



YEAR 3 REVIEW

DECEMBER 2018

www.pollinators.ie



An Chomhairle Oidhreachta
The Heritage Council



Background

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

The Plan provides an important framework to bring together pollinator initiatives from across the island and is the start of a process by which we can collectively take positive steps to protect our pollinators and the service they provide into the future. It is a shared plan of action. By working together, we can 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-nine 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 third of those review documents (December 2018). [Action 75]
- A publicly available online mapping system (Actions for Pollinators) will allow all those who take pollinator-friendly actions to log their location and the action(s) taken. This will track progress through the build-up of food, shelter and safety for pollinators in the landscape. The biodiversity actions mapping system was developed by the National Biodiversity Data Centre and was released in spring 2017. [Action 76]
- Most importantly, changes in the pollinator themselves will be monitored. For bumblebees this will be through the existing All-Ireland Bumblebee Monitoring Scheme managed by the National Biodiversity Data Centre. Methodology for monitoring other wild pollinators has been determined (in

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

ANNUAL REVIEW OF THE ALL IRELAND POLLINATOR PLAN 2015-2020: YEAR 3 (DECEMBER 2018)

This document briefly outlines key progress in 2018. This is followed by updates against each of the 81 actions in the Plan, completed by the organisation who accepted responsibility for that action. Since publication, 23 additional organisations have also agreed to endorse the AIPP. Those organisations have been given the opportunity to provide a short update on activities they have taken to support the initiative (Appendix B).

An accompanying one-page infographic has also been prepared to summarise key progress in 2018.

Key progress in 2018

Funding

- ✓ The Heritage Council and Bord Bía agreed to co-fund a full-time project officer position to support the implementation phase in 2018.

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 in 2015 was provided by the National Biodiversity Data Centre from within their budget). 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 2018 and is in discussion for 2019. 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. It is currently run as a job share between Juanita Browne and Gemma Hughes.

- ✓ The Department of Agriculture, Food and the Marine provided a small promotional budget for the development of key Pollinator Plan resources in 2016 and 2017. This funding was provided again in 2018 and has been agreed for 2019.

- ✓ On behalf of the All-Ireland Pollinator Plan, the National Biodiversity Data Centre submitted a project to test farmland pollinator measures in the most recent European Innovation Partnership call run by the Department of Agriculture, Food and the Marine (2018). This was successful, and we have been awarded €1,194,679 to run the five-year project. It must be completed by 31st December 2023. The project will develop and test a whole-farm pollinator scoring system that can be easily calculated, easily understood and easily improved (and in line with the All-Ireland Pollinator Plan farmland pollinator guidelines published in 2017). The five-year project will be run with a group of 40 farmers across farm types and intensities in Co. Kildare. It will be a result-based system – the higher the pollinator score of the farm, the more the farmer will get paid annually. The project will also include significant insect/plant surveys to test whether farms that do have higher scores have more pollinators (bees, hoverflies) and more biodiversity generally. It will also test the effectiveness of each of the individual pollinator measures in Ireland. The operational group for the project includes the Data Centre, TCD, Bord Bia, Glanbia, Teagasc, Macra and four representative farmers across farm types. This independent project will run in parallel to the All-Ireland Pollinator Plan, beginning 2019.

Support & outreach

- ✓ To accommodate the expanding initiative, a new website was launched in spring 2018 www.pollinators.ie
- ✓ When the Plan was published in September 2015 it was supported by 69 governmental and non-governmental organisations. Since then that number has increased, and it continues to do so. Formalising and recruiting new partners is an ongoing process. The Plan is currently supported by 92 organisations (Appendix A).
- ✓ Across all sectors (farmers, councils, local communities, faith communities, businesses, schools, gardens), the number of individuals and organisations engaging with the Plan and taking actions to help pollinators continues to increase. It is difficult to quantify this until the online mapping system (Actions for Pollinators) is fully adopted across the board.
- ✓ The AIPP has been featured in presentations made at various international academic fora and has attracted international acclaim and interest. It has recently informed development of pollinator strategies published in Scotland (2017), Norway (2018) and the Netherlands (2018) and we have contributed to the consultation process on the EU Pollinator Initiative. We have also met with visitors from various other countries who have come to learn about our approach (e.g., US, Greece). Given the success of the Plan, the ROI government agreed to join ‘Promote Pollinators, the Coalition of the Willing on Pollinators’ in 2018. Ireland became the 21st country to join this CoP initiative aimed at sharing knowledge and expertise globally.

- ✓ 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, beginning in 2016. Over the last three years 140 different local communities have entered this award and made their local area more pollinator-friendly. It shows how local communities can lead the way in addressing national issues within a structure like Tidy Towns. A special pollinator award was also introduced into the Green Flag for Parks competition in 2017. This initiative is run by An Taisce. The number of companies who have signed up as business supporters of the AIPP also continues to rise and has now exceeded the original target set in the 2015 Plan. This progress has been possible through the support of Bord Bia (Origin Green) and Business in the Community.
- ✓ Most Councils across the island have engaged with the Pollinator Plan and are taking actions on the land they manage. In 2019, we will initiate a more structured framework where Councils can sign up as partners of the Plan, as this is more ad hoc at present. This will allow better future reporting on progress with this sector.
- ✓ Since its publication the Pollinator Plan has been promoted via 313 published articles, interviews, and other events. In 2018, this included:
 - 34 published newspaper articles
 - 4 radio interviews
 - 2 TV interviews
 - 45 additional articles (blogs, websites, newsletters, magazines)
 - 68 presentations at events/conferences
 - 7 online videos by AIPP team

Development of resources to support implementation

To support implementation of the Plan, two accompanying series of documents are being published: Guidelines for different sectors and How-to-Guides for key pollinator-friendly actions. In 2016, we published a junior version of the All-Ireland Pollinator Plan, three guideline documents and three how-to guides. In 2017 we have published an additional two guideline documents for key sectors as well as a fourth how-to-guide.

In 2018 we have published an additional guideline document as well as a fifth how-to-guide.

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

To date, the following have been prepared and are available to freely download from the website www.pollinators.ie :

Guidelines documents:

- *Local Communities: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 1. National Biodiversity Data Centre Series No.4. April 2016.
- *Gardens: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 2. National Biodiversity Data Centre Series No.9. May 2016.
- *Businesses: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 3. National Biodiversity Data Centre Series No.10. November 2016.
- *Councils: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 4. National Biodiversity Data Centre Series No.12. February 2017.
- *Farmland: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 5. National Biodiversity Data Centre Series No.14. September 2017.
- *Pollinator-friendly management of: Group Water Scheme Sites.* All-Ireland Pollinator Plan, Guidelines 6. National Biodiversity Data Centre Series No. 16. April 2018.
- *Faith Communities: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 7. National Biodiversity Data Centre Series No.14. August 2018.

How-to-guides:

- *Creating wild pollinator nesting habitat.* All-Ireland Pollinator Plan, How-to-guide 1. National Biodiversity Data Centre Series No. 5. May 2016.
- *Collecting and using pollinator-friendly wildflower seed.* All-Ireland Pollinator Plan, How-to-guide 2. National Biodiversity Data Centre Series No.6. May 2016.
- *Hedgerows for Pollinators.* All-Ireland Pollinator Plan, How-to-guide 3. National Biodiversity Data Centre Series No.7. May 2016.

- *Creation and management of a wildflower meadow.* All-Ireland Pollinator Plan, How-to-Guide 4. National Biodiversity Data Centre Series No.13. April 2017.
- *Develop a Pollinator Plan for your school.* All-Ireland Pollinator Plan, How-to Guide 5. National Biodiversity Data Centre Series No.15. January 2018.

Further resources are currently in development (*), with more scheduled for 2019-2020. While this is an evolving list, it currently includes: transport authorities (road*, rail*, towpaths, trails, and greenways*), horticulture sector*, solar farms, wind farms. Additional resources will also be prepared within the business sector for key business types (to include: golf courses*, country hotels, quarries, garden centres). Additional how-to-guides are also scheduled to be produced over the coming years: how to support other pollinating insects (hoverflies, butterflies, moths), Saving the Great Yellow Bumblebee* and the Shril Carder Bee.

- ✓ To date, approximately 57,000 hard copy guideline documents have been distributed, along with 30,000 bookmarks and 15,000 fliers.

Videos & animations currently produced:

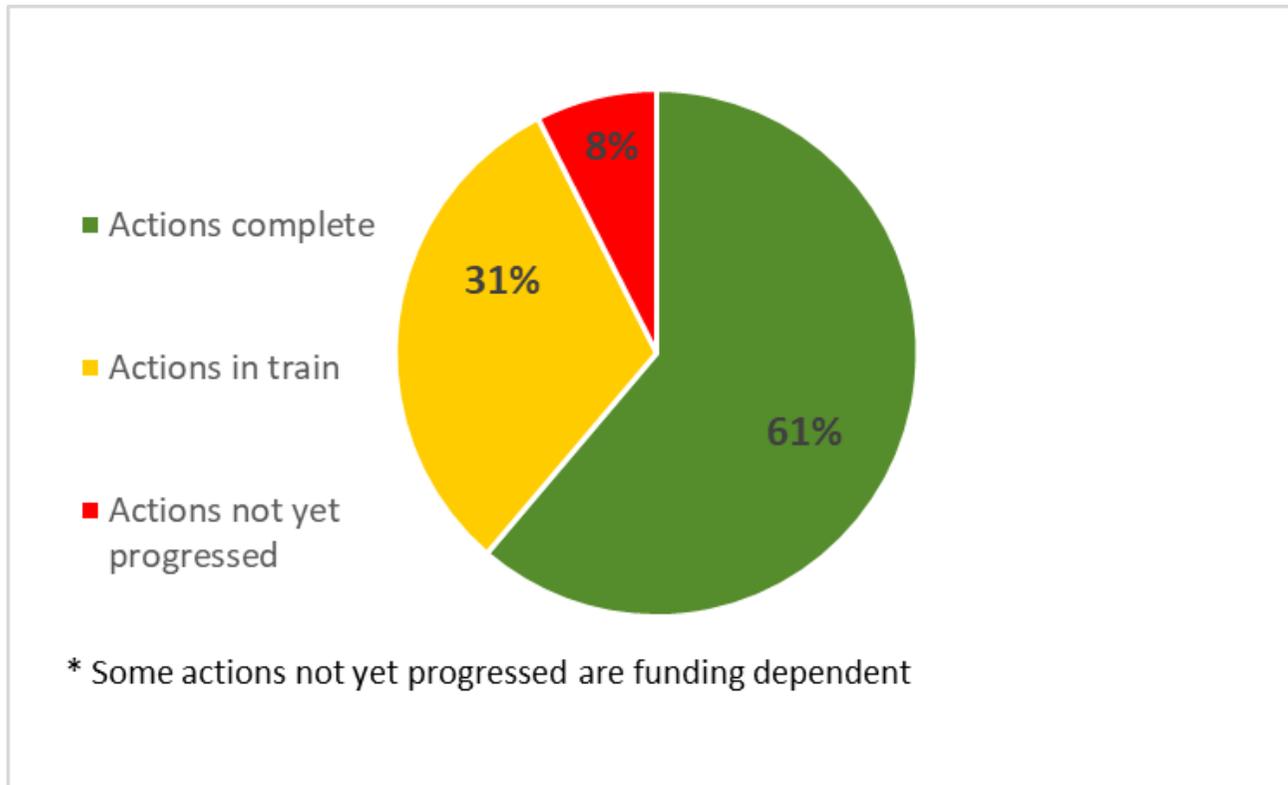
- Short animation on the Plan (2018) - funded by Kildare County Council and Wicklow County Council through Creative Ireland
- Introduction to the Plan (2017) – funded by Waterford County Council Heritage Office through Creative Ireland
- How Farmers can support the Pollinator Plan (2017) – funded by Waterford County Council Heritage Office through Creative Ireland
- How Councils can support the Pollinator Plan (2017) – funded by Waterford County Council Heritage Office through Creative Ireland
- How Tidy Towns Groups can support the Pollinator Plan (2018) - funded by Waterford County Council Heritage Office through Creative Ireland
- Bumblebee Monitoring Scheme (2018) - funded by Waterford County Council Heritage Office through Creative Ireland
- Managing Hedgerows for Pollinators (2018) – funded by Tipperary County Council Heritage Office through Biodiversity Fund.

9 online videos of presentations at the AIPP Conference 2018 were also added to website. All videos and the animation are available at <http://www.pollinators.ie/videos/>

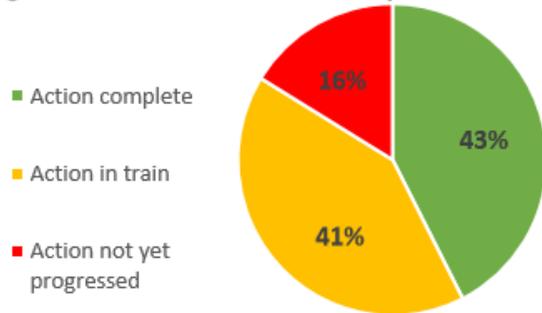
Actions completed

- ✓ Of the 81 actions in the Plan, 49 have been completed this year as agreed (61%), 25 are in train (31%) and 6 have not yet been progressed (8%). 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 3

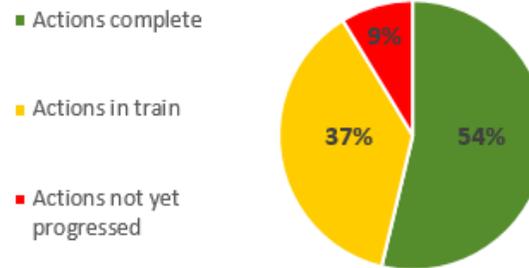


Status and progress of the Pollinator Plan's original 81 actions at the end of year 1



*Some actions not yet progressed are funding dependent

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



* Some actions not yet progressed are funding dependent

Mid-term review

Outside this annual review structure, we have also published a Mid-term review of the All-Ireland Pollinator Plan. Within each objective, targets have been set and actions have been identified to help achieve that target. In the mid-term review, we have assessed the Plan based on what has been achieved to date within each objective. It is an assessment of the achievement of the Plan itself at the mid-point juncture. Within each objective, key successes are identified as well as key obstacles. The All-Ireland Pollinator Plan was developed from the ground up to meet the challenge of pollinator declines across the island. The mid-term review aims to transparently and honestly assess where we are at this point (October 2018). It is available at www.pollinators.ie

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, local community, faith community or business property – who have expressed their support and engaged with the Plan in its first three years.

ALL-IRELAND POLLINATOR PLAN 2015-2020: 81 ACTIONS TO HELP POLLINATORS REVIEW OF PROGRESS YEAR 3

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

	Agreed action has taken place in 2018
	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 2018	
A1. Incorporate pollinator-friendly actions and prescriptions into agri-environment schemes	<ul style="list-style-type: none"> ❖ Incorporation of pollinator conservation actions into agri-environment schemes ❖ Uptake by farmers 	DAFM	<p>Bee measures were developed for GLAS independently and in advance of the publication of the All-Ireland Pollinator Plan. These will be reviewed /updated (along with any potential new actions) for consideration in future agri-environment measures.</p> <p>The Conservation of bees (sand) action was selected by 14,483 farmers and the conservation of bees (boxes) action was selected by 4,606 farmers under tranches 1, 2 and 3 of GLAS. In total over 50,000 participants</p>	

			now in GLAS. The specification for the Arable margin action under Tranche 3 of GLAS has been adjusted to allow incorporation of wildflowers in addition to grass species in the sown mixture.	
		DAERA	<p>Tranche 1 of the Environment Farming Scheme (EFS) opened for applications in 2017.</p> <p>Through Tranche 1, 1,070 Wider Level agreements and 232 Higher Level agreements are in place. 19 Wider Level agreements contain the 'Creation of Pollinator Margins – Annual Wildflower' option and 4 Wider Level agreements contain the 'Creation of Pollinator Margins – Pollen and Nectar' option. Both options aim to support pollinators.</p> <p>Tranche 2 of EFS opened in 2018. Once applications have been validated by DAERA, Tranche 2 agreements are planned to commence in January 2019.</p>	
A2. Encourage pollinator-friendly management of ecological focus areas which are necessary to satisfy the basic payment scheme requirements under the Common Agricultural Policy (CAP)	<ul style="list-style-type: none"> ❖ Information provided to tillage farmers on incorporating pollinator-friendly crops and how to enhance these habitats for pollinators * ❖ Uptake by farmers 	DAFM, Teagasc, National Biodiversity Data Centre	Review of EFA management options across the EU has been completed and a paper is being prepared for publication (by various authors including Jane Stout, TCD). 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 1,557 participants in the Organic Farming Scheme under the RDP 2014-2020.
	❖ Promotion of organic farming and pollinator-friendly actions	Irish Organic Association, Organic Trust and others	<p>The Irish Organic Association have been actively involved in promotion of the All-Ireland Pollinator Plan, mainly by hosting the plan on the website, http://www.irishorganicassociation.ie and by providing regular updates about the progress of the project in our members' magazine <i>Organic Matters</i>. The IOA assisted with the development of the recent farming guidelines for pollinators and is helping to bring a wider understanding of what farmers can do to our members through active promotion of the guidelines. The Irish Organic Association 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>Organic Trust – In line with the Action 3 objectives, Organic Trust works to keep our members informed about the critical importance of pollinators and the ways in which they can integrate areas beneficial to our native pollinators into existing farming systems. Given that one of the aims of the plan is to “work with farmers across every sector and farmland type with the aim of returning food and safe areas to bees across the Irish landscape”, Organic Trust continues to advocate for same through various</p>

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

			<p>Council, Northern Ireland Environment Agency, Agri-food and Biosciences Institute (NI) and all beekeeping associations across the island.</p> <p>The guidelines were launched in ROI at the National Ploughing Championships in 2017 by Minister of State Andrew Doyle TD. They were launched in NI at the Balmoral Show in 2018.</p> <p>These guidelines were promoted through the IFA Smart Farming Initiative in 2018.</p>	
	❖ Development of an online system so that farmers can log actions taken and pollinator-friendly farms can be mapped [Action 76] *	National Biodiversity Data Centre	<p>This publicly available online mapping system (Actions for Pollinators) was developed by the Data Centre and released in spring 2017. It is gradually being opened up to different sectors. Investigations are currently ongoing on how best to roll out to farmland. This is scheduled for early 2019.</p>	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
<p>A5. Promote existing species-rich habitats as a haven for pollinators</p>	<ul style="list-style-type: none"> ❖ Promotion of the NI scheme: Save our Magnificent Meadows ❖ Increase in the number of participating sites ❖ Development of a network of regional demonstration sites ❖ Provision of a 'how-to' guide on how to create and manage a species-rich meadow 	<p>Ulster Wildlife, NIEA, DARD, Butterfly Conservation, Fermanagh and Omagh District Council, European Forum for Nature Conservation and Pastoralism.</p>	<p>The Save our Magnificent Meadows project ran from July 2014 to November 2017 and significantly enhanced habitats for pollinators in this region. Around 320 farmers and landowners have engaged with the project while awareness across the community has been transformed.</p> <p>A total of 371 hectares of species rich grassland has been maintained, 33 hectares restored, and 5 hectares expanded.</p> <p>A delayed cut (and lift where possible) on 14 road verges brought the project to a wider community with its signage.</p> <p>Six school mini-meadows were established by the project and a blog www.hayheads.com has been created as a platform for the community to share experiences. The project has completed a training programme run for over 207 people to protect, conserve and restore wildflower meadows.</p> <p>A 'how-to' guide on how to create and manage a species rich meadow has been completed, as well as an evidence review on the medicinal and</p>	

			<p>nutritional benefits of species rich grassland over improved agricultural fields.</p> <p>See site for more information and other projects across the UK: http://www.magnificentmeadows.org.uk/</p>	
	❖ Investigation of funding sources with a view to expanding Save our Magnificent Meadows to new areas	UW, NIEA, other partners as appropriate	Attempts have been made to source future funding but have not yet been successful.	
	❖ Development of an online map showing the location of all species-rich habitats within existing and future schemes [Action 76] *	National Biodiversity Data Centre	This publicly available online mapping system (Actions for Pollinators) was developed by the Data Centre and released in spring 2017. It is gradually being opened up to different sectors. Investigations are currently ongoing on how best to roll out to farmland (including Magnificent Meadow sites). This is scheduled for early 2019.	

Target 1.1.3: Encourage the sustainable use of agricultural pesticides

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
A6. Encourage the responsible and sustainable usage of pesticides (insecticides, herbicides & fungicides) in Ireland	❖ In conjunction with the National Action Plan for the Sustainable Use of Pesticides, develop best-practice guidelines for farmers to reduce their use outside of	DAFM	DAFM have produced guidance notes on Integrated Pest Management. This guidance provides farmers with a tool to help them make the most appropriate and environmentally sound crop protection decision. In addition, DAFM have finalised a decision support document to support responsible pesticide use	

	cropping systems to minimise risk to pollinators.		<p>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 & AFBI: Integrated pest management guidelines are available online: https://www.daera-ni.gov.uk/articles/integrated-pest-management</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	The guidelines on how farmland can support pollinators which is available online includes a section on pesticide use. Resource allocation within DAFM in 3 rd quarter 2018, will allow for further progress to be made in 2019. Staff member with ecology background will be trained in bee management and will liaise on regulatory matters with various actors. In addition, they will work on awareness raising with the arable sector.	
	❖ 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' was launched across the UK in 2017 and in NI this is being led</p>	

			<p>by the Ulster Farmers Union and the Ulster Beekeepers Association https://www.beeconnected.org.uk/ 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.</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>AFBI: AFBI surveys agricultural pesticide usage on a regular basis, with reports freely available on the AFBI website (www.afbini.gov.uk/publications/). AFBI also provides technical support to DAFM to provide data on pesticide usage in ROI (www.pcs.agriculture.gov.ie/foodsafety/themonitoringandcontrolsprogramme/)</p> <p>DAFM: DAFM continues to conduct, with technical support from AFBI, pesticide usage surveys. Copies of the most recent reports can be found using this link. http://www.pcs.agriculture.gov.ie/sud/pesticideusagesurveys/</p>

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
<p>A8. Establish a farming subgroup to discuss the best ways to ensure the Irish agricultural landscape retains sustainable pollinator populations into the future *</p>	<ul style="list-style-type: none"> ❖ Establish the subgroup with invitations extended to representatives from the IFA, UFA, Macra na Feirme, The soft fruit growers association, the horse farming sector & Women in Agriculture, and well as representatives of intensive and non-intensive farmers across sectors ❖ Group to discuss: <ul style="list-style-type: none"> - Mechanisms for implementation of the Plan & identification of any issues that minimise the chance of success - Pollinator actions for incorporation into future agri-environment schemes - How best to communicate the message to the farming community 	<p>Steering group</p>	<p>More than 60 stakeholder organisations were consulted and given the opportunity to feed into the farming guidelines in 2017.</p> <p>As part of the consultation process we also convened a farmers’ forum which met in May 2017. This group of ~25 farmers were drawn from across farming types and included both intensive and less intensive farmers. They provided direct input on the issues identified under the progress measures.</p> <p>In 2018, we consulted with members of this group on the European Innovation Partnership (EIP) proposal to ‘Protect Farmland Pollinators’ (page 4) which successfully attracted funding. We plan to further engage with this group as well as the wider stakeholder organisations as the EIP project is rolled out from 2019-2023.</p>	

A9. Provide clear information on actions that can be taken on farms to make them more pollinator-friendly	<ul style="list-style-type: none"> ❖ Creation of online resources providing clear guidelines on actions that can be taken on all farms, along with additional actions specific to farm type * ❖ Dissemination of these resources in an appropriate way to the farming community * ❖ Ballyhoura Development Ltd. to pilot a peer-to-peer approach for communicating pollinator information to farmers 	National Biodiversity Data Centre, Teagasc, Ballyhoura Development Ltd., other partners	<p>These guidelines were published in September 2017. A dissemination/communications plan has been developed and initiated. It will continue into 2019 and beyond.</p> <p>In 2017, we produced a short video on key pollinator-friendly actions that can be taken on farms. This was developed in collaboration with Waterford County Council and funded through Creative Ireland. We have followed this up in 2018 with a short video on ‘healthy farmland hedgerows’. This was funded by Tipperary County Council through the Biodiversity Fund. Access the videos here: http://www.pollinators.ie/videos/</p>
	<ul style="list-style-type: none"> ❖ Investigate potential mechanisms for providing training on pollinators and pollinator-friendly management to farm advisors 	Steering Group	<p>Training will be offered to Bord Bia Origin Green auditors in 2019. We have also been liaising with Teagasc and the ACA on incorporating pollinator actions into future knowledge transfer programmes.</p> <p>Currently there are Bees Information Boards being used at 500 GLAS Courses in 62 locations in Ireland (developed by Teagasc). Six of the 80 boards also printed in a book ‘Teagasc GLAS Actions Information Manual’ given to all GLAS farmers at Teagasc courses.</p>

	<ul style="list-style-type: none"> ❖ Development of cost-benefit analyses providing farmers with information on the cost implications of management actions <p>Note: this is a research action that will be dependent on funding</p>	Academic partners	DAFM funding has been awarded for a project to look at cost-benefits analysis of biodiversity enhancement on farmland (led by Teagasc, including partners at TCD, GMIT, NUIG, DCU). The project will run from 1.11.2016 - 31.11.2020. The cost-benefit analyses will be published once complete.	
A10. Adoption of pollinator-friendly management within agricultural and horticultural college sites as a teaching & awareness-raising tool	<ul style="list-style-type: none"> ❖ Uptake by participating colleges ❖ Promotion as reference sites 	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>A new wild flower meadow has been constructed at Greenmount Campus in 2018. This site was chosen as it uses an area of monoculture grass and lies between a number of shelter belts (the area is around 240m²). This site will make use of early pollen producers in the vicinity - namely the existing Salix and Corylus. The site is south facing and should offer potential hibernation and nesting sites for Bumble Bees and digger/mining species. An Ashy mining bee was spotted feeding on our other wild flower site. After ground preparation the site was sown with the following species: Daucus; Centaurea; Filipendula; Rhinanthus; Achillea; Phacelia; Lotus.</p>	

			<p>The species listed above were all gathered by hand on campus from our various wildflower sites, stratification will take place naturally over winter for these species. This will be monitored. The main objective is to try to offer a reliable and high-quality food bank for pollinators. It is intended to sow the remaining 70% with clover; <i>Trifolium pratense</i> and <i>T. incarnatum</i> (sourced locally) and will take place in early spring 2019.</p> <p>In addition to this Pollen and Nectar mixtures have been sown at Enniskillen Campus and Loughry Campus. The Enniskillen mix is particularly impressive with plenty of bee activity throughout the summer months. This mix is situated in close proximity to the traditional orchard which was established in 2015.</p>	
		Teagasc	<p>A Biodiversity Plan is being undertaken at Teagasc Kildalton Open Source Sustainable Demonstration Farm which includes pollinators. The roll-out of 40 Biodiversity Plans on Teagasc and private agricultural colleges, Teagasc Research farms and private BETTER demonstration farms will take place in 2019.</p> <p>A Walsh Fellowship PhD project is taking place on the establishment and management of Ecological Focus Areas to enhance ecosystem services and integrated pest management.</p>	

<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"> ❖ Establishment of a publicly 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 ❖ Populate as research data becomes available [Action 65] 	<p>Plant animal interactions research group (TCD) & National Biodiversity Data Centre</p>	<p>This All-Ireland Database has been established and is being populated as data becomes available. It is held within the National Biodiversity Data Centre. Development of this into a system that can be used by farmers is a long-term action.</p>	
<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"> ❖ Completion of research on the most appropriate methodologies [Actions 65,66,67] ❖ Development of a framework for an integrated GIS based system that will combine data sources in this model ❖ Populate as data becomes available ❖ Identification of future data needs <p>Note: this is a long-term aim that is closely linked with the research actions</p>	<p>National Biodiversity Data Centre & Plant animal interactions research group (TCD)</p>	<p>A model predicting the value of different land use types based on floral quantity and quality has been developed by Eileen Power and Jane Stout (TCD) and Jon Yearsley (UCD) and tested against available data on pollinator abundance – the model has been validated and tested for sensitivity and refined. It is pending publication in the scientific literature. This is the first building block necessary for Action 12 which is a long-term aim.</p>	

1.2 MAKING IRELAND POLLINATOR-FRIENDLY: PUBLIC LAND

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
<p>A13. Encourage pollinator-friendly management of State and public-owned Nature Reserves and National Parks and, where this is appropriate, Natura 2000 and nationally designated sites (NHAs, ASSIs)</p>	<p>❖ Uptake where appropriate on a site by site basis</p>	<p>NPWS, NIEA, Local Authorities</p>	<p>NPWS: This action has not yet been progressed</p> <p>NIEA: Where possible, NIEA manage Country Parks in a pollinator-friendly way. As a broad overview:</p> <ul style="list-style-type: none"> ✓ Crawfordsburn Country Park - both meadows at Skelly's Hill and 21 Acres licence prescriptions set that a late season crop is taken to ensure maximum benefit for wildflowers setting seed and pollinators. ✓ Redburn Country Park – as above. ✓ Ness Country Park – as above. ✓ Castle Archdale Country Park – as above. Meadows to the rear of the courtyard. ✓ Peatlands Park – as above. ✓ For other sites which are licenced for grazing the prescriptions and livestock units have again been set to promote 	

			<p>species diversity in the sward e.g. grazing at Keeble and Kinrammer NNR (Rathlin Island), Binevenagh NNR, Killard NNR, Brookend NR, Roe Estuary NNR amongst others.</p> <ul style="list-style-type: none"> ✓ Roe Valley – in the area to the front of the visitor centre where we decommissioned an old septic tank system, a wildflower meadow has been created in 2016. ✓ Pollinator corridor has been established and managed at Breen Oak Wood and clover mix meadow planted at Crawfordsburn Country Park visitor centre (2018). ✓ Public Bee Inspired educational event held at Roe Valley Country Park in conjunction with Causeway Coast and Glens Biodiversity Officer (2018). 	
A14. Encourage pollinator-friendly management of public parks and green spaces	❖ Integration of the Pollinator Plan into future county/city development or biodiversity plans (where appropriate and when reviewed)	Steering Group to consult Local Authorities/Councils (in conjunction with Heritage & Biodiversity Officers)	<p>Guidelines for actions Local Authorities/Councils can take to protect pollinators were published in February 2016. They were launched at the first regional AIPP conference (Ulster) which was attended by 100 council staff.</p> <p>Following this event, a hard copy of the guidelines was sent to all Council CEOs across the island. We have also been working closely</p>	

			<p>with Heritage and Biodiversity Officers and many Councils have begun the process of integrating the AIPP into existing policies.</p> <p>Almost all Councils are now taking some actions for pollinators. In 2019 we will initiate a more structured framework where Councils can sign up as partners of the Plan, as this is more ad hoc at present. This will allow better future reporting on progress with this sector.</p> <p>This is a long-term action, but much progress has already been made.</p>	
	<p>❖ Incorporate pollinator prescriptions into the An Taisce Green Parks Initiative</p>	<p>An Taisce</p>	<p>Pollinators are now included within the Green Flag for Parks Initiative. A special pollinator award for parks was established in 2017. The award (in the form of pollinator-friendly plants) is sponsored by Young Nurseries who are specialist perennial growers based in Co. Limerick. The 2018 winners were: Town park category: Liffey Linear Park Country Park & Demesne category: Ardgillan Demesne Overall winner: Castletown Demesne, operated by the Office of Public Works.</p> <p>Castletown Demesne presented on their activities at the second regional AIPP conference in March 2018.</p>	

<p>A15. Encourage pollinator-friendly management of educational properties and raise awareness of the importance of pollinators</p>	<ul style="list-style-type: none"> ❖ Pollinators incorporated into the Green-Schools and Eco-Schools Initiatives ❖ Increase numbers of school students, teachers, principals and caretakers exposed to pollinator information 	<p>An Taisce – Green-Schools ROI Keep Northern Ireland Beautiful – Eco-Schools NI</p>	<p>A junior version of the All-Ireland Pollinator Plan was published in February 2016. It is available in English and Irish.</p> <p>Green-Schools: The Junior versions of the AIPP in Irish and in English are available to download from www.greenschoolsireland.org</p> <p>All schools working on the Biodiversity theme, on the Green-Schools programme have also been emailed these documents directly. Green-Schools Ireland’s Summer Teacher Training Week, in July 2018, had a half-day dedicated to Pollinator Activities, linking to the AIPP.</p> <p>The AIPP for Schools was promoted at our annual Teachers’ Seminars (28 events) nationwide, in Autumn 2018.</p>
	<ul style="list-style-type: none"> ❖ Pollinators incorporated into the Green-Campus initiative Guidance Documents ❖ Existing and newly registered campus committees on the Green-Campus programme to be informed of the Plan 	<p>An Taisce – Green-campus</p>	<p>The Green Campus website features a copy of the Pollinator Plan in the ‘Resources’ section. Links to the Pollinator Plan can be found within the Guidance Documents for existing and newly registered sites here: http://www.greencampusireland.org/resources</p> <p>The Pollinator Plan is promoted frequently on the Green Campus social media pages. Twitter: @GreenCampusIE</p>

			<p>Facebook: http://www.facebook.com/greencampusireland</p> <p>The Pollinator Plan is referred to frequently in feedback documents to the 27 participating campuses upon submission of Green-Campus annual reports, progress reports, etc. on the Green-Campus theme of biodiversity.</p> <p>A representative from the National Biodiversity Data Centre spoke on the Pollinator Plan at our annual Green Campus Network Meeting 2016 to which all of our 21 campus participants were invited from across the university, IT and FE sectors. A recording is available here:</p> <p>The All Ireland Pollinator Plan 2015-2020 and how campuses can introduce measures based on the Plan. – Dr Úna FitzPatrick: https://media.heanet.ie/page/7b94ef7c8f86c441ee4bef628d04d1d4</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"> ❖ Undertake monitoring through the Bumblebee Monitoring Scheme at key NT properties ❖ Incorporate pollinators into property/ land use management plans (where appropriate and when reviewed) 	<p>National Trust</p>	<p>NT staff underwent training on the Pollinator Plan including the Bumblebee Monitoring Scheme in May 2016.</p> <p>In our Fermanagh properties, we have 25ha of wildflower meadows and verges managed for pollinators with a further 5ha which came on stream this year with changes in grass cutting</p>

			<p>regime. We have also created a 1.35ha wildflower area in Cushendun and 2ha at Castle Ward - so approx. 34ha in total.</p> <p>Bumblebee monitoring is carried out at the Giant's Causeway and White Park Bay – 1 each per month. Two Bumblebee recording transects are carried out at Castle Ward monthly. In addition to the butterfly transect at Crom, a bumblebee transect is also being established there.</p> <p>Casual recordings of pollinators are carried out at Mt Stewart.</p> <p>Our Land Outdoor & Nature Strategy is underway in the National Trust and we will be focussing much more on managing our land for nature and better recording/monitoring of selected habitats and species going forward.</p>
<p>A17. Adoption of pollinator-friendly management within the Bord na Mona network of sites</p> <p>*Note this is semi-state land</p>	<ul style="list-style-type: none"> ❖ Identification of potential pollinator-friendly habitats on cutaway bogs ❖ Identification of corridors to link pollinator-friendly areas ❖ Incorporate pollinator actions within the next BnM Biodiversity Action Plan 	Bord na Mona	<p>BnM baseline ecological survey continues to identify pollinator-friendly habitats on cutaway bogs. Pollinator-friendly actions (such as maintaining and enhancing species-rich pioneer grassland habitats) will be adapted into BnM cutaway bog rehabilitation plans.</p> <p>We have been increasing the area of cutaway rehabilitation and bog restoration.</p>

		<p>The 1st year of the Littleton Bog Group Rehabilitation Programme is nearly complete.</p> <p>As part of this programme, raised bog habitat at Ballysorrell bog and Knockahaw bog has been restored. Re-wetting at these sites will be positive for pollinators that depend on raised bog habitats.</p> <p>Re-vegetation of bare peat and site stabilisation in the Littleton Bog group is a key objective of the Littleton Bog Rehabilitation plan. Re-vegetating these areas will be positive for some pollinating insects by providing new habitat.</p> <p>Pollinator-friendly actions have been incorporated into BnM Biodiversity Action Plan 2016-2021.</p> <p>Awareness of All-Ireland Pollinator Plan promoted at various BnM Ecology events.</p> <p>Pollinator-friendly management (e.g. natural grassy meadows) is being encouraged at BnM offices.</p> <p>The Pollinator Plan team plan to liaise with BnM in 2019-2020 on the development of guidelines for pollinator-friendly management of solar and wind farms.</p>	
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<p>A18. Adoption of pollinator-friendly management within BirdWatch Ireland reserves where appropriate</p>	<ul style="list-style-type: none"> ❖ Undertake monitoring through the Bumblebee Monitoring Scheme at key reserves ❖ Maintain habitats for nesting bees ❖ Incorporate pollinators into reserve management plans (where appropriate and when reviewed) ❖ Support pollinator policy and advocacy work where appropriate through developing and strengthening integrated biodiversity policies and actions 	<p>BirdWatch Ireland</p>	<p>Monitoring, through the Bumblebee Monitoring Scheme, has been carried out on some of our reserves in 2018. At our Annagh & Termoncarragh Meadows reserves, Co Mayo some 13 different species were recorded in 2018 (9 true and 4 cuckoo), including Great Yellow, Red Shanked Carder, Large Carder and Red-tailed Cuckoo and active nests of 6 different species were found including those of Great Yellow and Red Shanked Carder. Events and in-field training were held with representatives from Belmullet Tidy Towns group, Mayo County Council and individuals. The Annagh & Termoncarragh Meadows reserves in Co Mayo are some of the most important national sites for the endangered Great Yellow Bumblebee.</p> <p>Habitats for pollinators are maintained on our lands through a variety of management including applying autumn mowing regimes, reducing soil fertility to increase flowering plant diversity, maintaining open structure grass swards, maintaining earthen wall boundaries and retaining areas of ‘tussock’ grass overwinter.</p> <p>In addition, pollinators continue to feature heavily in the advocacy work we undertook in relation to the Heritage Bill and changes to the Wildlife Act which could impact pollinator habitats such as upland heather and</p>
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			hedgerows. Developing partnerships with other networks including the Federation of Irish Beekeeper's Associations around the country and intensive social media awareness-raising raised the profile of the potential impacts to pollinators. The science in relation to pollinator declines features strongly in relevant submissions relating to land use change and agricultural policy.
A19. Adoption of pollinator-friendly management within RSPB reserves where appropriate	<ul style="list-style-type: none"> ❖ Undertake monitoring through the Bumblebee Monitoring Scheme at key reserves ❖ Maintain habitats for nesting bees ❖ Incorporate pollinators into reserve management plans (where appropriate and when reviewed) 	RSPB	<p>Some bumblebee monitoring has been undertaken on a transect at the Portmore and Belfast WoW reserves. Annual records are sent to the Bumblebee Monitoring Scheme.</p> <p>Volunteers and visitors to our reserves will be directed to bumblebee identification leaflets and encouraged to record bumblebees that they find in their own gardens/areas. We have incorporated pollinator educational activities at our Kids Corner at Belfast WoW.</p> <p>RSPB volunteers will continue to be trained to complete annual monitoring at Belfast WoW and Portmore.</p> <p>Maintaining habitats for nesting bees and incorporating pollinators into reserve management plans will continue and be expanded where possible. At both sites, some areas of thick grassy vegetation that may be suitable nesting habitat are left uncut, there are also trees with cavities for species which</p>

			<p>prefer to nest in trees, as well as a number of artificial bee 'nestboxes'.</p> <p>Pollinator monitoring has been incorporated into the reserve management plan for butterflies, moths and bumblebees.</p> <p>Consideration given to reserve management when doing any new planting/sowing wildflowers in the visitor areas to benefit pollinators.</p>	
A20. Encourage pollinator-friendly management of national monuments and historic properties	❖ Number of participating sites	<p>An Taisce, Department for Communities (NI)*</p> <p>*Historic Environment Division now sits within the Department for Communities in NI, not DAERA</p>	<p>The Pollinator Plan team has not yet engaged with An Taisce on this action. Reason it has not progressed: human resource limitations</p> <p>The Department for Communities have been contacted and this will be followed up in 2019.</p>	
A21. Adoption of pollinator-friendly management within the National Botanic Gardens network of sites	❖ Number of participating sites	OPW; National Botanic Gardens	<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,</p>	

			<p>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"> ❖ Development of a blueprint for community involvement in implementing the Pollinator Plan [Action 47] ❖ SECAD to act as test case for roll out through a Local Development Company ❖ Engagement with the ILDN (Irish Local Development Network) to investigate whether this could be rolled out nationally 	<p>Steering group; SECAD.</p>	<p>‘Local Communities – actions for pollinators’ was published in April 2016. SECAD are currently acting as a test case for roll out through an LDC.</p> <p>SECAD: In addition to continuing last year’s items, this year Wild Work and SECAD have:</p> <p>Set up pollinator monitoring routes in Ballyvergan Strand and Ballyvergan Marsh, Fota arboretum and Cuskinny Nature Reserve.</p> <p>Sown pollinator friendly wildflower seed at Cork Airport, Haulbowline Island, Glenilen Farm and SECAD, Midleton totalling around 5,000 m².</p> <p>Wild Work continues to work closely with businesses and a number of bespoke Biodiversity Action Plans have been produced with a strong focus on the creation of pollinator habitats and pollinator education.</p> <p>Developing a Biodiversity Action plan to feed into a 5-year Town and Village renewal plan</p>

			<p>for Passage West and Carrigtwohill which have a strong pollinator focus.</p> <p>In collaboration with the National Biodiversity Data Centre Wild Work has developed a Citizen Science Portal (http://www.wildwork.ie/citizen-science-portal/) to help raise awareness of our Pollinator Project.</p> <p>Over 25 pollinator themed education and awareness raising sessions have been given to community groups and businesses.</p> <p>Produced a Grassland Management Plan for the Mangala, Douglas to enhance the grassland habitats for pollinators and other wildlife.</p>
A23. Make information on pollinator-friendly management available through the Tidy Towns Initiative	<ul style="list-style-type: none"> ❖ Promotion of pollinator actions within the initiative ❖ Growth in the number of towns adopting actions within public spaces 	Tidy Towns	<p>‘Local Communities – actions for pollinators’ was published in April 2016 and is aimed primarily at Tidy Towns or Ulster in Bloom Groups. The Tidy Towns Unit have greatly assisted with the promotion and distribution of these guidelines.</p> <p>In 2016, the Heritage and Biodiversity officers in RoI came together to fund a special Pollinator Award in the Tidy Towns competition. The award is administered by the National Biodiversity Data Centre and judged by a committee established by the Heritage Officers. To date it has been an extremely</p>

			successful initiative, with 140 different towns and villages entering the award in its first three years. There has been a noticeable increase in the quality of entries year upon year. The overall winner of the 2018 award was Clonmel in County Tipperary.	
A24. Garden-friendly pollinator actions promoted by Community Gardens Ireland	<ul style="list-style-type: none"> ❖ Promotion to members ❖ Uptake by members 	Community Gardens Ireland	We've published guidelines to creating pollinator gardens and community gardens on our website http://cgireland.org and continue to promote the pollinator plan on our social media pages. We are planning to work with the National Biodiversity Data Centre in 2019 to train CG Ireland coordinators and facilitators so they can deliver the training in gardens across Ireland.	
A25. Promote the development of reference sites and case studies across public land to act as education and training tools	<ul style="list-style-type: none"> ❖ 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"> ❖ The location of reference sites made available ❖ Development of publicly available case studies that can act as a tool to others considering pollinator-friendly management 	National Biodiversity Data Centre, relevant partners	Case studies on key sites are currently being developed by the Data Centre. As they are developed, they are made available on the Pollinator Plan website. Where appropriate, agreement is being sought that these can be identified as reference sites.	
A26. Development of cost-benefit analyses providing land managers with information on the cost	<ul style="list-style-type: none"> ❖ Identification of all cost-benefit analyses that would be useful 	Steering group	The following cost-benefit analyses were identified as immediate priorities (2016): <ul style="list-style-type: none"> • Regular mowing (22 cuts a year, grass mulched back in) versus pollinator- 	

<p>implications of management actions, e.g. regular spraying and mowing versus twice annual cut and removal of grass [Action 68]</p>			<p>friendly mowing (5 cuts a year and grass removal)</p> <ul style="list-style-type: none"> • Pollinator-friendly perennial bedding versus annual bedding 	
	<p>❖ Completion of these cost-benefit analyses and appropriate dissemination of information</p> <p>Note: 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 were included in the Guidelines for Councils (published Feb 2017)</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, but there is a substantial saving year on year by choosing perennials. Annual bedding is replaced twice a year, whereas the life span of perennial bedding is 10-12 years if properly planted and maintained.</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 2018. At time of print an additional 13 partners have formally agreed to support the Plan in 2018, bringing the total to 92. Any additional partners who wish to report on supporting activities in 2018 have done so in Appendix B.</p>	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
<p>A28. Adoption of an All-Ireland scheme to create pollinator highways along road networks</p>	<ul style="list-style-type: none"> ❖ Development of guidelines for pollinator-friendly roadside management * 	<p>Don't Mow Let it Grow Steering Group, Life lives on the Edge (Wexford CoCo), National Biodiversity Data Centre</p>	<p>A toolkit is currently being developed by Don't Mow Let it Grow in N. Ireland</p> <p>A guideline document for pollinator-friendly roadside management is also in train. It is being prepared by TII and the National Biodiversity Data Centre. It is expected to be published in the first half of 2019.</p>	
	<ul style="list-style-type: none"> ❖ Incorporation of pollinator actions into existing landscaping guidelines or environmental handbooks where appropriate and when reviewed 	<p>Transport Infrastructure Ireland (TII), Transport NI, Local Authorities</p>	<p>This cannot be progressed until the guidelines for pollinator-friendly roadside management are published.</p>	
	<ul style="list-style-type: none"> ❖ Secure funding for the 'Don't Mow Let it Grow' NI pilot scheme ❖ Implement 'Don't Mow Let it Grow' pilot scheme and roll out to other areas ❖ Provide cost benefit analyses for a reduced mowing regime <p>Note: elements of this action are resource dependent & require identification of funding sources</p>	<p>Don't Mow Let it Grow Steering Group</p>	<p>Total of 20 Road Verges and 18 areas within Council Parks involved in the project. Over 60 sites with Invasive Alien Species were identified and managed where possible.</p> <p>Site management guidelines have been drafted and are being edited before publishing – will be on the new toolkit section.</p> <p>Toolkit section of the website is currently being built and will be populated by the end of 2018 with outputs to date.</p>	

			<p>Year 3 (2018) public perception survey results (590 respondents) will be publicised shortly and are in line with those from year 2. This will be included in the Economic Appraisal which we are continuing to gather information for. There were a total of 1043 respondent across the 3 years.</p> <p>Year 3 (2018) botanical surveys are completed.</p> <p>School engagement programme has been developed; was trialled in 4 Primary Schools with facilitator & volunteer educators trained. This is now available on the website for teachers to deliver themselves or with the support of volunteers.</p> <p>For more information please visit http://dontmowletitgrow.com & our facebook page Don't Mow Let It Grow</p>	
	❖ Implement 'Networks for Nature' pilot scheme and roll out to other areas in ROI	IWT	<p>This action has changed, as in 2017 the IWT launched a 'People for Bees' programme which aims to cover both the "Making Ireland more pollinator-friendly" and "Bee population monitoring" objectives of the AIPP.</p> <p>In 2018 the IWT People for Bees programme delivered 12 training workshops to approximately 250 attendees in counties Cavan, Donegal, Limerick, Roscommon and Wicklow, as well as other public talks on</p>	

			<p>pollinators. The 12 training workshops were organized in association with local community groups and were open to community groups and members of the public to attend free of charge. The workshops delivered training on Irish wild bee identification and monitoring as well as bee habitat creation. With the new skills learned through this programme, participating groups and individuals have the knowledge and confidence to start carrying out bee population monitoring and habitat creation in their communities, thus supporting two of the objectives of the All-Ireland Pollinator Plan – ‘Making Ireland more pollinator friendly’ and ‘Bee population monitoring’.</p>	
	❖ Promote the future development of wildflower highways along roadsides where appropriate	Don't Mow Let it Grow Steering Group, Wexford County Council (Life lives on the Edge), IWT, Fáilte Ireland	<p>Pollinator-friendly roadside management continues to be promoted by all relevant parties. This will be enhanced once the guidelines are published.</p>	
	❖ Investigate whether pollinator-friendly actions can be incorporated into the ‘pure mile’ project which encourages local community groups to manage a mile-long stretch of road for biodiversity	Steering group	<p>PURE (Protecting Uplands & Rural Environments) have been approached and are supportive of the Pollinator Plan. They have included links to the AIPP resources in their own documentation.</p>	

A29. Adoption of an All-Ireland scheme to create pollinator highways along rail networks	❖ Provision of guidelines for pollinator-friendly rail network management *	National Biodiversity Data Centre	These are in train and are expected to be published in the first half of 2019.	Yellow
	❖ Incorporation of pollinator actions into existing biodiversity plans where appropriate and when reviewed ❖ Level of uptake	Translink, Iranród Éireann	This cannot be progressed until the guidelines for pollinator-friendly rail network management are published and made available in 2019.	Red
A30. Adoption of an All-Ireland scheme to create pollinator highways along waterway towpaths	❖ Provision of guidelines for pollinator-friendly towpath management *	National Biodiversity Data Centre, Waterways Ireland	These will be published in 2019-2020. Reason it has not progressed: human resource limitations	Red
	❖ Incorporation of pollinator actions into existing biodiversity plans where appropriate and when reviewed ❖ Level of uptake	Waterways Ireland	<p>Actions undertaken: Publicising relevant guidelines (particularly to Tidy Towns Groups and communities who live adjacent to our waterways) e.g. availability of the Pollinator Guidelines at the annual Waterways Ireland Heritage Plan Open Day event.</p> <p>Bespoke on site management on the Royal Canal following the discovery of a large Marsh Fritillary colony by Butterfly Conservation Ireland and Baltrasna Boreen Biodiversity Group.</p> <p>We continue to work with local community groups in the roll out of pollinator-friendly management schemes and other project supports, namely:</p> <ul style="list-style-type: none"> • Pollinator-friendly management was developed in partnership with the Grand Canal 	Green

			<p>Clean-up Group along the canal in Dolphin's Barn.</p> <ul style="list-style-type: none"> • New initiatives, as they are rolled out, are complimented by durable Perspex pollinator management signs, based on templates received from the NBDC, to inform where this targeted maintenance is taking place. • The community beehive established, in partnership with the Royal Canal Amenity Group yielded its first crop of canal-honey in 2018. <p>We continue to advocate for pollinator-friendly management along newly opened sections of Greenway, facilitating both recreational usage and refuges for biodiversity. This is undertaken in partnership with Local Authorities who are developing such trails along our property.</p> <p>Waterways Ireland made a submission to the EU Commission on the EU Pollinators Initiative to stress the importance of pollinators to native biodiversity. The Environment & Heritage Section and Communications Unit of Waterways Ireland collaborated on a number of pollinator themed social media posts.</p>	
A31. Provision of pollinator-friendly management guidelines to the National Trails Office who inspect 744	❖ Provision of guidelines	Steering group	This action has not yet been progressed but is planned for 2019-2020	

(on public and private land) recreational trails			Reason it has not progressed: human resource limitations	
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	The AIPP has been collaborating with Waterford City and County Council and in 2018 has developed a pollinator plan for the new Waterford Greenway (46km route between Waterford City and Dungarvan). It is hoped that this can be used as a case study or template for other Local Authorities interested in doing something similar.	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
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, TII, Local Authorities	This will be more actively progressed from 2019. A number of Councils e.g., Dún Laoghaire–Rathdown are running trials on herbicide alternatives.	
A34. Encourage safer application of pesticides	❖ Support existing work to raise awareness on the responsible use of pesticides by enhancing online resources to provide clear and simple guidelines	DAFM, AFBI, National Biodiversity Data Centre	The National Biodiversity Data Centre has produced a short pesticide code of practice within the context of the Pollinator Plan. It was written as a one-page document with the aim that it could be laminated and supplied to appropriate staff. It is aimed primarily at Councils and landscape contractors.	

1.3 MAKING IRELAND POLLINATOR-FRIENDLY: PRIVATE LAND

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
A35. Garden pollinator-friendly actions promoted within the Grow It Yourself (GIY) network - 50,000 members across Ireland	❖ Provision of guidelines for pollinator-friendly management *	National Biodiversity Data Centre	'Gardens – actions to help pollinators' was published in June 2016. It identifies 20 actions that would make a garden more pollinator-friendly. It also includes planting suggestions and a one-page guide for pollinator-friendly housing estate management.	
	<ul style="list-style-type: none"> ❖ Promotion to members ❖ Uptake by members ❖ Actions adopted at GIY HQ and used for demonstration purposes 	GIY	The Plan was promoted to members in 2018, via our ezine, meeting handouts, talks and online. GIY HQ opened in September 2016. A wide range of pollinator-friendly actions have been adopted on site.	
A36. Garden friendly pollinator actions promoted within the An Taisce Green Communities network	❖ Provision of guidelines for pollinator-friendly management *	National Biodiversity Data Centre	See Action 35. These were published in June 2016	
	<ul style="list-style-type: none"> ❖ Promotion to members ❖ Uptake by community groups 	An Taisce	Throughout 2018, all Pollinator Plan resources and relevant events have been promoted through Green Communities channels including Facebook, mailing list and the Green Communities News Bulletin.	
A37. Encourage the public to take voluntary actions to make their gardens and	❖ Creation of on-line resources providing clear guidelines on how	National Biodiversity Data Centre & partners	On-line resources continue to be developed. These include the guideline document mentioned above along with case studies,	

rural lanes pollinator-friendly	<p>to make your garden pollinator-friendly</p> <ul style="list-style-type: none"> ❖ Investigation of funding sources with a view to developing an All-Ireland garden pollinator scheme <p>Note: promotion of a public scheme is resource dependent & requires identification of funding sources</p>		<p>relevant how-to-guides (e.g. providing nesting habitat for pollinators, collecting wildflower seed, and managing hedgerows), signage, and the location of reference sites that demonstrate pollinator-friendly gardening.</p> <p>Funding for an All-Ireland garden pollinator scheme has not yet been sought</p>	
A38. Encourage the Garden Centre sector to provide information on plants that are pollinator-friendly	<ul style="list-style-type: none"> ❖ Engagement with the sector and identification of actions that can be taken 	Steering group	<p>Initial discussions have begun with a number of key Garden Centres. This will continue to be progressed in 2019.</p> <p>It is hoped that Garden Centres can be signed up as business supporters of the AIPP and provided with awareness raising material on the AIPP, to include recommended pollinator-friendly garden plants. Currently attempts are underway to have this in place for World Bee Day 2019 (20th May).</p>	

Target 1.3.2: Encourage businesses to become pollinator-friendly

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
<p>A39. Encourage business properties to make their outdoor spaces more pollinator-friendly (including country hotels, golf courses, quarries, retail car parks)</p>	<ul style="list-style-type: none"> ❖ Provision of guidelines for pollinator-friendly management of general outdoor spaces that are appropriate for business. Developed in packages that are in line with the environmental systems used in many businesses (such as ISO 14001/BS8555). * 	<p>National Biodiversity Data Centre</p>	<p>‘Businesses – actions to help pollinators’ was published in November 2016. It identifies 15 outdoor space actions and 3 additional actions that businesses can take to help pollinators. It includes a flow chart with approximate effort levels and costings for each action to help businesses decide which is right for them. A Technical Appendix and a planting code for 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.</p>	
	<ul style="list-style-type: none"> ❖ Achieve a target of 60 businesses signed up by 2020 ❖ Develop case studies across business types ❖ Develop specific guidelines for the following: golf courses, country hotels, retail car parks, quarries * 	<p>National Biodiversity Data Centre, NIEA</p>	<p>A framework for business supporters was established in November 2016, following publication of the business guidelines (above). A target of 60 business supporters by 2020 was set. A total of 81 companies have now signed up. 15 new businesses signed up in 2017, and 59 so far in 2018. A new target of 100 business supporters has been set for 2020.</p> <p>From 2018, a dedicated annual report will allow each business to provide a short update</p>	

			<p>on their activities in support of the AIPP to date. This will be published in parallel to this overall AIPP annual review document and will be available on the website in December 2018. Case studies will then be developed off the back of this document.</p> <p>Guidelines for golf courses are in preparation and will be published in 2019, with others planned for 2019-2020.</p>	
	❖ Disseminate this information to the business community	Bord Bia	Bord Bia disseminated the Business Guidelines to their >500 Origin Green companies via email	

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

1.4 Supporting the creation of pollinator-friendly habitat

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
A40. Support the availability of local provenance native wildflower seed for restoration of flower-rich habitats where natural regeneration is not possible	<ul style="list-style-type: none"> ❖ Support local industries/initiatives to provide an affordable source of native wildflower seed ❖ Adopt a voluntary quality standard to ensure availability of high quality native origin seeds for pollinator habitat restoration schemes ❖ Investigate mechanisms to provide training in the small-scale collection, storage and use of local seed in local restoration projects 	Steering Group	The Pollinator Plan resources continue to stress the importance of using local provenance native wildflower seed and to run or facilitate training workshops where possible.	
	<ul style="list-style-type: none"> ❖ Development of a 'how-to' guide for the collection, storage and use of local seed 	True Harvest Seeds	This was published in May 2016	
A41. Investigate mechanisms for the sharing and exchange of machinery, skills & advice	<ul style="list-style-type: none"> ❖ Investigate mechanisms for machinery rings, skills exchange & advice sharing 	Steering Group	This continues to be investigated. It is of most relevance to local authorities/councils.	
A42. Ensure that the Pollinator Plan is compatible with other biodiversity initiatives	<ul style="list-style-type: none"> ❖ Liaise with other partners to ensure land management advice for promoting biodiversity is joined up and is not contradictive 	Steering Group	Ongoing in 2018, with the Steering group liaising with partners where appropriate. All guideline documents produced are being carefully prepared to avoid conflict or confusion with other initiatives.	

2. Raising awareness of pollinators and how to protect them

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
A43. Raise awareness of pollinators and their importance to the wider community	❖ Track numbers of published media articles and interviews	National Biodiversity Data Centre	<p>In 2018, the Pollinator Plan has been promoted via published articles, interviews, and other events. This includes:</p> <ul style="list-style-type: none"> -34 published newspaper articles -4 radio interviews -2 TV interviews -45 additional articles (blogs, websites, newsletters, magazines) -46 presentations at events - 9 presentations at conferences - 13 Other (speeches/stands at 3rd party events) <p>-7 online videos by AIPP team in 2018: 1 on Bumblebee Monitoring; 1 on Tidy Towns Pollinator Award. (both funded through Creative Ireland, Waterford County Council Heritage Office). 2 online videos on Managing Hedgerows for Pollinators – funded through Biodiversity Fund through Tipperary County Council Heritage Office. 2 online interviews on AIPP</p>	

			<p>1 launch of Farmland guidelines in NI</p> <p>9 more online videos of presentations at the AIPP Conference 2018 were also added to website</p>
	❖ Creation of infographics with key pollinator messages distributed through social media	National Biodiversity Data Centre	<p>The following infographics have been designed and distributed as part of the Pollinator Plan and its supporting resources:</p> <ol style="list-style-type: none"> 1. Importance of pollinators infographic 2. Contribution to economy infographic 3. Crops pollinated by bees infographic 4. Diversity of bees infographic 5. Bumblebee lifecycle infographic 6. Solitary bee lifecycle infographic 7. Bee hotel infographic 8. Importance of pollination junior plan infographic 9. Pollinator-friendly garden infographic 10. Pollinator-friendly garden plants table 11. Pollinator-friendly guide for estates management sheet 12. Distance to food infographic 13. Solitary bee ground nest infographic 14. Pollinator-friendly actions for businesses flow chart 15. Pollinator-friendly actions for Local Councils flow chart 16. Crops & need for flowers throughout the year infographic

	❖ Creation of a media toolkit	National Biodiversity Data Centre	This is available on the main Pollinator Plan website and is kept up to date as the initiative progresses	
	❖ Development of a range of promotional materials to promote pollinators	National Biodiversity Data Centre	<p>Promotional materials to promote pollinators published to date include:</p> <ul style="list-style-type: none"> -Pollinator-friendly guidelines for Local Communities, Gardens, Businesses, Councils, Farmers and Faith Communities -Stock slides about each guideline document -Educational posters of bumblebee and solitary bee life cycles -How-to-Guides for specific pollinator-friendly actions -Downloadable signage templates to mark pollinator-friendly land - Downloadable presentations for all sectors -Case studies of organisations taking pollinator-friendly actions -Junior Pollinator Plan, English and Irish language versions - Bookmark to raise awareness <p>Pop-up banners developed for stands/talks:</p> <ul style="list-style-type: none"> - AIPP - Help Ireland's Bees – showing all 99 species - Pollinator-friendly plants for your Garden <p>A series of A5 information flyers have also been developed:</p> <ul style="list-style-type: none"> - Pollinator-friendly Garden plants, April 2018 	

			<p>- Pollinator-friendly Plants on Farmland, July - 2018</p> <p>- Pollinator-friendly Herbs, November 2018</p>	
	❖ Investigate whether national events should be organised and what form this should take	Steering Group	<p>The first UN World Bee Day was initiated in 2018 (20th May). Within the AIPP, we marked the day by releasing details of trends in bumblebee numbers from the first five years of the All-Ireland Bumblebee Monitoring Scheme. This hook was used to stress the necessity of the AIPP in the media.</p> <p>World Bee Day will be fully marked in 2019 when we will encourage activity across sectors – plans on this are currently being developed.</p>	
	❖ Creation of an online portal where news and progress on the Plan can be shared	National Biodiversity Data Centre	<p>News and progress are actively shared on the main Pollinator Plan website and via Facebook and Twitter #AllIrelandPollinatorPlan</p> <p>To accommodate the expanding initiative, a new website was launched in spring 2018 www.pollinators.ie</p>	
A44. Organise a biennial pollinator meeting to bring together those implementing the Plan and other interested parties	<p>❖ Biennial pollinator meeting organised to provide a forum for reporting on progress within the Plan</p> <p>❖ Pollinator meeting venue to rotate around provinces</p>	National Biodiversity Data Centre	<p>The first pollinator meeting took place in Ulster 17-18th February 2017. It focused on Councils and how they can help implement the Plan. Given the success of this event it was decided to make it annual rather than biennial.</p> <p>The second event (March 2018) also focused on Councils and was held in Athlone in collaboration with Westmeath County Council.</p>	

			<p>The event saw enormous interest and was vastly overbooked.</p> <p>Given the interest within this sector, a decision has been made to again focus on how Councils can implement the Plan in 2019 (April, TBC). It is hoped to hold the event in Cork in collaboration with Cork City Council.</p>
A45. Raise awareness of pollinators and existing initiatives at Local Authority/Council level	❖ Existing pollinator initiatives promoted at local levels by the Heritage and Biodiversity Officer network	Heritage and Biodiversity Officers	<p>Heritage & Biodiversity Officers across the island have promoted the Plan and existing initiatives throughout 2018.</p> <p>In ROI they have come together to fund a special pollinator award in the Tidy Towns competition (Action 23). 140 towns and villages have entered the Pollinator Award competition over the last three years, with many more aware of the AIPP and taking actions under their Biodiversity category.</p> <p>The Project Officer liaises with Heritage Officers and Biodiversity Officers to help create awareness of the Pollinator Plan, through talks, distribution of print materials and sharing of the online videos and animation.</p> <p>A video on the Tidy Towns Local Authority Pollinator Award was released on 30 October 2018 and has over 10K views two weeks later</p>

			<p>on the NBDC Facebook page alone. It has also been shared embedded on 3rd party sites/social media.</p> <p>The animation and videos produced in 2017 continue to be used by Local Authority staff.</p> <p>In Northern Ireland, Antrim and Newtownabbey Borough Council are leading on a pollinator project which was awarded £76,800 from the Heritage Lottery Fund. 'Bee-licious' is a three-year project designed to restore native flower-rich habitats for pollinating insects and is being delivered in partnership with seven other Councils across Northern Ireland.</p>	
A46. Professional advice provided to clients/developers/land owners in relation to ecological Impact Assessment (EclA) and mitigation design to include pollinator-friendly measures	<ul style="list-style-type: none"> ❖ Advice to include increasing awareness of the importance of pollinators, encouraging habitat creation and enhancement measures; encouraging the preparation of Biodiversity Action Plans (BAPs) ❖ Implementation of training for CIEEM members 	CIEEM	<p>This has not yet been progressed with CIEEM.</p> <p>Several how-to-guides focussed on protecting rare bee species are currently being developed by the Data Centre. This action will be progressed once these are published.</p>	
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"> ❖ Development of a local community blueprint on how to take action on pollinators 	Limerick's Buzzing, Ballyhoura Development Ltd., SECAD	<p>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</p>	

			roll out through a Local Development Company.	
A48. Promote the conservation of a rare and endangered Irish bumblebee species and use as an educational tool for threatened species conservation	❖ Provision of online information on the Shrill Carder Bee - where it occurs, why it is in decline, and how it can be conserved	National Biodiversity Data Centre	This information is available on the pollinator website maintained by the National Biodiversity Data Centre. It has been decided to expand this action to focus on both the Shrill Carder Bee and the Great Yellow Bumblebee. How-to-guides focussed on how to best protect both these rare species are in development.	
	❖ Promote conservation of the species through EclA, mitigation design, BAP work	CIEEM	This will be actively progressed through collaboration with the Data Centre in 2019-2020. Reason it has not progressed: human resource limitations	
	❖ Raise awareness and encourage conservation of this species at the site level	BurrenBeo Trust, Limerick's Buzzing	This will be more actively progressed through collaboration with the Data Centre in 2019, particularly when the how-to-guides focussed on protecting the Great Yellow Bumblebee and the Shrill Carder bee are published. Mayo County Council agreed to adopt the Great Yellow Bumblebee in 2018. Most of the remaining populations of this species are in the Mullet Peninsula. The Data Centre is collaborating with Dr Dara Stanley, Michelle Larkin and the BurrenLife	

			project on a baseline study on the ecology of the Shrill Carder Bee. This was undertaken in the Burren in 2018 and will inform the design of a future citizen science-driven Shrill Carder Bee monitoring scheme.
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Target 2.2: Promote education on pollinators and their conservation at primary, secondary and tertiary level

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018
A49. Produce pollinator educational materials that can be used within the curriculum of primary and secondary schools	<ul style="list-style-type: none"> ❖ Preparation of material ❖ Investigation of platforms and methodologies of delivery to build on existing initiatives <p>Note: this action is resource dependent & requires identification of funding sources</p>	An Taisce Green-Schools, Eco-Schools, OPAL, Learning Through Landscapes (Polli:Nation) with assistance from other partners	<p>Under a 'train the trainer' initiative, the National Biodiversity Data Centre provided training for the Heritage in Schools 'Heritage Expert' panel in February 2018.</p> <p>A 'How-to-Guide - Develop a Pollinator Plan for your School' was published in January 2018 and made available for schools through the Heritage in Schools Scheme.</p> <p>The new website Pollinators.ie offers a dedicated Schools section, containing class presentations, quiz, posters and guidelines free to download.</p> <p>Green-Schools - As part of materials for a small side-project within the Green-Schools</p>

		<p>Ireland's Biodiversity theme, simple life-cycle information cards for bee species have again been disseminated to junior primary classes in over 80 schools across Ireland for the 2018-19 academic year.</p> <p>OPAL - (www.opalexplornature.org) In the final year of Polli:nation (2018) we :</p> <ul style="list-style-type: none"> • Worked with 991 additional children • 36 schools in total • Created 78 mini ponds from wellies and recycled vessels • 1 school engaged with the Hoverfly lagoons "Buzz Club" research • Planted a further 220 pollinator friendly shrubs • Protected 2 bee banks (1 x 1000 holes and 1 x 200 holes) • Allowed 7500m2 to go wild or have reduced mowing regime. <p>Our crowning glory was the emergence of 60 rare Irish Lady's Tresses orchids in a new "don't mow" area at Cambridge House Grammar in Ballymena, adding a 6th site to the 5 existing known sites in NI. The last known record in this site was in 1907</p> <p>https://www.bbc.co.uk/news/uk-northern-ireland-45049655</p>	
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			The UK wide project won the Environment Category of the National Lottery, Good Causes awards by public vote. The BBC came to Cumran Primary school (home of the 1000 ashy mining bees) NI to film and announce the award.
A50. Incorporate material on the identification and conservation of pollinators within agricultural and horticultural colleges	<ul style="list-style-type: none"> ❖ Incorporation within appropriate curriculums ❖ Use of this material to raise awareness among all farmers 	CAFRE	<p>CAFRE host and provide admin support to the UBKA in relation to the bee keeping course. Please see 2017/18 Beekeeping course enrolment numbers below:</p> <ul style="list-style-type: none"> • Preliminary Beekeeping Course – 257 • Intermediate Beekeeping Course – 61 • Senior Beekeeping Course – 3 <p>Farm orchard management training has been introduced at the Loughry and Enniskillen Campuses. Similar training events have been held in Limavady and Cushendall. A range of topics including pollination were covered at the training events. Given the very positive feedback received and the number of enquiries about future events, it is planned that this training be extended.</p>
		Teagasc	20,000 copies of the Teagasc GLAS Actions Information Manual which includes information on how farmers can help bees has been distributed to farmers at GLAS Courses in 2017 and 2018. A copy will be provided to

			<p>3,000 students attending agriculture and horticulture colleges from 2019.</p> <p>A pollinator module has been incorporated into the Horticulture course run by Waterford Institute of Technology in conjunction with Teagasc.</p> <p>The Environment and Sustainable Farming Workbook used in the Module on Environmental and Sustainable Farming which is compulsory in the Second Year of Teagasc Agricultural Courses includes a section 'Bees – their decline, pollination and the Best Practice management of habitats'. It predates the AIPP but will be revised on next update. FIBKA are interested in delivering talks to agricultural students - under discussion at present.</p>	
	<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</p>	<p>National Biodiversity Data Centre</p>	<p>This will be actively progressed with CAFRE and Teagasc in 2019.</p> <p>Reason it has not progressed: human resource limitations</p>	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
<p>A51. Develop tailored suites of pollinator-friendly management actions for all sectors and make available online *</p>	<ul style="list-style-type: none"> ❖ Publication of guidelines for pollinator-friendly management across all sectors ❖ Investigate mechanisms to provide certification (where appropriate) to sites taking pollinator actions 	<p>National Biodiversity Data Centre & partners</p>	<p>We have consciously made the decision that rather than quickly releasing generic style resources, we will:</p> <ul style="list-style-type: none"> ✓ Focus on publishing the best evidence-based guidelines for each sector ✓ Tailor these carefully for Ireland ✓ Engage fully with each sector on resource development to ensure they are pragmatic but also as ambitious as they can possibly be ✓ Communicate in the right language each time <p>This has delayed the release of some guidelines from our initial projection of 2016.</p> <p><u>Currently published:</u></p> <p><i>Local Communities: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 1. National Biodiversity Data Centre Series No.4, Waterford. April, 2016.</p> <p><i>Gardens: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 2. National</p>	

			<p>Biodiversity Data Centre Series No.9, Waterford. May, 2016.</p> <p><i>Businesses: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 3. National Biodiversity Data Centre Series No.10, Waterford. November, 2016.</p> <p><i>Councils: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 4. National Biodiversity Data Centre Series No.12, Waterford. February, 2017.</p> <p><i>Farmland: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 5. National Biodiversity Data Centre Series No.14, Waterford. September, 2017.</p> <p><i>Pollinator-friendly management of: Group Water Scheme Sites.</i> All-Ireland Pollinator Plan, Guidelines 6. National Biodiversity Data Centre Series No. 16, Waterford. April, 2018.</p> <p><i>Faith Communities: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 7. National Biodiversity Data Centre Series No.14, Waterford. August, 2018.</p> <p><u>Planned:</u> Pollinator-friendly management of transport networks (road, rail, towpaths, trails,</p>
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			greenways), orchards, solar farms, wind farms, golf courses, country hotels.
A52. Provide detailed 'how-to' guides for specific actions *	❖ Publication online of a series of 'how-to' guides for implementation of key pollinator actions	National Biodiversity Data Centre & partners	<p>These were developed with relevant partners.</p> <p><i>Creating wild pollinator nesting habitat.</i> All-Ireland Pollinator Plan, How-to-guide 1. National Biodiversity Data Centre Series No. 5. Waterford. May, 2016.</p> <p><i>Collecting and using pollinator-friendly wildflower seed.</i> All-Ireland Pollinator Plan, How-to-guide 2. National Biodiversity Data Centre Series No.6, Waterford. May, 2016. Partners: True Harvest Seeds</p> <p><i>Hedgerows for Pollinators.</i> All-Ireland Pollinator Plan, How-to-guide 3. National Biodiversity Data Centre Series No.7, Waterford. May, 2016. Partners: Hedge Laying Association of Ireland</p> <p><i>Creation and management of a wildflower meadow.</i> All-Ireland Pollinator Plan, How-to-guide 4. National Biodiversity Data Centre Series No.13, Waterford. April 2017. Partners: Eco Seeds</p> <p><i>Develop a Pollinator Plan for your school.</i> All-Ireland Pollinator Plan, How-to Guide 5. National Biodiversity Data Centre Series</p>

			<p>No.15, Waterford. January 2018. Partners: Heritage in Schools programme</p> <p><u>Planned:</u> Actions to support other pollinating insects (hoverflies, butterflies, moths etc.). Partners: Butterfly Conservation.</p> <p>How-to-guides focussed on how to protect very rare bee species.</p>	
A53. Provide training courses on pollinator-friendly management options across sectors	❖ Provision of training courses to accompany the respective 'how-to' guides (hedge laying, wildflower meadow creation, creation of nesting bee habitats, roadside verge management, etc.). Funding dependent.	Relevant partners	This takes places independently through relevant partners and has been increasing since 2015.	

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	PROGRESS BY NOVEMBER 2018
<p>A54. Maintain data on honeybee distribution</p>	<ul style="list-style-type: none"> ❖ Identification of mechanisms for delivery of an All-Ireland honeybee map showing hive location and numbers ❖ Maintain annual data on winter losses ❖ Identification of a working group(s) to progress this action 	<p>FIBKA, UBKA</p>	<p>UBKA – since 2018 Beekeepers of Northern Ireland are registering themselves as beekeepers and allowing mapping of their apiary site on the established Databee system introduced by DEARA https://www.daera-ni.gov.uk/articles/beekeepers-voluntary-registration This allows good surveillance and follow up in the case of disease. We still have some suspicion from beekeepers (fear of big brother watching) but the newer beekeepers are embracing the system and its benefits.</p> <p>FIBKA - FIBKA again took part in the Census of Hives with DAFM. We also publish articles from DAFM.</p> <p>We also take part in the Survey of hives and bee survival overwinter which Dr Mary Coffey conducts each year on behalf of COLOSS (the European bee survey), and we publish full results in the journal. Dr Mary Coffey also contributes to the journal. Our own Bee Health Officer also reports in the journal each month on Bee Health issues.</p>

			FIBKA has been actively promoting the All-Ireland Pollinator Plan at many events, both at local and national level. The FIBKA journal maintains a steady coverage of the Pollinator Plan via articles and reports, so all our members (about 3000) are informed about the work of the Pollinator Plan. Our forthcoming issue contains the abbreviated mid-term report and includes the link to the full text.
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Target 3.2: Support beekeepers in maintaining healthy honeybee populations

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018
A55. All-Ireland survey on disease prevalence in honeybees	<ul style="list-style-type: none"> ❖ Completion of national surveys ❖ Identification of mechanisms for delivery of an All-Ireland database on the prevalence of diseases in managed honeybee colonies 	Teagasc, AFBI, DAFM, DAERA	AFBI: AFBI conducts an annual survey on bee husbandry that feeds into a Europe-wide bee surveillance programme (termed 'CoLoss'). These surveys show overwintering colony losses to vary from year-to-year, from 9% to 43%, often dependent on weather conditions. Having an input into this Europe-wide scheme allows us to benchmark Northern Ireland's bee health compared to neighbouring countries. DAERA and AFBI have mapped the occurrence of foulbrood diseases of honeybees.

			<p>DAERA: Forest Service Bee Health Inspectorate have published at https://www.daera-ni.gov.uk/articles/bee-health</p> <p>Information on AFB and EFB findings following the inspectorate annual inspection programme.</p> <p>DAFM: The National Apiculture Programme continues to include the annual COLOSS Survey of over-winter loses. This survey has been conducted each year since winter 2008. Ireland's results feed into the COLOSS research network.</p> <p>DAFM agreed to cover the costs of bee disease sample analysis in 2017 and 2018 for any beekeeper that submitted samples of their bees / brood for analysis. This has significantly increased the number of samples submitted for analysis each year.</p> <p>In 2018 DAFM commenced publishing an online map identifying sampling locations as well as confirmed cases of notifiable diseases of honeybees. A similar approach is taken in Northern Ireland.</p>	
A56. Identify the seasonal floral diversity available to honeybee colonies in Ireland	❖ Participation of Ireland in the COLOSS CSI pollen project	University of Limerick	During 2015, a total of 34 beekeepers in Ireland actively participated in the CSI (citizen scientist investigation) pollen project.	

			<p>Preliminary analysis of the Irish data shows that a total of 525 pollen samples were collected and analysed. Pollen diversity increased as the season progressed. In April, the mean number of pollen colours identified was 4, increasing to a maximum of 8 in mid-July and early-August, but subsequently decreasing again to 1 in late August/September. Throughout the test period >70% of samples had 1 or more abundant pollen types, that is a pollen type with >20 pollen pellets present. Rare pollens (pollens with 1-20 pollen present) were more frequently collected during mid- to late-Summer (4 June to 7 Aug). The frequencies of very rare pollens (1-2 pollens) fluctuated over the entire test period.</p> <p>The number of samples per group in the Irish sample was too small to draw any reliable conclusion. A peer reviewed publication on the international results of the CSI Coloss Study will be published shortly.</p>	
<p>A57. Ensure the ongoing regulation via health certification of the importation of honeybees, bumblebees, and solitary bees.</p>	<ul style="list-style-type: none"> ❖ With regards to managed pollinators, ensure appropriate health certification requirements are complied with ❖ Development of codes of practices for handling introductions of 	<p>DAFM</p>	<p>Importers of commercially sourced bumblebees for crop pollination are registered with DAFM.</p> <p>A guide is in preparation for people using commercially sourced bumblebees for crop pollination.</p>	

	honeybees, bumblebees and solitary bees		DAFM continues to regulate and ensure appropriate certification of imports of honeybees. DAFM's website provides a guidance note outlining requirements around importation of honeybees.	
		DAERA	Forest Service Bee Health Inspectorate have revised and published their <i>Guide to Importation of Honeybees</i> and this is available online. <i>NI Bee Health and Pollinator Strategy</i> is currently in development.	
A58. Provide beekeeper training in disease identification and treatment at the All-Ireland level	<ul style="list-style-type: none"> ❖ Identification of a delivery mechanism ❖ Delivery of training 	FIBKA, UBKA, NIHBS, INIB, AFBI	<p>AFBI: AFBI held a microscope and bee disease workshop at the Ulster Beekeepers Association Conference in March 2018.</p> <p>UBKA: Routine inspection by our bee inspectorate reveal less AFB but a spike in EFB in the North West. This is an unusually high rate and it is with this in mind the and UBKA executive recently agreed to recommend culling any infected hives rather than shook swarm or antibiotic use. The beekeepers will have a discussion around the best course of action with the bee inspector.</p> <p>There were random bee inspections carried out this season and they will continue in 2019</p> <p>FIBKA and their bee health officer has worked hard to educate beekeepers to identify</p>	

		<p>disease and send in sample for testing. The results of this sampling have raised awareness and increased vigilance.</p> <p>BEE health Workshops were held in Northern Ireland and ROI in 2018 and will be heard again in 2019</p> <p>Education of beekeepers at an entry level through to senior continues to a key action for UBKA with high interest at all levels. Both the FIBKA Summer School and the UBKA Spring Conference attracted good number with high quality lecturers and lectures. Invasive species Asian Hornet and small hive beetle continue to a concern as they advance closer. Again, vigilance by beekeepers and the general public are key.</p> <p>FIBKA: FIBKA member associations are training and supervising large numbers of new beekeepers all over the country, reflecting the success of the public campaigns to help the bees (all sorts of bees). The associations also provide support for the new beekeepers and assist them in setting up and managing healthy colonies, and this is done voluntarily by the officers of our associations.</p> <p>FIBKA run beekeeper examinations, from Preliminary (for beginners) to Senior Level</p>	
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		<p>(which involves microscopy to identify bee diseases, as well as Senior Scientific and Senior Practical papers). This education programme provides beekeeping expertise and knowledge for all areas in Ireland and is on a par with the UK BBKA standard.</p> <p>Our Bee Health Officer continues to hold Bee Health and Microscopy workshops on request to our member associations throughout the country.</p> <p>Our Summer Course at Gormanston attracts beekeepers internationally and provides excellent lectures for all levels of beekeeper and other interested people. Our guest speaker from abroad is always a distinguished bee researcher: for instance, this year Dr R. Büchler was our speaker, and he gave several wonderful lectures about wild pollinators, as well as honey bees. FIBKA has also contributed support funding to bee research in two universities (Maynooth & Trinity).</p> <p>Sentinel Hives: our members have set up sentinel hives to guard against the anticipated invasion by the Asian Hornet, at their own cost.</p> <p>NIHBS: highlights disease recognition at our workshops and Bee</p>	
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			<p>Improvement/Open/Training days at locations throughout Ireland. Research work is continuing, in liaison with various academic institutions e.g. NUIG and LIT.</p> <p>During 2018, NIHBS produced a range of 20 Information Leaflets and Booklets, some of which are particularly relevant here i.e. 'Healthy Bees', 'Hygiene for Beekeepers' and 'How to improve your local Bees' - there is a great demand for leaflets from both NIHBS members and other beekeepers, thus improving skills and knowledge.</p> <p>DAERA: 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	PROGRESS BY NOVEMBER 2018	
<p>A59. Develop an All-Ireland programme for the conservation of the native <i>Apis mellifera mellifera</i></p>	<ul style="list-style-type: none"> ❖ Identification of a delivery mechanism for an All-Ireland conservation programme ❖ Delivery of training 	<p>NIHBS</p>	<p>Breeding skills are taught to beekeepers at Bee Improvement workshops and Open Days.</p> <p>Queen-rearing courses continue throughout Ireland to teach and promote the selection and rearing of Native honeybees - relevant Information leaflets/booklets in this area include 'Queen Rearing', 'Setting up a Queen Rearing Group' and 'Genetics'.</p> <p>A list of reputable breeders and suppliers of Native Queens and Bees is available on our website http://nihbs.org</p> <p>Meetings are held annually with DAFM to seek ways of improving conservation and to achieve more formal legal protection.</p> <p>Voluntary conservation areas are increasing across the island; we now have VCAs in parts of Armagh, Cork, Derry, Down, Dublin, Galway, Kildare, Laois, Limerick, Louth, Offaly, Tipperary and Waterford.</p>	

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

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

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	PROGRESS BY NOVEMBER 2018	
A61. Identify the most appropriate native wildflower plant mixes for pollinators in Ireland based on 8-10 key environmental typologies *	<ul style="list-style-type: none"> ❖ Collate existing knowledge to recommend the top plant species for different environmental conditions across the pollinating season ❖ Publish information on IPI website 	National Biodiversity Data Centre & Plant animal interactions research group (TCD),	This work is underway. A framework developed by Dr Laura Russo, will be implemented to determine which species of plants deliver a variety of management aims in different habitat types. Further thought needs to be put into the most effective way to communicate this information.	
A62. Test methodologies and identify the most effective way to provide wild bee nesting habitat in the Irish context	<ul style="list-style-type: none"> ❖ Provide knowledge to inform conservation of existing, and provision of new, nesting habitat in farmland ❖ Determine best practice for small scale nest provision in rural and urban settings 	Plant animal interactions research group (TCD) & relevant partners	Project has started in TCD and funding is being sought for further work.	
A63. Identify areas of importance to pollinators, and prioritise plans for restoration of pollinator habitat, based on those areas that will yield the greatest expected net benefits	<ul style="list-style-type: none"> ❖ Review publically managed land in terms of suitability for key pollinator populations ❖ Identify current areas suitable for pollinators, particularly rare and threatened species ❖ Identify the most appropriate locations for linking areas to allow pollinators to move around the landscape 	National Biodiversity Data Centre and partners	<p>Other actions have taken short term priority, and this has not yet been completed. It is recognised as a priority for the coming years.</p> <p>Reason it has not progressed: best progressed when the initiative is further developed</p>	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A64. Determine the economic value of pollination for food and non-food crops	<ul style="list-style-type: none"> ❖ Use pollinator requirement and production/yield data to determine marginal values for fruit/seed crops (including fodder crops) ❖ Determine non-market values of pollinators and pollination services 	Plant animal interactions research group (TCD); National Biodiversity Data Centre; NIEA (Biodiversity Unit); and others	The Pollival project, funded by EPA, has developed models to identify value of pollination services to Irish economy in terms of domestic production and in terms of imports. In addition, a survey has been completed assessing the public's willingness to pay for pollinator conservation. This will be published in early 2019.	
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"> ❖ 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] ❖ Publish information on IPI website 	Plant animal interactions research group (TCD); National Biodiversity Data Centre	This cannot be progressed until the database [Action 11] is more fully developed.	

<p>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</p>	<p>❖ Integrate data and produce national level maps [Action 12]</p>	<p>Plant animal interactions research group (TCD); National Biodiversity Data Centre</p>	<p>See update to A12: A model predicting the value of different land use types based on floral quantity and quality has been developed by Eileen Power and Jane Stout (TCD) and Jon Yearsley (UCD) and tested against available data on pollinator abundance – the model has been validated and tested for sensitivity and refined. Publication in the scientific literature is pending. This will begin to allow the generation of floral resource heat maps in the future. This is a longer-term action.</p>	
<p>A67. Develop predictive models to determine the economic impacts of land-use changes on pollinators and pollination services</p>	<p>❖ Develop technologies to database, map, and evaluate pollination service in Ireland [Action 12]</p>	<p>Plant animal interactions research group (TCD); National Biodiversity Data Centre; 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>	<p>❖ 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</p>	<p>Plant animal interactions research group (TCD); and others</p>	<p>See update to A9 – an academic project to look at cost-benefits analysis of biodiversity enhancement on farmland is ongoing. Information that will feed into this objective is also ongoing through various other research projects such as http://www.smartgrass.ie/</p>	

<p>A69. Determine how pollinators and pollination services vary according to the surrounding landscape at a range of scales</p>	<p>❖ Understand how land-use at different scales relates to pollinator abundance/ diversity and pollination services</p>	<p>Plant animal interactions research group (TCD)</p>	<p>PhD project on 'Pollinator ecology at a landscape scale' has been completed. PhD student Florence Hecq and Jane Stout (TCD) are currently writing up work for publication. It 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>	
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Target 4.3: Understand the impact of pesticides on wild pollinators in an Irish context

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
<p>A70. Determine the response of wild pollinators to pesticide use in the Irish context</p>	<p>❖ Determine levels of exposure and impacts of pesticides on pollinators in grass-dominated agricultural landscapes</p>	<p>Plant animal interactions research group (TCD); DAFM; and others</p>	<p>A research project funded by IRC (2016-2020) is underway by Sarah Gabel, with Jane Stout (TCD) and Blanaid White (DCU), to examine the exposure to and impacts of pesticides on hoverfly pollinators in Ireland.</p> <p>A large-scale research project (PROTECTS – Protecting terrestrial ecosystems through sustainable pesticide use) has been funded by DAFM (2018-2022) – this project is led by Dara Stanley (UCD) with Jane Stout (TCD), Blanaid White (DCU) and Jim Carolan (NUIM).</p>	

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	<p>NUI Galway continues to actively research this area</p> <p>DAERA: 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.</p>	

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	PROGRESS BY NOVEMBER 2018	
A72. Increase the number of active recorders who can accurately identify pollinator species	❖ Run annual identification workshops and field-based events	National Biodiversity Data Centre, CEDaR, CIEEM & relevant partners	In 2018, the Data Centre ran two workshops on general pollinator identification in addition to the monitoring scheme workshops and events listed under action 74.	
	❖ Increase the number of online identification resources available through the IPI	National Biodiversity Data Centre	These continue to be developed and enhanced. A total of 10 free pdf guides are currently available on: Bumblebee identification Solitary bee identification Hoverfly identification	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
A73. Maintain data on wild pollinator distribution and make available through an online Atlas of Irish Pollinators	<ul style="list-style-type: none"> ❖ Growth of the All-Ireland bee database ❖ Growth of All-Ireland hoverfly database ❖ Display of information through an online Atlas of Irish Pollinators 	National Biodiversity Data Centre	An additional 2,700 records have so far been added to the All-Ireland bee database in 2018. An additional 600 records have so far been added to the All-Ireland hoverfly database in 2018.	

			An online Atlas of Irish Pollinators is available. It includes species accounts of all bee species and hoverfly species.
A74. Monitor wild pollinators across the landscape to detect the early warning signs of a threat to Irish pollination service	<ul style="list-style-type: none"> ❖ Continue to support and grow the All-Ireland Bumblebee Monitoring Scheme ❖ Provide training to all interested parties 	National Biodiversity Data Centre	<p>Due to funding restrictions, only five Bumblebee Monitoring Scheme Workshops were delivered in 2018: three to the general public and two to partner organisations to the Plan (Office of Public Works, Dún Laoghaire–Rathdown Co. Co.). Unfortunately, no workshops could be scheduled for NI and this will be addressed in 2019.</p> <p>This year 17 new recorders across 22 transects joined the monitoring scheme, at least six of which attended workshops in 2017. If last year’s recorders and transects are retained, the monitoring network now represents 86 volunteers (74 ROI, 8 NI) across 116 sites (14 NI, 102 ROI). This level of recruitment is in line the past five years, but retention remains an ongoing issue.</p>
	<ul style="list-style-type: none"> ❖ Use the All-Ireland Bumblebee Monitoring Scheme mechanism to assess the success of site-based actions taken for wild pollinator populations. Voluntary training to be provided by the Data Centre. 	National Trust, BnM, BirdWatch Ireland, RSPB, Local Authorities, Ulster Wildlife, Community Gardens Ireland; SECAD; Ballyhoura Development Ltd.,	<p>See above – monitoring scheme training was provided to two partner organisations in 2018.</p> <p>AIPP training was provided to Tidy Towns groups in five counties and to Meath County Council staff in 2018.</p>

		others as appropriate		
	❖ 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	A national sampling framework which would accommodate the systematic and efficient collection of solitary bee and hoverfly data has been developed by the Data Centre and is ready for use when funding becomes available for the survey.	
	❖ Initiate an All-Ireland bee and hoverfly survey within this sampling framework in collaboration with academic partners (note : 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 team have also been actively engaging with colleagues in Britain who launched a GB pollinator monitoring scheme in 2017. A survey could be established and rolled out at short notice, but it is entirely dependent on additional funding.	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2018	
A75. Develop a publicly available online management system to track progress in the 81 actions within this Plan. *	<ul style="list-style-type: none"> ❖ Development of a system where those who have responsibility for an action can log on and submit annual progress reports ❖ Use of the online management system 	National Biodiversity Data Centre	In the short term this will not be developed, but will take the form of this downloadable pdf annual review	

<p>A76. Develop a publicly 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"> ❖ 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. ❖ System to be interactive and show progress in the creation of pollinator-friendly habitat across the landscape 	<p>National Biodiversity Data Centre</p>	<p>This system was launched in spring 2017. It has not been actively promoted due to resource constraints. Currently more than 600 sites have logged their actions. At the minute it accommodates actions by gardens, councils, OPW, schools, businesses, central government, local communities, faith communities, environmental NGOs, and headquarters/campuses. It will open to other sectors in 2019 (e.g. farmers).</p> <p>Additional development work will be completed in early 2019 to make the site more attractive to users.</p>	
<p>A77. Provide an evidence base to advise, support & monitor pollinator-friendly actions so that they can become as effective as possible</p>	<ul style="list-style-type: none"> ❖ 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] ❖ Use of the emerging online map of pollinator-friendly habitat [action 76] to direct future actions to the most appropriate areas ❖ Where sites are being monitored and actions are not proving effective, this to be investigated so that future actions can become as effective as possible 	<p>National Biodiversity Data Centre & 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	PROGRESS BY NOVEMBER 2018	
A78. Annually review the steering group	❖ Review the steering group annually and expand/restructure as required	Steering group	<p>The steering group was restructured for 2017 to include Beekeeping Association representatives (ROI & NI). It has been agreed that the size remains constant (16 members) but that expertise on the group reflects the key tasks that are being undertaken in any given year.</p> <p>The current Steering Group (2018) 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"> ❖ Establish a subgroup to investigate existing funding options (e.g., Cap II, LIFE, INTERREG) and discuss future innovations ❖ Group to liaise with the DoELG and Local Authority Environmental Awareness Officers to prioritise pollination initiatives in Agenda 21 grants 	Steering group	It has been agreed that a dedicated subgroup would not be established, but that the entire steering group would keep sight of funding opportunities in their own spheres and communicate to the group. These are being pursued where appropriate.	
A80. Incorporation of the Pollinator Plan into future relevant national strategies	❖ Promotion of the Plan to relevant organisations	Steering group	Oversight is being maintained on this action. The Pollinator Plan was incorporated into the <i>National Biodiversity Plan</i> (ROI) in 2017 and is included in the <i>Biodiversity Strategy for Northern Ireland to 2020</i> .	

A81. Renew the Plan in 2020	❖ A new version of the Pollinator Plan to be developed for 2021-2025	Steering group	Not currently applicable	
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The steering group will oversee progress within the plan through:

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

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

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	DAERA; Environmental Policy Division
Ms Hannah Denniston	Department of Agriculture, Food and the Marine
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
Ms Anne Murray	Local Authorities: Dún Laoghaire–Rathdown County Council
Dr Tomás Murray	National Biodiversity Data Centre
Dr Brian Nelson	National Parks and Wildlife Service
Ms Sarah-Jane Phelan	Transport Infrastructure Ireland
Ms Melina Quinn	DAERA; Northern Ireland Environment Agency
Dr Veronica Santorum	Ecologist

The project officer post is currently run as a job share:

- Pollinator Plan engagement officer (funded by the Heritage Council): Juanita Browne
- Pollinator Plan agri-business officer (funded by Bord Bia): Gemma Hughes

This annual review has been compiled by Úna FitzPatrick, Jane Stout & Juanita Browne.

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

At the time of publication, 69 governmental and non-governmental organisations agreed to support the All-Ireland Pollinator Plan. Responsibility for delivering the 81 actions laid out by the Plan was shared out between these original partners. Since publication, the number of partner organisations has risen to 92. All current partners are listed below (partners that joined after the Pollinator Plan's launch are indicated by an asterisk).

Government Departments

Department of Culture, Heritage and the Gaeltacht (RoI)

Department of Agriculture, Food and the Marine (RoI)

Department of Agriculture, Environment and Rural Affairs (NI)

National level organisations/bodies

National Biodiversity Data Centre

Heritage Council

Bord Bía

Agri Food and Biosciences Institute (NI)

Centre for Environmental Data and Recording NI (CEDaR)

Chartered Institute of Ecology and Environmental Management (CIEEM)

Council for Nature Conservation and the Countryside (CNCC)

Environmental Protection Agency (EPA)

Fáilte Ireland

Irish Organic Association

Irish Soft Fruit Growers Association

Keep Northern Ireland Beautiful

Marine Institute*

National Botanic Gardens

National Federation of Group Water Schemes*

National Parks & Wildlife Service (NPWS)

NI Environment Link

Northern Ireland Environment Agency (NIEA)

OPW

Organic Trust

Teagasc

Tidy Towns

Tree Council of Ireland*

Ulster Farmers' Union

Ulster in Bloom

Waterways Ireland

Transport Authorities

Iranród Éireann

Translink

Transport Infrastructure Ireland

Transport NI

Charities/NGOs

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

Beekeeping Associations

Federation of Irish Beekeepers' Associations
Institute of Northern Ireland Beekeepers (INIB)
Irish Beekeepers Association CLG*

Academic Institutions

Athlone Institute of Technology*
College of Agriculture, Food and Rural Enterprise, NI (CAFRE)
Maynooth University*
NUI Galway*

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

Native Irish Honeybee Society
Ulster Beekeepers Association

Open Air Laboratories (OPAL) UK
Trinity College Dublin
University College Dublin*

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

Belfast City Council

Lisburn & Castlereagh City Council*

Dublin City Council

Fingal County Council

Heritage Office of Kilkenny County Council

Wexford County Council

Ards and North Down Borough Council*

Lagan Valley Regional Park*

Semi-state companies

Bord Na Mona

Gas Networks Ireland*

Leader Companies

Ballyhoura Development Ltd

Mayo North East*

South and East Cork Area Development (SECAD)

Community Groups

Annascaul Adventures*

GLAN Tralee*

Other

Representative Church Body, Church of Ireland House*

END.

Business Supporters

As of end of November 2018. Business supporters agree to take one pollinator-friendly action in the first year of signing up and at least another two by 2020.

Abbott Diabetes Care Ireland	Country Crest	Irish National Stud & Gardens	Peter Cuthbert Horticultural Services
ABP	Dawn Farm Foods	Irish Register of Herbalists	Portmagee Distilling and Brewing Company Ltd
Accenture	Dublin Airport	Janssen Supply Chain Ireland	Pritchitts A Lakeland Dairies Company
Acheson & Glover	Dundrum Town Centre	Kia Ora Mini Farm Ltd	Regeneron
Adare Manor Resort	Ecoseeds	Kinahans Irish Whiskey Ltd	Rocker Organic Farm
AIB	Elavon	KSG Catering Ltd	Ronan Mac Diarmada & Associates Ltd.
An Óige - Irish Youth Hostel Association	Encirc Ltd	Lidl Ireland	Secret Valley Wildlife Park
Anovocare Nursing Home	Facebook Data Centre Clonee	Lismore Food Company	Shines Seafood
Arrabawn Co-operative Ltd.	Fairyhouse Steel	Lottie Dolls	Siemens Healthcare Diagnostics Manufacturing Ltd.
Arvato SCM Ireland Limited.	Farmhand	Matteest	SSE Wind Generation
Astellas Ireland Ltd	Finnegans Farm	McCormack Family Farms	The Apple Farm
Balfour Beatty	FP McCann Ltd.	Meade Potato Company	The Rediscovery Centre
Bee Green Ireland	GAA National Games Development Centre	Michelle Delaney	Tipperary Boutique Distillery Limited
Beeactiv Ltd.	Gannon Homes	Milverton Landscapes	Voxpro - powered by Telus
Blanchardstown Centre	Genovese Foods	Mr Jeffares Blackcurrants	Waterford Oysters
Bold Puppy	Glanbia Consumer Foods	Newbridge Foods Ltd.	Wexford Preserves
Boortmalt	Glenisk	Newgrange Gold	Wyeth Nutritional Ireland
Caherbeg Free Range Pork Ltd.	Granville EcoPark Limited	Northstone Materials Divison	Young Nurseries
Cairn Homes	Icon Clinical Research	Novokem	
Claremorris Free Range Eggs	Intel	O'Donnell Furniture Makers	
Cool Planet Experience	Irish Distillers Limited	O'Neills Dry Cure Bacon CO	

Tidy Towns Groups

These 140 groups have made their local area more pollinator-friendly and entered the special pollinator award in the Tidy Towns competition. This award was launched in 2016 and is managed and funded by the Local Authority Heritage Officer and Biodiversity Officer Network.

Abbey	Birdhill	Coole	Inistioge	Lawrencetown	Shallee
Abbeyleix	Birr	Crinkill	Julianstown	LEAP Project Easkey	Silvermines
Abbeysrule	Blackwater	Donnybrook	Keep Kilkenny Beautiful	Lisacul	Skerries
Ardclough	Blessington	Drinagh	Kells	Lismore	Sligo
Ardmore	Borris in Ossory	Drogheda	Kenmare	Listowel	Sneem
Arklow	Bridgetown	Dromiskin	Kilbeg Staholmog	Malahide	Stratford-on-Slaney
Askeaton	Bruff	Drumkeeran	Kilcornan	Maynooth	Streamstown
Athboy	Buncrana	Drumlisk	Kilcross, Sandymore	Monaghan	Strokestown
Athleague	Cahir	Dunboyne	Kildorrery	Monivea	Swords
Baile Slachtmhar Béal an Mhuirthead	Carndonagh	Dunboyne Senior Primary School	Killane	Mountmellick	Tarbert
Ballacolla	Carrigaline	Edenderry	Killarney	Moville	Templeglantine
Balla	Castleconnell	Emly	Killenard	Mullaghmore Active	Terryglass
Ballina	Castlecoote	Ennis	Killeshandra	Mullingar	Thomastown
Ballinamuck	Castlelyons Bridesbridge	Fenor Bog	Killorglin	Mulranny	Timolin
Ballintubber	Castletownroche	Ferns	Kilmoyley	Multyfarnham	Tinahely
Ballyboughal	Charleville	Geashill	Kilmuckridge	Naas	Tuam
Ballycanew (Camolin)	Clonaslee	Glaslough	Kilnaleck	Phibsboro Village	Tuamgraney
Ballyduff	Clonbullogue	Glenroe	Kilrush	Portrunny	Tullahought
Ballyfarnon	Clonegal	Glin	Kilsheelan	Raheny	Westport
Ballymore Eustace	Clonmel	Gorthaganny	Kilteevan	Roosky	Wicklow
Ballymote	Cloughjordan	Grange	Kiltegan	Roscommon	
Banagher	Cobh	Greenore	Kinlough	Rosscarbery	
Bandon	Collooney	Hollyfort	Kinnitty	Rosslare	
Bennettsbridge	Connolly	Hollywood	Ladysbridge	Scariff	

APPENDIX B: 2018 ACTIVITIES BY OTHER PARTNER ORGANISATIONS

Partner organisations who are not associated with a specific action were contacted and given the opportunity to provide a short update on their 2018 activities if they wished.

Partner	Activities
Annascaul Adventures	<p>November 2018 to November 2019 projects and activities of Annascaul Adventures:</p> <p>We commenced planning a community Sensory garden with Grow It Yourself on an estate. It will be completed in 2019 and will be pollinator-friendly. The butterfly house was completed in May 2018. We planted 100 native hedgerow plants on the Maum road, Annascaul last week November. We did two biodiversity awareness events (May & August). We started a book with Kerry Education Training Board on our native fauna and flora in Annascaul area and completed it in August 2018. We are waiting for it to be launched. This is to appreciate and love what we have and safeguard our biodiversity. We are surveying moths. Through Kerry Education Training Board, we planned a Biodiversity Area. We are preparing wildflowers to be planted in four different areas. Should be completed in 2019. We have a Rewilding projects for bees, we started in October 2018. We have made four log hives. In 2019 we will know if it works. We have started in November 2018 a plan to create a garden that would be growing vegetables, fruit, to feed the community and sell at The Cottage Market and local shops. We are waiting for two areas to plant a community heritage orchard.</p>
Athlone Institute of Technology (AIT)	<p>Athlone Institute of Technology (AIT) is committed to developing research and enterprise activities that aligns with All-Ireland Pollinator Plan as attested by developing and expanding innovation in the area of real-time diagnostics of complex parasites and viruses affecting bee health. AIT has supported the OECD CRP Agriculture Fellowship of Dr Michael Goblirsch (University of Minnesota, USA) who visited the facilities of Professor Neil Rowan over a 3-month period in 2018 to exchange knowledge and innovation on disease mitigation. These activities underpinning a successful EPA Co-Fund PhD with Dr Goblirsch and Dr James Carolan (NUI Maynooth) on novel treatment of pollen used for commercially managed bumblebees. It is appreciated that addressing pollinator decline is a complex multi-factorial issue where loss of pollinator habit, starvation and disease play central roles. However, AIT and partners very much appreciate same and have adopted a HACCP approach to innovation/open innovation for investigating mitigation strategies with stakeholders for the latter.</p>
BugLife	<p>Key BugLife activities in support of the AIPP in 2018 were:</p> <ul style="list-style-type: none"> - Condition monitoring for ASSIs with invertebrate assemblages - The B-lines Northern Ireland Project is due to be officially launch in the second week of November. Some information has been put online for the B-lines NI webpage.

	<ul style="list-style-type: none"> - AIPP promotion through training, events, attendance at Bioblitz. - Currently working on a Threatened Bee report for Northern Ireland, which aims to be similar to the Wales Threatened Bee Report.
Council for Nature Conservation and the Countryside (CNCC)	Where appropriate, the CNCC continues to draw attention to the Pollinator Plan in consultation responses.
Gas Networks Ireland (GNI)	<p>With assets all over the island of Ireland, Gas Networks Ireland (GNI) identified that there was a great opportunity for the company to enhance biodiversity and create a network of pollinator-friendly habitats across the country with the implementation of simple biodiversity management initiatives. In 2017 GNI kicked off a biodiversity programme with the aim of enhancing biodiversity at a number of GNI sites. A pilot study testing various measures was initially carried out at one of GNI's larger Above Ground Installations (AGIs), Brownsbarn AGI. In addition, a post-doctoral researcher from Trinity College Dublin (TCD) commenced a study at the site to see how herbicides and fertilisers affect the health of bees. The project, a collaboration between TCD, Business in the Community and GNI examines how the treatment of flowers with different levels of herbicide and fertiliser affects the pollination process.</p> <p>In 2018, GNI identified other suitable sites across the island of Ireland and carried out Biodiversity enhancement measures on AGIs in the East, West and South of the country, as well as their office sites in Dublin and Cork. GNI also conducted ecological surveys across a number of these GNI sites. Regular communications are carried out both internally with staff and externally to help promote and improve awareness of the importance of Ireland's Pollinators and Biodiversity. GNI also recognised 2018 National Biodiversity Week in May. We also sponsored a "Butterflies of Ireland" poster in collaboration with the National Biodiversity Data Centre and the Irish Examiner. The poster was provided to 300 schools in Munster, 20 schools in Dublin and our own staff.</p> <p>GNI continues to encourage staff and its contractors to consider its implications from the early stages of every project and to re-enforce the importance of including biodiversity elements at every stage of their projects/activities. In 2018, GNI's main contracting partner BBCLG also signed up as a supporter of the All-Ireland Pollinator Plan. GNI were also shortlisted for a 2018 Chambers Ireland CSR Awards for their Biodiversity Programme.</p>
Green Sod Ireland	Green Sod Ireland's <i>Bee Aware</i> is a bee-friendly planting and awareness-raising project for primary schools, whereby students and teachers learn about the important role of bees as pollinators, and how we can help them. This year the

	<p>Green Sod Ireland team worked with 19 primary schools across Galway City, Dublin City and County Kildare under Local Agenda 21 funding. To date, 25 primary schools and 735 students from senior infants to fifth class have planted a mini wild flower meadow in their school garden in support of bees and the All-Ireland Pollinator Plan.</p> <p>With the support of the Heritage Council, Green Sod Ireland delivered a <i>Wild Bee Presentation</i> to 3 residents associations in Galway City during Heritage Week 2017; Shantalla Residents Association, Woodquay Residents Association and Maunsells Residents Association. The presentations were free and open to the public, drawing in members of other community groups such as Tidy Towns, Active Retirement Ireland and Third Space Galway. Presentations provided an introduction to wild bees, pollination and their conservation, including the All-Ireland Pollinator Plan and the guidelines for local communities. Green Sod Ireland is a charity founded in 2007 to establish WildAcres across Ireland, creating safe habitats vital for biodiversity. Through its variety of programmes, Green Sod also delivers ecological education in order to encourage the proactive preservation of nature. Green Sod Ireland is a volunteer-run organisation.</p>
Heritage Office of Kilkenny County Council	<p>Kilkenny County Council initiatives in 2018 in support of the All Ireland Pollinator Plan:</p> <ul style="list-style-type: none"> ✓ Adoption of All Ireland Pollinator Plan: At the July meeting of Kilkenny County Council, the Council agreed to adopt the All Ireland Pollinator Plan; to prepare and implement an annual plan of action to support the development of pollinator friendly areas and actions; and to adopt the garden bumble bee (<i>Bombus hortorum</i>) as the county emblem. ✓ The Heritage Office purchased 1750 pollinator brochures. The brochures will be disseminated to the public, schools and elected reps. ✓ The Heritage Office, with co-funding from Creative Ireland, commissioned Green Bee to deliver a pollinator workshop at the Fairytale Festival, Woodstock, 22nd July. 250 children took part, accompanied by 375 adults. ✓ The Heritage Office commissioned 2 pollinator focussed reports in support of Inistioge’s entry to represent Ireland under the small-town category in the European wide Entente Florale Competition. ✓ The Environment Section of Kilkenny County Council awarded an Agenda 21 grant to Tullahought Tidy Towns to provide support to them on pollinator actions and planting as part of their Tidy Towns submission. ✓ The Heritage Office commissioned ecologist Fiona McGowan to prepare a habitat assessment and map for Glenmore Tidy Towns, including practical actions to help support the All Ireland Pollinator Plan. ✓ The Heritage Office commissioned professional photos of 5 pollinator friendly areas to be used in mapping on www.pollinators.ie ✓ The Heritage Office placed adverts in the Kilkenny People newspaper, as follows: ½ page colour advert entitled “Saving our Bees: Starting in Your Garden” (3rd October 2018); Two ½ page bilingual adverts entitled “Saving

	<p>our Bees – starting in your school” promoting the Junior Pollinator Plan (14th Nov 2018). In addition, 1000 copies of an A3 size laminated poster of these adverts were printed and will be disseminated to schools and childcare providers, in partnership with the Kilkenny Education Centre and County Kilkenny Childcare Committee.</p>
<p>Irish Beekeepers Association CLG</p>	<p>The Irish Beekeepers Association CLG, and associations around the country committed to supporting, endorsing and publicising the All Ireland Pollinators Plan. The Chairperson is a member of the Secretariat and has been driving and pushing for Co. Waterford to be a national leader implementing the Plan.</p> <p>Last summer the Co. Waterford Beekeepers Association hosted a German film crew who made a film about honey bees and pollinating insects and the importance of these for our food supply. Film clips of local beekeepers in action as well as a local apple farm were used. The film was on behalf of the European Parliament's visitors Centre where it is available to visitors to see.</p> <p>Co WBKA planted bee friendly trees at its Apiary which continues to be developed. It is intended to create habits for other pollinating insects on site.</p> <p>Members of the Co. WBKA have offered assistance to Tidy Towns committees around Co. Waterford who wish to score higher in the Pollinators' Award. Tidy towns in Castletownbere and Bantry and are working together with West Cork Beekeepers Association to create a pollinator-friendly environments in local towns.</p>
<p>Local Authority: Ards and North Down Borough Council</p>	<p>During 2018, Ards and North Down Borough Council made significant advances by way of changing/altering planting regimes to encourage and support pollinators. Predominantly this was achieved by planting suitable wildflower mixes in conjunction with pollinator friendly bedding plants. This was achieved via beds, hanging baskets, roundabout planting etc.</p> <p>In total throughout the Borough there were 31 locations (predominantly within urban areas) given over to new pollinator friendly planting with a total coverage of 6100m². In addition, a new ‘re-wilding’ scheme has been introduced at 5 locations within Council parks/open spaces. These areas will be sympathetically managed to encourage wildflower meadow development. It is estimated that approximately 12000m² of lands are subject to this new innovative grassland management regime.</p>

Marine Institute	<p>We are relative new comers to the plan, but thus far this year we began our wildflower meadow (about 1/3 of our grassed area: approx. 7000m2) and have protected our stone wall (690m - other side is a golf club but tends to be their rough/wild area, so I don't believe it is sprayed there either). Our landscapers have agreed not to use herbicides around tree and hedge bases and on the lawns, and to adhere to the pollinator friendly code where possible – they do not use pesticides.</p> <p>We had a stand at our 'Sustainability Week' event explaining about the plan, we have given a talk on it and sent emails to our entire organisation to raise awareness of pollinators and our membership of the plan.</p> <p>We consulted with our 'Muddy Hands' grow club and they are taking pollination into account for their planting and growing activities, including some wildflower boxes and pollinator friendly planting. Future plans for 2019 include building some earth banks and a couple of 'bug hotels' that we will build with the kids in our crèche to help raise awareness with them of pollinators.</p>
Maynooth University	<p>Maynooth University has a clear commitment to promote biodiversity and AIPP guidelines across our campus and wider locality. Our Green Campus Committee and MU Grounds Department coordinate numerous initiatives and activities aimed at developing pollinator-friendly habitats and maximising biodiversity across the campus and we aim to reduce the University's impact on the natural environment. Some of our ongoing Biodiversity projects are briefly described below. The MU 10-sites for Biodiversity Project: Across the campus, 10 sites have been designated 'Managed for Biodiversity' where cultivation and maintenance is kept to a minimum. Over the past year we have expanded the areas of wild flower meadows and developed a number of managed pollinator beds with signage for informing students and staff of our efforts. Campus Species Census and Biodiversity Map: involves the production of comprehensive habitat maps and species records for the campus. These have been used to build an online Biodiversity Map for MU staff, students and visitors to explore the campus. Pesticide use: The use of pesticides across the campus has been drastically reduced. MU Wild Walk: Plans are underway to develop a waymarked walking route around the North and South campuses. The number of bug hotels and honeybee hives located on campus grounds have been increase over the past year. North Kildare Biodiversity Map: In conjunction with Intel and several Tidy Towns groups, the North Kildare Biodiversity Group and Map was launched with the AIPP and its guidelines at its core. In 2018 MU was awarded the An Taisce's Green Flag Award and the International Foundation of Environmental Education and the assessment panel specifically singled out our biodiversity initiatives and adoption of the AIPP in their report.</p>

National Federation of Group Water Schemes	<p>Following a very successful showcase at the Ashill Group Water Scheme pumphouse, up to 6 groundwater sourced Group Water Schemes in the Tipperary area have begun to plant their own compounds with pollinator friendly plants. Funding for this has been obtained through the heritage section of Tipperary County Council. In addition to these groundwater sourced schemes, many surface water schemes in the midlands can see the benefit of implementing these measures around their own sources and treatment plants and are planning to implement this in the next year. Group Water Schemes are at the centre of their communities, and the committees of one of these schemes have involved their local primary school in the project, focusing the minds of the schoolchildren on the importance of pollinators and the importance of good quality water. The NFGWS have also used the initiative as part of our Quality Assurance system, which focuses on a 'HACCP: Source to Tap' method of protecting the water source, as these plants help protect sources from contamination and ties in with the banned use of herbicide around drinking water sources. The booklet entitled 'Pollinator-friendly management of Group Water Scheme Sites' has been distributed to Group Schemes countrywide, and an article will be published on this in the NFGWS quarterly publication 'Rural Water News'</p>
NUIG	<p>NUIG became Pollinator Plan partners in November 2018 and have produced a campus plan to frame their actions in the coming years.</p>
Representative Church Body, Church of Ireland House	<p>Before signing up to the pollinator plan, the Representative Church Body (RCB) had taken delivery of 3 hives, and the Church of Ireland Theological Institute of 4. This is part of an arrangement with the Dublin County Beekeepers' Association, who will be caring for the bees. The decision to provide a home for the hives was taken as an action under the Church of Ireland's 2015 Environmental Charter, which was passed in 2015. The RCB's actions are part of an ongoing and growing movement across the Church of Ireland to protect the environment and its creatures – from graveyards in Myross, Co. Cork, to churchyards in Co. Wicklow.</p> <p>Actions taken in 2018 are:</p> <ul style="list-style-type: none"> • Protecting areas • Adopting a pollinator-friendly pesticide code <p>The bee-hives are on a large site (c. half an acre) next to the offices of the RCB, which is unused wild ground. A landscaping company tends to the small area of garden around the offices, and they have enthusiastically joined in with protecting areas (e.g. long grass around trees) and the pollinator-friendly pesticide code.</p>

	Our plans for 2019 are to plant pollinator-friendly plants in containers and we have already begun looking at where to put these.
Scouting Ireland	<p>Scouting Ireland commits to working through our youth members to support the All-Ireland Pollinator Plan. In particular, two actions will be carried out over the next year by members attending the World Scout Jamboree in 2019 in the USA. A World Scout Jamboree, held in a different country every four year, is a gathering of more than 40,000 Scouts from around the world. For the 2019 event the Irish contingent, consisting of over 400 young people and adults, will use the theme 'Go Green' – seeking to promote a positive approach to the environment. During their preparations for the event, youth members from the contingent will undertake the following actions:</p> <p>13.3 - Install Bee Hotels - All youth members of the contingent will create Bee Hotels at their meetings. This could see the creation of over 250 Bee Hotels hand made by young people to install in their local areas</p> <p>17.7 - Sponsor wildflower seeds - In September, at a contingent event, youth members will make flower bombs. Again, this would see the creation of over 250 flower bombs to be used in our national centres or local to the young people.</p>
Tree Council of Ireland	During National Tree Week 2018 we gave the Federation of Irish Bee Keepers 2,000 trees which will flower and produce pollen. We also sent out 1,000 Guelder Rose saplings to the Schools for Tetra Pak Tree Day in October. Another 3,000 sapling trees that will produce pollen through flowering were given out to various Community groups for planting
True Harvest Seeds	True Harvest Seeds (THS) have been continuing to make seed and plant material collections from plant populations of native origin across the island of Ireland. The seed collections are held in deep storage at -20C and are available for withdrawal to bona-fide individuals and organisations for research and restoration projects. The use of seed of native origin is important not only to protect our native flora but also for our fauna that depend upon it, as both are adapted to each other and the unique weather and terrain that make up our island. Seed collection training can be provided to groups who will then have the skills to make collections suitable for storage and use at THS. See http://trueharvestseeds.co.uk for more information.
UCD	Since joining the All-Ireland Pollinator plan in October 2018 we have been busy building upon the work started to date and planning for a busy year to come. Our new wildflower meadow, sown in conjunction with a team from UCD Agriculture- in a site in which honey bees are currently in residence- has received its first cut- and collect. We`re

	<p>looking forward to seeing how it develops over time, but early indications are very encouraging with a rich variety of plants coming through in its first season.</p> <p>From a grounds management perspective, we have taken the decision to double the size of one of our existing natural meadows and have identified several additional areas around our student residences which will be left unmown next season. We are also working with our service providers to identify ways by which we can continue to reduce the use of herbicides in amenity areas- an ongoing challenge for all involved in grounds management!</p> <p>From a community engagement perspective, our Green Campus initiative is really gathering momentum and is well placed to both support and be supported by the Pollinator Plan. Several student- led projects such as the development of a Biodiversity trail and a new Bee garden have been greenlighted and will complement ongoing works at the Rosemount Apiary. A programme of physical signage will be rolled out shortly and regular updates on our progress in supporting the Pollinator Plan will be provided by the team through the UCD Estate Services, Rosemount Horticulture and Green Campus social media accounts.</p>
Ulster in Bloom	<p>Regarding the Ulster in Bloom judging, in partnership with the RHS and other regions we are hoping to introduce a new judging sheet, hopefully for 2019. The current one is 50% horticultural, 25% environmental and biodiversity and 25% community, we are looking to move to 40% horticultural, 30% environmental and biodiversity and 30% community. Also, for the past few years we've also awarded a number of discretionary awards for biodiversity-based projects or initiatives.</p>
Wexford Naturalists' Field Club	<p>The following are some of the activities undertaken by Wexford Naturalists' Field Club to support the All-Ireland Pollinator Plan. Most of the activities were a continuation from 2017.</p> <ul style="list-style-type: none"> • All-Ireland Pollinator Plan, Guidelines and How-to-Guides are available to members from the Club library • All-Ireland Pollinator Plan bookmarks are available at Club lectures and are inserted into WNFC publications • Members are made aware of the All-Ireland Pollinator Plan, pollinator surveys etc. through announcements at Club events and in the Club Newsletter • Re-posting and sharing of All-Ireland Pollinator Plan news on Club Facebook page • Bumblebee swatches available for sale at Club events • Promotion of Bumblebee Monitoring Scheme • Members encouraged to record sightings of bees on Club/NBDC Recording Form • Bee sightings recorded on Club field trips and members pass on their knowledge to others

	<ul style="list-style-type: none"> • Some members have passed on knowledge gained to their own communities e.g. Tidy Towns Groups or Residents' Associations • A number of members are leaving areas of grass uncut to allow wildflowers to flower <p>A "Plant Swap" was held in April and May when plants such as Comfrey, Geranium (Cranesbill), Grape Hyacinth and Sedum were available to members to take home and plant in their gardens</p>
Woodlands of Ireland	<p>The update from Woodlands of Ireland re the All-Ireland Pollinator Plan is that the Forest Service will alert Native Woodland Scheme landowners via premium payment correspondence that access for beekeepers to place hives on their properties can be facilitated by agreement with their local branch of the Federation of Irish Beekeepers Association (FIBKA).</p>

END.