



## YEAR 1 REVIEW

DECEMBER 2016

[www.biodiversityireland.ie/pollinator-plan](http://www.biodiversityireland.ie/pollinator-plan)



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 first of those review documents (December 2016). [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 has been developed by the Data Centre and is currently being tested. It will be publicly released in early 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 1 (DECEMBER 2016)**

This document very briefly outlines key progress in 2016. This is followed by updates against each of the 81 actions in the Plan, completed by the organisation who accepted responsibility for that action. An accompanying one page infographic has also been prepared to summarise progress in 2016.

### **Key progress in 2016**

#### **Funding**

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

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. 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. Dr Erin Jo Tiedeken is the current project officer.

- ✓ The Department of Agriculture, Food and the Marine agreed to provide a promotional budget for the development of key Pollinator Plan resources in 2016. This funding was used to design five sectoral guideline documents & three how-to-guides as well as print a number of these key resources.
- ✓ The National Parks and Wildlife Service agreed to provide funding to print hard copy versions of some of those key resources. These will be distributed in 2017.

## Support & outreach

- ✓ When the Plan was published in September 2015 it was supported by 68 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 that will be prioritised in 2017. We are seeing a particular interest from the business community, with many companies interested in endorsing the Plan and taking actions to support the implementation.
- ✓ The All-Ireland Pollinator Plan has been presented at international academic fora (including the Scandinavian Association for Pollination Ecology and EU COST network SuperB workshops) and has attracted international acclaim and interest. The chair of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) working group addressing pollinators (Thematic assessment of pollinators, pollination and food production, 2016) has commended the AIPP as an example of good practice in pollinator conservation. Additionally, the AIPP has been used as a model for national pollinator plan development in Norway, the Netherlands and New Zealand. At a national level, the AIPP has been used as an example of natural capital approach to conservation: by identifying values associated with pollinators (not just financial values but in terms of the value to human health and wellbeing, as well as to other wildlife and the wider landscape), this has leveraged support for conservation action.
- ✓ 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. The impact of the Tidy Towns award has been huge, with 57 communities already supporting more pollinators through their actions in 2016. It shows how local communities can lead the way in addressing national issues within a structure like Tidy Towns. The Steering Group is very grateful for the support of the Heritage Offices & Biodiversity Offices of the Local Authorities in making this possible. Feedback is being provided to all those towns who entered the award in 2016. The Heritage and Biodiversity Officer Network have agreed it will continue in 2017.
- ✓ Since its publication the Pollinator Plan has been promoted via 139 published articles, interviews, and other events. Across the island, this includes:
  - 39 published newspaper articles
  - 30 radio interviews
  - 4 TV interviews
  - 20 additional articles (blogs, newsletters, magazines)
  - 46 presentations at events/conferences

## Development of resources to support implementation

- ✓ A junior version of the All-Ireland Pollinator Plan has been published and has seen widespread uptake by schools. It is available in both English and Irish.

The Junior Plan was developed in collaboration with WillFredd Theatre and the Ark using funding provided by Science Foundation Ireland and the Wellcome Trust. It was subsequently voluntarily translated into Irish by Dr Pól Mac Cana (Wildlife Officer, Northern Ireland Environment Agency).

- ✓ 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.

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. It is initially proposed that guidelines will be provided for: Local Communities, Gardeners, Farmers, Councils, Businesses and Transport Authorities. 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.biodiversityireland.ie/pollinator-plan](http://www.biodiversityireland.ie/pollinator-plan) :

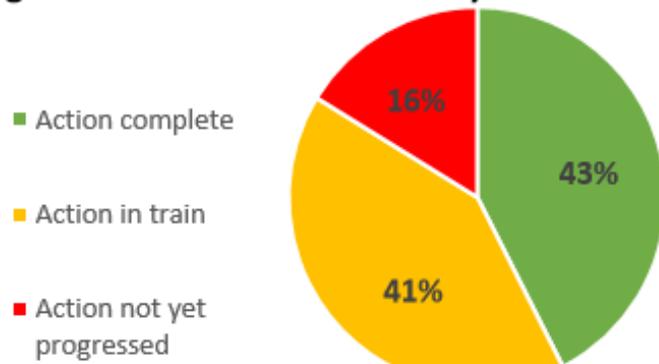
- Local Communities: actions to help pollinators. All-Ireland Pollinator Plan, Guidelines 1. National Biodiversity Data Centre Series No.4, Waterford. April, 2016.
- Gardens: actions to help pollinators. All-Ireland Pollinator Plan, Guidelines 2. National Biodiversity Data Centre Series No.9, Waterford. May, 2016.
- Businesses: actions to help pollinators. All-Ireland Pollinator Plan, Guidelines 3. National Biodiversity Data Centre Series No.10, Waterford. November, 2016.
- 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.

Guidelines for how Councils can help implement the Plan was published in December 2016 and will be launched in early 2017. These will be followed up by guidelines for farmers and transport networks in 2017.

### **Actions completed**

- ✓ Of the 81 actions in the Plan, 34 have been completed this year as agreed (43%), 33 are in train (41%) and 13 have not yet been progressed (16%). 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 1**



\*Some actions not yet progressed are funding dependent

### **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 year.

## ALL-IRELAND POLLINATOR PLAN 2015-2020: 81 ACTIONS TO HELP POLLINATORS REVIEW OF PROGRESS YEAR 1

Updates 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. Where updates have not been provided, this is stated. The traffic light system to quickly show progress under each action has been added by the Steering Group.

	Agreed action has taken place in 2016
	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 2016	
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 in light of Pollinator Plan recommendations for future GLAS schemes.</p> <p>The Conservation of bees (sand) action was selected by 9,771 farmers and the conservation of bees (boxes) action was selected by 2,770 farmers under tranches 1 and 2 of GLAS. In total over 38,000 participants under Tranches 1 and 2 GLAS and Tranche 3 opened in November 2016.</p>	

			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	DAERA's new agri-environment scheme, the Environmental Farming Scheme (EFS), includes pollinator friendly measures.  The EFS is planned to open for applications in February 2017, subject to the necessary financial approvals.	
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 (IPI)	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 on 5 <sup>th</sup> September 2016. Outcomes of this workshop will include all member states scoring EFA management options and the development of guidelines for decision-makers. 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 1,670 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 and others	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 Organic Matters. We look forward to working to bring a	

			<p>wider understanding of what farmers can do to our members in 2017, in the combined effort to protect our natural heritage and species. 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>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 (IPI), Teagasc</p>	<p>We have consciously made a decision that rather than quickly release generic style resources, we will:</p> <ul style="list-style-type: none"> <li>✓ Focus on getting the best evidence-based guidelines we can out for each sector</li> <li>✓ Tailor these carefully for Ireland</li> <li>✓ Engage fully with each sector in their development to ensure they are pragmatic but 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 spring 2016. Guidelines for actions farmers can take are in preparation with extensive engagement currently ongoing. They will be available in early 2017.</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 (IPI)	This system was developed by the Data Centre in late spring 2016 but we had to wait on permissions to be able to include an aerial photography layer for N. Ireland. This is essential to ensure the system can be used on an all island basis. This permission has been granted by OSNI but we have decided to delay public release of the system until spring 2017. The system is currently being tested internally.	
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**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>By working with an ever expanding base of farmers, especially in Fermanagh, Mag Meadows has significantly enhanced habitats for pollinators in this region. Around 150 farmers and landowners have engaged with the project while awareness across the community has been transformed. Some prominent examples include 3 million potential viewing opportunities of the 'Don't cut yet' signs, 60,000 Geopark visitors viewing signage at Marble Arch Caves and the whole of Enniskillen talking about <a href="http://www.hayheads.com">www.hayheads.com</a> in Monastery Meadows.</p> <p>Several school mini-meadows, established by Mag Meadows have been utilised and enhanced, thereby bringing knowledge of</p>	

			<p>pollinators to a whole new generation at both primary and secondary levels.</p> <p>Public access sites have enabled the Project Officer to address new audiences, such as volunteers, farmers, and community and church groups.</p> <p>A 'how-to' guide on how to create and manage a species rich meadow has been completed</p>	
	❖ Investigation of funding sources with a view to expanding Save our Magnificent Meadows to new areas	UW, NIEA, other partners as appropriate	Ulster Wildlife continue to pursue funding for a phase II of Mag Meadows. As per discussions at steering groups, among and between partners, this is considered a matter of great urgency, given the platform that the project has provided. The project continues to outstrip all targets, identifying a significant community appetite across the board, while now focussing on project legacy and added value in its final year.	
	❖ Development of an online map showing the location of all species rich habitats within existing and future schemes [Action 76] *	National Biodiversity Data Centre (IPI)	See Action 4. This system has been developed but we have decided to delay public release until spring 2017. It is hoped that current Magnificent Meadow sites can be loaded into the system in early 2017 so they will be available once it is released.	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
<p>A6. Encourage the responsible and sustainable usage of pesticides (insecticides, herbicides &amp; fungicides) in Ireland</p>	<p>❖ 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.</p>	<p>DAFM</p>	<p>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 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:  <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 (IPI)	This work has not yet been undertaken, it refers to guidelines that would sit within the All-Ireland Pollinator Plan website	
	❖ 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 Association <a href="https://www.beeconnected.org.uk/">https://www.beeconnected.org.uk/</a> 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. This will be promoted the Ulster Arable Society/UFU Arable conference in January 2017 and at the Ulster Beekeepers Conference in March 2017 with an official NI launch and further promotion at Balmoral Show in May 2017.</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>	
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**Target 1.1.4: Provide clearer information on pollinators to the farming community**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A8. Establish a farming subgroup to discuss the best ways to ensure the Irish agricultural landscape retains sustainable pollinator populations into the future *	<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> </ul> </li> </ul>	Steering group	<p>This group is currently being established and will initially be asked to comment on the draft guidelines for actions farmers can take to support pollinators. Feedback on the draft guidelines will be by email and take place from Nov 2016 - January 2017. The following (not exhaustive) will be contacted and asked to assist with development of the guidelines:</p> <ul style="list-style-type: none"> <li>✓ DAFM</li> <li>✓ DAERA</li> <li>✓ Teagasc</li> <li>✓ AFBI</li> <li>✓ Bord Bia</li> <li>✓ NPWS</li> <li>✓ IFA</li> </ul>	

	<ul style="list-style-type: none"> <li>- Pollinator actions for incorporation into future agri-environment schemes</li> <li>- How best to communicate the message to the farming community</li> </ul>		<ul style="list-style-type: none"> <li>✓ UFU</li> <li>✓ Macra na Feirme</li> <li>✓ Young Farmers Association (NI)</li> <li>✓ Soft Fruit Growers Associations</li> <li>✓ Irish Cattle &amp; Sheep Farmers Association</li> <li>✓ Horse farming sector</li> <li>✓ Irish Organic Farmers and Growers Association</li> <li>✓ Women in Agriculture</li> <li>✓ Representatives of non-intensive farmers</li> <li>✓ Representatives of intensive dairy, beef and tillage farmers</li> <li>✓ Irish Country Woman's Association</li> <li>✓ Beekeeping Associations</li> </ul>	
<p>A9. Provide clear information on actions that can be taken on farms to make them more pollinator friendly</p>	<ul style="list-style-type: none"> <li>❖ Creation of on-line 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>	<p>National Biodiversity Data Centre (IPI), Teagasc, Ballyhoura Development Ltd., other partners</p>	<p>See Action 4. These guidelines are in development and will be available in early 2017. At that point we will move towards appropriate dissemination. Advice on this to be provided by the group above.</p>	

	<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	This will not be progressed until the guidelines for actions farmers can take to protect pollinators is published in 2017.	
	<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, Sligo IT, NUIG, DCU). The project will run from 1.11.2016 - 31.11.2020.	
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>January 2015 - 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>February 2015 - Planted 40 traditional variety fruit trees at Enniskillen Campus. This area will be extended in November 2016 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 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 mid-August.</p>	
		Teagasc	<p>Measures have been adopted at some sites and used for demonstration purposes. 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>	
<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</p>	<ul style="list-style-type: none"> <li>❖ 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 effective pollinators highlighted where this information is available</li> <li>❖ Populate as research data becomes available [Action 65]</li> </ul>	<p>Plant animal interactions research group (TCD) &amp; National Biodiversity Data Centre (IPI)</p>	<p>This All-Ireland Database has been established and is being populated as data is 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>	

<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 (IPI) &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 is currently being validated and tested for sensitivity and will be published in the scientific literature in the coming year. This is the first building block necessary for Action 12 which is a long term aim.</p>	
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## 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		
A13. Encourage pollinator friendly management of State and public-owned Nature Reserves and National Parks and, where this is appropriate, Natura 2000 and nationally designated sites (NHAs, ASSIs)	❖ Uptake where appropriate on a site basis	NPWS, NIEA, Local Authorities	<p><b>NPWS:</b> This action has not yet been progressed</p> <p><b>NIEA:</b> This action has not yet been progressed</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)	Guidelines for actions Local Authorities/Councils can take to protect pollinators will be published in late 2016, and this action actively progressed in 2017.	
	❖ Incorporate pollinator prescriptions into the An Taisce Green Parks Initiative	An Taisce	Pollinators will be considered within the Green Parks Initiative. A special pollinator award for parks has also been established and will be part of the Initiative from 2017. The award (in the form of pollinator friendly plants) is being sponsored by Young Nurseries	

			who are specialist perennial growers based in Co. Limerick.
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>	An Taisce – Green-Schools ROI Keep Northern Ireland Beautiful – Eco-Schools NI	<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 have been 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.</p> <p>One half-day of the Green-Schools Ireland Summer Teacher Training Week was dedicated to Pollinator Activities, relating to the AIPP.</p>
	<ul style="list-style-type: none"> <li>❖ Pollinators incorporated into the Green-Campus initiative Guidance Documents</li> <li>❖ Existing and newly registered campus committees on the Green-Campus programme to be informed of the Plan</li> </ul>	An Taisce – Green-campus	<p><a href="http://www.greencampusireland.org">www.greencampusireland.org</a></p> <p>The new 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 and newly registered sites here: <a href="http://www.greencampusireland.org/resources/">http://www.greencampusireland.org/resources/</a></p>

			<p>A representative from Biodiversity Ireland 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>Dr Úna FitzPatrick</p> <p>NBDC: The All Ireland Pollinator Plan 2015-2020 and how campuses can introduce measures based on the Plan.</p> <p><a href="https://media.heanet.ie/page/7b94ef7c8f86c441ee4bef628d04d1d4">https://media.heanet.ie/page/7b94ef7c8f86c441ee4bef628d04d1d4</a></p> <p>The Pollinator Plan is promoted frequently on the Green Campus social media pages.  Twitter : @GreenCampusE  Facebook:  <a href="http://www.facebook.com/greencampusireland">http://www.facebook.com/greencampusireland</a></p>	
<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>Incidental sightings of bumble and solitary bee species are being submitted to CEDAR</p> <p>We will be undertaking a suite of property management plans next year and pollinator actions will be included in these.</p>	

<p>A17. Adoption of pollinator friendly management within the Bord na Mona network of sites</p> <p>*Note this is semi-state land</p>	<ul style="list-style-type: none"> <li>❖ Identification of potential pollinator friendly habitats on cutaway bogs</li> <li>❖ Identification of corridors to link pollinator friendly areas</li> <li>❖ Incorporate pollinator actions within the next BnM Biodiversity Action Plan</li> </ul>	<p>Bord na Mona</p>	<p>BnM baseline ecological survey continues to identify pollinator friendly habitats on cutaway bogs.</p> <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>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 strengthening integrated biodiversity policies and actions</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 monthly transects were completed in Co Mayo.</p> <p>At our Termoncarragh Meadows reserve, Co Mayo earthen walls boundaries to individual meadows are maintained and sections of ‘tussock’ grass are left overwinter.</p>

			<p>Pollinators formed part of the "31 days 31 reasons" campaign against changes to the Wildlife Act that will allow hedge cutting in August.</p> <p>Importance of species-rich grassland for pollinators highlighted (along with specific mention of the All-Ireland Pollinator Action Plan) in BirdWatch Ireland submission on Afforestation Policy for the Forest Service.</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>Volunteers and visitors to our reserves will be directed to bumblebee id leaflets and encouraged to record bumblebees that they find in their own gardens/areas. We will incorporate pollinator educational activities at our Kids Corner at Belfast WoW.</p> <p>Volunteers will be trained to complete annual monitoring at Belfast WoW from 2017 onwards.</p> <p>Maintaining habitats for nesting bees and incorporating pollinators into reserve management plans will continue and be expanded where possible.</p>	
A20. Encourage pollinator friendly management of national monuments and historic properties	<ul style="list-style-type: none"> <li>❖ Number of participating sites</li> </ul>	An Taisce, NIEA	<p>This has not yet been progressed. The Pollinator Plan team has not yet engaged with either organisation on this action.</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</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 &amp; Ballyhoura Development Ltd. to act as test cases 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, Ballyhoura Development Ltd.</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> 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. This has been done through communication with the landscaper and signage used to remind them that the vegetation will be maintained by SECAD.</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>A23. Make information on pollinator friendly management available through the Tidy Towns Initiative</p>	<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>	<p>Tidy Towns</p>	<p>‘Local Communities – actions for pollinators’ was published in April 2016 and is aimed primarily at Tidy Towns Groups. The Tidy Towns Unit have greatly assisted with the promotion and distribution of these guidelines.</p> <p>Tidy Towns facilitated a meeting in February 2016 where adjudicators were informed of the Plan and the recommended actions for pollinators.</p> <p>The Heritage and Biodiversity officers in ROI came together to fund a special pollinator</p>	

			award in this year's Tidy Towns competition. This was a very successful initiative, with 57 towns and villages entering the award in its first year.	
A24. Garden friendly pollinator actions promoted within the Community Garden Network	<ul style="list-style-type: none"> <li>❖ Promotion to members</li> <li>❖ Uptake by members</li> </ul>	Community Garden Network	We've published guidelines to creating pollinator gardens and community gardens on our website and sent out in a newsletter and are planning to work with the Biodiversity 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	❖ Partners to consider making sites that are managed in a pollinator friendly way available as reference sites	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 (IPI) National Biodiversity Data Centre (IPI), 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	❖ Identification of all cost-benefit analyses that would be useful	Steering group	<p>The following cost-benefit analyses were identified as immediate priorities:</p> <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>	

<p>annual cut and removal of grass [Action 68]</p>	<p>❖ Completion of these cost-benefit analyses and appropriate dissemination of information</p> <p><b>Note:</b> this is a research action that will be dependent on funding</p>	<p>National Biodiversity Data Centre</p>	<p>Both of these cost-benefit analyses have been completed and will be included in the Guidelines for Councils (due December 2016)</p> <p>Regular mowing versus pollinator friendly mowing is cost equivalent.</p> <p>Pollinator friendly perennial bedding is cost equivalent to annual bedding at initial planting. Annual bedding is replaced twice a year, whereas the life span of perennial bedding is 10-12 years if properly planted and maintained.</p>	
<p>A27. Promote the Pollinator Plan to other organisations involved in managing public or semi-state land</p>	<p>❖ Increase in the number of other organisations supporting the Plan</p>	<p>Steering group</p>	<p>The Plan has been promoted throughout 2016. At time of print an additional 9 partners have formally agreed to support the Plan, with another 30+ in train. This has been delayed as plans/structures are still being put in place on how to manage this process, particularly how to communicate and report on new actions that are developed. Coordination of this process has been identified as a priority for early 2017.</p>	

**Target 1.2.2: Create linking areas of flower rich habitat along transport routes**

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
<p>A28. Adoption of an All-Ireland scheme to create pollinator highways along road networks</p>	<ul style="list-style-type: none"> <li>❖ Development of guidelines for pollinator friendly roadside management *</li> </ul>	<p>Don't Mow Let it Grow Steering Group, Life lives on the Edge (Wexford CoCo), IWT, National Biodiversity Data Centre (IPI)</p>	<p>Guidelines are currently being developed by Don't Mow Let it Grow.</p>	
	<ul style="list-style-type: none"> <li>❖ Incorporation of pollinator actions into existing landscaping guidelines or environmental handbooks where appropriate and when reviewed</li> </ul>	<p>NRA, Transport NI, Local Authorities</p>	<p>This cannot be progressed until the guidelines for pollinator friendly roadside management are published in 2017.</p>	
	<ul style="list-style-type: none"> <li>❖ Secure funding for the 'Don't Mow Let it Grow' NI pilot scheme</li> <li>❖ Implement 'Don't Mow Let it Grow' pilot scheme and roll out to other areas</li> <li>❖ Provide cost benefit analyses for a reduced mowing regime</li> </ul> <p><b>Note:</b> elements of this action are resource dependent &amp; require identification of funding sources</p>	<p>Don't Mow Let it Grow Steering Group</p>	<p>A total of 24 road verges and 18 areas within Council Parks were selected and surveyed. Although the vegetation / sward quality was very variable all have either immediate biodiversity value or can be improved significantly through appropriate management.</p> <p>Six training events were delivered, 5 to Council &amp; Transport NI grass cutting staff and one to volunteer surveyors who are being matches to 'their' sites.</p>	

			<p>The public perception survey was run during August and September showed some very interesting results; completed by 190 people with 97% responding it is important to manage areas for wildlife in NI.</p> <p>For more information please visit <a href="http://dontmowletitgrow.com">dontmowletitgrow.com</a></p>	
	❖ Implement 'Networks for Nature' pilot scheme and roll out to other areas in ROI	IWT	Networks for nature scheme has been run with community groups, including Tidy Towns groups. The IWT have also run pollinator surveying training days and talks in 2016.	
	❖ Promote the future development of wildflower highways along roadsides where appropriate	Don't Mow Let it Grow Steering Group, Wexford County Council (Life lives on the Edge), IWT, Failte Ireland	Pollinator friendly roadside management 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 of 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. This will be followed up in 2017.	
A29. Adoption of an All-Ireland scheme to create	❖ Provision of guidelines for pollinator friendly rail network management *	National Biodiversity Data Centre	These will be published in 2017	

pollinator highways along rail networks	<ul style="list-style-type: none"> <li>❖ Incorporation of pollinator actions into existing biodiversity plans where appropriate and when reviewed</li> <li>❖ Level of uptake</li> </ul>	Translink, Iranród Éireann	This cannot be progressed until the guidelines for pollinator friendly rail network management are published and made available in 2017.	
A30. Adoption of an All-Ireland scheme to create pollinator highways along waterway towpaths	<ul style="list-style-type: none"> <li>❖ Provision of guidelines for pollinator friendly towpath management *</li> </ul>	National Biodiversity Data Centre, Waterways Ireland	These will be published in 2017	
	<ul style="list-style-type: none"> <li>❖ Incorporation of pollinator actions into existing biodiversity plans where appropriate and when reviewed</li> <li>❖ Level of uptake</li> </ul>	Waterways Ireland	<p>Waterways Ireland are in the process of developing Canal Management Plans which will address issues such as grassland and hedgerow management. These will take pollinators into consideration.</p> <p>We are developing guidelines for Tidy Towns Groups and community groups who live adjacent our waterways. Part of these guidelines will be recommendations to promote pollinator friendly planting and management of habitats.</p> <p>We are proactively engaging with local environmental groups and communities to roll out pilot maintenance programmes; Mullingar and Dublin City as examples.</p> <p>We are partnering with volunteers from Butterfly Conservation Ireland to alter the cutting regime at Leixlip specifically to foster improved conditions for butterflies and moths.</p>	

			<p>The inaugural Waterways Ireland Heritage Plan Community Grant Scheme supported the following projects in 2016:</p> <ul style="list-style-type: none"><li>• Baltrasna Boreen Biodiversity Group on the Royal Canal was supported to build and install 15 small pollinator hotels and 3 larger pollinator mansions.</li><li>• Port Omna Beo Nature and Wildlife Group will be providing Ecology Education Training days which will include identification of wildflowers and pollinators.</li><li>• HedgeLink and TIDAL will also be undertaking hedge laying projects and training workshops on the Shannon Erne and Lower Bann respectively.</li></ul> <p>We commissioned durable Perspex pollinator management signs, based on templates received from the NBDC, to inform people of the areas where this targeted maintenance is taking place. This signs will be put in place in the coming weeks.</p> <p>We are in negotiations with the Royal Canal Amenity Group to licence a portion of our lands for the development of a community beehive. The site will not only host a selection</p>	
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			of hives but the surrounding land will be managed for pollinators.	
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	This action has not yet been progressed but is planned for 2017	
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	This action has not yet been progressed but is planned for 2017	

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

<b>ACTION</b>	<b>PROGRESS MEASURE</b>	<b>RESPONSIBILITY</b>		
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 actively progressed from 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 (IPI)	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 friendly pollinator 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 (IPI)	'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.	
	<ul style="list-style-type: none"> <li>❖ Promotion to members</li> <li>❖ Uptake by members</li> <li>❖ Actions adopted at GIY HQ and used for demonstration purposes</li> </ul>	GIY	<p>The Plan was promoted to members in 2016, via our ezine, meeting handouts, talks and online.</p> <p>GIY HQ opened in September 2016. The Pollinator Plan team has agreed to provide advice on incorporating actions on site for demonstration purposes in 2017.</p>	
A36. Garden friendly pollinator actions promoted within the An Taisce Green Communities network	❖ Provision of guidelines for pollinator friendly management *	National Biodiversity Data Centre (IPI)	See Action 35. These were published in June 2016	
	<ul style="list-style-type: none"> <li>❖ Promotion to members</li> <li>❖ Uptake by community groups</li> </ul>	An Taisce	An Taisce Green Communities Wild Flower and pollinator workshop held at Bridgefoot Street Community Garden, Dublin 8, on Saturday 8 <sup>th</sup> of October. Attendance 30+ from community groups and urban gardeners.	

			<p>Green Communities mailing list (1000+ addresses) workshop notifications sent on the 22<sup>nd</sup> of September and again on the 4<sup>th</sup> of October. Event posted on Facebook on 30<sup>th</sup> of September.</p> <p>Press Release issues before and after the workshop on the 6<sup>th</sup> and 12<sup>th</sup> of October.</p> <p>Radio Interview with Near FM about the Pollinator Plan and the Green Communities Workshop. Thursday 13<sup>th</sup> of October.</p> <p>The publication of the All Ireland Pollinator Plan was previously promoted among Green Communities Groups via email and Facebook in 2015.</p>	
<p>A37. Encourage the public to take voluntary actions to make their gardens and rural lanes pollinator friendly</p>	<ul style="list-style-type: none"> <li>❖ Creation of on-line resources providing clear guidelines on how to make your garden pollinator friendly</li> <li>❖ Investigation of funding sources with a view to developing an All-Ireland garden pollinator scheme</li> </ul> <p><b>Note:</b> promotion of a public scheme is resource dependent &amp; requires identification of funding sources</p>	<p>National Biodiversity Data Centre (IPI) &amp; partners</p>	<p>On-line resources continue to be developed. These include the guidelines document mentioned above along with case studies, relevant how-to-guides (e.g. providing nesting habitat to 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	❖ Engagement with the sector and identification of actions that can be taken	Steering group	Initial attempts have been made to reach out to key Garden Centres. This will be progressed more actively in 2017.	
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**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 carparks)	❖ 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). *	National Biodiversity Data Centre (IPI)	'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 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 (IPI), NIEA	A framework for signing businesses up to the Pollinator Plan has been established during the publication of the business guidelines (see above). Ten Origin Green businesses have already engaged with the Plan, and a total of over 30 businesses have been identified to approach before the end of 2017. Quotes and pictures of pollinator friendly actions have been obtained from participating businesses and included in the business guidelines; these are being developed into full case studies for the website. One page supplemental guidelines are being developed for golf courses, country hotels and quarries (due 2017).	
	<ul style="list-style-type: none"> <li>❖ Disseminate this information to the business community</li> </ul>	Bord Bia	<p>Press release issued by Bord Bia announcing the launch of the “Businesses: Actions to Help Pollinators”</p> <p>Bord Bia agreed to disseminate the Business Guidelines to their &gt;500 Origin Green companies via email</p> <p>Dissemination will continue in Spring 2017 through the development and completion of case studies with supporting businesses</p>	

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		
<p>A40. Support the availability of local provenance native wildflower seed for restoration of flower rich habitats where natural regeneration is not possible</p>	<ul style="list-style-type: none"> <li>❖ Support local industries/initiatives to provide an affordable source of native wildflower seed</li> <li>❖ Adopt a voluntary quality standard to ensure availability of high quality native origin seeds for pollinator habitat restoration schemes</li> <li>❖ Investigate mechanisms to provide training in the small scale collection, storage and use of local seed in local restoration projects</li> </ul>	Steering Group	<p>The Pollinator Plan resources continue to stress the importance of using local provenance native wildflower seed.</p> <p>Training workshops on the small scale collection, storage and use of local seed in local restoration projects are currently being planned for 2017 (in collaboration with True Harvest Seeds and the IWT).</p>	
	<ul style="list-style-type: none"> <li>❖ Development of a 'how-to' guide for the collection, storage and use of local seed</li> </ul>	True Harvest Seeds	This was published in May 2016	
<p>A41. Investigate mechanisms for the sharing and exchange of machinery, skills &amp; advice</p>	<ul style="list-style-type: none"> <li>❖ Investigate mechanisms for machinery rings</li> <li>❖ Investigate mechanisms for skill exchange &amp; advice sharing</li> </ul>	Steering Group	<p>This continues to be investigated. It is of most relevance to local authorities/councils and will be progressed more actively once those guidelines are published in late 2016 (Councils: actions to help pollinators).</p> <p>Four local authorities, two on each side of the Irish/UK border (Armagh, Banbridge &amp; Craigavon Borough Council, Newry, Mourne &amp; Down District Council, Monaghan County</p>	

			Council & Meath County Council) have submitted a funding application (Green Infrastructure of Border Towns) under the EU LIFE Programme. The Pollinator Plan has supported this application. If successful one of the proposed outcomes would be machinery sharing.	
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 contradictive	Steering Group	This action has been ongoing within 2016 and the Steering group are liaising with partners where appropriate e.g., Waterways Ireland Biodiversity Plan & NPWS farm plans for Lesser Horseshoe Bats. All guidelines 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 (IPI)	Since its publication the Pollinator Plan has been promoted via 139 published articles, interviews, and other events. This includes: -39 published newspaper articles -30 radio interviews -4 TV interviews -20 additional articles (blogs, newsletters, magazines) -46 presentations at events/conferences	
	❖ Creation of infographics with key pollinator messages distributed through social media	National Biodiversity Data Centre (IPI)	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	

			<p>11 Pollinator friendly guide for estates management sheet</p> <p>12 Distance to food infographic</p> <p>13 Solitary bee ground nest infographic</p> <p>14 Pollinator friendly actions for businesses flow chart</p> <p>15 Pollinator friendly actions for Local Councils flow chart</p>	
	❖ Creation of a media toolkit	National Biodiversity Data Centre (IPI)	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 (IPI)	<p>Promotional materials to promote pollinators published to date include:</p> <ul style="list-style-type: none"> <li>-Pollinator friendly guidelines for Local Communities, Gardens, Businesses and Local Councils</li> <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> </ul>	
	❖ Investigate whether national events should be organised and what form this should take	Steering Group	This will be more actively discussed in 2017 once the full suite of resources are available. 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 (IPI)	News and progress are actively shared on the main Pollinator Plan website	
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 (IPI)	The first pollinator meeting will take place in Ulster 17-18 <sup>th</sup> February 2017. It is provisionally scheduled to focus on Councils and how they can help implement the Plan.	
A45. Raise awareness of pollinators and existing initiatives at Local Authority/Council level	<ul style="list-style-type: none"> <li>❖ Existing pollinator initiatives promoted at local levels by the Heritage and Biodiversity Officer network</li> </ul>	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	<ul style="list-style-type: none"> <li>❖ Advice to include increasing awareness of the importance of pollinators, encouraging habitat creation and enhancement</li> </ul>	CIEEM	This will not be progressed with CIEEM until the full suite of guideline documents are available in early 2017	

Assessment (EclA) and mitigation design to include pollinator friendly measures	<p>measures; encouraging the preparation of Biodiversity Action Plans (BAPs)</p> <ul style="list-style-type: none"> <li>❖ Implementation of training for CIEEM members</li> </ul>			
A47. Develop a blueprint outlining how communities can make their local areas more pollinator friendly and assist in implementation of the Plan	<ul style="list-style-type: none"> <li>❖ Development of a local community blueprint on how to take action on pollinators</li> </ul>	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	<ul style="list-style-type: none"> <li>❖ Provision of online information on the Shrill Carder Bee - where it occurs, why it is in decline, and how it can be conserved</li> </ul>	National Biodiversity Data Centre (IPI)	This information is available through the Irish Pollinator Initiative within the Data Centre. The IPI aims to drive pollinator conservation through better data. It will be further developed in 2017.	
	<ul style="list-style-type: none"> <li>❖ Promote conservation of the species through EclA, mitigation design, BAP work</li> </ul>	CIEEM	This will be actively progressed through collaboration with the Data Centre in 2017	
	<ul style="list-style-type: none"> <li>❖ Raise awareness and encourage conservation of this species at the site level</li> </ul>	BurrenBeo Trust, Limerick's Buzzing	This will be actively progressed through collaboration with the Data Centre in 2017	

**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>Educational materials to support the Junior Pollinator plan are in development. Lesson plans were tested in a series of workshops in primary schools surrounding Waterford and Galway as part of Science Week 2016. The Pollinator Plan is also collaborating with Cell Explorers to develop a teacher-led module to support the Junior Pollinator Plan that will be made available to download on the website in spring 2017.</p> <p><b>Green-Schools</b> - As part of materials for other ongoing Biodiversity projects, Green-Schools Ireland has developed simple life-cycle information cards for the Honey Bee and the Garden Bumblebee, for use in the classroom. It is intended that cards for other bee species will be developed over the coming year.</p> <p><b>OPAL</b> - (<a href="http://www.opalexplornature.org">www.opalexplornature.org</a>) In NI, the Polli:Nation project has been working in 32 schools arranged in 8 clusters. A core part of this work has been surveying school grounds using the OPAL Polli:Nation materials and signposting teachers to resources they can use. 660 children and 60 teachers have</p>	

			<p>been reached. During 2017 schools will assess the changes they can make that will have the most positive benefits for pollinators in their area.</p> <p>We are delivering a training session to teachers at the RDS STEM Learning National Conference in the RD, Dublin in November 2016.</p>	
<p>A50. Incorporate material on the identification and conservation of pollinators within agricultural and horticultural colleges</p>	<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>	<p>CAFRE</p>	<p>CAFRE host and provide admin support to the UBKA in relation to the bee keeping course. Attendance figures as follows: 2015/16 - 152 2016/17 - 242.</p> <p>Introduced farm orchard management training at CAFRE and the first event was held at Loughry Campus in February 2015 with over 80 attendees. A similar event was held shortly afterwards at Enniskillen Campus with 50 attendees. Similar training events were held in Limavady and Cushendall in February 2016 with just over 130 attendees in total. A range of topics including pollination were covered at the training events.</p>	
		<p>Teagasc</p>	<p>A pollinator module is being considered for incorporation into the Horticulture course run by Waterford Institute of Technology in conjunction with Teagasc.</p>	

	❖ 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 2017	
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**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 (IPI) & partners	<p>We have consciously made a decision that rather than quickly release generic style resources, we will:</p> <ul style="list-style-type: none"> <li>✓ Focus on getting the best evidence-based guidelines we can out for each sector</li> <li>✓ Tailor these carefully for Ireland</li> <li>✓ Engage fully with each sector in their development to ensure they are pragmatic but 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 spring 2016.</p>	

		<p><u>Currently published:</u></p> <p>Local Communities: actions to help pollinators. All-Ireland Pollinator Plan, Guidelines 1. National Biodiversity Data Centre Series No.4, Waterford. April, 2016.</p> <p>Gardens: actions to help pollinators. All-Ireland Pollinator Plan, Guidelines 2. National Biodiversity Data Centre Series No.9, Waterford. May, 2016.</p> <p>Businesses: actions to help pollinators. All-Ireland Pollinator Plan, Guidelines 3. National Biodiversity Data Centre Series No.10, Waterford. November, 2016.</p> <p>Councils: actions to help pollinators. All-Ireland Pollinator Plan, Guidelines 4. National Biodiversity Data Centre Series No.12, Waterford. December, 2016 (will be launched in early 2017).</p> <p><u>In development:</u></p> <p>Farmers: actions to help pollinators. All-Ireland Pollinator Plan, Guidelines 5 (due early 2017)</p> <p>Transport networks: actions to help pollinators. All-Ireland Pollinator Plan, Guidelines 6 (due 2017)</p>	
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<p>A52. Provide detailed 'how-to' guides for specific actions *</p>	<p>❖ Publication online of a series of 'how-to' guides for implementation of key pollinator actions</p>	<p>National Biodiversity Data Centre (IPI) &amp; partners</p>	<p>These are also being developed with relevant partners.</p> <p><u>Currently published:</u></p> <p>Creating wild pollinator nesting habitat. All-Ireland Pollinator Plan, How-to-guide 1. National Biodiversity Data Centre Series No. 5. Waterford. May, 2016.</p> <p>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. Partners: True Harvest Seeds</p> <p>Hedgerows for Pollinators. 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><u>In development:</u></p> <p>Creation and management of a wildflower meadow. All-Ireland Pollinator Plan, How-to-guide 4. Partners: Eco Seeds</p>	
<p>A53. Provide training courses on pollinator friendly management options across sectors</p>	<p>❖ 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></p>	<p>Relevant partners</p>	<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> - FIBKA is conducting Census of Hives with DAFM, sent to all members with prepaid envelope. COLOSS survey included in An Beachaire every year, for data on winter losses. 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 hives. 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. 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>	

**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 the European-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 <a href="https://www.daera-ni.gov.uk/articles/bee-health">https://www.daera-ni.gov.uk/articles/bee-health</a></p> <p>Information on AFB and EFB findings following the inspectorate annual inspection programme.</p>	
A56. Identify the seasonal floral diversity available to honeybee colonies in Ireland	<ul style="list-style-type: none"> <li>❖ Participation of Ireland in the COLOSS CSI pollen project</li> </ul>	University of Limerick	An update was not provided	

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	A code of practice regarding importation and management of commercially sourced bumblebees for crop pollination is at an advanced stage of preparation and should be in place in advance of 2017 importations. DAFM continues to regulate and ensure appropriate certification of imports of honey bees.	
		DAERA	Forest Service Bee Health Inspectorate have revised and published their Guide to Importation of Honeybees and this is available on-line	
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 educational workshop at the Ulster Beekeepers Association Conference in March 2016.</p> <p><b>UBKA:</b> UBKA members are actively encouraged to 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 disease biology, recognition and its consequences to bee health. We continue to raise awareness and take every opportunity promote the craft of Beekeeping but particularly the maintenance of healthy bee stocks.</p>	

		<p>In 2016 the Beekeeping community were invited to a series of 3 Bee Health Workshops across NI. The speakers were Ruth and Ian Homer and Tom Williamson. The brief was to raise awareness of AFB and EFB. This was delivered in a series of practical talk with interactive quiz and key learnings. In 2017 we will deliver 4 Bee Health Workshops.</p> <p>UBKA/INIB with Tom Williamson and his bee inspectorate ran 6 disease ID apiary inspections at local apiaries with tutor beekeepers with a view to up-skilling disease recognition of those involved. This was 1x apiary INIB; 5 x apiary UBKA, covering personnel from 7 associations. 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 2017.</p> <p><b>FIBKA:</b> FIBKA holds workshops on Bee Health and Microscopy for identification of nosema. Bee Health Officer writes monthly column in An Beachaire, updating members on treatments, 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>	
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			<p><b>NIHBS:</b> Provided disease recognition at NIHBS workshops and Open/Training days at locations throughout Ireland.</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 honey bee AMM.</p> <p>During 2015 Workshops were run in</p> <p>Connemara in Galway  Blacklion in Cavan  Naas in Co Kildare  Tullamore in Co Offaly,  Cahir in Co Tipperary  Youghal in Waterford/Cork</p>	

			<p>Queen rearing courses were run in Belfast, Cahir, Naas, Youghal and Connemara.</p> <p>Keith Browne from NUIG demonstrated the Sugar Shaker test for Varroa mites to beekeepers at several venues.</p>	
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**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 2017 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 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 wild flower 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 (IPI) & Plant animal interactions research group (TCD),	This work is underway and will continue in 2017. 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	No progress yet (no 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</p>	<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 initiatives to improve future site selection with a view towards creating linked habitats across the landscape [Action 76]</li> </ul>	<p>National Biodiversity Data Centre (IPI) and partners</p>	<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>	
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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		
<p>A64. Determine the economic value of pollination for food and non-food crops</p>	<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>	<p>Plant animal interactions research group (TCD); National Biodiversity Data Centre (IPI); NIEA (Biodiversity</p>	<p>Funding has been awarded to Jane Stout (TCD) by EPA. A 2-year project to address this action will start late 2016/early 2017.</p>	

		Unit); and others		
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 (IPI)	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	<ul style="list-style-type: none"> <li>❖ Integrate data and produce national level maps [Action 12]</li> </ul>	Plant animal interactions research group (TCD); National Biodiversity Data Centre (IPI)	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 is currently being validated and tested for sensitivity and will be published in the scientific literature in the coming year. This will begin to allow the generation of floral resource heat maps.	

<p>A67. Develop predictive models to determine the economic impacts of land-use changes on pollinators and pollination services</p>	<ul style="list-style-type: none"> <li>❖ Develop technologies to database, map, and evaluate pollination service in Ireland [Action 12]</li> </ul>	<p>Plant animal interactions research group (TCD); National Biodiversity Data Centre (IPI); and others</p>	<p>Need to complete analysis of economic value of pollination (A64) before this can start.</p>	
<p>A68: Carry out a series of cost benefit analyses for pollinator friendly actions</p>	<ul style="list-style-type: none"> <li>❖ 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</li> </ul>	<p>Plant animal interactions research group (TCD); and others</p>	<p>See update to A9 – cost benefit analysis of pollinator friendly actions will hopefully be incorporated into project pending approval by DAFM.</p>	
<p>A69. Determine how pollinators and pollination services vary according to the surrounding landscape at a range of scales</p>	<ul style="list-style-type: none"> <li>❖ Understand how land-use at different scales relates to pollinator abundance/ diversity and pollination services</li> </ul>	<p>Plant animal interactions research group (TCD)</p>	<p>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.</p>	

**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 Irish Research Council to Sarah Gabel to work with Jane Stout (TCD) and Blanaid White (DCU) to examine the exposure and impacts of pesticides on 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 (IPI), CEDaR, CIEEM & relevant partners	In 2016 the Data Centre ran three workshops on pollinator identification	
	❖ Increase the number of online identification resources available through the IPI	National Biodiversity Data Centre (IPI)	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 (IPI)	An additional 2,400 records have so far been added to the All-Ireland bee database in 2016.	

			<p>An additional 600 records have so far been added to the All-Ireland hoverfly database in 2016.</p> <p>An online Atlas of Irish pollinators is available. It includes species accounts of all 98 bee species and all 180 hoverfly species.</p>	
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 (IPI)	<p>11 workshops on bumblebee identification and monitoring were delivered this year, but a further two had to be cancelled due to lack of interest. It should be noted that attendance at workshops was also low (&lt;10). To date, 15 new recorders have joined the scheme representing 23 new transects. If last year's recorders and transects are retained, the monitoring network now represents 92 (11 NI, 81 ROI) volunteers across 115 (17 NI, 98 ROI) sites.</p>	
	<ul style="list-style-type: none"> <li>❖ Use the All-Ireland Bumblebee Monitoring Scheme mechanism to assess the success of site based actions taken to wild pollinator populations. Voluntary training to be provided by the Data Centre.</li> </ul>	National Trust, BnM, BirdWatch Ireland, RSPB, Local Authorities, Ulster Wildlife, Community Garden Network; SECAD; Ballyhoura Development Ltd., others as appropriate	<p>Training was provided to the National Trust in 2016. It is proposed that training be offered to a small number of partners organisations each year.</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.	National Biodiversity Data Centre (IPI)	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 available for use when funding becomes available for the survey.	
	❖ 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)		This has been discussed and we have broad agreement on how the necessary surveys should be structured. The Pollinator Plan have also been actively engaging with colleagues in Britain who are in the process of developing something similar. A survey could be established and rolled out at short notice, but it is entirely dependent on additional funding.	

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

<b>ACTION</b>	<b>PROGRESS MEASURE</b>	<b>RESPONSIBILITY</b>		
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 (IPI)	In the short term this will not be developed, but will take the form of this downloadable pdf annual review	

<p>A76. Develop an 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 *</p>	<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>	<p>National Biodiversity Data Centre (IPI)</p>	<p>This system was developed in late spring 2016 but we had to wait on permissions to be able to include an aerial photography layer for N. Ireland. This is essential to ensure the system can be used on an all island basis. This permission has been granted by OSNI but we have decided to delay public release of the system until spring 2017.</p>	
<p>A77. Provide an evidence base to advise, support &amp; monitor pollinator friendly actions so that they can become as effective as possible</p>	<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 pollinator friendly habitat [action 76] to direct future actions to the most appropriate areas</li> <li>❖ 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</li> </ul>	<p>National Biodiversity Data Centre (IPI) &amp; partners</p>	<p>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>	

## DELIVERY OF THE PLAN AND MEASURING PROGRESS

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A78. Annually review the steering group	<ul style="list-style-type: none"> <li>❖ Review the steering group annually and expand/restructure as required</li> </ul>	Steering group	<p>This has been actively discussed. It was agreed to maintain the existing steering group for year 1 and to restructure for 2017. It is proposed that the size remains roughly constant (18 members) but that expertise on the group reflects the key tasks that are being undertaken in any given year. Beekeeping Association representatives (ROI &amp; NI) have recently been added - October 2016.</p> <p>Current Steering Group (for 2017) is listed below</p>	
A79. Establish a subgroup on funding and innovation to progress the funding needs within implementation of the Plan *	<ul style="list-style-type: none"> <li>❖ Establish a subgroup to investigate existing funding options (e.g., Cap II, LIFE, INTERREG) and discuss future innovations</li> <li>❖ Group to liaise with the DoELG and Local Authority Environmental Awareness Officers to prioritise pollination initiatives in Agenda 21 grants</li> </ul>	Steering group	<p>It has 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 and communicate to the group. These are being pursued where appropriate.</p> <p>We have not yet actively engaged with Agenda 21. This is proposed for 2017</p>	

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 draft National Biodiversity Plan (ROI) in 2016.	
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
- Development and use of an online management system to track progress in the 81 actions within this Plan. Those organisations with responsibility for actions will be requested to submit short annual progress reports into the system by the 30<sup>th</sup> November each year, beginning 2016.
- Organisation of a biennial 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. An online map of pollinator friendly sites will track 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 2017)

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

Thanks are extended to Dr John McMullan (independent honeybee expert) who has stepped down as a member of the Steering Group. We are very grateful for the expertise he brought to the development of the Plan.

This annual review has been compiled by Úna FitzPatrick, Jane Stout and Erin Jo Tiedeken (project officer).

END.