



## YEAR 2 REVIEW

DECEMBER 2017

[www.pollinators.ie](http://www.pollinators.ie)



An Chomhairle Oidhreachta  
The Heritage Council



## Background

One third of our bee species are threatened with extinction from Ireland. We know it is because we have drastically reduced the areas where they can nest and the amount of food our landscape provides for them. We can stand back and watch the problem happen, or we can try to do something. The All-Ireland Pollinator Plan is about all of us, from farmers to local authorities, to schools, gardeners and businesses, coming together to try to create an island where pollinators can survive and thrive.

The Plan provides an important framework to bring together pollinator initiatives from across the island, and is the start of a process by which we can collectively take positive steps to protect our pollinators and the service they provide into the future. It is a shared plan of action. By working together we can build a foundation to bring about a landscape where pollinators can flourish.

The Pollinator Plan was developed by a 15 member steering group and published in September 2015. Ireland did not have to develop a national pollinator strategy, it has evolved from the ground level up. It proposes taking specific actions across five objectives. Within each objective, targets have been set and actions have been identified to help achieve that target.

1. Making Ireland pollinator-friendly (farmland, public land & private land)
2. Raising awareness of pollinators and how to protect them
3. Managed pollinators – supporting beekeepers and growers
4. Expanding our knowledge on pollinators and pollination service
5. Collecting evidence to track change and measure success

The Plan identifies 81 actions across the five objectives. At the time of publication it was supported by sixty-eight governmental and non-governmental organisations. Responsibility for delivering the 81 actions has been shared out between the supporting organisations.

Tracking progress is a critical component of the All-Ireland Pollinator Plan. It will be carried out in three ways:

- Publicly available annual reviews of the Plan to include updates on progress within each of the 81 actions, completed by those organisations who have accepted responsibility for that action. This is the second of those review documents (December 2017). [Action 75]
- 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 progress through the build-up of food, shelter and safety for pollinators in the landscape. The biodiversity actions mapping system was developed by the National Biodiversity Data Centre and was released in spring 2017. [Action 76]
- Most importantly, changes in the pollinator themselves will be monitored. For bumblebees this will be through the existing All-Ireland Bumblebee Monitoring Scheme managed by the National Biodiversity Data Centre. Methodology for monitoring other wild pollinators has been determined (in

collaboration with the British Irish Council). Roll out of this monitoring cannot take place without additional funding. Beekeeping Associations have accepted responsibility for monitoring honeybee numbers. [Action 54, 73,74]

## **ANNUAL REVIEW OF THE ALL IRELAND POLLINATOR PLAN 2015-2020: YEAR 2 (DECEMBER 2017)**

This document very briefly outlines key progress in 2017. This is followed by updates against each of the 81 actions in the Plan, completed by the organisation who accepted responsibility for that action. Since publication, 12 additional organisations have also agreed to endorse the AIPP. For the first time in this document, those organisations have been given the opportunity to provide a short update on activities they have taken to support the initiative (Appendix B). Where necessary, these will be formalised into additional actions in the mid-term review of the Plan which is scheduled for autumn 2018.

An accompanying one-page infographic has also been prepared to summarise key progress in 2017.

### **Key progress in 2017**

#### **Funding**

- ✓ The Heritage Council and Bord Bía agreed to co-fund a full time project officer position to support the implementation phase in 2017.

The All-Ireland Pollinator Plan was developed without funding, with all Steering Group members participating through their current work remits or in a voluntary capacity (funding for publication of the Plan was provided by the National Biodiversity Data Centre from within current budgets). Given the unanticipated levels of support from both the public and private sector, it became clear that to fully realise the potential of the Plan, additional resources would be required to oversee the implementation phase. The Steering Group is very grateful to the Heritage Council and Bord Bía who agreed to co-fund a project officer position, greatly increasing the chance of successful implementation.

The project officer position is based in the National Biodiversity Data Centre and commenced in April 2016. Funding has currently been agreed up until the end of 2017 and is in discussion for 2018. Currently, the role is focussed on developing full resources and support materials for all sectors, raising awareness of the Plan and supporting the partner organisations. Juanita Browne is the current project officer.

- ✓ The Department of Agriculture, Food and the Marine provided a small promotional budget for the development of key Pollinator Plan resources in 2016. This funding was provided again in 2017.

## Support & outreach

- ✓ When the Plan was published in September 2015 it was supported by 69 governmental and non-governmental organisations. Since then that number has increased and it continues to do so. Formalising and recruiting new partners is an ongoing process. The Plan is currently supported by 80 organisations (Appendix A).
- ✓ Across all sectors (farmers, councils, local communities, businesses, schools, gardens) the number of individuals and organisations engaging with the Plan and taking actions to help pollinators continues to increase. It is difficult to quantify this until the online mapping system (Actions for Pollinators) is fully adopted across the board.
- ✓ The AIPP has been featured in presentations made at various international academic fora (including lectures at the University of Wurzburg, Germany, Oxford, UK and Bern, Switzerland) and has attracted international acclaim and interest. It has recently informed development of plans in Scotland, Norway (ongoing) and the Netherlands (to be launched January 2018). It has contributed to the development of phase two of the International Pollinator Initiative, as instigated by the FAO at the request of COP13 (of CBD). It was highly commended at the launch of the Irish National Biodiversity Plan.
- ✓ A core tenet of the AIPP is to try and achieve progress through the building of partnerships. As an early example of this, the Heritage and Biodiversity Officer Network came together to sponsor a special pollinator award in the ROI Tidy Towns competition in 2016. This award continued in 2017 and the number of entries rose from 57 to 70. It shows how local communities can lead the way in addressing national issues within a structure like Tidy Towns. A newsletter to review the Tidy Towns Pollinator Award and winning towns will be published in early 2018. The Heritage and Biodiversity Officer Network have agreed to continue to support the Tidy Towns Pollinator Award category in 2018. A special pollinator award was also introduced into the Green Flag for Parks competition in 2017. This initiative is run by An Taisce who have agreed that the award will continue in 2018. The number of companies who have signed up as business supporters of the AIPP also continues to rise. This progress has been possible through the support of Bord Bia (Origin Green) and Business in the Community.
- ✓ Many Councils have engaged with the Pollinator Plan and are taking actions on the land they manage. To better capture this in 2017 we have created a Council feedback form in survey monkey. Each council has been asked to complete this so that we can attempt to capture the positive actions that are taking place. It is proposed that this information be collated into a publicly available Council newsletter in early 2018, to outline positive examples of activities across the island.
- ✓ Since its publication the Pollinator Plan has been promoted via 153 published articles, interviews, and other events. In 2017, this included:

- 14 published newspaper articles
- 5 radio interviews
- 2 TV interviews
- 13 additional articles (blogs, newsletters, magazines)
- 48 presentations at events/conferences
- 6 online videos
- 1 online animation

## **Development of resources to support implementation**

To support implementation of the Plan, two accompanying series of documents are being published: Guidelines for different sectors and How-to-Guides for key pollinator-friendly actions. In 2016, we published a junior version of the All-Ireland Pollinator Plan, three guideline documents and three how-to guides.

In 2017 we have published an additional two guideline documents for key sectors as well as a fourth how-to-guide.

The Guidelines series clearly outline practical evidence-based actions that can be taken to support pollinators, by providing food, shelter and safety in the landscape. Each provides a wide range of pragmatic low-cost actions to choose from. The How-to-guide series provides simple and detailed instructions on how to complete some of the more complex actions. We have consciously made a decision that rather than quickly release generic style resources, we will: (a) focus on developing the best possible evidence-based guidelines for each sector, (b) tailor these carefully for Ireland, (c) engage fully with each sector in their development to ensure they are pragmatic but as ambitious as they can possibly be and (d) communicate in the right language each time.

To date, the following have been prepared and are available to freely download from the website [www.pollinators.ie](http://www.pollinators.ie) :

#### Guidelines documents:

- *Local Communities: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 1. National Biodiversity Data Centre Series No.4, Waterford. April, 2016.
- *Gardens: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 2. National Biodiversity Data Centre Series No.9, Waterford. May, 2016.
- *Businesses: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 3. National Biodiversity Data Centre Series No.10, Waterford. November, 2016.
- *Councils: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 4. National Biodiversity Data Centre Series No.12, Waterford. February, 2017.
- *Farmland: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 5. National Biodiversity Data Centre Series No.14, Waterford. September, 2017.

#### How-to-guides:

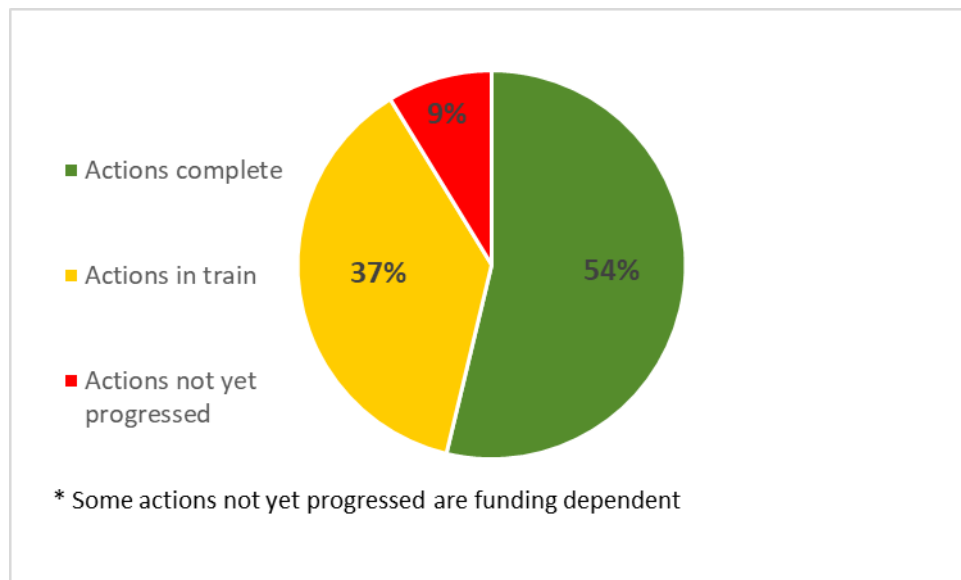
- *Creating wild pollinator nesting habitat.* All-Ireland Pollinator Plan, How-to-guide 1. National Biodiversity Data Centre Series No. 5. Waterford. May, 2016.
- *Collecting and using pollinator-friendly wildflower seed.* All-Ireland Pollinator Plan, How-to-guide 2. National Biodiversity Data Centre Series No.6, Waterford. May, 2016.
- *Hedgerows for Pollinators.* All-Ireland Pollinator Plan, How-to-guide 3. National Biodiversity Data Centre Series No.7, Waterford. May, 2016.
- *Creation and management of a wildflower meadow.* All-Ireland Pollinator Plan, How-to-Guide 4. National Biodiversity Data Centre Series No.13, Waterford. April 2017.

Additional guidelines are scheduled for 2018-2019. While this is an evolving list, it currently includes: transport authorities (road, rail, towpaths, trails, and greenways), horticulture sector, religious properties, solar farms, wind farms. Additional resources will also be prepared within the business sector for key business types (to include: golf courses, country hotels, quarries, garden centres). Additional how-to-guides on supporting other pollinating insects (hoverflies, butterflies, moths) and developing a pollinator plan for secondary schools are also scheduled to be produced over the coming years.

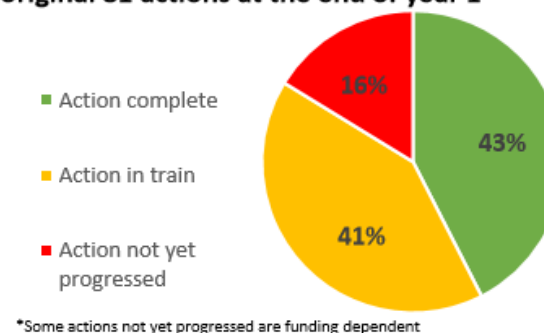
## Actions completed

- ✓ Of the 81 actions in the Plan, 43 have been completed this year as agreed (54%), 30 are in train (37%) and 7 have not yet been progressed (9%). Action 81 (Renew the Plan in 2020) has not been included in this summary.

### Status and progress of the Pollinator Plan's original 81 actions at the end of year 2



### Status and progress of the Pollinator Plan's original 81 actions at the end of year 1



## Acknowledgements

The All-Ireland Pollinator Plan is a shared plan of action. It is about all of us coming together to try to create an island where pollinators can survive and thrive. On behalf of the Steering Group we extend our thanks to all the partners involved in the Plan. Progress to date is entirely due to their support, goodwill and enthusiasm. We also extend our enormous thanks to all those members of the public – whether in their garden, farm, park, school or business property – who have expressed their support and engaged with the Plan in its first two years.

## ALL-IRELAND POLLINATOR PLAN 2015-2020: 81 ACTIONS TO HELP POLLINATORS

### REVIEW OF PROGRESS YEAR 2

Updates under each of the 81 actions have been provided by the organisations responsible. Partners were contacted twice by email with a request to provide a short update on progress. This was not policed. The traffic light system to quickly show progress under each action has been added by the Steering Group. While a small number of actions are discrete (once off), the majority are annually rolling actions.

	Agreed action has taken place in 2017
	Action has been started and is in train
	Action not yet progressed

#### 1.1 MAKING IRELAND POLLINATOR-FRIENDLY: FARMLAND

**Target 1.1.1: Increase the area of farmland that is farmed in a pollinator-friendly way**

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2017	
A1. Incorporate pollinator-friendly actions and prescriptions into agri-environment schemes	<ul style="list-style-type: none"> <li>❖ Incorporation of pollinator conservation actions into agri-environment schemes</li> <li>❖ Uptake by farmers</li> </ul>	DAFM	<p>Bee measures were developed for GLAS independently and in advance of the publication of the All-Ireland Pollinator Plan. These will be reviewed /updated (along with any potential new actions) for consideration in future agri-environment measures.</p> <p>The Conservation of bees (sand) action was selected by 14,483 farmers and the conservation of bees (boxes) action was selected by 4,606 farmers under tranches 1, 2 and 3 of GLAS. In total over 50,000 participants</p>	



			now in GLAS. The specification for the Arable margin action under Tranche 3 of GLAS has been adjusted to allow incorporation of wildflowers in addition to grass species in the sown mixture.	
		DAERA	<p>The Environment Farming Scheme (EFS) opened for applications in February 2017.</p> <p>1,187 Wider Level agreements commenced in July 2017 and will run for 5½ years. 19 Wider Level agreements contain the 'Creation of Pollinator Margins – Annual Wildflower' option and 5 Wider Level agreements contain the 'Creation of Pollinator Margins – Pollen and Nectar' option. Both options aim to support pollinators.</p> <p>The first intake of Higher Level agreements will start in January 2018 and will run for 5 years. It is envisaged that Tranche 2 of the EFS will open in 2018.</p>	
A2. Encourage pollinator-friendly management of ecological focus areas which are necessary to satisfy the basic payment scheme requirements under the Common Agricultural Policy (CAP)	<ul style="list-style-type: none"> <li>❖ Information provided to tillage farmers on incorporating pollinator-friendly crops and how to enhance these habitats for pollinators *</li> <li>❖ Uptake by farmers</li> </ul>	DAFM, Teagasc, National Biodiversity Data Centre	An EU level workshop on improving guidance on EFAs for pollinators was led by Lynn Dicks, Lorna Cole (UK) and Jane Stout (Ire) at EU SUPER-B in 2016. EFA management options to improve pollinator habitat have been proposed, assessed and are undergoing a second round of assessment by representatives from Member States. Process should be completed early 2018 and a report on management options will be published. Once published this will form the	

			basis of guidance that is provided to tillage farmers in Ireland.	
A3. Encourage more organic farming (which has been shown to support more pollinators)	❖ Participation in the Organic Farming Scheme	DAFM	There are currently 1,645 participants in the Organic Farming Scheme under the RDP 2014-2020.	
	❖ Promotion of organic farming and pollinator-friendly actions	Irish Organic Farmers and Growers Association, Organic Trust and others	<p><b>IOFGA:</b> To date, IOFGA have been actively involved in promotion of the All-Ireland Pollinator Plan, mainly by hosting the plan on the IOFGA website, <a href="http://www.iofga.org">www.iofga.org</a> and by providing regular updates about the progress of the project in our members' magazine <i>Organic Matters</i>. IOFGA assisted with the development of the recent farming guidelines for pollinators and is helping to bring a wider understanding of what farmers can do to our members through active promotion of the guidelines. IOFGA will continue to work to promote the Plan via its magazine, website and social media platforms as it is vital to the success of our national food security.</p> <p><b>Organic Trust</b> – In line with the Action 3 objectives, Organic Trust works to keep our members informed about the critical importance of pollinators and the ways in which they can integrate areas beneficial to our native pollinators into existing farming systems. Given that one of the aims of the plan is to “work with farmers across every sector and farmland type with the aim of returning food and safe areas to</p>	

			<p>bees across the Irish landscape”, Organic Trust continues to advocate for same through various online outlets (social media, the Organic Trust website, <a href="http://www.organictrust.ie">www.organictrust.ie</a> and our monthly e-newsletter) and through our annual publication, <i>Clover Magazine</i>. Going forward, we intend to continue our support of the AIPP through the numerous platforms available to us and to strongly encourage our members to actively engage with the proposals contained therein. In Nov 2017, we included a copy of the farming guidelines in a postal mail-out to 685 farmers on our mailing list.</p>	
<p>A4. Encourage farmers to take voluntary actions to make their farms pollinator-friendly</p>	<ul style="list-style-type: none"> <li>❖ Provision of clear guidelines for actions that can be taken on all farms, along with additional actions specific to farm type *</li> <li>❖ Promotion through farming associations</li> </ul>	<p>National Biodiversity Data Centre, Teagasc</p>	<p>Farmland: actions to help pollinators. This evidence-based guideline document was published in collaboration with Bord Bia in September 2017.</p> <p>These guidelines were developed over an 18-month period that included significant consultation with farmers, farming organisations and other relevant stakeholders. The guidelines have been endorsed by the following organisations who are also helping with promotion: Department of Agriculture, Food and the Marine, Department of Agriculture, Environment and Rural Affairs (NI), Bord Bia, Teagasc, Irish Creamery Milk Suppliers Association, College of Agriculture Food and Rural Enterprise (NI), Ulster Farmers Union, Macra, Irish Organic Farmers and Growers</p>	

			<p>Association, Heritage Council, Northern Ireland Environment Agency, Agri-food and Biosciences Institute (NI) and all beekeeping associations across the island.</p> <p>The guidelines were launched in ROI at the National Ploughing Championships by Minister of State Andrew Doyle TD. A launch in NI is scheduled for 2018.</p>	
	❖ Development of an online system so that farmers can log actions taken and pollinator-friendly farms can be mapped [Action 76] *	National Biodiversity Data Centre	<p>This publicly available online mapping system (Actions for Pollinators) was developed by the Data Centre and released in spring 2017. It is gradually being opened up to different sectors. Investigations are currently ongoing on how best to roll out to farmland. This is scheduled for 2018.</p>	

**Target 1.1.2: Create a network of meadows and other flower-rich habitats to serve as pollinator havens**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A5. Promote existing species-rich habitats as a haven for pollinators	<ul style="list-style-type: none"> <li>❖ Promotion of the NI scheme: Save our Magnificent Meadows</li> <li>❖ Increase in the number of participating sites</li> <li>❖ Development of a network of regional demonstration sites</li> <li>❖ Provision of a 'how-to' guide on how to create and manage a species-rich meadow</li> </ul>	Ulster Wildlife, NIEA, DARD, Butterfly Conservation, Fermanagh and Omagh District Council, European Forum for Nature Conservation and Pastoralism.	<p>The Save our Magnificent Meadows project ran from July 2014 to November 2017 and significantly enhanced habitats for pollinators in this region. Around 320 farmers and landowners have engaged with the project while awareness across the community has been transformed.</p> <p>A total of 371 hectares of species rich grassland has been maintained, 33 hectares restored and 5 hectares expanded.</p> <p>A delayed cut (and lift where possible) on 14 road verges brought the project to a wider community with its signage.</p> <p>Six school mini-meadows were established by the project and a blog <a href="http://www.hayheads.com">www.hayheads.com</a> has been created as a platform for the community to share experiences. The project has completed a training programme run for over 207 people to protect, conserve and restore wildflower meadows.</p> <p>A 'how-to' guide on how to create and manage a species rich meadow has been completed, as well as an evidence review on the medicinal and nutritional benefits of species rich grassland</p>	

			over improved agricultural fields.  See site for more information and other projects across the UK: <a href="http://www.magnificentmeadows.org.uk/">http://www.magnificentmeadows.org.uk/</a>	
	❖ Investigation of funding sources with a view to expanding Save our Magnificent Meadows to new areas	UW, NIEA, other partners as appropriate	Partners are currently working up proposals for Phase 2, which depending on funding would commence in 2019.	
	❖ Development of an online map showing the location of all species-rich habitats within existing and future schemes [Action 76] *	National Biodiversity Data Centre	This publicly available online mapping system (Actions for Pollinators) was developed by the Data Centre and released in spring 2017. It is gradually being opened up to different sectors. Investigations are currently ongoing on how best to roll out to farmland (including Magnificent Meadow sites). This is scheduled for 2018.	

### Target 1.1.3: Encourage the sustainable use of agricultural pesticides

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A6. Encourage the responsible and sustainable usage of pesticides (insecticides, herbicides & fungicides) in Ireland	❖ In conjunction with the National Action Plan for the Sustainable Use of Pesticides, develop best-practice guidelines for farmers to reduce their use outside of cropping systems to minimise risk to pollinators.	DAFM	DAFM have produced guidance notes on Integrated Pest Management. This guidance provides farmers with a tool to help them make the most appropriate and environmentally sound crop protection decision. In addition DAFM have finalised a decision support document to support responsible pesticide use in public, amenity and garden areas. This	

			<p>document helps the user decide on whether intervention is necessary or not and if intervention is deemed necessary, it presents the options to solve the pest problem. The Office of Public Works has produced guidance document on using Plant Protection Products which is endorsed by DAFM. This guidance document will ensure responsible use of PPPs by government actors.</p> <p>DAERA &amp; AFBI: Integrated pest management guidelines are available online:</p> <p><a href="https://www.daera-ni.gov.uk/articles/integrated-pest-management">https://www.daera-ni.gov.uk/articles/integrated-pest-management</a></p>	
	❖ Support existing work to raise awareness on the responsible use of pesticides within agriculture by enhancing online resources to provide clear and simple guidelines	DAFM, AFBI, National Biodiversity Data Centre	<p>This work has not yet been undertaken, it refers to guidelines that would sit within the All-Ireland Pollinator Plan website. It will be actively pursued in 2018 in line with the release of a new AIPP website which is currently under development.</p> <p>Reason it has not progressed: human resource limitations</p>	
	❖ Within NI, support the UK wide Voluntary Initiative (VI) on Promoting Responsible Pesticide Use	UFU	<p>The UFU continue to be involved in the VI and in promoting responsible pesticide use.</p> <p>A new initiative 'Beeconnected' has been launched across the UK and in NI this is being led by the UFU and the Ulster Beekeepers</p>	

			<p>Association <a href="https://www.beeconnected.org.uk/">https://www.beeconnected.org.uk/</a></p> <p>This promotes communication between farmers and beekeepers and involves farmers informing beekeepers of an intention to apply an insecticide via a simple web-based system. It was promoted at the Ulster Arable Society/UFU Arable conference in January 2017, the Ulster Beekeepers Conference in March 2017 and at Balmoral Show in May 2017. Discussions are currently ongoing with regard to a possible roll-out in ROI.</p>	
A7. Maintain data on pesticide use across Ireland	❖ Maintain data on the pesticides that are used in Ireland, where they are used, and what for	AFBI, DAFM	<p><b>AFBI:</b> AFBI surveys agricultural pesticide usage on a regular basis, with reports freely available on the AFBI website (<a href="http://www.afbini.gov.uk/publications/">www.afbini.gov.uk/publications/</a>). AFBI also provides technical support to DAFM to provide data on pesticide usage in ROI (<a href="http://www.pcs.agriculture.gov.ie/foodsafety/themonitoringandcontrolsprogramme/">www.pcs.agriculture.gov.ie/foodsafety/themonitoringandcontrolsprogramme/</a>)</p> <p><b>DAFM:</b> DAFM continues to conduct, with technical support from AFBI, pesticide usage surveys. Copies of the most recent reports can be found using this link. <a href="http://www.pcs.agriculture.gov.ie/sud/pesticideusagesurveys/">http://www.pcs.agriculture.gov.ie/sud/pesticideusagesurveys/</a></p>	



**Target 1.1.4: Provide clearer information on pollinators to the farming community**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
<p>A8. Establish a farming subgroup to discuss the best ways to ensure the Irish agricultural landscape retains sustainable pollinator populations into the future *</p>	<ul style="list-style-type: none"> <li>❖ Establish the subgroup with invitations extended to representatives from the IFA, UFA, Macra na Feirme, The soft fruit growers association, the horse farming sector &amp; Women in Agriculture, and well as representatives of intensive and non-intensive farmers across sectors</li> <li>❖ Group to discuss: <ul style="list-style-type: none"> <li>- Mechanisms for implementation of the Plan &amp; identification of any issues that minimise the chance of success</li> <li>- Pollinator actions for incorporation into future agri-environment schemes</li> <li>- How best to communicate the message to the farming community</li> </ul> </li> </ul>	<p>Steering group</p>	<p>More than 60 stakeholder organisations were consulted and given the opportunity to feed into the farming guidelines in 2017.</p> <p>As part of the consultation process we also convened a farmers' forum which met in May 2017. This group of ~25 farmers were drawn from across farming types and included both intensive and less intensive farmers. They provided direct input on the issues identified under the progress measures.</p>	

A9. Provide clear information on actions that can be taken on farms to make them more pollinator-friendly	<ul style="list-style-type: none"> <li>❖ Creation of online resources providing clear guidelines on actions that can be taken on all farms, along with additional actions specific to farm type *</li> <li>❖ Dissemination of these resources in an appropriate way to the farming community *</li> <li>❖ Ballyhoura Development Ltd. to pilot a peer-to-peer approach for communicating pollinator information to farmers</li> </ul>	National Biodiversity Data Centre , Teagasc, Ballyhoura Development Ltd., other partners	These guidelines were published in September 2017. A dissemination/communications plan has been developed and initiated. It will continue into 2018 and beyond.
	<ul style="list-style-type: none"> <li>❖ Investigate potential mechanisms for providing training on pollinators and pollinator-friendly management to farm advisors</li> </ul>	Steering Group	<p>Training will be provided to Bord Bia Origin Green auditors in spring 2018. We have also been liaising with Teagasc and the ACA on incorporating pollinator actions into future knowledge transfer programmes.</p> <p>Currently there are Bees Information Boards being used at 500 GLAS Courses in 62 locations in Ireland (developed by Teagasc). Six of the 80 boards also printed in a book 'Teagasc GLAS Actions Information Manual' given to all GLAS farmers at Teagasc courses.</p> <p>In collaboration with Waterford County Council, the National Biodiversity Data Centre developed and released a 5-minute video on actions farmers can take to support pollinators. It was funded under the Creative</p>

			Ireland programme. Access the video here: <a href="http://www.biodiversityireland.ie/farmland-guidelines">http://www.biodiversityireland.ie/farmland-guidelines</a>	
	<ul style="list-style-type: none"> <li>❖ Development of cost-benefit analyses providing farmers with information on the cost implications of management actions</li> </ul> <p><b>Note:</b> this is a research action that will be dependent on funding</p>	Academic partners	DAFM funding has been awarded for a project to look at cost-benefits analysis of biodiversity enhancement on farmland (led by Teagasc, including partners at TCD, GMIT, NUIG, DCU). The project will run from 1.11.2016 - 31.11.2020. The cost-benefit analyses are not scheduled to begin until mid-2018.	
A10. Adoption of pollinator-friendly management within agricultural and horticultural college sites as a teaching & awareness-raising tool	<ul style="list-style-type: none"> <li>❖ Uptake by participating colleges</li> <li>❖ Promotion as reference sites</li> </ul>	CAFRE	<p>Different agri-environment options have been introduced throughout the CAFRE estates with the aim of benefiting pollination. This also contributes towards our LEAF Marque accreditation and will hopefully be used for future agri-environment scheme training.</p> <p>Restored Traditional Orchard Area at Loughry Campus - this involved pruning of existing fruit trees and planting an additional 60 traditional variety fruit trees throughout the orchard area.</p> <p>Planted 40 traditional variety fruit trees at Enniskillen Campus. This area will be extended and I am currently sourcing trees from Irish Seed Savers.</p> <p>In addition to this, Pollen and Nectar Mixtures have been introduced at both Loughry and Enniskillen. Both areas are within close proximity to the orchard areas where local</p>	

			<p>bee keepers have hives in place.</p> <p>Wild Flower Mixes have recently been introduced at Enniskillen Campus.</p> <p>The Glenwherry Hill Regeneration Partnership (GHRP) Board recently agreed to introduce honey bees to Greenmount Hill Farm in close proximity to the Heather moorland.</p> <p>Two hives were introduced to Glenwherry in 2016.</p>	
		Teagasc	<p>A Biodiversity Plan is being undertaken at Teagasc   Kildalton Open Source Sustainable Demonstration Farm which includes Pollinators. The roll-out of 40 Biodiversity Plans on Teagasc and private agricultural colleges, Teagasc Research farms and private BETTER demonstration farms will take place in 2018.</p> <p>A Walsh Fellowship PhD project is taking place on the establishment and management of Ecological Focus Areas to enhance ecosystem services and integrated pest management.</p>	
A11. Provide farmers with information on which pollinators are most important for each Irish crop species, including new crops which may increase in cultivation in the future	❖ Establishment of a publically available All-Ireland Database on plant-pollinator interactions with an emphasis on crop species. This database will indicate all known pollinators and flower visitors of crops and wild plants, with the most	Plant animal interactions research group (TCD) & National Biodiversity Data Centre	This All-Ireland Database has been established and is being populated as data becomes available. It is held within the National Biodiversity Data Centre. Development of this into a system that can be used by farmers is a long term action.	

	<p>effective pollinators highlighted where this information is available</p> <ul style="list-style-type: none"> <li>❖ Populate as research data becomes available [Action 65]</li> </ul>			
<p>A12. Provide farmers with a system that will indicate potential crops based on geographic area, known pollinator distribution, and floral resource availability. This system will also flag areas where lack of pollinators is likely to be a limiting factor.</p>	<ul style="list-style-type: none"> <li>❖ Completion of research on the most appropriate methodologies [Actions 65,66,67]</li> <li>❖ Development of a framework for an integrated GIS based system that will combine data sources in this model</li> <li>❖ Populate as data becomes available</li> <li>❖ Identification of future data needs</li> </ul> <p><b>Note:</b> this is a long term aim that is closely linked with the research actions</p>	<p>National Biodiversity Data Centre &amp; Plant animal interactions research group (TCD)</p>	<p>A model predicting the value of different land use types based on floral quantity and quality has been developed by Eileen Power and Jane Stout (TCD) and Jon Yearsley (UCD), and tested against available data on pollinator abundance – the model has been validated and tested for sensitivity and refined. It is pending publication in the scientific literature. This is the first building block necessary for Action 12 which is a long term aim.</p>	

## 1.2 MAKING IRELAND POLLINATOR-FRIENDLY: PUBLIC LAND

**Target 1.2.1: Increase the area of public land that is managed in a pollinator-friendly way**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
<p>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)</p>	<p>❖ Uptake where appropriate on a site by site basis</p>	<p>NPWS, NIEA, Local Authorities</p>	<p><b>NPWS:</b> This action has not yet been progressed</p> <p><b>NIEA:</b> Where possible, NIEA manage Country Parks in a pollinator-friendly way. As a broad overview:</p> <p>Crawfordsburn - both meadows at Skelly's Hill and 21 Acres are licenced out to a private farm business to take a crop. The licence prescriptions set that a late season crop is taken to ensure maximum benefit for wildflowers setting seed and pollinators.</p> <p>Redburn – as above. Ness – as above. Castle Archdale – as above; meadows to the rear of the courtyard. Peatlands – as above but the licence was terminated due to a compliance issue.</p> <p>For other sites which are licenced for grazing the prescriptions and livestock units have again been set to promote species diversity in the sward.</p>	

			<p>Roe Valley – in the area to the front of the visitor centre where we decommissioned an old septic tank system, a wildflower meadow has been created in 2016.</p> <p>Creation of a pollinator corridor at Breen Oak Wood.</p>	
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)	<p>Guidelines for actions Local Authorities/Councils can take to protect pollinators were published in February 2016. They were launched at the first regional AIPP conference (Ulster) which was attended by 100 council staff.</p> <p>Following this event, a hard copy of the guidelines was sent to all Council CEOs across the island. We have also been working closely with Heritage and Biodiversity Officers and many Councils have begun the process of integrating the AIPP into existing policies. This year a separate review process will take place to identify and recognise actions that are being taken by each Council across the island to support pollinators.</p>	
	❖ Incorporate pollinator prescriptions into the An Taisce Green Parks Initiative	An Taisce	<p>Pollinators are now included within the Green Flag for Parks Initiative. A special pollinator award for parks was established in 2017. The award (in the form of pollinator-friendly plants) was sponsored by Young Nurseries who are specialist perennial growers based in Co. Limerick. Winners were awarded within 3</p>	

			<p>categories: Walled garden (Victorian Garden, Phoenix Park, OPW); Public park (Lloyds Park, Offaly County Council); Country park or Demesne (Castletown Demesne, OPW)</p> <p>The overall 2017 winner was the Victorian Garden in the Phoenix Park.</p> <p>An Taisce gave a talk on the new award at the first regional AIPP meeting in February 2017.</p>	
A15. Encourage pollinator-friendly management of educational properties and raise awareness of the importance of pollinators	<ul style="list-style-type: none"> <li>❖ Pollinators incorporated into the Green-Schools and Eco-Schools Initiatives</li> <li>❖ Increase numbers of school students, teachers, principals and caretakers exposed to pollinator information</li> </ul>	<p>An Taisce – Green-Schools ROI</p> <p>Keep Northern Ireland Beautiful – Eco-Schools NI</p>	<p>A junior version of the All-Ireland Pollinator Plan was published in February 2016. It is available in English and Irish.</p> <p><b>Green-Schools:</b> The Junior versions of the AIPP in Irish and in English are available to download from <a href="http://www.greenschoolsireland.org">www.greenschoolsireland.org</a></p> <p>All schools working on the Biodiversity theme, on the Green-Schools programme have also been emailed these documents directly. Green-Schools Ireland's Summer Teacher Training Week, in July 2017, had a half-day dedicated to Pollinator Activities, linking to the AIPP.</p> <p>The AIPP for Schools was promoted at our annual Teachers' Seminars nationwide, in Autumn 2017.</p>	
	<ul style="list-style-type: none"> <li>❖ Pollinators incorporated into the Green-Campus initiative Guidance Documents</li> <li>❖ Existing and newly registered</li> </ul>	<p>An Taisce – Green-campus</p>	<p>The Green Campus website features a copy of the Pollinator Plan in the 'Resources' section. Links to the Pollinator Plan can be found within the Guidance Documents for existing</p>	



	<p>campus committees on the Green-Campus programme to be informed of the Plan</p>	<p>and newly registered sites here:  <a href="http://www.greencampusireland.org/resources">http://www.greencampusireland.org/resources</a></p> <p>The Pollinator Plan is promoted frequently on the Green Campus social media pages.  Twitter: @GreenCampusIE  Facebook: <a href="http://www.facebook.com/greencampusireland">http://www.facebook.com/greencampusireland</a></p> <p>The Pollinator Plan is referred to frequently in feedback documents to the 27 participating campuses upon submission of Green-Campus annual reports, progress reports, etc. on the Green-Campus theme of biodiversity.</p> <p>A representative from the National Biodiversity Data Centre spoke on the Pollinator Plan at our annual Green Campus Network Meeting 2016 to which all of our 21 campus participants were invited from across the university, IT and FE sectors. A recording is available here:</p> <p>The All Ireland Pollinator Plan 2015-2020 and how campuses can introduce measures based on the Plan. – Dr Úna FitzPatrick NBDC:  <a href="https://media.heanet.ie/page/7b94ef7c8f86c441ee4bef628d04d1d4">https://media.heanet.ie/page/7b94ef7c8f86c441ee4bef628d04d1d4</a></p>	
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<p>A16. Adoption of pollinator-friendly management within the National Trust network of sites and properties in N. Ireland</p>	<ul style="list-style-type: none"> <li>❖ Undertake monitoring through the Bumblebee Monitoring Scheme at key NT properties</li> <li>❖ Incorporate pollinators into property/ land use management plans (where appropriate and when reviewed)</li> </ul>	<p>National Trust</p>	<p>NT staff underwent training on the Pollinator Plan including the Bumblebee Monitoring Scheme in May 2016.</p> <p>In our Fermanagh properties, we have 25ha of wildflower meadows and verges managed for pollinators with a further 5ha which came on stream this year with changes in grass cutting regime. We have also created a 1.35ha wildflower area in Cushendun and 2ha at Castle Ward - so approx. 34ha in total.</p> <p>Bumblebee monitoring is carried out at the Giant's Causeway and White Park Bay – 1 each per month. Two Bumblebee recording transects are carried out at Castle Ward monthly. In addition to the butterfly transect at Crom, a bumblebee transect is also being established there.</p> <p>Casual recordings of pollinators are carried out at Mt Stewart.</p> <p>Our Land Outdoor &amp; Nature Strategy is underway in the National Trust and we will be focussing much more on managing our land for nature and better recording/monitoring of selected habitats and species going forward.</p>	
<p>A17. Adoption of pollinator-friendly management within the Bord na Mona network</p>	<ul style="list-style-type: none"> <li>❖ Identification of potential pollinator-friendly habitats on cutaway bogs</li> </ul>	<p>Bord na Mona</p>	<p>BnM baseline ecological survey continues to identify pollinator-friendly habitats on cutaway bogs.</p>	

<p>of sites</p> <p>*Note this is semi-state land</p>	<ul style="list-style-type: none"> <li>❖ Identification of corridors to link pollinator-friendly areas</li> <li>❖ Incorporate pollinator actions within the next BnM Biodiversity Action Plan</li> </ul>		<p>Pollinator-friendly actions (such as maintaining and enhancing species-rich pioneer grassland habitats) will be adapted into BnM cutaway bog rehabilitation plans.</p> <p>Pollinator-friendly actions have been incorporated into BnM Biodiversity Action Plan 2016-2021.</p> <p>Awareness of All-Ireland Pollinator Plan promoted at various BnM Ecology events.</p> <p>Pollinator-friendly management (e.g. natural grassy meadows) is being encouraged at BnM offices. Several other small pollinator-specific projects are planned for 2018.</p> <p>The Pollinator Plan team plan to liaise with BnM in 2018 on the development of guidelines for pollinator-friendly management of solar and wind farms.</p>	
<p>A18. Adoption of pollinator-friendly management within BirdWatch Ireland reserves where appropriate</p>	<ul style="list-style-type: none"> <li>❖ Undertake monitoring through the Bumblebee Monitoring Scheme at key reserves</li> <li>❖ Maintain habitats for nesting bees</li> <li>❖ Incorporate pollinators into reserve management plans (where appropriate and when reviewed)</li> <li>❖ Support pollinator policy and advocacy work where appropriate through developing and</li> </ul>	<p>BirdWatch Ireland</p>	<p>Pollinators are being included in new management plans.</p> <p>Monitoring, through the Bumblebee Monitoring Scheme, is being carried out at our East Coast Nature Reserve, Co Wicklow, and at our Annagh &amp; Termoncarragh Meadows reserves, Co Mayo – although due to time constraints / weather conditions, very few</p>	

	strengthening integrated biodiversity policies and actions		<p>monthly transects were completed in Co Mayo. The NBDC Annual Recorders' Event on 29-30 July focused on the Great Yellow Bumblebee, along with other pollinators in and around the Mullet Peninsula, including our Annagh Marsh Reserve, where populations were found.</p> <p>Habitats for pollinators are maintained on our meadow lands, through autumn mowing regimes, reducing soil fertility to increase flowering plant diversity, maintaining open structure grass swards, maintaining earthen wall boundaries and retaining areas of 'tussock' grass overwinter.</p> <p>In addition, pollinators continue to feature heavily in the policy and advocacy work we do in relation to the Heritage Bill.</p>	
A19. Adoption of pollinator-friendly management within RSPB reserves where appropriate	<ul style="list-style-type: none"> <li>❖ Undertake monitoring through the Bumblebee Monitoring Scheme at key reserves</li> <li>❖ Maintain habitats for nesting bees</li> <li>❖ Incorporate pollinators into reserve management plans (where appropriate and when reviewed)</li> </ul>	RSPB	<p>Some bumblebee monitoring has been undertaken on a transect at the Portmore and Belfast WoW reserves. Annual records are sent to the Bumblebee Monitoring Scheme.</p> <p>Volunteers and visitors to our reserves will be directed to bumblebee identification leaflets and encouraged to record bumblebees that they find in their own gardens/areas. We have incorporated pollinator educational activities at our Kids Corner at Belfast WoW.</p> <p>RSPB volunteers will continue to be trained to</p>	

			<p>complete annual monitoring at Belfast WoW and Portmore.</p> <p>Maintaining habitats for nesting bees and incorporating pollinators into reserve management plans will continue and be expanded where possible. At both sites, some areas of thick grassy vegetation that may be suitable nesting habitat are left uncut, there are also trees with cavities for species which prefer to nest in trees, as well as a number of artificial bee 'nestboxes'.</p> <p>Pollinator monitoring has been incorporated into the reserve management plan for butterflies, moths and bumblebees. Consideration given to reserve management when doing any new planting/sowing wildflowers in the visitor areas to benefit pollinators.</p>	
A20. Encourage pollinator-friendly management of national monuments and historic properties	❖ Number of participating sites	<p>An Taisce, Department for Communities (NI)*</p> <p>*Historic Environment Division now sits within the Department for Communities in NI, not DAERA</p>	<p>The Pollinator Plan team has not yet engaged with An Taisce on this action. Reason it has not progressed: human resource limitations</p> <p>The Department for Communities have been recently contacted and this will be followed up in 2018</p>	

<p>A21. Adoption of pollinator-friendly management within the National Botanic Gardens network of sites</p>	<ul style="list-style-type: none"> <li>❖ Number of participating sites</li> </ul>	<p>OPW; National Botanic Gardens</p>	<p>At many Office of Public Works-managed sites, apiaries have been established (National Botanic Gardens Kilmacurragh and Glasnevin, St.Enda's Park, Phoenix Park and Áras an Uachtaráin).</p> <p>A 'Bee Border' with interpretative signage, about Bees and other pollinators in gardens, has become a feature of the National Botanic Gardens Glasnevin since 2013.</p> <p>Extensive areas of herb-rich grassland are now encouraged at the National Botanic Gardens, Kilmacurragh.</p>	
<p>A22. Investigate whether local communities can be encouraged and supported to take pollinator-friendly management actions by Local Development Companies</p>	<ul style="list-style-type: none"> <li>❖ Development of a blueprint for community involvement in implementing the Pollinator Plan [Action 47]</li> <li>❖ SECAD to act as test case for roll out through a Local Development Company</li> <li>❖ Engagement with the ILDN (Irish Local Development Network) to investigate whether this could be rolled out nationally</li> </ul>	<p>Steering group; SECAD.</p>	<p>'Local Communities – actions for pollinators' was published in April 2016. SECAD are currently acting as a test case for roll out through an LDC.</p> <p><b>SECAD:</b></p> <p>Two routes have been established for both bee and butterfly monitoring. In addition, workshops on the importance of monitoring were delivered in collaboration with the Data Centre.</p> <p>Pollinator-friendly actions have been adopted at SECAD headquarters: planting crab apple trees, planting wildflower areas, pollinator-friendly mowing of grassy areas, pollinator information provided in the reception area.</p>	

			<p>A meadow has also been created in front of the building adjoining a public pathway.</p> <p>Commitment and support has been achieved from a local business to develop a large pollinator-friendly meadow (through which the public has access).</p> <p>A pollinator-friendly garden has been designed for a pre-school and is currently under consideration for implementation.</p> <p>Visits to primary schools to deliver classes on pollinating insects have taken place.</p> <p>We have been working together with farmers on developing a project based around creating linkages between AIPP, farming and community.</p> <p>We are developing the Wild Work <a href="http://www.wildwork.ie/">http://www.wildwork.ie/</a> Pollinator Project in support of AIPP, which at the moment we are working on getting companies geared up for being actively involved with in 2018.</p>	
A23. Make information on pollinator-friendly management available through the Tidy Towns Initiative	<ul style="list-style-type: none"> <li>❖ Promotion of pollinator actions within the initiative</li> <li>❖ Growth in the number of towns adopting actions within public spaces</li> </ul>	Tidy Towns	<p>'Local Communities – actions for pollinators' was published in April 2016 and is aimed primarily at Tidy Towns or Ulster in Bloom Groups. The Tidy Towns Unit have greatly assisted with the promotion and distribution of these guidelines.</p> <p>The Heritage and Biodiversity officers in ROI</p>	

			came together to fund a special Pollinator Award in the 2016 Tidy Towns competition. The award is administered by the National Biodiversity Data Centre and judged by a committee established by the Heritage Officers. To date it has been an extremely successful initiative, with 57 towns and villages entering the award in its first year. In 2017 this increased to 70 entries. There was also a noticeable increase in the quality of entries in 2017.	
A24. Garden-friendly pollinator actions promoted by Community Gardens Ireland	<ul style="list-style-type: none"> <li>❖ Promotion to members</li> <li>❖ Uptake by members</li> </ul>	Community Gardens Ireland	We've published guidelines to creating pollinator gardens and community gardens on our website <a href="http://cgireland.org/">http://cgireland.org/</a> and sent out in a newsletter. We are planning to work with the National Biodiversity Data Centre to train CG Ireland coordinators and facilitators so they can deliver the training in gardens across Ireland.	
A25. Promote the development of reference sites and case studies across public land to act as education and training tools	<ul style="list-style-type: none"> <li>❖ Partners to consider making sites that are managed in a pollinator-friendly way available as reference sites</li> </ul>	All partners	Partners are being encouraged to act as reference sites where possible. The location of these will be made available on the Pollinator Plan website.	
	<ul style="list-style-type: none"> <li>❖ The location of reference sites made available</li> <li>❖ Development of publically available case studies that can act as a tool to others considering pollinator-friendly management</li> </ul>	National Biodiversity Data Centre, relevant partners	Case studies on key sites are currently being developed by the Data Centre. As they are developed, they are made available on the Pollinator Plan website. Where appropriate, agreement is being sought that these can be identified as reference sites.	



A26. Development of cost-benefit analyses providing land managers with information on the cost implications of management actions, e.g. regular spraying and mowing versus twice annual cut and removal of grass [Action 68]	❖ Identification of all cost-benefit analyses that would be useful	Steering group	The following cost-benefit analyses were identified as immediate priorities: <ul style="list-style-type: none"> <li>• Regular mowing (22 cuts a year, grass mulched back in) versus pollinator-friendly mowing (5 cuts a year and grass removal)</li> <li>• Pollinator-friendly perennial bedding versus annual bedding</li> </ul>	
	❖ Completion of these cost-benefit analyses and appropriate dissemination of information  <b>Note:</b> this is a research action that will be dependent on funding	National Biodiversity Data Centre	Both of these cost-benefit analyses have been completed and were included in the Guidelines for Councils (published Feb 2017)  Regular mowing versus pollinator-friendly mowing is cost equivalent.  Pollinator-friendly perennial bedding is cost equivalent to annual bedding at initial planting, but there is a substantial saving year on year by choosing perennials. Annual bedding is replaced twice a year, whereas the life span of perennial bedding is 10-12 years if properly planted and maintained.	
A27. Promote the Pollinator Plan to other organisations involved in managing public or semi-state land	❖ Increase in the number of other organisations supporting the Plan	Steering group	The Plan has been promoted throughout 2017. At time of print an additional 12 partners have formally agreed to support the Plan, with more in train. This has been delayed as plans/structures are still being put in place on how to manage this process, particularly	

			<p>how to communicate and report on new actions that are developed. A decision has been made that this will be formalised in the mid-term review of the Plan which will be published in autumn 2018. For now, any additional partners who wish to report on supporting activities in 2017 have done so in Appendix B.</p>	
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**Target 1.2.2: Create linking areas of flower-rich habitat along transport routes**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A28. Adoption of an All-Ireland scheme to create pollinator highways along road networks	❖ Development of guidelines for pollinator-friendly roadside management *	Don't Mow Let it Grow Steering Group, Life lives on the Edge (Wexford CoCo), National Biodiversity Data Centre	Guidelines are currently being developed by Don't Mow Let it Grow.	
	❖ Incorporation of pollinator actions into existing landscaping guidelines or environmental handbooks where appropriate and when reviewed	NRA, Transport NI, Local Authorities	This cannot be progressed until the guidelines for pollinator-friendly roadside management are published. This is scheduled for 2018.	
	❖ Secure funding for the 'Don't Mow Let it Grow' NI pilot scheme ❖ Implement 'Don't Mow Let it Grow' pilot scheme and roll out to other areas ❖ Provide cost benefit analyses for a reduced mowing regime <b>Note:</b> elements of this action are resource dependent & require identification of funding sources	Don't Mow Let it Grow Steering Group	Site management guidelines have been drafted and are being edited before publishing – will be on the new toolkit section.  Toolkit section of the website is currently being built and will be populated over the next few months with outputs to date.  Year 2 public perception survey results (263 respondents) will be publicised shortly and are in line with those from year 1. This will be included in the Economic Appraisal which we are continuing to gather information for.  Year 2 Botanical surveys completed.	

			<p>School engagement programme in development – to be trailed in 4 Primary Schools with facilitator &amp; volunteer educators trained, then be available for teachers to deliver themselves or with support of volunteer.</p> <p>For more information please visit <a href="http://dontmowletitgrow.com">http://dontmowletitgrow.com</a></p>	
	❖ Implement 'Networks for Nature' pilot scheme and roll out to other areas in ROI	IWT	<p>This action has changed as in 2017 the IWT launched a 'People for Bees' programme which aims to cover both the "Making Ireland more pollinator-friendly" and "Bee population monitoring" objectives of the AIPP.</p> <p>In 2017 the IWT People for Bees programme was delivered through a community group focused workshop in each province of Ireland. The workshops covered wild bee identification and monitoring as well as bee habitat creation. With the new skills learned through this programme, participating groups have the knowledge and confidence to start carrying out bee population monitoring and habitat creation in their communities, thus completing two of the objectives of the All-Ireland Pollinator Plan – 'Making Ireland more pollinator friendly' and 'Bee population monitoring'.</p>	
	❖ Promote the future development of wildflower highways along	Don't Mow Let it	Pollinator-friendly roadside management	

	roadsides where appropriate	Grow Steering Group, Wexford County Council (Life lives on the Edge), IWT, Fáilte Ireland	continues to be promoted by all relevant parties. This will be enhanced once the guidelines are published.	
	❖ Investigate whether pollinator-friendly actions can be incorporated into the 'pure mile' project which encourages local community groups to manage a mile-long stretch of road for biodiversity	Steering group	PURE (Protecting Uplands & Rural Environments) have been approached and are supportive of the Pollinator Plan. They have included links to the AIPP resources in their own recently updated documentation.	
A29. Adoption of an All-Ireland scheme to create pollinator highways along rail networks	❖ Provision of guidelines for pollinator-friendly rail network management *	National Biodiversity Data Centre	These will be published in 2018  Reason it has not progressed: human resource limitations	
	❖ Incorporation of pollinator actions into existing biodiversity plans where appropriate and when reviewed ❖ Level of uptake	Translink, Iranród Éireann	This cannot be progressed until the guidelines for pollinator-friendly rail network management are published and made available in 2018.	
A30. Adoption of an All-Ireland scheme to create pollinator highways along waterway towpaths	❖ Provision of guidelines for pollinator-friendly towpath management *	National Biodiversity Data Centre, Waterways Ireland	These will be published in 2018  Reason it has not progressed: human resource limitations	
	❖ Incorporation of pollinator actions into existing biodiversity plans where appropriate and when reviewed ❖ Level of uptake	Waterways Ireland	Actions undertaken:  Publicising relevant guidelines (particularly to Tidy Towns Groups and communities who live	

			<p>adjacent to our waterways).</p> <p>Pollinator-friendly actions have been adopted at HQ in Enniskillen and at other WI offices.</p> <p>Two Marsh Fritillary surveys have been commissioned at sites along the Grand Canal Barrow Line.</p> <p>Our Ecology GIS dataset for the waterways under our remit was donated to the Data Centre. In doing so this information is now readily accessible to the public and will inform suitable habitat for pollinator surveys.</p> <p>The Waterways Ireland Heritage Plan Grant Scheme continued to support pollinator-friendly projects in 2017.</p> <p>We continue to work with local community groups in the roll out of pollinator-friendly management schemes and other project supports, namely:</p> <ul style="list-style-type: none"> <li>• Pollinator-friendly management was developed in partnership with the Grand Canal Clean-up Group along the canal in Dolphin's Barn.</li> <li>• New initiatives, as they are rolled out, are complimented by durable Perspex pollinator management signs, based on templates received from the NBDC, to inform where this targeted maintenance is</li> </ul>
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			<p>taking place.</p> <ul style="list-style-type: none"> <li>• A pollinator and wildlife exhibit of the Royal Canal at the County Library in Mullingar, Co. Westmeath.</li> <li>• As part of a community outreach event organised by the Dublin Canals Group we donated 500 Seed Bombs to the festival to promote the colonisation of Brownfield sites and other areas along the canal.</li> <li>• A pilot community beehive was established, in partnership with the Royal Canal Amenity Group.</li> </ul> <p>Finally we are partnering with local authorities to develop pollinator-friendly management along newly opened sections of Greenway, facilitating both recreational usage and refuges for biodiversity.</p>	
A31. Provision of pollinator-friendly management guidelines to the National Trails Office who inspect 744 (on public and private land) recreational trails	❖ Provision of guidelines	Steering group	<p>This action has not yet been progressed but is planned for 2018</p> <p>Reason it has not progressed: human resource limitations</p>	
A32. Promote pollinator-friendly management of future transport routes, e.g. future greenway cycle routes	❖ Guidelines on pollinator-friendly management provided to those responsible for future transport routes	Steering group	<p>The AIPP has been collaborating with Waterford City and County Council who are developing a pollinator plan for the new Waterford Greenway (46km route between Waterford City and Dungarvan). It is hoped that this can be used as a case study or template for other Local Authorities interested in doing something similar.</p>	

**Target 1.2.3: Reduce the use of pesticides (insecticides, herbicides, fungicides) on public land**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A33. Reduce pesticide application on roadsides and in public parks and green spaces	❖ In conjunction with the National Action Plan for the Sustainable Use of Pesticides, develop best-practice guidelines to reduce their use and minimise risk to wild pollinators.	DOE, DECLG, NRA, Local Authorities	This will be more actively progressed from 2018.  A number of Councils in ROI banned the use of glyphosate in 2017.	
A34. Encourage safer application of pesticides	❖ Support existing work to raise awareness on the responsible use of pesticides by enhancing online resources to provide clear and simple guidelines	DAFM, AFBI, National Biodiversity Data Centre	The National Biodiversity Data Centre has produced a short pesticide code of practice within the context of the Pollinator Plan. It was written as a one-page document with the aim that it could be laminated and supplied to appropriate staff. It is aimed primarily at Councils and landscape contractors.	



### 1.3 MAKING IRELAND POLLINATOR-FRIENDLY: PRIVATE LAND

#### Target 1.3.1: Increase the number of gardens across Ireland that are pollinator-friendly

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A35. Garden pollinator-friendly actions promoted within the Grow It Yourself (GIY) network - 50,000 members across Ireland	❖ Provision of guidelines for pollinator-friendly management *	National Biodiversity Data Centre	'Gardens – actions to help pollinators' was published in June 2016. It identifies 20 actions that would make a garden more pollinator-friendly. It also includes planting suggestions and a one-page guide for pollinator-friendly housing estate management.	
	❖ Promotion to members ❖ Uptake by members ❖ Actions adopted at GIY HQ and used for demonstration purposes	GIY	The Plan was promoted to members in 2017, via our ezine, meeting handouts, talks and online. GIY HQ opened in September 2016. Pollinator-friendly actions have been adopted on site in 2017.	
A36. Garden friendly pollinator actions promoted within the An Taisce Green Communities network	❖ Provision of guidelines for pollinator-friendly management *	National Biodiversity Data Centre	See Action 35. These were published in June 2016	
	❖ Promotion to members ❖ Uptake by community groups	An Taisce	Throughout 2017, all Pollinator Plan resources and relevant events have been promoted through Green Communities channels including Facebook, mailing list and the Green Communities News Bulletin.	
A37. Encourage the public to take voluntary actions to make their gardens and	❖ Creation of on-line resources providing clear guidelines on how to make your garden pollinator-	National Biodiversity Data Centre & partners	On-line resources continue to be developed. These include the guideline document mentioned above along with case studies,	

rural lanes pollinator-friendly	<p>friendly</p> <p>❖ Investigation of funding sources with a view to developing an All-Ireland garden pollinator scheme</p> <p><b>Note:</b> promotion of a public scheme is resource dependent &amp; requires identification of funding sources</p>		<p>relevant how-to-guides (e.g. providing nesting habitat for pollinators, collecting wildflower seed, and managing hedgerows), signage, and the location of reference sites that demonstrate pollinator-friendly gardening.</p> <p>Funding for an All-Ireland garden pollinator scheme has not yet been sought</p>	
A38. Encourage the Garden Centre sector to provide information on plants that are pollinator-friendly	<p>❖ Engagement with the sector and identification of actions that can be taken</p>	Steering group	<p>Initial discussions have begun with a number of key Garden Centres. This will continue to be progressed in 2018.</p> <p>It is hoped that Garden Centres can be signed up as business supporters of the AIPP and provided with awareness raising material on the AIPP, to include recommended pollinator-friendly garden plants.</p>	

#### Target 1.3.2: Encourage businesses to become pollinator-friendly

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A39. Encourage business properties to make their outdoor spaces more pollinator-friendly (including country hotels, golf courses, quarries, retail car parks)	<p>❖ Provision of guidelines for pollinator-friendly management of general outdoor spaces that are appropriate for business. Developed in packages that are in line with the environmental systems used in many businesses (such as ISO 14001/BS8555). *</p>	National Biodiversity Data Centre	<p>‘Businesses – actions to help pollinators’ was published in November 2016. It identifies 15 outdoor space actions and 3 additional actions that businesses can take to help pollinators. It includes a flow chart with approximate effort levels and costings for each action to help businesses decide which is right for them. A Technical Appendix and a planting code for</p>	

			professional landscapers are available on the Pollinator Plan website to supplement these business guidelines. The actions in these guidelines align with relevant environmental systems. The Data Centre collaborated with BITC Ireland and Bord Bia in creating these documents.	
	<ul style="list-style-type: none"> <li>❖ Achieve a target of 60 businesses signed up by 2020</li> <li>❖ Develop case studies across business types</li> <li>❖ Develop specific guidelines for the following: golf courses, country hotels, retail car parks, quarries *</li> </ul>	National Biodiversity Data Centre, NIEA	A framework for signing businesses up to the Pollinator Plan has been established during the publication of the business guidelines (see above). A total of 22 businesses have signed up as business supporters of the Plan since the business framework was launched in November 2016. 15 new businesses signed up in 2017, and 19 other businesses were contacted in 2017. Businesses carrying out pollinator-friendly actions will be developed into full case studies for the new website. One-page supplemental guidelines are being developed for solar farms, wind farms, golf courses, country hotels and quarries (due 2018).	
	❖ Disseminate this information to the business community	Bord Bia	Bord Bia disseminated the Business Guidelines to their >500 Origin Green companies via email	

Since publication in 2015, Business in the Community Ireland and Business in the Community Northern Ireland have both agreed to support the All-Ireland Pollinator Plan and will assist with dissemination of information to the sector.

#### 1.4 Supporting the creation of pollinator-friendly habitat

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A40. Support the availability of local provenance native wildflower seed for restoration of flower-rich habitats where natural regeneration is not possible	❖ Support local industries/initiatives to provide an affordable source of native wildflower seed	Steering Group	The Pollinator Plan resources continue to stress the importance of using local provenance native wildflower seed.  Training workshops on the small scale collection, storage and use of local seed in local restoration projects were provided in 2017 (independently by the National Biodiversity Data Centre, True Harvest Seeds and the IWT).	
	❖ Adopt a voluntary quality standard to ensure availability of high quality native origin seeds for pollinator habitat restoration schemes			
	❖ Investigate mechanisms to provide training in the small scale collection, storage and use of local seed in local restoration projects			
	❖ Development of a 'how-to' guide for the collection, storage and use of local seed	True Harvest Seeds	This was published in May 2016	
A41. Investigate mechanisms for the sharing and exchange of machinery, skills & advice	❖ Investigate mechanisms for machinery rings, skills exchange & advice sharing	Steering Group	This continues to be investigated. It is of most relevance to local authorities/councils.	
A42. Ensure that the Pollinator Plan is compatible with other biodiversity initiatives	❖ Liaise with other partners to ensure land management advice for promoting biodiversity is joined up and is not contradictory	Steering Group	Ongoing in 2017, with the Steering group liaising with partners where appropriate, e.g. Bord na Mona Biodiversity Plan & NPWS farm plans for Lesser Horseshoe Bats. All guideline documents produced are being carefully prepared to avoid conflict or confusion with other initiatives.	

## 2. Raising awareness of pollinators and how to protect them

**Target 2.1: Increase the number of people who are aware of pollinators and who understand the need for pollinator conservation**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A43. Raise awareness of pollinators and their importance to the wider community	❖ Track numbers of published media articles and interviews	National Biodiversity Data Centre	<p>In 2017, the Pollinator Plan has been promoted via published articles, interviews, and other events. This includes:</p> <ul style="list-style-type: none"> <li>-14 published newspaper articles</li> <li>-5 radio interviews</li> <li>-2 TV interviews</li> <li>-13 additional articles (blogs, newsletters, magazines)</li> <li>-38 presentations at events/conferences</li> <li>- 10 Other (speeches/awards/representation/stands at 3rd party events)</li> <li>-6 online videos: 2 Veritas educational videos for schools; 3 Creative Ireland funded online videos: 1 on Pollinator Plan; 1 on Farmland actions; 1 on Waterford County Council actions; 1 filmed for the Journal.ie on Green Flags for Parks Pollinator Award still to be released.</li> <li>-1 animation video for online release (Creative Ireland funding)</li> </ul>	

	❖ Creation of infographics with key pollinator messages distributed through social media	National Biodiversity Data Centre	The following infographics have been designed and distributed as part of the Pollinator Plan and its supporting resources: 1. Importance of pollinators infographic 2. Contribution to economy infographic 3. Crops pollinated by bees infographic 4. Diversity of bees infographic 5. Bumblebee lifecycle infographic 6. Solitary bee lifecycle infographic 7. Bee hotel infographic 8. Importance of pollination junior plan infographic 9. Pollinator-friendly garden infographic 10. Pollinator-friendly garden plants table 11. Pollinator-friendly guide for estates management sheet 12. Distance to food infographic 13. Solitary bee ground nest infographic 14. Pollinator-friendly actions for businesses flow chart 15. Pollinator-friendly actions for Local Councils flow chart 16. Crops & need for flowers throughout the year infographic	
	❖ Creation of a media toolkit	National Biodiversity Data Centre	This is available on the main Pollinator Plan website and is kept up to date as the initiative progresses	
	❖ Development of a range of promotional materials to promote pollinators	National Biodiversity Data Centre	Promotional materials to promote pollinators published to date include: -Pollinator-friendly guidelines for Local Communities, Gardens, Businesses, Councils &	

			<p>Farmers</p> <ul style="list-style-type: none"> <li>-Stock slides about each guideline document</li> <li>-Educational posters of bumblebee and solitary bee life cycles</li> <li>-How-to-Guides for specific pollinator-friendly actions</li> <li>-Downloadable signage templates to mark pollinator-friendly land</li> <li>-Case studies of organisations taking pollinator-friendly actions</li> <li>-Junior Pollinator Plan, English and Irish language versions</li> <li>- Bookmarks, calendar and wall planner to raise awareness</li> </ul>	
	❖ Investigate whether national events should be organised and what form this should take	Steering Group	This has not been pursued due to funding constraints but it remains on the agenda. It refers to a 'National Pollinator Day' type event.	
	❖ Creation of an online portal where news and progress on the Plan can be shared	National Biodiversity Data Centre	<p>News and progress are actively shared on the main Pollinator Plan website and via Facebook and Twitter #AllIrelandPollinatorPlan</p> <p>To accommodate the expanding initiative, a new website is under development and will be launched in spring 2018 <a href="http://www.pollinators.ie">www.pollinators.ie</a></p>	
A44. Organise a biennial pollinator meeting to bring together those implementing the Plan and other interested parties	<ul style="list-style-type: none"> <li>❖ Biennial pollinator meeting organised to provide a forum for reporting on progress within the Plan</li> <li>❖ Pollinator meeting venue to rotate around provinces</li> </ul>	National Biodiversity Data Centre	The first pollinator meeting took place in Ulster 17-18 <sup>th</sup> February 2017. It focused on Councils and how they can help implement the Plan. Given the success of this event it was decided to make it annual rather than biennial.	

			Discussions are currently going with regard to the location and topic of the 2018 event which will be held in early March.	
A45. Raise awareness of pollinators and existing initiatives at Local Authority/Council level	❖ Existing pollinator initiatives promoted at local levels by the Heritage and Biodiversity Officer network	Heritage and Biodiversity Officers	<p>Heritage &amp; Biodiversity Officers across the island have promoted the Plan and existing initiatives throughout 2016.</p> <p>In ROI they have come together to fund a special pollinator award in the Tidy Towns competition (Action 23).</p> <p>In Northern Ireland, Antrim and Newtownabbey Borough Council are leading on a new pollinator project which has been awarded £76,800 from the Heritage Lottery Fund. 'Bee-licious' is a three-year project designed to restore native flower-rich habitats for pollinating insects and is being delivered in partnership with seven other Councils across Northern Ireland.</p>	
A46. Professional advice provided to clients/developers/land owners in relation to ecological Impact Assessment (EcIA) and mitigation design to include pollinator-friendly measures	<p>❖ Advice to include increasing awareness of the importance of pollinators, encouraging habitat creation and enhancement measures; encouraging the preparation of Biodiversity Action Plans (BAPs)</p> <p>❖ Implementation of training for CIEEM members</p>	CIEEM	This will not be progressed with CIEEM until the full suite of guideline documents are available in 2018	



A47. Develop a blueprint outlining how communities can make their local areas more pollinator-friendly and assist in implementation of the Plan	❖ Development of a local community blueprint on how to take action on pollinators	Limerick's Buzzing, Ballyhoura Development Ltd., SECAD	Local Communities: actions to help pollinators was published by the National Biodiversity Data Centre in April 2016. Limerick's Buzzing, Ballyhoura Development Ltd. & SECAD fed into the development of that document. SECAD are currently acting as a test case for roll out through a Local Development Company	
A48. Promote the conservation of a rare and endangered Irish bumblebee species and use as an educational tool for threatened species conservation	❖ Provision of online information on the Shrill Carder Bee - where it occurs, why it is in decline, and how it can be conserved	National Biodiversity Data Centre	This information is available on the pollinator website maintained by the National Biodiversity Data Centre. It will be further developed in 2018.	
	❖ Promote conservation of the species through EclA, mitigation design, BAP work	CIEEM	This will be actively progressed through collaboration with the Data Centre in 2018  Reason it has not progressed: human resource limitations	
	❖ Raise awareness and encourage conservation of this species at the site level	BurrenBeo Trust, Limerick's Buzzing	This will be more actively progressed through collaboration with the Data Centre in 2018  The Data Centre is collaborating with Dr Dara Stanley, Michelle Larkin and the BurrenLife project on a baseline study on the ecology of the Shrill Carder Bee. This will be undertaken in the Burren in 2018 and will inform the design of a future citizen science-driven Shrill Carder Bee monitoring scheme.	

**Target 2.2: Promote education on pollinators and their conservation at primary, secondary and tertiary level**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
<p>A49. Produce pollinator educational materials that can be used within the curriculum of primary and secondary schools</p>	<ul style="list-style-type: none"> <li>❖ Preparation of material</li> <li>❖ Investigation of platforms and methodologies of delivery to build on existing initiatives</li> </ul> <p><b>Note:</b> this action is resource dependent &amp; requires identification of funding sources</p>	<p>An Taisce Green-Schools, Eco-Schools, OPAL, Learning Through Landscapes (Polli:Nation) with assistance from other partners</p>	<p>In 2017 the Pollinator Plan collaborated with Cell Explorers to develop a teacher-led module to support the Junior Pollinator Plan that will be made available to download on the new website in 2018.</p> <p>Under a ‘train the trainer’ initiative, the National Biodiversity Data Centre will provide training for the Heritage in Schools ‘Heritage Expert’ panel in early 2018.</p> <p><b>Green-Schools</b> - As part of materials for a small side-project within the Green-Schools Ireland’s Biodiversity theme, simple life-cycle information cards for bee species have again been disseminated to junior primary classes in over 90 schools across Ireland for the 2017-18 academic year.</p> <p><b>OPAL</b> - (<a href="http://www.opalexplornature.org">www.opalexplornature.org</a>) In 2017 in NI Polli:Nation reached 33 schools, 132 staff, 2400 pupils and 44 community members with 48 workshops delivered covering pollinator lifecycles and ecology, habitat creation, identification, survey and monitoring.</p>	

			<p>Improvements across schools include:</p> <ul style="list-style-type: none"> <li>- Mass bulbs planting - 12,000+ by November 2017</li> <li>- Tree planting – 200+ trees with an emphasis on fruit trees</li> <li>- Hedgerows - 400 m of new hedgerow</li> <li>- An area allowed to 'go wild' in 14 schools</li> <li>- Landscaping and pot planting with pollinator-friendly plants across 20 schools.</li> <li>- Wet areas for hoverflies provided in recycled vessels in 18 schools.</li> <li>- 2 bee banks</li> <li>- 12 bee hotels</li> </ul>	
A50. Incorporate material on the identification and conservation of pollinators within agricultural and horticultural colleges	<ul style="list-style-type: none"> <li>❖ Incorporation within appropriate curriculums</li> <li>❖ Use of this material to raise awareness among all farmers</li> </ul>	CAFRE	<p>CAFRE host and provide admin support to the UBKA in relation to the bee keeping course.</p> <p>Farm orchard management training has been introduced at the Loughry and Enniskillen Campuses. Similar training events have been held in Limavady and Cushendall. A range of topics including pollination were covered at the training events.</p>	
		Teagasc	<p>A pollinator module has been incorporated into the Horticulture course run by Waterford Institute of Technology in conjunction with Teagasc.</p>	

			The Environment and Sustainable Farming Workbook used in the Module on Environmental and Sustainable Farming which is compulsory in the Second Year of Teagasc Agricultural Courses includes a section 'Bees – their decline, pollination and the Best Practice management of habitats'. It predates the AIPP, but will be revised on next update. FIBKA are interested in delivering talks to agricultural students - under discussion at present.	
	❖ Provide optional Bumblebee Monitoring Scheme training to raise awareness of wild pollinators and as a means to monitor the success of any pollinator-friendly management implemented	National Biodiversity Data Centre	This will be actively progressed with CAFRE and Teagasc in 2018.  Reason it has not progressed: human resource limitations	

**Target 2.3: Provide clear information to different sectors on how to take action to protect pollinators**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A51. Develop tailored suites of pollinator-friendly management actions for all sectors and make available online *	<ul style="list-style-type: none"> <li>❖ Publication of guidelines for pollinator-friendly management across all sectors</li> <li>❖ Investigate mechanisms to provide certification (where appropriate) to sites taking pollinator actions</li> </ul>	National Biodiversity Data Centre & partners	<p>We have consciously made the decision that rather than quickly releasing generic style resources, we will:</p> <ul style="list-style-type: none"> <li>✓ Focus on publishing the best evidence-based guidelines for each sector</li> <li>✓ Tailor these carefully for Ireland</li> </ul>	

			<ul style="list-style-type: none"> <li>✓ Engage fully with each sector on resource development to ensure they are pragmatic but also as ambitious as they can possibly be</li> <li>✓ Communicate in the right language each time</li> </ul> <p>This has delayed the release of some guidelines from our initial projection of 2016.</p> <p><u>Currently published:</u></p> <p><i>Local Communities: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 1. National Biodiversity Data Centre Series No.4, Waterford. April, 2016.</p> <p><i>Gardens: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 2. National Biodiversity Data Centre Series No.9, Waterford. May, 2016.</p> <p><i>Businesses: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 3. National Biodiversity Data Centre Series No.10, Waterford. November, 2016.</p> <p><i>Councils: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 4. National Biodiversity Data Centre Series No.12, Waterford. February, 2017.</p> <p><i>Farmland: actions to help pollinators.</i> All-</p>	
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			<p>Ireland Pollinator Plan, Guidelines 5. National Biodiversity Data Centre Series No.14, Waterford. September, 2017.</p> <p><u>Planned:</u></p> <p>Transport networks (road, rail, towpaths, trails, greenways): actions to help pollinators.</p> <p>Horticulture: actions to help pollinators</p> <p>Religious properties (including graveyards): actions to help pollinators</p> <p>Solar &amp; wind farms: actions to help pollinators</p>	
A52. Provide detailed 'how-to' guides for specific actions *	❖ Publication online of a series of 'how-to' guides for implementation of key pollinator actions	National Biodiversity Data Centre & partners	<p>These were developed with relevant partners.</p> <p><i>Creating wild pollinator nesting habitat.</i> All-Ireland Pollinator Plan, How-to-guide 1. National Biodiversity Data Centre Series No. 5. Waterford. May, 2016.</p> <p><i>Collecting and using pollinator-friendly wildflower seed.</i> All-Ireland Pollinator Plan, How-to-guide 2. National Biodiversity Data Centre Series No.6, Waterford. May, 2016. Partners: True Harvest Seeds</p> <p><i>Hedgerows for Pollinators.</i> All-Ireland Pollinator Plan, How-to-guide 3. National Biodiversity Data Centre Series No.7, Waterford. May, 2016. Partners: Hedge Laying Association of Ireland</p>	

			<p><i>Creation and management of a wildflower meadow.</i> All-Ireland Pollinator Plan, How-to-guide 4. Partners: Eco Seeds</p> <p><u>In development:</u> Actions to support other pollinating insects (hoverflies, butterflies, moths etc.). Partners: Butterfly Conservation.</p> <p>Step-by-step guide to developing a school Pollinator Plan (aimed mainly at second level schools).</p>	
A53. Provide training courses on pollinator-friendly management options across sectors	❖ Provision of training courses to accompany the respective 'how-to' guides (hedge laying, wildflower meadow creation, creation of nesting bee habitats, roadside verge management, etc.). <b>Funding dependent.</b>	Relevant partners	<p>We are aware that this is being actively investigated by some of our relevant partners. It is expected to increase in subsequent years as the guidelines and how-to-guides are published.</p>	

### 3 Managed pollinators – supporting beekeepers and growers

#### Target 3.1: Provide clear information on the distribution and condition of Irish honeybees

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A54. Maintain data on honeybee distribution	<ul style="list-style-type: none"> <li>❖ Identification of mechanisms for delivery of an All-Ireland honeybee map showing hive location and numbers</li> <li>❖ Maintain annual data on winter losses</li> <li>❖ Identification of a working group(s) to progress this action</li> </ul>	FIBKA, UBKA	<p><b>FIBKA</b> - continues to publicize the threats to, and requirements, of healthy honeybees. This year we ran our Hedgerows Campaign, to draw attention to the vital role of hedgerows to all kinds of pollinators, and especially for honeybees in August-Sept. when the uncut hedgerows provide a generous source of forage. This is essential for the build-up of stores for the winter. FIBKA held a demonstration outside the Dáil to draw attention to this issue.</p> <p>FIBKA conducted a Census of Hives with DAFM, and is awaiting full results from the Dept. The COLOSS survey is included in our journal, <i>An Beachaire</i>, every year, for data on winter losses. The Bee Health Committee also reports in journal every month.</p> <p><b>UBKA</b> - UBKA and INIB are supporting an active move towards voluntary registration for beekeepers in NI. This is being discussed and pursued with DAERA who are developing some tools which will allow ease of registration and a system of GPS location of</p>	



			<p>hives. This is now in progress and we are encouraging all beekeepers to register. This system is currently being used by our Bee Inspectorate. This is giving us mapping of disease (AFB, EFB) throughout NI which is published on a monthly basis.</p> <p>Regular meetings with stakeholders (DAERA, AFBI, UBKA, INIB) are being held to maintain progress. National survey carried out by AFBI to UBKA and INIB in the spring time.</p>	
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### Target 3.2: Support beekeepers in maintaining healthy honeybee populations

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A55. All-Ireland survey on disease prevalence in honeybees	<ul style="list-style-type: none"> <li>❖ Completion of national surveys</li> <li>❖ Identification of mechanisms for delivery of an All-Ireland database on the prevalence of diseases in managed honeybee colonies</li> </ul>	Teagasc, AFBI, DAFM, DARD	<p><b>AFBI:</b> AFBI conducts an annual survey on bee husbandry that feeds into a Europe-wide bee surveillance programme (termed 'CoLoss'). These surveys show overwintering colony losses to vary from year-to-year, from 9% to 43%, often dependent on weather conditions. Having an input into this Europe-wide scheme allows us to benchmark Northern Ireland's bee health compared to neighbouring countries.</p> <p><b>DAERA:</b> Forest Service Bee Health Inspectorate have published at</p>	

			<a href="https://www.daera-ni.gov.uk/articles/bee-health">https://www.daera-ni.gov.uk/articles/bee-health</a>  Information on AFB and EFB findings following the inspectorate annual inspection programme.  <b>DAFM:</b> The National Apiculture Programme continues to include the annual COLOSS Survey of over-winter losses. This survey has been conducted each year since winter 2008. Ireland's results feed into the COLOSS research network.  DAFM agreed to cover the costs of bee disease sample analysis in 2017 for any beekeeper that submitted samples of their bees / brood for analysis. This increased the number of samples submitted for analysis to over 700 for 2017.	
A56. Identify the seasonal floral diversity available to honeybee colonies in Ireland	❖ Participation of Ireland in the COLOSS CSI pollen project	University of Limerick	During 2015, a total of 34 beekeepers in Ireland actively participated in the CSI (citizen scientist investigation) pollen project.  Preliminary analysis of the Irish data shows that a total of 525 pollen samples were collected and analysed. Pollen diversity increased as the season progressed. In April, the mean number of pollen colours identified was 4, increasing to a maximum of 8 in mid-	

		<p>July and early-August, but subsequently decreasing again to 1 in late August/September. Throughout the test period &gt;70% of samples had 1 or more abundant pollen types, that is a pollen type with &gt;20 pollen pellets present. Rare pollens (pollens with 1-20 pollen present) were more frequently collected during mid- to late-Summer (4 June to 7 Aug). The frequencies of very rare pollens (1-2 pollens) fluctuated over the entire test period.</p> <p>The number of samples per group in the Irish sample was too small to draw any reliable conclusion. Preliminary analysis of the international dataset indicates although, the structure of the landscape, distance of the pollen source from the hive, pollen abundance in the flower, pollen attractiveness, colony status, climate/weather all have the potential to affect pollen diversity, an inherent characteristic of pollen collection exists in <i>Apis mellifera</i> and is influenced by its annual life cycle.</p>	
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A57. Ensure the ongoing regulation via health certification of the importation of honeybees, bumblebees, and solitary bees.	<ul style="list-style-type: none"> <li>❖ With regards to managed pollinators, ensure appropriate health certification requirements are complied with</li> <li>❖ Development of codes of practices for handling introductions of honeybees, bumblebees and solitary bees</li> </ul>	DAFM	<p>Importers of commercially sourced bumblebees for crop pollination are in the process of registering with DAFM. A guide is in preparation for those people using commercially sourced bumblebees for crop pollination.</p> <p>DAFM continues to regulate and ensure appropriate certification of imports of honeybees. In advance of the 2018 season, DAFM intends to review, and where necessary update, its guidance note regarding importation of honeybees.</p>	
		DAERA	<p>Forest Service Bee Health Inspectorate have revised and published their <i>Guide to Importation of Honeybees</i> and this is available online.</p> <p><i>NI Bee Health and Pollinator Strategy</i> is currently in development and will be available for consultation in 2018.</p>	
A58. Provide beekeeper training in disease identification and treatment at the All-Ireland level	<ul style="list-style-type: none"> <li>❖ Identification of a delivery mechanism</li> <li>❖ Delivery of training</li> </ul>	FIBKA, UBKA, NIHBS, INIB, AFBI	<p><b>AFBI:</b> AFBI held a microscope and bee disease workshop at the Ulster Beekeepers Association Conference in March 2017.</p> <p><b>UBKA:</b> UBKA members are actively encouraged to obtain education through the FIBKA education system of preliminary, intermediate, senior and lectureship exams. This is delivered by UBKA and supported by CAFRE. This covers a general syllabus around</p>	

			<p>disease biology, recognition and its consequences to bee health. We continue to raise awareness and take every opportunity to promote the craft of Beekeeping, but particularly the maintenance of healthy bee stocks.</p> <p>In 2017, the Beekeeping community were invited to a series of four Bee Health Workshops across NI. The speakers were Tony Harris and Megan Seymour and Tom Williamson. The brief was to raise awareness of varroa and the brood diseases. This was delivered in a series of practical talks, with key learnings. In 2018, we will deliver three Bee Health Workshops in a similar format to previous years.</p> <p>UBKA/INIB with Tom Williamson and his bee inspectorate ran two disease ID apiary inspections at local apiaries with tutor beekeepers with a view to upskilling disease recognition by those involved. We expect those trained to reach out to other beekeepers and assist with disease recognition in their own associations. We plan to repeat this activity in 2018.</p> <p><b>FIBKA:</b> FIBKA holds workshops on Bee Health and Microscopy for identification of nosema and other bee diseases. The Bee Health Officer writes a monthly column in <i>An Beachaíre</i>, updating members on treatments,</p>
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			<p>problems, etc. Many BKAs train beekeepers (beginners, intermediate, senior, bee master, etc.) for FIBKA annual examinations in beekeeping proficiency. Also, FIBKA Summer Course runs training at all levels. All courses include training in identification of disease, treatments, etc.</p> <p>FIBKA Honey Shows at the end of the season draw public attention to the plight of bees and other pollinators, e.g. the Ashford Honey Festival (Wicklow) is a new event, held in conjunction with the local community centre.</p> <p><b>NIHBS:</b> Provided disease recognition at NIHBS workshops and Open/Training days at locations throughout Ireland. Keith Browne's research into varroa resistance continues, with structured testing taking place twice a year by participating beekeepers. Research is also being done by Ciaran Geoghegan and Pat Deasy.</p> <p><b>DAERA:</b> Bee Health Inspectorate delivered a series of specialist Bee Disease identification courses for local Association Bee Health Officers and provided input to UBKA-led workshops on disease control in honeybees.</p>	
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**Target 3.3: Support beekeepers in conserving native honeybee populations**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A59. Develop an All-Ireland programme for the conservation of the native <i>Apis mellifera mellifera</i>	<ul style="list-style-type: none"> <li>❖ Identification of a delivery mechanism for an All-Ireland conservation programme</li> <li>❖ Delivery of training</li> </ul>	NIHBS	<p>Breeding skills are taught to beekeepers at Open Days and queen-rearing courses throughout Ireland for both selecting and rearing the Native honeybee AMM.</p> <p>A series of Bee Improvement workshops were held in 2017.</p> <p>An updated list of Native Queens and Bees is available to provide AMM Queens and Bees from reputable breeders.</p> <p>Conservation areas have already been set up in Louth and Laois, with plans for future expansion to other counties.</p>	

**Target 3.4: Support growers by providing best practice advice on the use of imported bumblebee colonies**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A60. Where horticultural growers find it necessary to use commercially imported bumblebees, provide advice on best practice	❖ Develop guidelines on importation, maintenance, disposal of commercial bumblebee colonies	DAFM	A code of practice / guidelines covering importation, maintenance and disposal of commercially sourced bumblebees used for crop pollination is at an advanced stage of preparation and should be in place in advance of 2018 importations.	
		DAERA	Forest Service Bee Health Inspectorate have published guidance on the procedure to follow for top fruit growers in Northern Ireland to assist importers to ensure that import requirements are understood and followed.	



## 4 Expanding our knowledge on pollinators and pollination services

### Target 4.1: Identify evidence-based actions to promote pollinator populations in Ireland

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A61. Identify the most appropriate native wildflower plant mixes for pollinators in Ireland based on 8-10 key environmental typologies *	<ul style="list-style-type: none"> <li>❖ Collate existing knowledge to recommend the top plant species for different environmental conditions across the pollinating season</li> <li>❖ Publish information on IPI website</li> </ul>	National Biodiversity Data Centre & Plant animal interactions research group (TCD),	This work is underway. A framework developed by Dr Laura Russo, will be implemented to determine which species of plants deliver a variety of management aims in different habitat types. Further thought needs to be put into the most effective way to communicate this information.	
A62. Test methodologies and identify the most effective way to provide wild bee nesting habitat in the Irish context	<ul style="list-style-type: none"> <li>❖ Provide knowledge to inform conservation of existing, and provision of new, nesting habitat in farmland</li> <li>❖ Determine best practice for small scale nest provision in rural and urban settings</li> </ul>	Plant animal interactions research group (TCD) & relevant partners	<p>No progress yet</p> <p>Reason it has not progressed: requires external funding</p>	
A63. Identify areas of importance to pollinators, and prioritise plans for restoration of pollinator habitat, based on those areas that will yield the greatest expected net benefits	<ul style="list-style-type: none"> <li>❖ Review publically managed land in terms of suitability for key pollinator populations</li> <li>❖ Identify current areas suitable for pollinators, particularly rare and threatened species</li> <li>❖ Identify the most appropriate locations for linking areas to allow pollinators to move around the landscape</li> <li>❖ Feed this information into active</li> </ul>	National Biodiversity Data Centre and partners	<p>Other actions have taken short term priority, and this has not yet been completed. It is recognised as a priority for the coming years.</p> <p>Reason it has not progressed: best progressed when the initiative is further developed</p>	

	initiatives to improve future site selection with a view towards creating linked habitats across the landscape [Action 76]			
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**Target 4.2: Increase our understanding of the value of pollination service and the implications of pollinator loss**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A64. Determine the economic value of pollination for food and non-food crops	<ul style="list-style-type: none"> <li>❖ Use pollinator requirement and production/yield data to determine marginal values for fruit/seed crops (including fodder crops)</li> <li>❖ Determine non-market values of pollinators and pollination services</li> </ul>	Plant animal interactions research group (TCD); National Biodiversity Data Centre ; NIEA (Biodiversity Unit); and others	Dr James Murphy, funded by EPA, has developed models to identify value of pollination services to Irish economy in terms of domestic production and in terms of imports. This work is being written up for publication in early 2018. Non-market value work will occur during 2018.	
A65. Understand the relative contribution of different pollinator taxa to prioritise conservation strategies for the delivery of pollination and natural pest control services	<ul style="list-style-type: none"> <li>❖ Analyse plant-insect interaction database to determine relative abundance of different flower visitors versus their importance as pollinators for particular plant species, as well as potential as biocontrol agents (hoverflies) [Action 11]</li> <li>❖ Publish information on IPI website</li> </ul>	Plant animal interactions research group (TCD); National Biodiversity Data Centre	This cannot be progressed until the database [Action 11] is more fully developed.	

A66. Integrate plant and land-cover data to generate floral resource heat-maps for Ireland showing which areas can provide adequate nutrition for pollinators and have the potential to provide pollination services for adjacent insect-pollinated crops	❖ Integrate data and produce national level maps [Action 12]	Plant animal interactions research group (TCD); National Biodiversity Data Centre	See update to A12: A model predicting the value of different land use types based on floral quantity and quality has been developed by Eileen Power and Jane Stout (TCD) and Jon Yearsley (UCD), and tested against available data on pollinator abundance – the model has been validated and tested for sensitivity and refined. Publication in the scientific literature is pending. This will begin to allow the generation of floral resource heat maps in the future. This is a longer-term action.	
A67. Develop predictive models to determine the economic impacts of land-use changes on pollinators and pollination services	❖ Develop technologies to database, map, and evaluate pollination service in Ireland [Action 12]	Plant animal interactions research group (TCD); National Biodiversity Data Centre ; and others	Need to complete analysis of economic value of pollination (A64) before this can start.	
A68: Carry out a series of cost benefit analyses for pollinator-friendly actions	❖ Build on existing studies to determine the costs and benefits of pollinator-friendly actions (e.g. legume-rich grassland vs. artificial fertilizer application; reduced mowing regime; changes in pesticide use), particularly on farmland, public and semi-state land	Plant animal interactions research group (TCD); and others	See update to A9 – an academic project to look at cost-benefits analysis of biodiversity enhancement on farmland is ongoing.  Information that will feed into this objective is also ongoing through various other research projects such as <a href="http://www.smartgrass.ie/">http://www.smartgrass.ie/</a>	

A69. Determine how pollinators and pollination services vary according to the surrounding landscape at a range of scales	❖ Understand how land-use at different scales relates to pollinator abundance/ diversity and pollination services	Plant animal interactions research group (TCD)	PhD project on 'Pollinator ecology at a landscape scale' has recently been completed. PhD student Florence Hecq and Jane Stout (TCD) are currently writing up work for publication. We found that a higher proportion of semi-natural grasslands, a higher patch shape complexity (i.e. land parcels with more irregular shape) and a larger patch size in the surrounding landscape increased flower-visiting insect species richness and abundance at 500m and 1km scales.	
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**Target 4.3: Understand the impact of pesticides on wild pollinators in an Irish context**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A70. Determine the response of wild pollinators to pesticide use in the Irish context	❖ Determine levels of exposure and impacts of pesticides on pollinators in grass-dominated agricultural landscapes	Plant animal interactions research group (TCD); DAFM; and others	Funding has been awarded by the Irish Research Council to Sarah Gabel to work with Jane Stout (TCD) and Blanaid White (DCU) to examine the exposure to and impacts of pesticides on hoverfly pollinators in Ireland. This project will run 2016-2020.	

**Target 4.4: Improve our understanding of bee health**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A71. Determine variation in, and prevalence of, bee diseases/pathogens and investigate options for management of bee health	❖ Improved understanding of prevalence, distribution, and management of disease in both wild and managed bees	Bee Research Centre at NUI Galway; and others	NUI Galway continues to actively research this area  <b>DAERA:</b> Forest Service Plant Health Directorate have commissioned AFBI to undertake research into the increased prevalence of AFB detected in the DAERA Bee Health Inspectorate surveillance programme.	

## 5 Collecting evidence to track change and measure success

### Target 5.1: Build taxonomic capacity so that we can collect better information on our pollinators

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A72. Increase the number of active recorders who can accurately identify pollinator species	❖ Run annual identification workshops and field-based events	National Biodiversity Data Centre , CEDaR, CIEEM & relevant partners	In 2017, the Data Centre ran three workshops on general pollinator identification in addition to the monitoring scheme workshops and events listed under action 74.	
	❖ Increase the number of online identification resources available through the IPI	National Biodiversity Data Centre	These continue to be developed and enhanced. A total of 10 free pdf guides are currently available on: Bumblebee identification Solitary bee identification Hoverfly identification	

### Target 5.2: Monitor changes in the abundance and distribution of wild pollinators across Ireland

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A73. Maintain data on wild pollinator distribution and make available through an online Atlas of Irish Pollinators	<ul style="list-style-type: none"> <li>❖ Growth of the All-Ireland bee database</li> <li>❖ Growth of All-Ireland hoverfly database</li> <li>❖ Display of information through an online Atlas of Irish Pollinators</li> </ul>	National Biodiversity Data Centre	<p>An additional 3,000 records have so far been added to the All-Ireland bee database in 2017. This is an increase on 25% from 2016.</p> <p>An additional 800 records have so far been added to the All-Ireland hoverfly database in 2017 which is an increase of 30% from 2016.</p>	

			An online Atlas of Irish Pollinators is available. It includes species accounts of all bee species and hoverfly species.	
A74. Monitor wild pollinators across the landscape to detect the early warning signs of a threat to Irish pollination service	<ul style="list-style-type: none"> <li>❖ Continue to support and grow the All-Ireland Bumblebee Monitoring Scheme</li> <li>❖ Provide training to all interested parties</li> </ul>	National Biodiversity Data Centre	<p>12 workshops on bumblebee identification and monitoring were delivered this year: 6 to the general public and 6 to partner organisations to the Plan (An Taisce, BirdWatch Ireland Carlow Branch, Causeway Coast and Glens Heritage Trust, Community Garden Network, Dublin Zoo, South &amp; East Cork Area Development).</p> <p>To date, 19 new recorders have joined the scheme, representing 26 new transects. If last year's recorders and transects are retained, the monitoring network now represents 85 volunteers (74 ROI, 10 NI) across 112 sites (17 NI, 95 ROI). Unfortunately retention of recorders is an issue. Continual recruitment is necessary to maintain transect numbers over time.</p> <p>The Data Centre's Annual Recording Event in Belmullet also focussed on recording the Great Yellow Bumblebee; its presence was affirmed across two sites and one new site was discovered.</p>	
	❖ Use the All-Ireland Bumblebee Monitoring Scheme mechanism to	National Trust, BnM, BirdWatch	See above – monitoring scheme training was provided to 6 partner organisations in 2017.	

	<p>assess the success of site-based actions taken for wild pollinator populations. Voluntary training to be provided by the Data Centre.</p>	<p>Ireland, RSPB, Local Authorities, Ulster Wildlife, Community Gardens Ireland; SECAD; Ballyhoura Development Ltd., others as appropriate</p>	<p>Two AIPP workshops (to include Bumblebee Monitoring Scheme training) were scheduled in late spring 2017 with Community Gardens Ireland and the RSPB. Unfortunately these had to be cancelled as the project officer position was vacant in May-June 2017.</p> <p>AIPP training was provided to Tidy Towns groups in five counties and to Limerick County Council staff in 2017.</p>	
	<p>❖ Establish a national sampling framework for solitary bees and hoverflies that identifies the most efficient way to collect data to assess changes in conservation status (Red List) at 10-yearly intervals.</p>	<p>National Biodiversity Data Centre</p>	<p>A national sampling framework which would accommodate the systematic and efficient collection of solitary bee and hoverfly data has been developed by the Data Centre and is ready for use when funding becomes available for the survey.</p>	
	<p>❖ Initiate an All-Ireland bee and hoverfly survey within this sampling framework in collaboration with academic partners (<b>note:</b> this action is resource dependent)</p>		<p>This has been discussed and we have broad agreement on how the necessary surveys should be structured. The Pollinator Plan team have also been actively engaging with colleagues in Britain who launched a GB pollinator monitoring scheme in 2017. A survey could be established and rolled out at short notice, but it is entirely dependent on additional funding.</p>	



**Target 5.3: 5.3 Provide mechanisms to track progress in implementation of the Plan**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A75. Develop a publically available online management system to track progress in the 81 actions within this Plan. *	<ul style="list-style-type: none"> <li>❖ Development of a system where those who have responsibility for an action can log on and submit annual progress reports</li> <li>❖ Use of the online management system</li> </ul>	National Biodiversity Data Centre	In the short term this will not be developed, but will take the form of this downloadable pdf annual review	
A76. Develop a publically available online system to map locations where pollinator-friendly actions have been taken with a view towards creating an integrated network of pollinator habitat across the landscape *	<ul style="list-style-type: none"> <li>❖ Development of a system where all those who have taken pollinator-friendly actions (farmers, schools, land managers, individuals) can log their location and the action(s) taken.</li> <li>❖ System to be interactive and show progress in the creation of pollinator-friendly habitat across the landscape</li> </ul>	National Biodiversity Data Centre	<p>This system was launched in spring 2017. It has not been actively promoted due to resource constraints. Currently more than 200 sites have logged their actions. At the minute it accommodates actions by gardens, councils, schools, businesses, local communities and headquarters/campuses. It will open up to other sectors in 2018.</p> <p>Additional development work will be completed in early 2018 to make the site more attractive to users.</p>	
A77. Provide an evidence base to advise, support & monitor pollinator-friendly actions so that they can become as effective as possible	<ul style="list-style-type: none"> <li>❖ Provide a framework for individuals or organisations to monitor the impacts of site-based actions – to create pollinator habitat within farmland, public and private land – in terms of changes in wild pollinator populations present [Action 74]</li> <li>❖ Use of the emerging online map of</li> </ul>	National Biodiversity Data Centre & partners	The components of this have all been developed. It is an action that will become more important the further we move into the implementation phase.	

	<p>pollinator-friendly habitat [action 76] to direct future actions to the most appropriate areas</p> <p>❖ Where sites are being monitored and actions are not proving effective, this to be investigated so that future actions can become as effective as possible</p>			
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## DELIVERY OF THE PLAN AND MEASURING PROGRESS

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A78. Annually review the steering group	❖ Review the steering group annually and expand/restructure as required	Steering group	<p>The steering group was restructured for 2017 to include Beekeeping Association representatives (ROI &amp; NI). It has been agreed that the size remains constant (18 members) but that expertise on the group reflects the key tasks that are being undertaken in any given year.</p> <p>The current Steering Group (for 2018) is listed below</p>	
A79. Establish a subgroup on funding and innovation to progress the funding needs within implementation of the	❖ Establish a subgroup to investigate existing funding options (e.g., Cap II, LIFE, INTERREG) and discuss future innovations	Steering group	It has been agreed that a dedicated subgroup would not be established, but that the entire steering group would keep sight of funding opportunities in their own spheres	

Plan *	❖ Group to liaise with the DoELG and Local Authority Environmental Awareness Officers to prioritise pollination initiatives in Agenda 21 grants		and communicate to the group. These are being pursued where appropriate.  We have not yet actively engaged with Agenda 21. This is proposed for 2018.	
A80. Incorporation of the Pollinator Plan into future relevant national strategies	❖ Promotion of the Plan to relevant organisations	Steering group	Oversight is being maintained on this action. The Pollinator Plan was incorporated into the <i>National Biodiversity Plan</i> (ROI) in 2017 and is included in the <i>Biodiversity Strategy for Northern Ireland to 2020</i> .	
A81. Renew the Plan in 2020	❖ A new version of the Pollinator Plan to be developed for 2020-2025	Steering group	Not currently applicable	

The steering group will oversee progress within the plan through:

- Publication of a mid-term review at the beginning of 2018
- Publication of an annual report to track progress in the 81 actions within this Plan. Those organisations with responsibility for actions were requested to submit short annual progress reports in November each year, beginning 2016. This document is the second of those reports.
- Organisation of an annual event where those involved in implementing of the Plan can get together and report on progress [action 44]
- Mechanisms will be created to measure the number of individual site-based actions that are taken [action 76]. This plan aims to create a joined-up network of diverse and flower-rich habitats to support pollinators across Ireland. The publicly available online mapping system (Actions for Pollinators) tracks progress towards this goal.
- Ultimately success will be measured in increases in the abundance and diversity of pollinators within the Irish landscape [actions 73 and 74].

### Current Steering Group (to oversee implementation of the AIPP in 2018)

Member	Affiliation
Dr Úna FitzPatrick (chair)	National Biodiversity Data Centre
Dr Jane Stout (deputy chair)	Trinity College Dublin
Ms Catherine Bertrand	Butterfly Conservation
Mr Ken Bradley	DOE Environmental Policy Division
Dr Gerry Clabby	Local Authorities: Fingal County Council
Ms Susie Hill	Ulster Beekeepers Association
Ms Catherine Keena	Teagasc
Dr Damian McFerran	Centre for Environmental Data and Recording (CEDaR)
Dr Mary Montaut	Federation of Irish Beekeepers' Associations (FIBKA)
Dr Archie Murchie	Agri-Food and Biosciences NI
Dr Tomás Murray	National Biodiversity Data Centre
Dr Brian Nelson	National Parks and Wildlife Service
Dr Vincent O'Malley	National Roads Authority
Ms Melina Quinn	Northern Ireland Environment Agency
Dr Veronica Santorum	Limerick's Buzzing Project
Mr Jerome Walsh	Department of Agriculture, Food and the Marine

This annual review has been compiled by Úna FitzPatrick, Jane Stout and Juanita Browne (project officer).

The Steering Group and the National Biodiversity Data Centre wish to extend our thanks and gratitude to Dr Erin Jo Tiedeken who was project officer on the Plan from April 2016-May 2017. Erin Jo made a significant contribution and was instrumental in helping drive the initiative forward.

## **APPENDIX A: All-Ireland Pollinator Plan 2015-2020 Partners**

At the time of original publication, 69 governmental and non-governmental organisations agreed to support the All-Ireland Pollinator Plan. Responsibility for delivering the 81 actions laid out by the Plan was shared out between these original partners. Since publication, the number of partner organisations has risen to 80. All current partners are listed below (partners that joined after the Pollinator Plan's launch are indicated by an asterisk).

### **Government Departments**

Department of Arts, Heritage and the Gaeltacht (ROI)

Department of Agriculture, Food and the Marine (ROI)

Department of Agriculture, Environment and Rural Affairs (formerly DARD, NI)

### **National level organisations/bodies**

National Biodiversity Data Centre

Heritage Council

Bord Bía

Agri Food and Biosciences Institute (NI)

Centre for Environmental Data and Recording NI (CEDaR)

Chartered Institute of Ecology and Environmental Management (CIEEM)

Council for Nature Conservation and the Countryside (CNCC)

Environmental Protection Agency (EPA)

Fáilte Ireland

Irish Organic Farmers and Growers Association

Irish Soft Fruit Growers Association

Keep Northern Ireland Beautiful

National Botanic Gardens

National Parks & Wildlife Service (NPWS)

NI Environment Link

Northern Ireland Environment Agency (NIEA)

OPW

Organic Trust

Teagasc

Tidy Towns

Ulster Farmers' Union

Ulster in Bloom

Waterways Ireland

### **Transport Authorities**

Iranród Éireann

Translink

Transport Infrastructure Ireland

Transport NI

**Charities/NGOs**

Airfield Estate\*  
An Taisce  
ARENA Network, Business in the Community NI  
Belfast Hills Partnership  
BirdWatch Ireland  
Botanical Society of Britain & Ireland\*  
Buglife\*  
Bumblebee Conservation Trust (UK)  
Burrenbeo Trust  
Business in the Community Ireland  
Butterfly Conservation  
Butterfly Conservation NI  
Community Gardens Ireland  
Friends of the Earth Ireland  
Friends of the Earth Northern Ireland

Green Sod Ireland\*  
Grow it Yourself (GIY)  
Hedge Laying Association of Ireland  
Irish Peatland Conservation Council (IPCC)  
Irish Seed Savers\*  
Irish Wildlife Trust  
Learning Through Landscapes UK (Polli:Nation)  
Limerick's Buzzing  
National Trust  
RSPB  
The Causeway Coast & Glens Heritage Trust\*  
True Harvest Seeds  
Ulster Wildlife  
Wexford Naturalists' Field Club\*  
Woodlands of Ireland

**Beekeeping Associations**

Federation of Irish Beekeepers' Associations  
Institute of Northern Ireland Beekeepers (INIB)  
Native Irish Honeybee Society  
Ulster Beekeepers Association

**Councils** – *note that most Councils across the island have engaged with the Plan but we have not yet formalised the process of requesting official endorsement on a council-by-council basis. Those listed approached the initiative themselves during development of the Plan in 2015.*

Belfast City Council  
Dublin City Council  
Fingal County Council  
Heritage Office of Kilkenny County Council  
Wexford County Council

**Semi-state companies**

Bord Na Mona

**Leader Companies**

Ballyhoura Development Ltd

Mayo North East\*

South and East Cork Area Development (SECAD)

**Community Groups**

Annascaul Adventures\*

**Academic Institutions**

Athlone Institute of Technology\*

College of Agriculture, Food and Rural Enterprise, NI (CAFRE)

Maynooth University\*

Open Air Laboratories (OPAL) UK

Trinity College Dublin

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**Businesses Supporters**

- Abbott Diabetes Care Ireland
- ABP Food Group
- Accenture
- Adare Manor Resort
- AIB
- Arrabawn Co-operative Ltd.
- Beeactiv Ltd.
- Country Crest
- Dundrum Town Centre
- Ecoseeds
- Elavon

- Genovese Foods
- Glanbia Consumer Foods
- Lottie Dolls (Arklu)
- Newbridge Foods Ltd.
- Novokem
- Pritchitts A Lakeland Dairies Company
- Secret Valley Wildlife Park
- Shines Seafood
- The Lismore Food Company
- Wyeth Nutritional Ireland

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**Individual Tidy Towns groups who entered the special pollinator award and made their local area pollinator-friendly in 2017:**

There were 70 entries to this award in 2017. According to the Tidy Towns Unit, this is a very high entry level for any special award. Entrants engaged in a wide range of projects including pollinator-friendly planting, reducing mowing, perennial beds, roundabouts, and wildflower meadows. This is a striking deviation from traditional Tidy Towns efforts to 'tidy' their areas. Within each of the four regions, there was a large and small town/village winner (denoted in bold). The overall winner of the Pollinator award for 2017 was Geashill in County Offaly.

Group	County	Group	County
Clonegal Tidy Village Association	Carlow	BallaCommunity Tidy Towns	Mayo
Ennis Tidy Towns	Clare	Baile Slachtmhar Béal an Mhuirthead	Mayo
<b>Carrigaline Tidy Towns</b>	Cork	Julianstown Tidy Towns	Meath
Cobh Tidy Towns	Cork	Kilbeg Staholmog Pride of Place Group	Meath
Kildorrery Tidy Towns	Cork	Glaslough Tidy Towns	Monaghan
Rosscarbery Tidy Towns	Cork	<b>Geashill Tidy Towns</b>	Offaly
<b>Buncrana Tidy Towns</b>	Donegal	Kinnitty Tidy Towns	Offaly
Phibsboro Village Tidy Towns	Dublin	Roscommon Tidy Towns	Roscommon
Raheny Tidy Village Group	Dublin	<b>Ballintubber Tidy Towns</b>	Roscommon



Swords Tidy Town Dublin	Dublin	Balyfarnon Tidy Towns	Roscommon
Ballyboughal Tidy Towns	Dublin	Collooney Tidy Towns	Sligo
Donnybrook Tidy Towns	Dublin	Ballymote Tidy Towns	Sligo
Tuam Tidy Towns	Galway	Mullaghmore Active	Sligo
Abbey Tidy Towns	Galway	<b>Clonmel Tidy Towns</b>	Tipperary
Killarney Tidy Towns	Kerry	Birdhill Tidy Towns	Tipperary
Kenmare Tidy Towns	Kerry	Cahir Tidy Towns	Tipperary
Listowel Tidy Towns	Kerry	Emly Tidy Towns	Tipperary
Tarbert Development Association	Kerry	Kilsheelan Tidy Towns	Tipperary
<b>Maynooth Tidy Towns</b>	Kildare	Silvermines Tidy Towns	Tipperary
Naas Tidy Towns	Kildare	Terryglass Improvements Association	Tipperary
Ballymore Eustace Tidy Towns	Kildare	Ardmore Tidy Towns	Waterford
Timolin Tidy Towns	Kildare	Mullingar Tidy Towns	Westmeath
Keep Kilkenny Beautiful	Kilkenny	Multyfarnham Tidy Towns	Westmeath
Kells Tidy Towns	Kilkenny	<b>Ballycanew Tidy Towns</b>	Wexford
Tullahought Community Development Limited	Kilkenny	Ballyduff Development Group	Wexford
Abbeyleix Tidy Towns	Laois	Blackwater Tidy Towns	Wexford
Ballacolla Tidy Towns	Laois	Bridgetown Community Development	Wexford
Borris in Ossory Tidy Towns	Laois	Ferns Tidy Towns	Wexford
Clonaslee Tidy Towns	Laois	Killanne Development Group	Wexford
Mountmellick Tidy Towns	Laois	Rosslare Tidy Towns	Wexford
<b>Askeaton Heritage &amp; Tidy Towns</b>	Limerick	Arklow Tidy Towns	Wicklow
Bruff Tidy Towns	Limerick	Wicklow Tidy Towns	Wicklow
Glin Development and Tidy Towns Association	Limerick	Hollywood Tidy Towns	Wicklow
Abbeyshrule Tidy Towns	Longford	Stratford-on-Slaney Tidy Towns	Wicklow
Dromiskin Tidy Towns	Louth	Tinahely Tidy Towns	Wicklow

## APPENDIX B: 2017 ACTIVITIES BY NEW PARTNER ORGANISATIONS

New partner organisations were contacted and given the opportunity to provide a short update on their 2017 activities if they wished. Where necessary, these will be formalised into additional actions in the mid-term review of the Plan which is scheduled for autumn 2018.

Partner	Activities
Airfield Estate	Pollinator-friendly management on site, including planting of wildflower meadows. Hosted a pollinator workshop in 2017 (collection and use of wildflower seed)
The Causeway Coast & Glens Heritage Trust	Projects carried out under the Heart of the Glens Landscape Partnership Scheme are delivering multiple benefits for pollinators. The Glens Great Grassland Trail includes 11 publicly accessible wildflower meadow sites that form a tourist trail on the Causeway Coastal Route in the Glens of Antrim (11.36ha area). Farm Resilience Plans are being developed that focus on the needs of the farmer and support a more resilient farm landscape. To date, 11km of hedgerow, 73ha of Woodland / Shelterbelts and 14.6ha of species-rich leys have been established. These meet the needs of the farmer but also have wider benefits for the environment, including habitat for pollinators. School biodiversity plans for the different primary and secondary schools in the Glens have been carried out, along with a 'Teach the Teacher' programme. Green infrastructure plans are being developed for Ballycastle, Cushendun and Cargan (tree planting, wildflower meadows, green walls and roofs, pollinator-friendly hanging baskets) to benefit urban wildlife. We established a group in the Glens for people who were interested in all things 'pollinator'. This included setting up a Facebook page for the group. We have also run multiple pollinator-related training events and have produced and installed four dedicated wildlife interpretation panels that include information on pollinators and pollinator habitat.
Wexford Naturalists Field Club	All-Ireland Pollinator Plan Guidelines and How-to-Guides are available to members from the Club library. Re-posting and sharing of All-Ireland Pollinator Plan news on Club Facebook page. Hosted workshop on creating wild pollinator nesting habitat with Dr. Erin Jo Tiedeken. Hosted workshop on collecting and using pollinator-friendly wildflower seed with Dr. Úna FitzPatrick. Co-sponsored Wexford Co. Councils Schools' Biodiversity Art Competition with 'Pollinators' as the theme - Bee boxes and information were presented by the Club to winning schools. Bumblebee swatches available for sale at Club events. Members encouraged to record sightings of bees on Club/NBDC Recording Form. Promotion of Bumblebee Monitoring Scheme. Members have passed on knowledge and ideas in their own communities, e.g. through Tidy Towns groups
Annascaul Adventures	We were trained in Biodiversity in January to March by Kerry Education Training Board. We are maintaining

	<p>hedgerows for pollinators. We started a GIY Group in June 2017. Some gardens in our local estate are being encouraged to leave unmown grass to help our insects. We have started surveying bees, wildflowers, and butterflies. In May 2017 we held a biodiversity event in Annascaul to raise awareness in the local area. We are currently applying for training for invasive plant removal along the River Annascaul. In September 2017, we started building a butterfly house. We also held four local native walks January to April 2017.</p>
Athlone Institute of Technology	<p>AIT offers cross-cutting platform innovations for addressing complex disease mitigation, including complex parasites and viruses that affect pollinators. AIT is developing in-vitro-infectivity bioassays to confirm disinfection, with particular focus on addressing infections in honeybees and bumblebees. AIT is collaborating with main commercial suppliers of bumblebees for investigating disinfection strategies and to mitigate cross-transfer to native bees. AIT vision is to support AIPP by developing next-generation biosecurity measures for intensive sustainability of Irish pollinations and to help ecosystem service management.</p>
Maynooth University	<p>Maynooth University has a clear commitment to promote biodiversity and AIPP guidelines across our campus and wider locality. Our Green Campus Committee and MU Grounds Department coordinate numerous initiatives and activities aimed at developing pollinator-friendly habitats and maximising the biodiversity value of the campus. In addition, we aim to reduce the University's impact on the natural environment. Some of these projects are briefly described below.</p> <p><i>The MU 10-sites for Biodiversity Project:</i> Across the campus, 10 sites have been designated 'Managed for Biodiversity' where cultivation and maintenance is kept to a minimum. <i>Campus Habitat and Species Census:</i> involves the production of comprehensive habitat maps and species records for the campus. <i>Pesticide use:</i> The use of pesticides across the campus has been drastically reduced. <i>MU Wild Walk:</i> Plans are underway to develop a waymarked walking route around the North and South campuses. A number of bug hotels and honeybee hives are now located on campus grounds. In addition, native wildflower seed mixes and plants are used where possible. <i>Kildare Biodiversity Network:</i> Through events such as our annual Biodiversity Day (held in conjunction with Kildare CoCo), numerous groups across the region collaborate and share expertise and experiences regarding biodiversity practices. Members of the MU Green Campus group regularly organise and host seminars and tours of the campus, attended by staff, students, members of student societies and community groups specifically focussed on highlighting the issues faced by our pollinating insect species.</p>
Buglife	<p>Buglife has undertaken a number of actions to support pollinators this year. Our range of farm pollinator guidance has been expanded and improved, with several new publications. Our advice sheets can be accessed from the links on this web page <a href="https://www.buglife.org.uk/farmland-advice">https://www.buglife.org.uk/farmland-advice</a>.</p> <p>We developed a training package for farm advisors in giving pollinator advice alongside the more general conservation</p>

	<p>messages. This course is valuable in ensuring that farm advisors are giving the best available advice based upon Buglife's in-depth knowledge of invertebrate ecology and our regular reviews of the rapidly changing scientific research. It also ensures that farm advisors from different organisations are giving a single consistent message to landowners that is underpinned by the best evidence. We are happy to discuss delivering this training course to any organisations or landowners in Ireland or Northern Ireland.</p> <p>We are producing specific guidance for pollinators in orchards, which will be released in the spring, and we are planning to implement our B-lines methodology across Northern Ireland. B-lines is an especially exciting development that we have rolled out across most of the UK which identifies flower-rich habitats from which landscape scale corridors can be mapped. This provides a strategic framework to allow insects to move across the landscape between fragmented patches of suitable habitat, and determines the best places to locate new pollinator initiatives.</p>
Green Sod Ireland	<p>Green Sod Ireland's <i>Bee Aware</i> is a bee-friendly planting and awareness-raising project for primary schools, whereby students and teachers learn about the important role of bees as pollinators, and how we can help them. This year the Green Sod Ireland team worked with 19 primary schools across Galway City, Dublin City and County Kildare under Local Agenda 21 funding. To date, 25 primary schools and 735 students from senior infants to fifth class have planted a mini wild flower meadow in their school garden in support of bees and the All-Ireland Pollinator Plan.</p> <p>With the support of the Heritage Council, Green Sod Ireland delivered a <i>Wild Bee Presentation</i> to 3 residents associations in Galway City during Heritage Week 2017; Shantalla Residents Association, Woodquay Residents Association and Maunsells Residents Association. The presentations were free and open to the public, drawing in members of other community groups such as Tidy Towns, Active Retirement Ireland and Third Space Galway. Presentations provided an introduction to wild bees, pollination and their conservation, including the All-Ireland Pollinator Plan and the guidelines for local communities. Green Sod Ireland is a charity founded in 2007 to establish WildAcres across Ireland, creating safe habitats vital for biodiversity. Through its variety of programmes, Green Sod also delivers ecological education in order to encourage the proactive preservation of nature. Green Sod Ireland is a volunteer-run organisation.</p>

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