All-Ireland Pollinator Plan






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National Biodiversity Data Centre
Documenting Ireland's Wildlife

Origin Green IRELAND
An initiative by Bord Bia Irish Food Board

An Chomhairle Oidhreachta
The Heritage Council

WHY IS POLLINATION IMPORTANT?

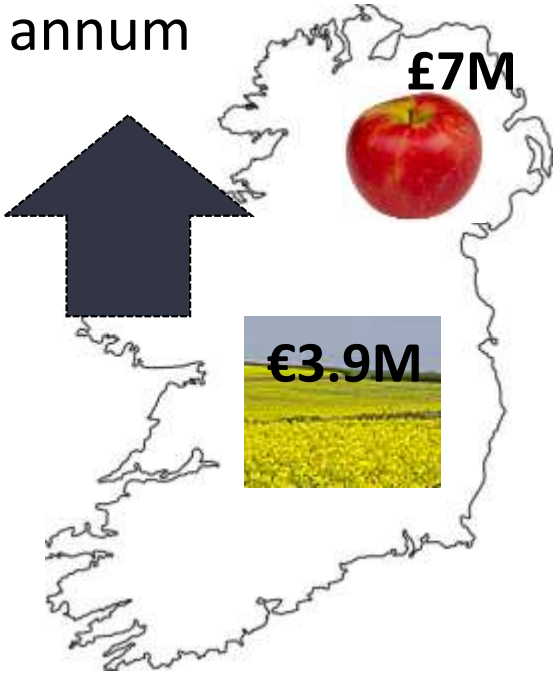
National Biodiversity Data Centre

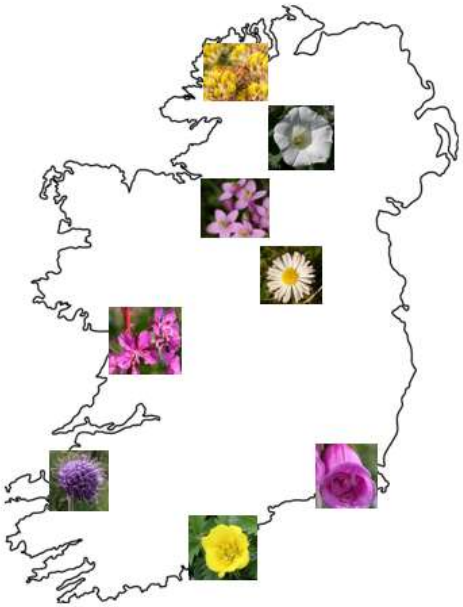
Economy & Wealth

Health & Wellbeing

Wildlife & Landscape

€53million/ annum





WHO ARE THE POLLINATORS IN IRELAND?

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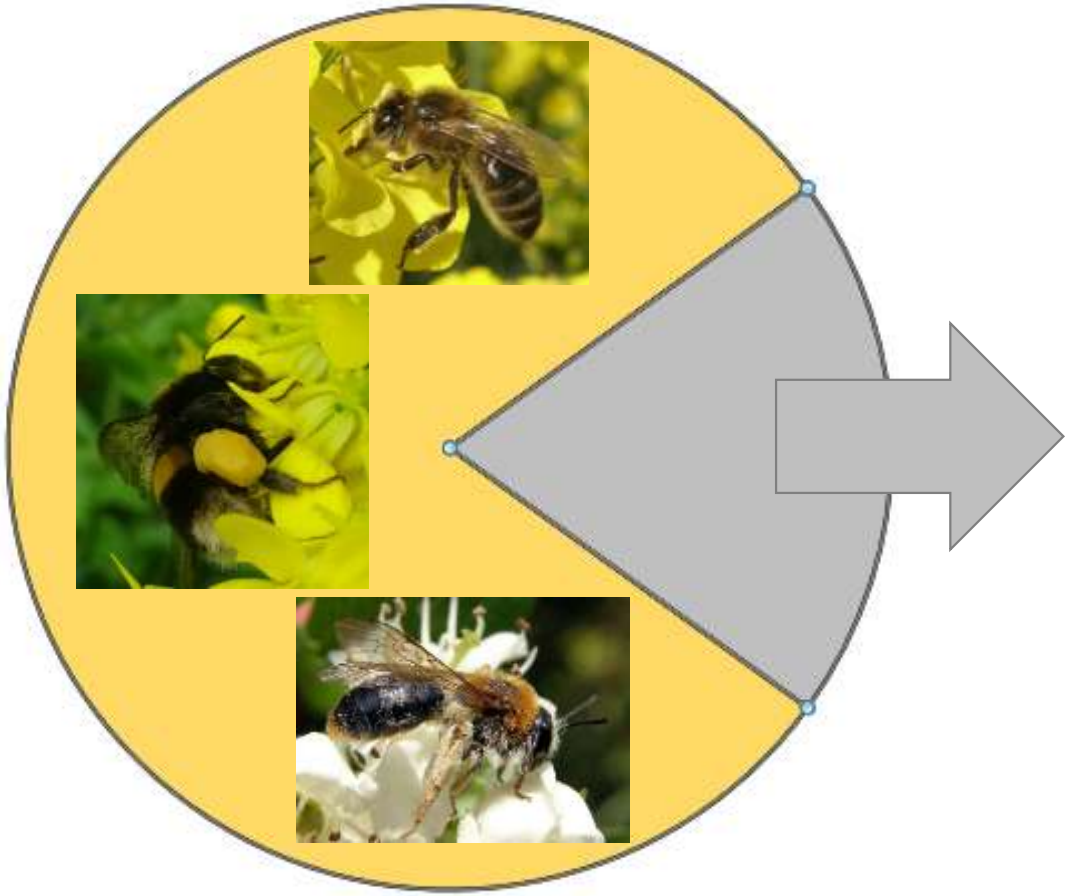

Most pollination of crops and wild plants is carried out by bees

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

BEES IN IRELAND

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Ireland has **98** bee species:

Honeybee

Bumblebees

Solitary bees

WILD POLLINATORS

POLLINATION SERVICE CANNOT BE PROVIDED BY HONEYBEES ALONE

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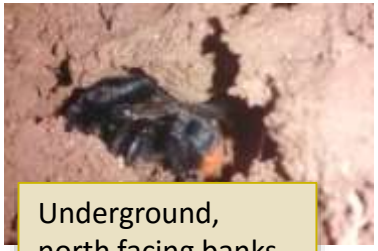
UK - if all honeybee hives were used for crop pollination, they could only provide about **one third** of the service required by crops. The rest is provided free of charge by wild pollinators.

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 pollinators

BUMBLEBEES – 20 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.


SOLITARY BEES – 77 DIFFERENT TYPES IN IRELAND

SOLITARY BEES - LIFECYCLE



National Biodiversity Data Centre
Documenting Ireland's Wildlife

Nest site

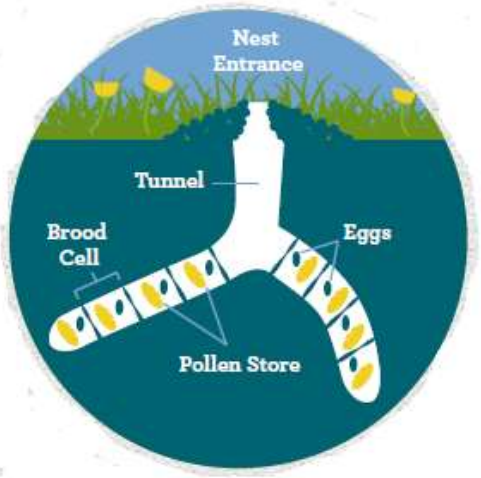
Mate

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

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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Documenting Ireland's Wildlife

To ensure pollination of Irish crops and wild plants we need:

Healthy honeybee colonies in combination with high abundance and species richness in wild bee populations, as well as other wild pollinators

ARE POLLINATORS DECLINING IN IRELAND?

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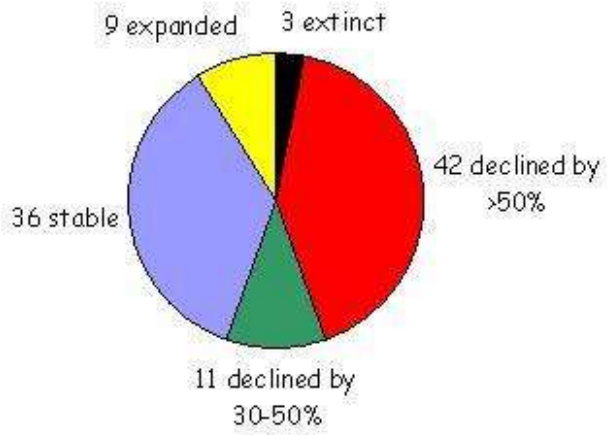

More than half of Ireland's bee species have undergone substantial declines in their numbers since 1980.

Two species have become extinct

One third of our 98 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 on 17th September 2015
- Developed by a 15 member steering group
- Included a consultation phase which involved both public & stakeholder engagement
- **68** governmental and non-governmental organisations have agreed the shared Plan
- Identifies **81 actions** to make Ireland pollinator friendly

www.biodiversityireland.ie/pollinator-plan

The Plan is supported by 68 organisations

The number of supporting organisations is continuing to increase since publication of the Plan

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 2017

1. Úna FitzPatrick (chair) – Data Centre
2. Jane Stout (deputy chair) - TCD
3. Catherine Bertrand - Butterfly Conservation
4. Ken Bradley - DOE Environmental Policy
5. Gerry Clabby - Local Authorities
6. Susie Hill - Ulster Beekeepers Association
7. Catherine Keena - Teagasc
8. Damian McFerran - CEDaR
9. Mary Montaut - FIBKA
10. Archie Murchie – AFBI
11. Tomás Murray – Data Centre
12. Brian Nelson – NPWS
13. Vincent O'Malley - TII
14. Melina Quinn - NIEA
15. Veronica Santorum – Limerick's Buzzing
16. Jerome Walsh - DAFM

National Biodiversity Data Centre

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., local area, a school, campus, farm, park, allotment, business property, roadside verge, OPW historic property, National Trust property, golf course, 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

Hawthorn (5-6)
Ivy (9-11)
Bird's foot trefoil (6-9)
Knapweed (6-9)
Scabious (7-8)
Senecio (6-9)
Thistle (7-9)
Vetch (5-9)
Achillea (7-9)
Bluebell (4-6)
Brassica (4-8)
Butterbur (3-5)
Charlock (4-7)
Coltsfoot (3-4)
Daucus carota (6-8)
Dead-nettle (2-11)
Fleabane (7-8)
Forget-me-not (4-9)
Foxglove (6-9)
Geranium sp (5-9)
Goldenrod (7-10)
Hawksbeard (6-9)
Heathers (8-9)
Hogweed (6-9)
Melilotus (6-9)
Mignonette (5-9)
Mustard (5-9)
Radish (6-7)
Rape (4-6)
Red bartsia (6-9)
Rosebay willowherb (7-9)
Stachys (7-9)
Turnip (5-8)
Veronica (3-9)
Vetchling (5-8)
Wild marjoram (7-9)

- Food from spring through to autumn
- A range of plants – balanced diet

Horse chestnut (4-6)
Lime (6-7)
Sycamore (4-6)
Apple (4-5)
Plum (4-5)
Currant (4-5)
Cherry (4-5)
Raspberry (6-8)
Firethorn (5-6)
Berberis (4-5)
Borage (4-10)
Rosemary (4-6)
Thyme (5-8)
Lavender (6-8)
Sage (6-8)
Basil (7-9)
Oregano (6-8)
Aster (7-10)
Allium (6-8)
Comfrey (3-6)
Crocus (2-3)
Bellflower (6-9)
Calamint (5-9)
Catmint (5-9)
Coneflower (7-10)
Delphinium (6-7)
Gaillardia (6-9)
Globe thistle (7-8)
Heathers (8-9)
Phacelia (4-12)
Poppy (5-10)
Pulmonaria (3-5)
Rock rose (5-7)
Salvia (6-9)
Stonecrop (7-9)
Sunflower (8-10)
Verbena (7-10)
Viper's bugloss (6-7)

NATIVE - BEST

PLANTED

Native plants

Changing the management of a site to make it more flower rich

Hedgerows, grassy verges/banks

Hawthorn (5-6)
Ivy (9-11)
Daucus carota (6-8)
Goldenrod (7-10)
Hogweed (6-9)
Melilotus (6-9)
Mignonette (5-9)
Rosebay willowherb (7-9)
Stachys (7-9)

Meadows or areas of long grass

Bird's foot trefoil (6-9)
Knapweed (6-9)
Scabious (7-8)
Senecio (6-9)
Thistle (7-9)
Vetch (5-9)
Achillea (7-9)
Wild marjoram (7-9)
Vetchling (5-8)

Edges of tracks that are not sprayed

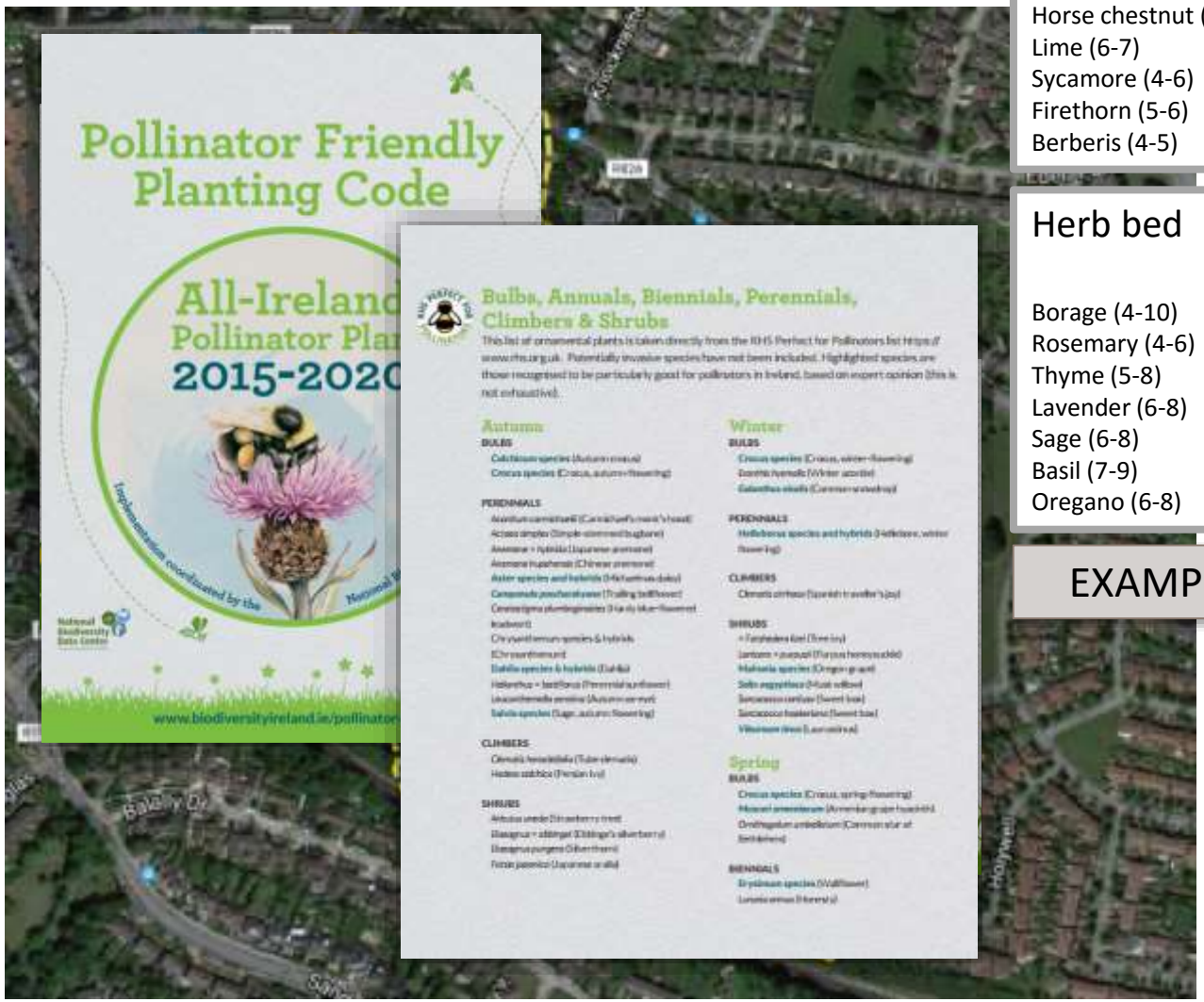
Dead-nettle (2-11)
Forget-me-not (4-9)
Geranium sp (5-9)
Hawksbeard (6-9)
Veronica (3-9)

Wilder corners that are not sprayed

Bluebell (4-6)
Brassica (4-8)
Butterbur (3-5)
Coltsfoot (3-4)
Foxglove (6-9)
Mustard (5-9)
Radish (6-7)
Rape (4-6)
Turnip (5-8)
Fleabane (7-8)
Charlock (4-7)
Red bartsia (6-9)

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

Deliberate planting



Trees/shrubs

Horse chestnut (4-6)
Lime (6-7)
Sycamore (4-6)
Firethorn (5-6)
Berberis (4-5)

Fruit trees/bushes

Apple (4-5)
Plum (4-5)
Currant (4-5)
Cherry (4-5)
Raspberry (6-8)

Herb bed

Borage (4-10)
Rosemary (4-6)
Thyme (5-8)
Lavender (6-8)
Sage (6-8)
Basil (7-9)
Oregano (6-8)

EXAMPLES

Planted beds – perennial is best

Aster (7-10)
Allium (6-8)
Comfrey (3-6)
Crocus (2-3)
Bellflower (6-9)
Calamint (5-9)
Catmint (5-9)
Coneflower (7-10)
Delphinium (6-7)
Gaillardia (6-9)
Globe thistle (7-8)
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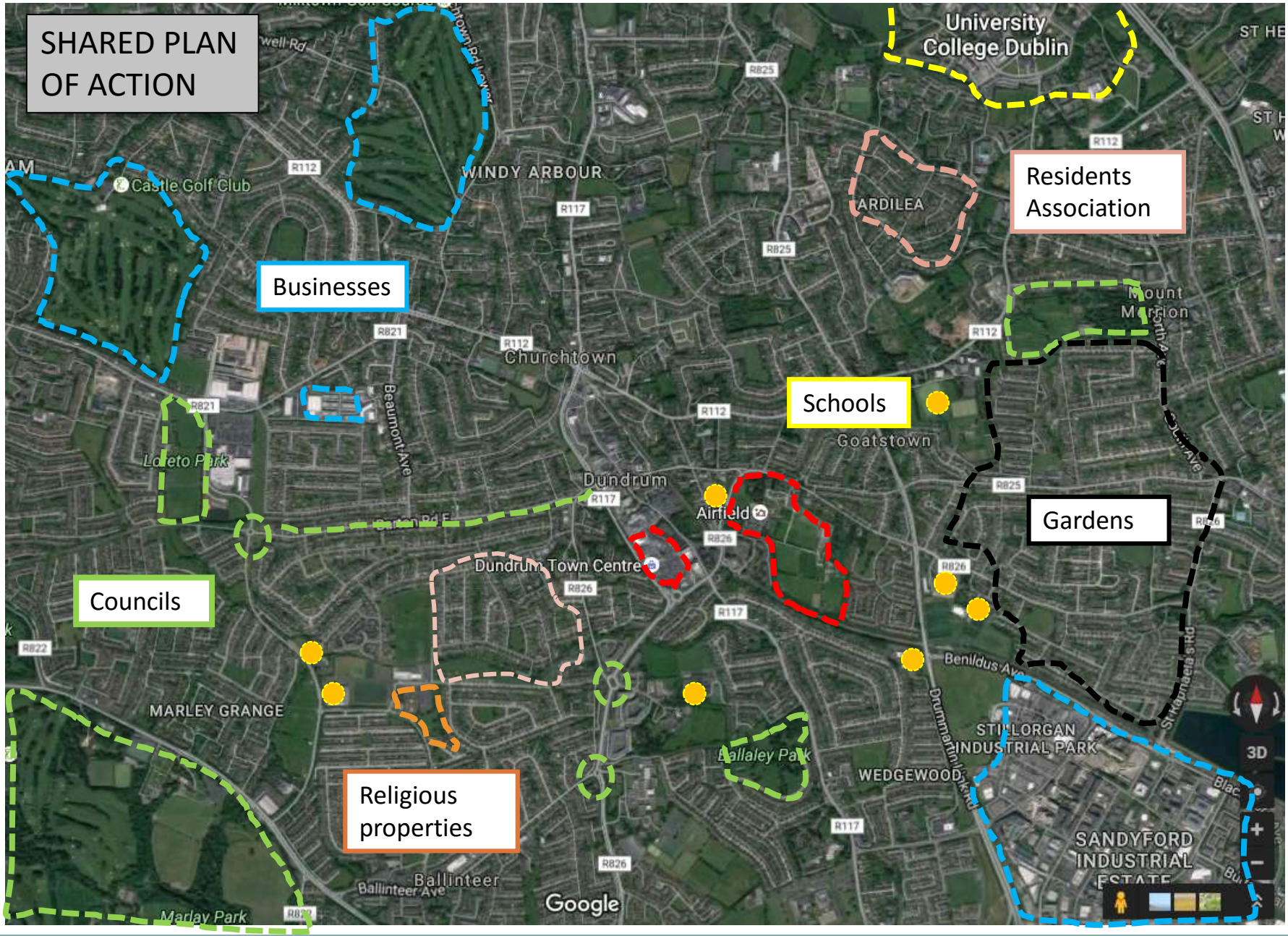


Example – we are developing a publicly available mapping system that will track and recognise the actions being taken

The Pollinator Plan is producing a series of guidelines with actions on how you can help provide **food, shelter and safety** for pollinators:

In preparation:

- ✓ **Farmers (2017)**
- ✓ Transport Authorities (2017)

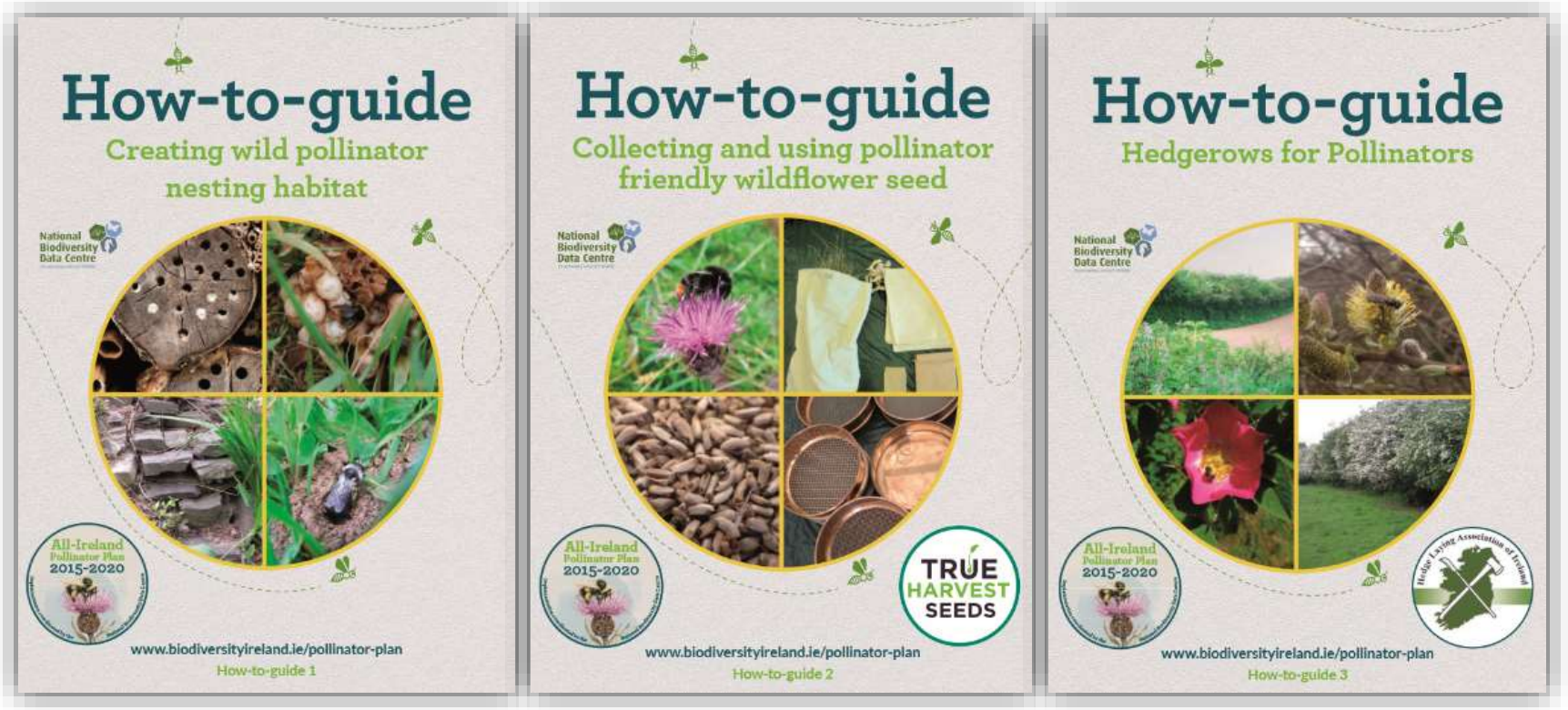
- ✓ **Actions are all evidenced based**
- ✓ **Relevant sectors feed into the development**
- ✓ **Communication is tailored to each sector**

www.biodiversityireland.ie/pollinator-plan

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

www.biodiversityireland.ie/pollinator-plan

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



In preparation:

- ✓ Creating and managing a wildflower meadow (late spring 2017). In collaboration with Ecoseeds

TRACKING CHANGE & MEASURING SUCCESS

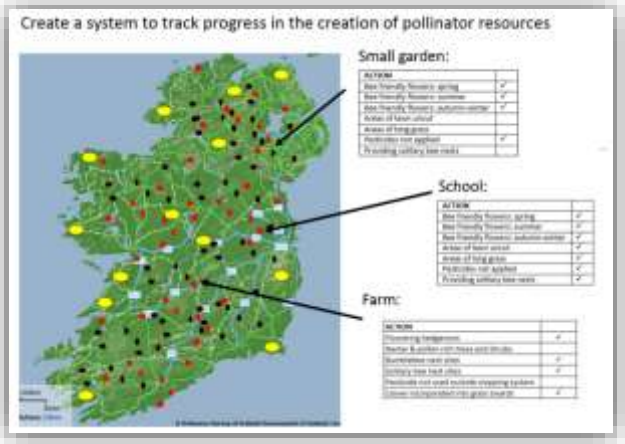
National Biodiversity Data Centre
Documenting Ireland's Wildlife

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

Those who have responsibility for actions have to report their progress once a year. These annual reviews will be publicly available.

2. Track creation of pollinator habitat/resources



Publicly available online mapping system

3. Track changes in pollinators within the landscape

National Biodiversity Data Centre
Documenting Ireland's Wildlife

www.biodiversityireland.ie/pollinator-plan

- All-Ireland Pollinator Plan
- Junior All-Ireland Pollinator Plan (English)
- Junior All-Ireland Pollinator Plan (Irish)
- Guideline documents
- How-to-guides
- Signage templates
- Presentations for use
- Tracking progress
  - All-Ireland Pollinator Plan – Year 1 review (2016)
  - Year 1 review (2016) – summary infographic
- Other

YEAR 1 REVIEW (2016)

An Chomhairle Oidhreachta
The Heritage Council

Funding project officer position based in National Biodiversity Data Centre:

Dr Erin Jo Tiedeken (April 2016-)

Origin Green
IRELAND

An initiative by
Bord Bia
Irish Food Board

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

Funding for design of resources (2016-2017)

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

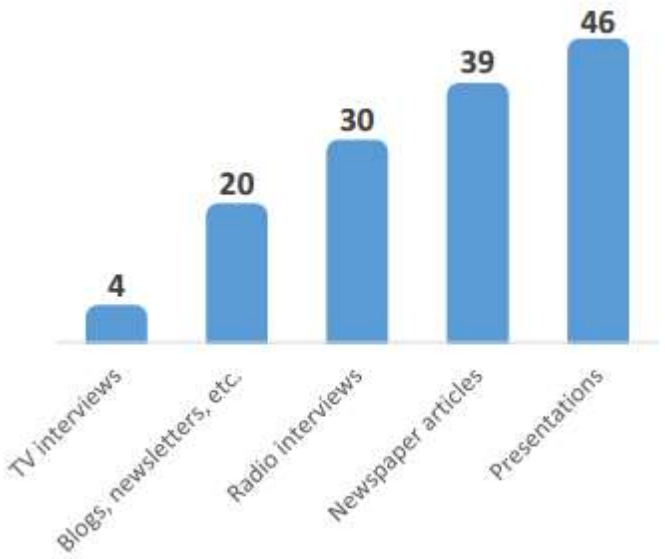
Funded print run of resources at end 2016

YEAR 1 REVIEW (2016)

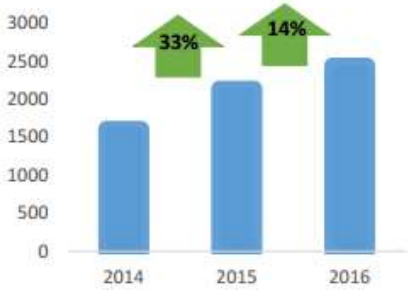
Major Pollinator Plan resources released

- ✓ Junior Pollinator Plan, English and Irish Language version
- ✓ FOUR sets of Pollinator-friendly Sectoral Guidelines
- ✓ THREE How-to-Guides
- ✓ Pollinator-friendly signage templates and educational posters

Year 1 Pollinator Plan media engagement



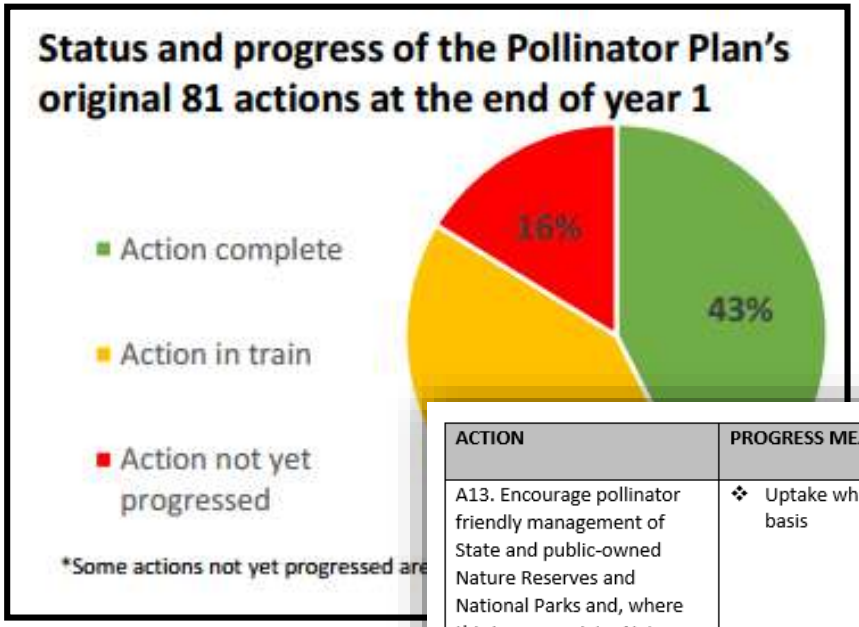
Casual bee records submitted



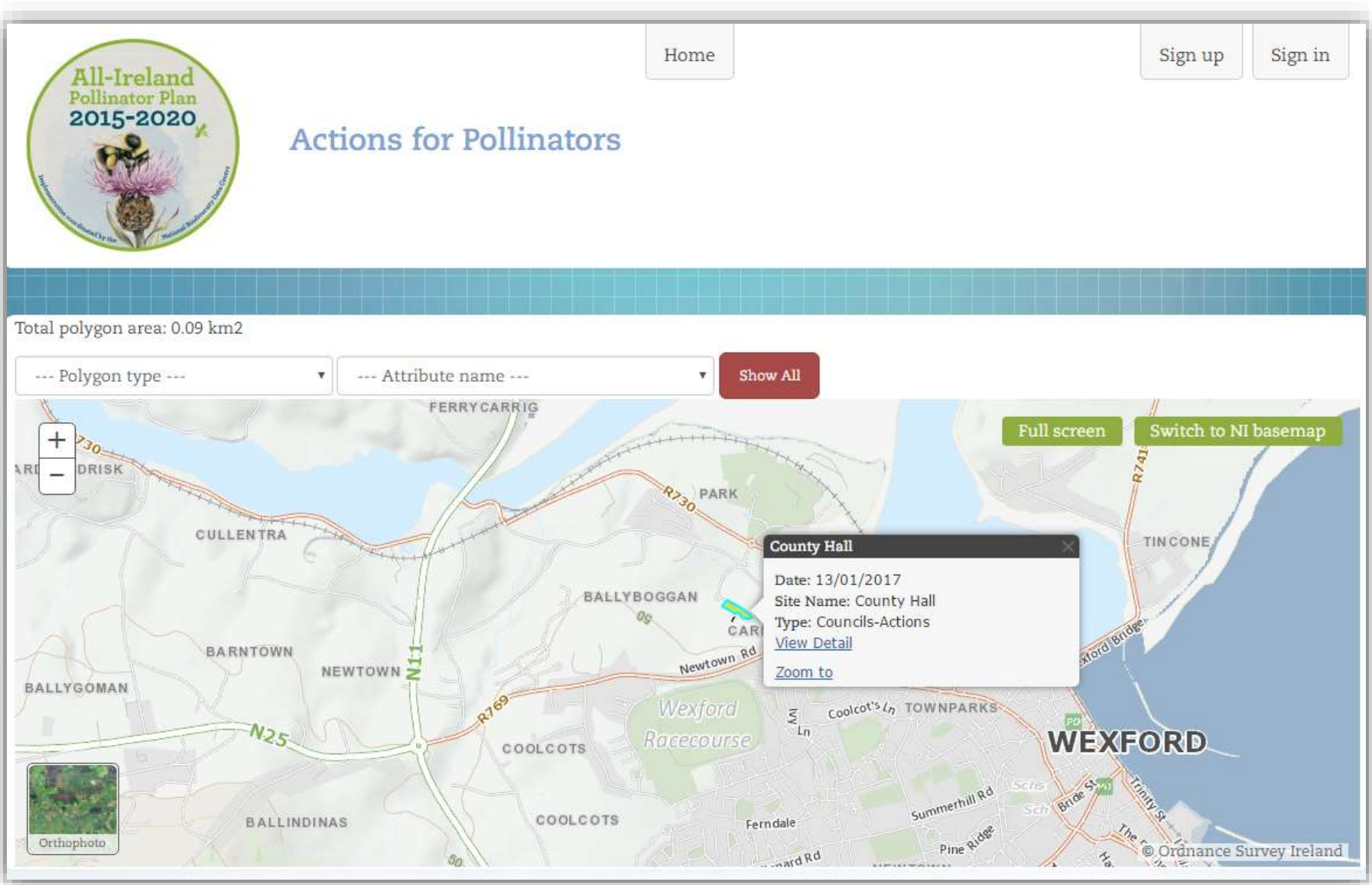
Bumblebee monitoring scheme walks performed

2014	92
2015	92
2016	101

How much progress has been made on the 81 actions in the Plan?



ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A13. Encourage pollinator friendly management of State and public-owned Nature Reserves and National Parks and, where this is appropriate, Natura 2000 and nationally designated sites (NHAs, ASSIs)	❖ Uptake where appropriate on a site basis	NPWS, NIEA, Local Authorities	**NPWS:** This action has not yet been progressed **NIEA:** This action has not yet been progressed	
A14. Encourage pollinator friendly management of public parks and green spaces	❖ Integration of the Pollinator Plan into future county/city development or biodiversity plans (where appropriate and when reviewed)	Steering Group to consult Local Authorities/Councils (in conjunction with Heritage & Biodiversity Officers)	Guidelines for actions Local Authorities/Councils can take to protect pollinators will be published in late 2016, and this action actively progressed in 2017.	
	❖ Incorporate pollinator prescriptions into the An Taisce Green Parks Initiative	An Taisce	Pollinators will be considered within the Green Parks Initiative. A special pollinator award for parks has also been established and will be part of the Initiative from 2017. The award (in the form of pollinator friendly plants) is being sponsored by Young Nurseries	


All-Ireland
Pollinator Plan
2015-2020
Home
Sign up
Sign in
Actions for Pollinators
Total polygon area: 0.09 km2
--- Polygon type ---
--- Attribute name ---
Show All
Full screen
Switch to NI basemap
County Hall
Date: 13/01/2017
Site Name: County Hall
Type: Councils-Actions
View Detail
Zoom to
FERRYCARRIG
CULLENTRA
PARK
TINCONE
BALLYBOGGAN
BARNTOWN
NEWTOWN
BALLYGOMAN
Newtown Rd
Wexford Racecourse
Coolcot's Ln
TOWNPARKS
WEXFORD
COOLCOTS
BALLINDINAS
Ferndale
Summerhill Rd
Pine Ridge
Orthophoto
© Ordnance Survey Ireland

DEVELOPING PARTNERSHIPS ACROSS SECTORS TO DELIVER ACTIONS

Tidy Towns Local Authority Pollinator Award

- ✓ Total number of applications received in first year: **59**
- ✓ At least one application was received from every ROI county
- ✓ Year 1 national winners: **Monaghan** and **Birr** Tidy Towns

?

Translink
ULSTER in BLOOM

Origin Green IRELAND

BUSINESS IN THE COMMUNITY

An initiative by
Bord Bia
Irish Food Board

Actions to provide **food, shelter and safety** for pollinators on Council land

THANKS:

Heritage and Biodiversity Officers

Erin Jo Tiedeken

Melina Quinn (NIEA)

Niamh Lennon
(Wexford County Council)

Orla Maguire
(Belfast City Council)

Actions Councils can take to help pollinators - providing food, shelter and safety

Please select some actions you could take and help us work together to protect pollinators

We know that each Council is different, so we have suggested a range of pollinator friendly actions to choose from. Step-by-step instructions on each action are provided.

A Protect what you have

The easiest and most important thing you can do is identify and protect existing areas that are already good for pollinators

- Action 1 — Manage and restore semi-natural habitats and their native plants
- Action 2 — Identify and protect existing sources of food and shelter for pollinators on general council land

B Alter the frequency of mowing

Changing the frequency of mowing allows wildflowers (food) to flower among the longer grass. This is the most cost-effective way to provide food for pollinators

- Action 3 — Identify at least 10 locations that are mown under a pollinator friendly regime (5 cut & lifts per year)
- Action 4 — Aim to create at least 5 meadows (one cut & lift per year)
- Action 5 — Identify at least 10 flagship roadside verges that are managed to be pollinator friendly (one cut & lift per year)
- Action 6 — Introduce a layered mowing approach to other roadside verges

C Pollinator friendly planting

Take the actions below to ensure you have flowers blooming that can provide food for pollinators from March-October

- Action 7 — Plant a native perennial wildflower meadow
- Action 8 — Plant a native hedgerow
- Action 9 — Replace grass with a dense clover sward
- Action 10 — For future ornamental tree planting select from pollinator friendly species

Key

Pollinator friendly roundabout - Fingal

Pollinator friendly roadside verge in NI - Don't Mow Let it Grow

Actions Councils can take to help pollinators - other

Please select some actions you could take and help us work together to protect pollinators

F Raise awareness

- Action 21 — Build actions on pollinators into existing frameworks and initiatives
- Action 22 — Fund pollinator projects on council land to demonstrate best practise to other sectors (reference sites)
- Action 23 — Put up signage to identify pollinator friendly habitats on council land
- Action 24 — Promote & distribute pollinator friendly guidelines to other sectors locally
- Action 25 — Promote & distribute the Junior Pollinator Plan to local schools
- Action 26 — Facilitate or deliver training on pollinators and how to take action to protect them
- Action 27 — Fund a special pollinator award in the Tidy Towns or Ulster in Bloom competition
- Action 28 — Promote and get involved in other pollinator related initiatives

G Tracking progress

- Action 29 — Log your 'Actions for Pollinators' on the mapping system to ensure your efforts are recognised
- Action 30 — Take part in the Bumblebee Monitoring Scheme to help track changes in wild pollinator numbers on council land

Raise awareness of pollinators in the local area

COUNCILS: actions to help pollinators

A. Identify and protect existing areas that are good for pollinators

Action 1:

Promote the management and restoration of semi-natural habitats and their native plants on council land

Action 2:

Identify and protect existing sources of food and shelter for pollinators on general council land

B. Alter the frequency of mowing of grassy areas to allow more native plants to flower

Action 3:

At least 10 locations mown under a pollinator friendly regime (5 cut & lifts per year)

Info box:

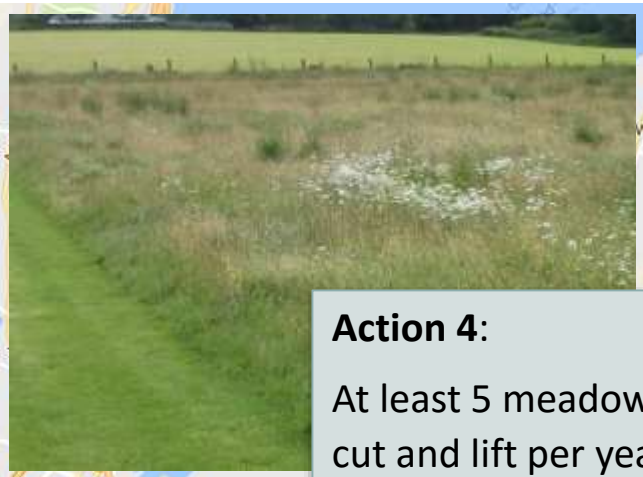
Mowing Regime	Approximate costs per HA (2016)
22 Cuts per year, grass mulched back in	€2,464.00+vat Cost inclusive of equipment, labour and fuel
5 Cuts per year with cuttings lifted	€2,437.00+vat Cost inclusive of equipment, labour, fuel and waste disposal

Cost benefit analysis based on prices from a large landscaping company in ROI. Prices are based on flat ground accessible with ride on equipment and within a 40km radius of Dublin, rates would reduce for larger areas.

B. Alter the frequency of mowing of grassy areas to allow more native plants to flower

Action 3:

At least 10 locations mown under a pollinator friendly regime (5 cut & lifts per year)



Action 4:

At least 5 meadows (one cut and lift per year)

Action 5:

10 flagship roadside verges that are managed to be pollinator friendly (one cut and lift per year)

Action 6:

Introduce a layered mowing approach to other roadside verges

C. Pollinator friendly planting

Action 7: Replace grass with a dense clover sward

Action 8: For future tree planting select from pollinator friendly species

Action 9: For new works e
75% of ornamental planti
pollinator friendly

Action 10: In future ornar
maintenance planting sele
pollinator friendly species

Action 11: Make some urban planters pollinator friendly

Info box: Pollinator friendly perennial planting versus annual bedding

Planting regime	Approximate costs per m^2 (2016)	Typical replacement
Pollinator friendly perennials	€10-13 (9 x 9cm pots)	Life span of 10-12 years if well planted and well maintained. Small amount of annual replacement may be required depending on the site
	€17-19 (6 x 2L pots)	
Annual bedding	€10-29	Twice per year

Based on prices from a large Irish perennial plant nursery. Typical annual bedding costs were provided by a Council in ROI.

C. Pollinator friendly planting

Action 7: Replace grass with a dense clover sward

Action 8: For future tree planting select from pollinator friendly species

Action 9: For new works ensure 75% of ornamental planting is pollinator friendly

Action 10: In future ornamental maintenance planting select pollinator friendly species

Action 11: Make some urban planters pollinator friendly

Action 12: Make some urban roundabouts pollinator friendly

Action 13: Deliberately plant a native wildflower meadow

USE NATIVE LOCAL PROVENANCE SEED

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

Action 14: Manage hedgerows for pollinators

Action 15: Bare earth/sand banks for wild pollinator nesting

Action 16: Holes in wood or concrete for wild pollinator nesting

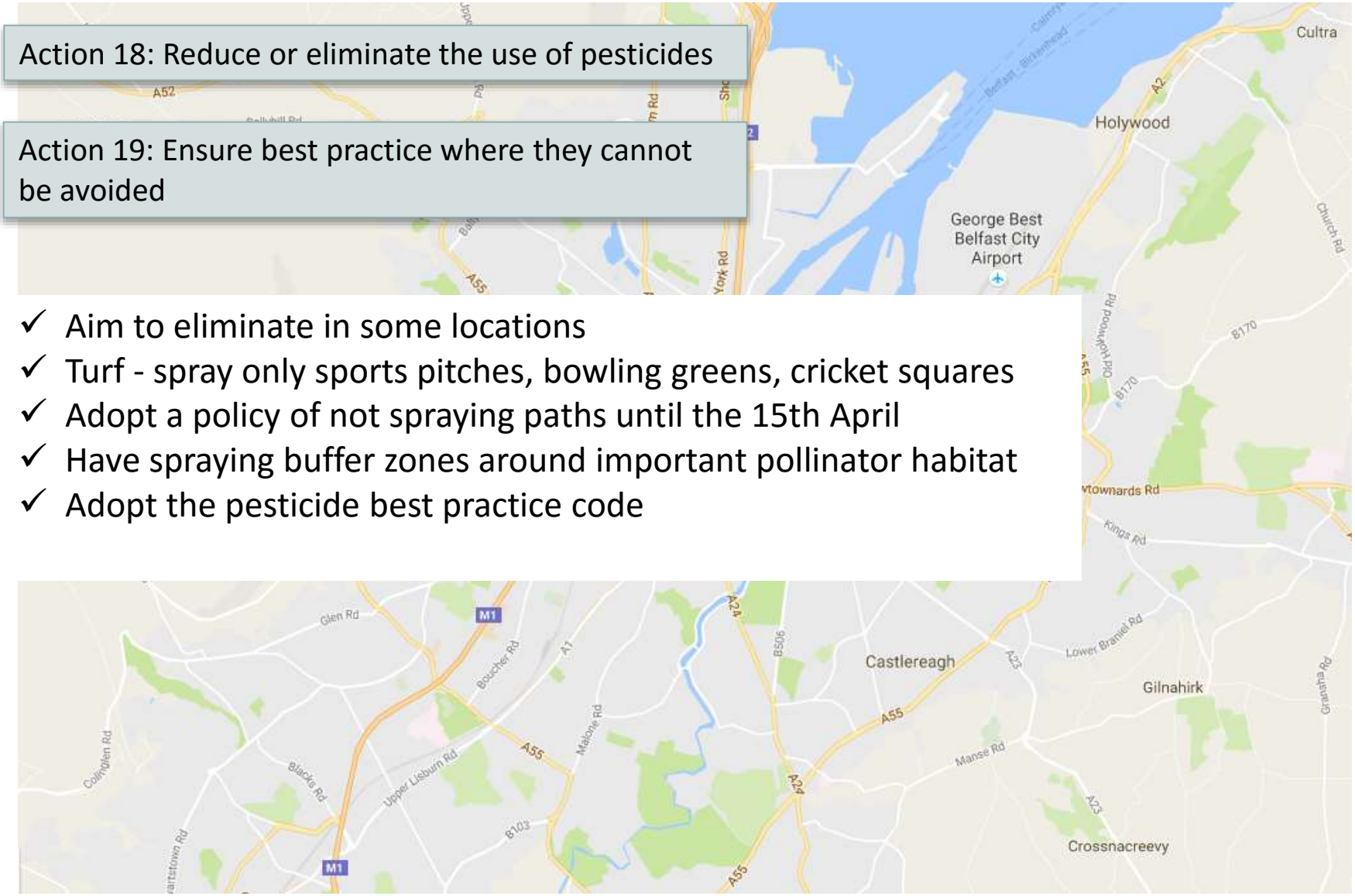
Action 17: Bee hotels for wild pollinators

E. Reduce the use of pesticides

Action 18: Reduce or eliminate the use of pesticides

Action 19: Ensure best practice where they cannot be avoided

- ✓ Aim to eliminate in some locations
- ✓ Turf - spray only sports pitches, bowling greens, cricket squares
- ✓ Adopt a policy of not spraying paths until the 15th April
- ✓ Have spraying buffer zones around important pollinator habitat
- ✓ Adopt the pesticide best practice code



F: Raise public awareness of pollinators within the local area

Action 20: Build actions on pollinators into existing frameworks and initiatives

Action 21: Fund pollinator projects on council land to demonstrate best practice to other sectors

Action 22: Put up signage to identify pollinator friendly habitats on council land

Action 23: Print & distribute pollinator friendly guidelines to other sectors

Action 24: Promote & distribute the Junior Pollinator Plan to local schools

Action 25: Facilitate or deliver training on pollinators and how to take action to protect them

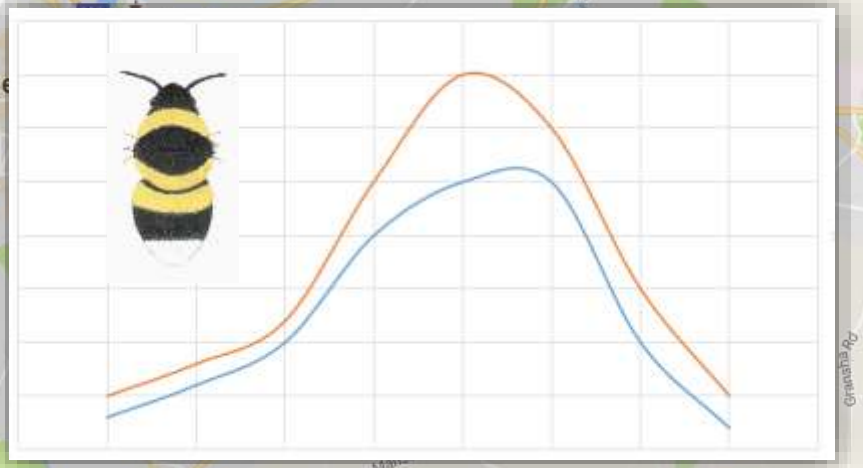
Action 26: Promote and get involved in other pollinator related initiatives

CITY OF WILD FLOWERS

G. Tracking progress and recognition for efforts

Action 27: Log your ‘Actions for Pollinators’ on the mapping system to ensure your efforts are recognised

Action 28: Take part in the Bumblebee Monitoring Scheme



How can you help?

CITY OR COUNTY COUNCIL

BUSINESS IN THE COMMUNITY IRELAND

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**

- **Raising awareness of pollinators and how to protect them**
- **Managed pollinators – supporting beekeepers**
- **Expanding our knowledge on pollinators**
- **Collecting evidence to track change and measure success**

CALL TO ACTION

National Biodiversity Data Centre
Documenting Ireland's Wildlife

www.biodiversityireland.ie/pollinator-plan



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Thank You

An Chomhairle Oidhreachta
The Heritage Council

Origin Green IRELAND
An initiative by
Bord Bia
Irish Food Board