

One third of our 98 wild bee species are threatened with extinction from Ireland

6 species are critically endangered,
10 endangered
14 vulnerable

IUCN RED LIST

WHY ARE POLLINATORS DECLINING?

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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.

HABITAT LOSS: **HOMELESSNESS**

GENERAL DECLINE IN WILDFLOWERS: **HUNGER**

PESTS AND DISEASE: **SICKNESS**

PESTICIDES: **POISONING**

CLIMATE CHANGE**: CHANGING ENVIRONMENT**




WHAT CAN WE DO?

HABITAT LOSS: **HOMELESSNESS**

GENERAL DECLINE IN WILDFLOWERS: **HUNGER**

PESTS AND DISEASE: **SICKNESS**

AGROCHEMICALS: **POISONING**

CLIMATE CHANGE**: CHANGING ENVIRONMENT**

1. Accept that pollination is important
2. Recognise there is a problem
3. Start to build a framework for positive action

- Published September 2015
- Developed by a 15 member steering group
- Included a consultation phase which involved both public & stakeholder engagement
- **90+** governmental and non-governmental organisations have agreed the shared Plan
- Identifies **81** actions to make Ireland pollinator friendly
- Developed without funding

www.pollinators.ie

All-Ireland Pollinator Plan 2015-2020

Creating an Ireland where pollinators can survive and thrive

National Biodiversity Data Centre

Raising awareness of pollinators and how to protect them

11

Managed pollinators – supporting beekeepers & growers

7

MAKING IRELAND POLLINATOR FRIENDLY

Provide food and shelter across all types of land so that our pollinators can survive and thrive

Farmland
Public land
Private land

42

Expanding our knowledge on pollinators and pollination service

11

Collecting evidence to track change and measure success

6

+ 4 general actions

Steering group oversees the implementation which is coordinated by the National Biodiversity Data Centre

Steering Group 2019

1. Úna FitzPatrick (chair) – Data Centre
2. Jane Stout (deputy chair) – TCD
3. Tomás Murray – Data Centre
4. Hannah Denniston– DAFM
5. Catherine Keena – Teagasc
6. Archie Murchie – Agri Food & Biosciences Institute
7. Ken Bradley – DAERA, policy
8. Melina Quinn – National Truct, NI
9. Brian Nelson – NPWS
10. Eimear Fox - Transport Infrastructure Ireland
11. Anne Murray- Local Authorities
12. Susie Hill - Ulster Beekeepers Association
13. Mary Montaut – Federation Irish Beekeepers
14. Damian McFerran - CEDaR
15. Veronica Santorum – Limerick's Buzzing
16. Catherine Bertrand - Butterfly Conservation

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If you want to help implement the All-Ireland Pollinator Plan it is important to think about how your site can provide **food, shelter & safety** for pollinators

Your site could be any piece of land you have responsibility for e.g., park, roadside verge, local area, farm, school, campus, allotment, business property, OPW historic property, National Trust property, golf course, church, garden….

How your site can provide **food, shelter & safety** for pollinators

Shelter

Bumblebees (20 species)


Long grass, base of hedgerow

Mining solitary bees (62 species)


Bare ground, south/east facing banks

Cavity nesting solitary bees (15 species)


Hollow stems, holes in wood, bee nest boxes

Safety

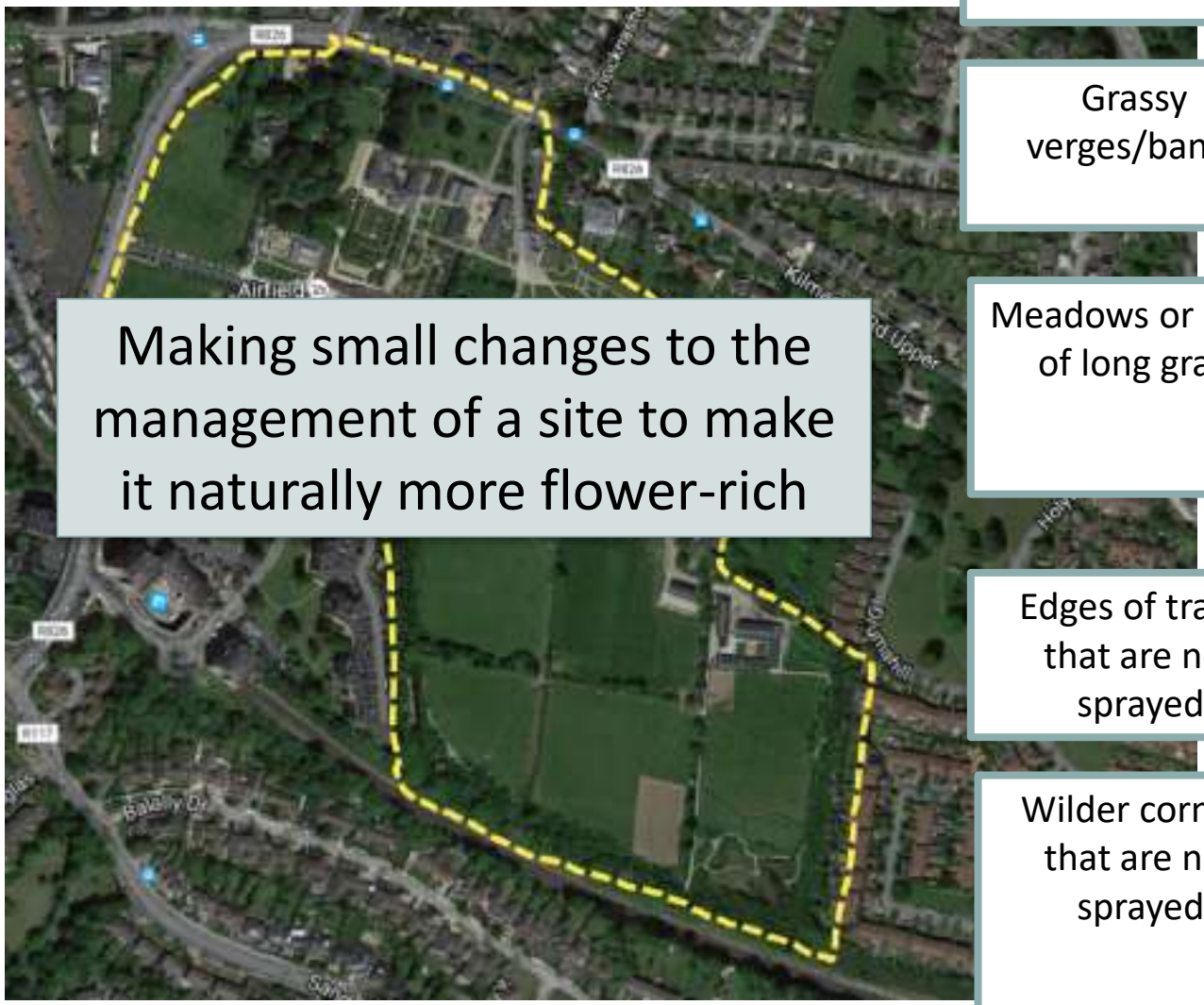
Eliminate or reduce the use of pesticides





Food

Native plants



Making small changes to the management of a site to make it naturally more flower-rich

Flowering hedgerows

Grassy verges/banks

Meadows or areas of long grass

Edges of tracks that are not sprayed

Wilder corners that are not sprayed

Hawthorn
Willow
Wild Cherry
Crab Apple
Bramble
Ivy

Wild Carrot
Goldenrod
Hogweed
Mignonette
Rosebay willowherb
Stachys

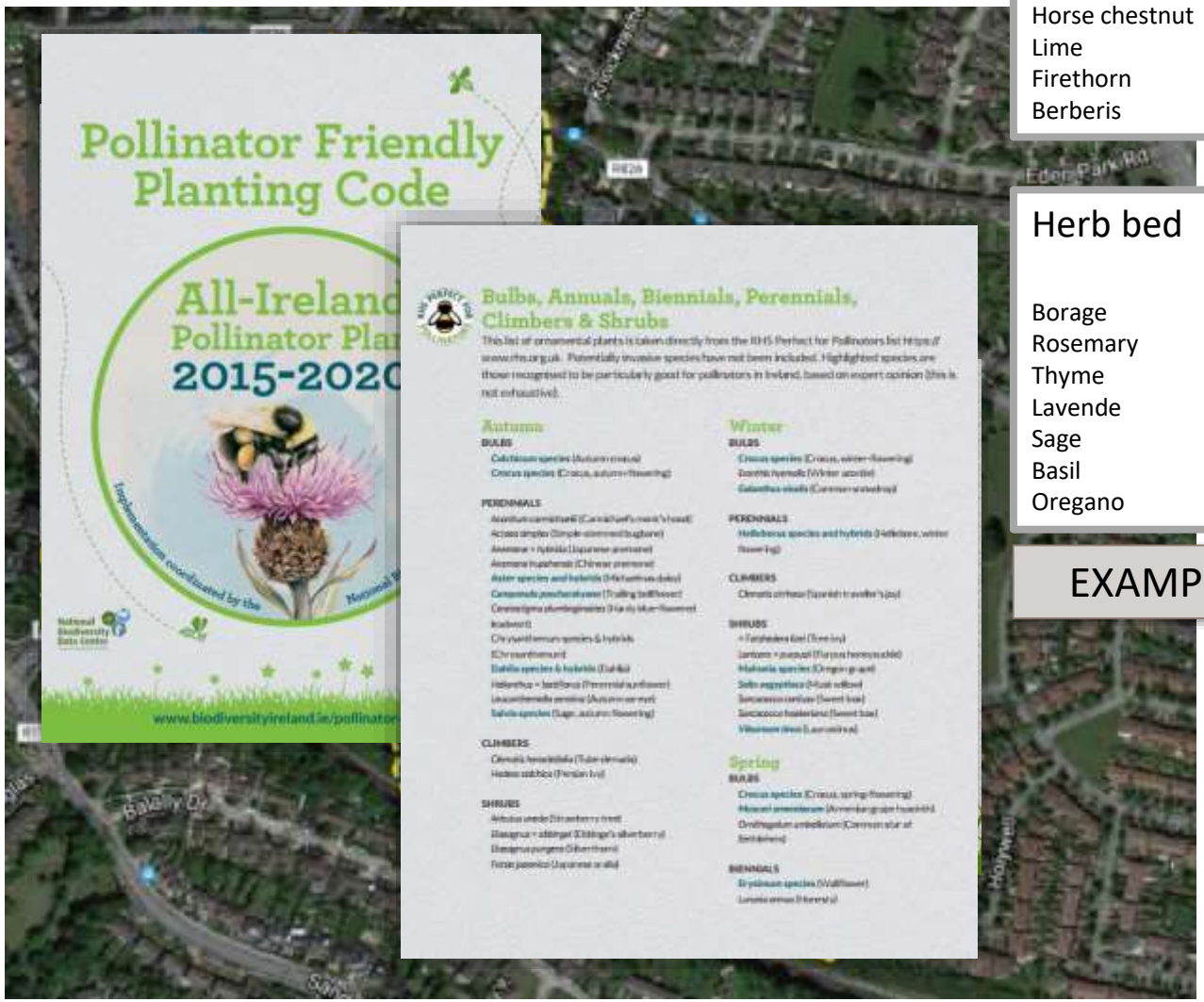
Bird's foot trefoil
Knapweed
Scabious
Senecio
Thistle
Vetch
Achillea
Wild marjoram
Vetchling

Dead-nettle
Forget-me-not
Geranium sp
Hawksbeard
Veronica

Bluebell
Brassica
Butterbur
Coltsfoot
Foxglove
Radish
Turnip
Fleabane
Red bartsia

Good for all bees, or particularly important for honeybees, bumblebees or solitary bees

Deliberate planting



Trees/shrubs

Horse chestnut
Lime
Firethorn
Berberis

Fruit trees/bushes

Apple
Plum
Currant
Cherry
Raspberry

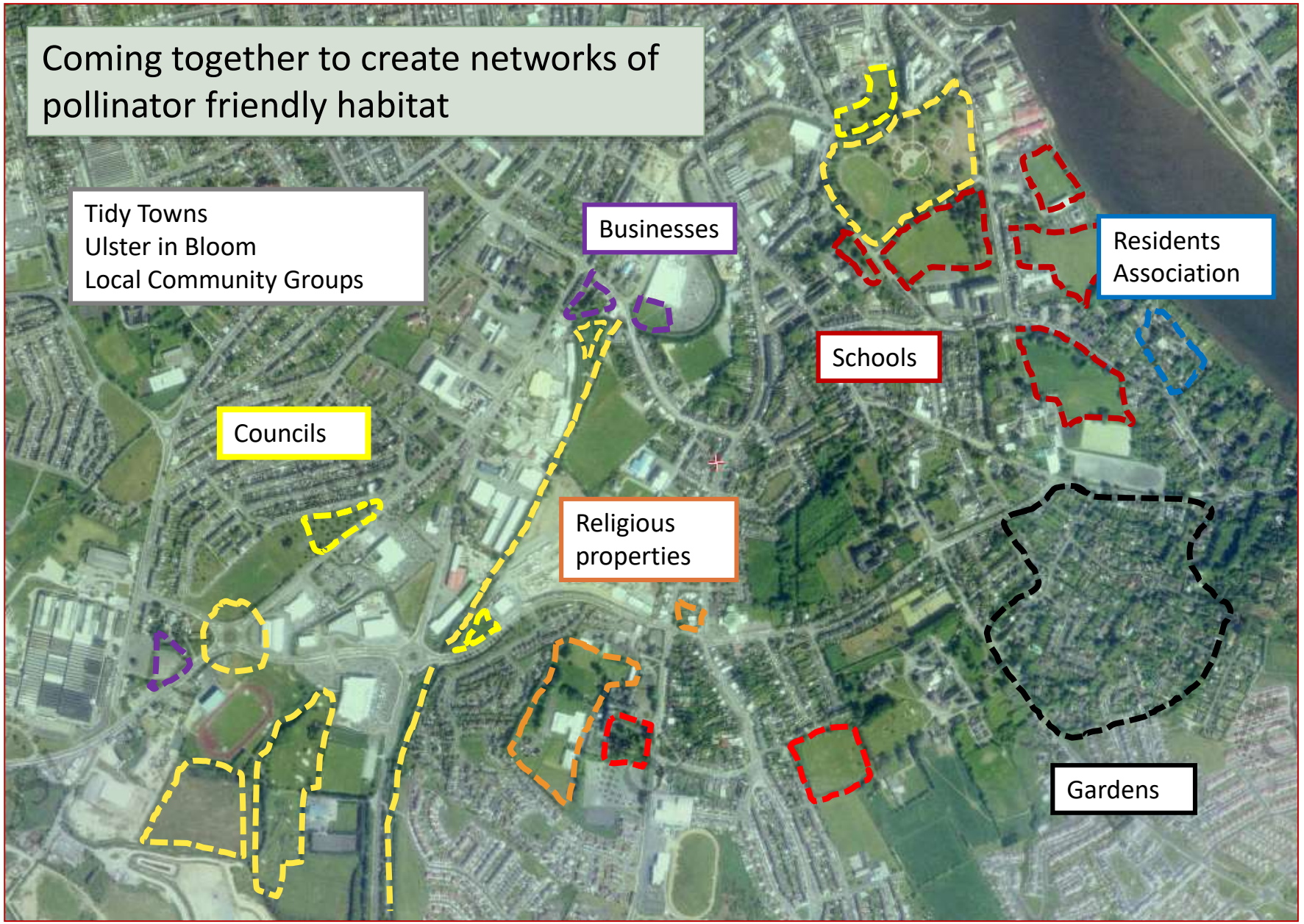
Herb bed

Borage
Rosemary
Thyme
Lavende
Sage
Basil
Oregano

EXAMPLES

Planted beds – perennial is best

Aster
Allium
Comfrey
Crocus
Bellflower
Calamint
Catmint
Coneflower
Delphinium
Gaillardia
Globe thistle
Heathers
Phacelia
Poppy
Pulmonaria
Rock rose
Salvia
Stonecrop
Sunflower
Verbena
Viper's bugloss



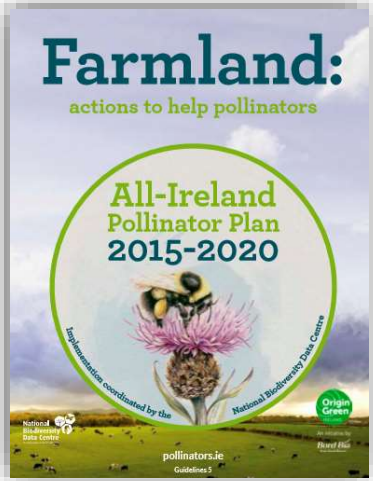
example map using Waterford City

By providing more food, shelter and safety in our towns and villages, along our transport routes and in farmland we can create an Ireland where pollinators can survive and thrive

example map

Publishing evidence based actions on how you can help

*How to provide **food, shelter and safety** for pollinators*

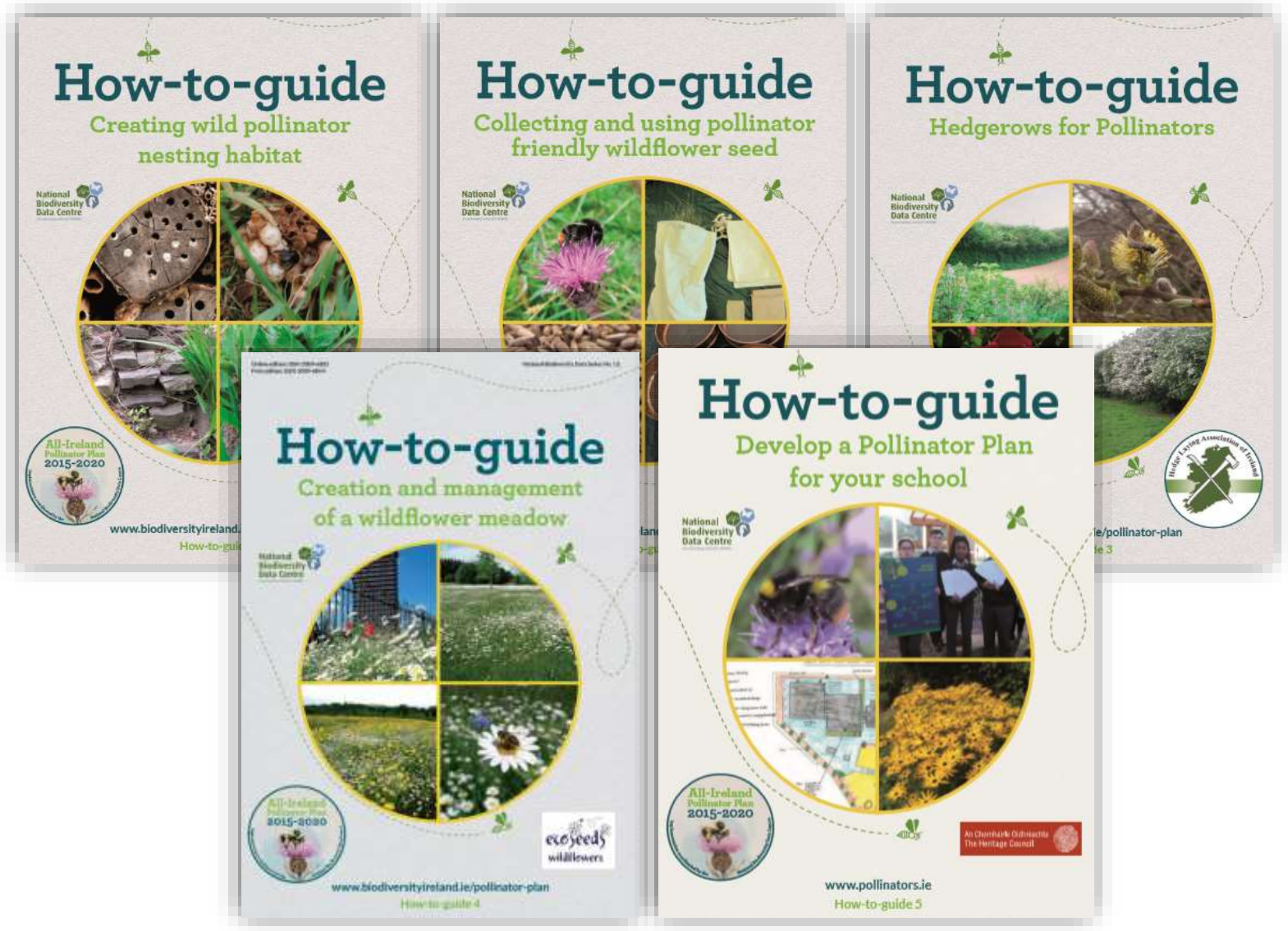


- ✓ **Actions are all evidence based**
- ✓ **Relevant sectors feed into development**
- ✓ **Communication is tailored each time**

- ✓ Pollinator friendly actions, each very clearly explained
- ✓ Lots of **options**
- ✓ All actions are pragmatic & low cost

www.pollinators.ie

A separate **How-to-guide series** provides additional information on more complex actions – developed in partnership with relevant organisations



2018 publications

We use **existing networks/partnerships** to encourage implementation and roll out within the sector – efficient, cost effective, beds down the actions within existing structures.

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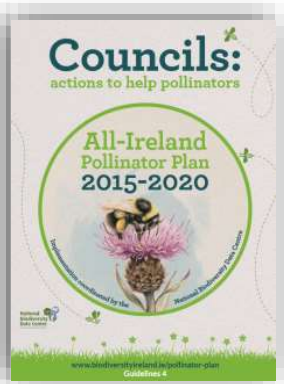
Grow it Yourself IRELAND

Garden Show Ireland

IRISH GARDEN PLANT SOCIETY

bloom by Bord Bia

We use **existing networks/partnerships** to encourage implementation and roll out within the sector – efficient, cost effective, beds down the actions within existing structures.



Department of Agriculture, Environment and Rural Affairs

cafre
College of Agriculture, Food & Rural Enterprise

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

Ulster Farmers' Union

Origin Green
Ireland

An initiative by Bord Bia
Irish Food Board

eagasc
Agriculture and Food Development Authority

Approved Organic Standard
IOFGA

Organic Trust

afbi
Agri-Food and Biosciences Institute

We use **existing networks/partnerships** to encourage implementation and roll out within the sector – efficient, cost effective, beds down the actions within existing structures.

Plan to engage specifically with certain types of business:
Garden Centre, Golf Courses, Quarries, Country Hotels

We use **existing networks/partnerships** to encourage implementation and roll out within the sector – efficient, cost effective, beds down the actions within existing structures.

SuperValu TidyTowns

144 entries

8 Regional + overall winners

Tidy Towns Local Authority Pollinator Award

All resources are freely available to download online

www.pollinators.ie

Pollinator Plan Resources

The All-Ireland Pollinator Plan 2015-2020 can be downloaded here:

All Ireland Pollinator Plan 2015-2020 (18MB)

All Ireland Pollinator Plan 2015-2020 (Black & White - 13MB)

To support the All-Ireland Pollinator Plan 2015-2020 we have published two acc
documents: Guidelines for different sectors and How-to-Guides for key pollinato

Sectoral Guidelines

How-to-Gui

The documents published to date are linked to below, along with some additiona
documents will be added to each series throughout 2017 to facilitate the implem
Pollinator Plan. You can see what is planned and provisional delivery dates here:
developed in 2016/17

"Note" **Actions for Pollinators**, our publicly available online mapping system, is now available. Find instructions in the menu below for logging your pollinator friendly actions, and visit the site here: https://pollinators.biodiversityireland.ie/

- All-Ireland Pollinator Plan
- Junior All-Ireland Pollinator Plan (English)
- Junior All-Ireland Pollinator Plan (Irish)
- Guideline documents
- How-to-guides
- Actions for Pollinators Reso
- Signage templates
- Presentations for use
- Tracking progress
- Other
- Events/Conferences

TRACKING CHANGE & MEASURING SUCCESS

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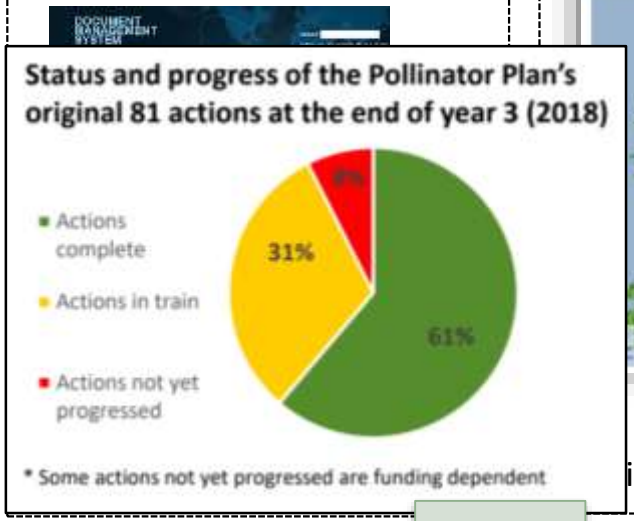
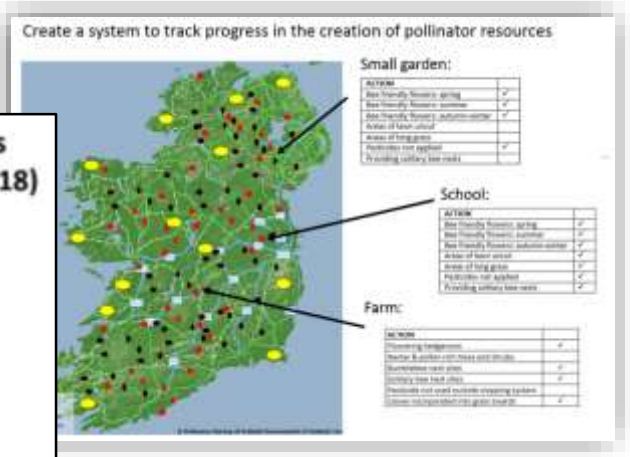
The publication of the All-Ireland Pollinator Plan isn't a box-ticking exercise – measuring success is a crucial part of the Plan

1. Track implementation of the 81 actions in the Plan



92%

2. Track creation of pollinator habitat/resources



icly available online mapping system

3. Track changes in pollinators within the landscape

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