



YEAR 4 REVIEW

DECEMBER 2019

www.pollinators.ie



An Chomhairle Oidhreachta
The Heritage Council



Background

One third of our bee species are threatened with extinction from the island of 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 fourth of those review documents (December 2019). [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 4 (DECEMBER 2019)

This document briefly outlines key progress in 2019. 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, 39 additional organisations have also agreed to endorse the AIPP. Those organisations have been given the opportunity to provide a short update on 2019 activities they have taken to support the initiative (Appendix B).

An accompanying one-page infographic has also been prepared to summarise key progress in 2019.

Key progress in 2019

Funding

- ✓ The Heritage Council and Bord Bía agreed to co-fund a full-time project officer position to support the implementation phase in 2019.

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 is agreed on an annual basis. It has currently been agreed up until the end of 2019. The role is focussed on developing full resources and support materials for all sectors, raising awareness of the Plan and supporting the partner organisations. In 2019, it was run as a job share between Juanita Browne and Gemma Hughes.

- ✓ The Department of Agriculture, Food and the Marine have provided a small promotional budget for the development of key Pollinator Plan resources in each of the last four years (2016-2019).
- ✓ 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. The project commenced in 2019 and 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 is managed by the National Biodiversity Data Centre and runs in parallel to the All-Ireland Pollinator Plan.

Support & outreach

- ✓ When the Plan was published in September 2015 it was supported by 69 governmental and non-governmental organisations. Since then that number has increased, and it continues to do so. Formalising and recruiting new partners is an ongoing process. The Plan is currently supported by 108 organisations (Appendix A).
- ✓ Across all sectors (farmers, councils, transport authorities, 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). One of the actions in the recent EU Pollinator Initiative (2018) is to encourage all member states to develop national pollinator strategies and they have decided to use the AIPP as the template for this. We are currently working with the Institute for European Environmental Policy (IEEP) to develop the template and have agreed to add a toolkit section to the website in 2020 that will provide relevant resources to other EU member states.
- ✓ 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 four years 162 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 far 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. A 2019 annual report outlining actions taken by each of the businesses supporters is published in parallel to this main report <https://pollinators.ie/businesses>

- ✓ Most Councils across the island have engaged with the Pollinator Plan and are taking actions on the land they manage. In 2019, we initiated a more structured framework where Councils sign up as formal partners of the Plan. In this, they agree to support the core ethos; take at least four pollinator-friendly actions within the following five years, and report annually on the positive pollinator actions planned, implemented or maintained.
- ✓ Since its publication, the Pollinator Plan has been promoted via more than 450 published articles, interviews, and other events. In 2019, this included:
 - 38 published newspaper articles
 - 15 radio interviews
 - 3 TV interviews
 - 37 additional articles (blogs, websites, newsletters, magazines)
 - 22 presentations at events
 - 9 presentations at conferences
 - 10 Other (panel events/stands at 3rd party events, including Bloom in the Park. Electric Picnic, etc.)

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. 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.

In 2019, we have published an additional two guideline documents as well as sixth how-to-guide.

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.
- *Faith Communities: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 7. National Biodiversity Data Centre Series No.14. August 2018.
- *Transport Corridors: actions to help pollinators.* All-Ireland Pollinator Plan, Guidelines 9. National Biodiversity Data Centre Series No. 20. September 2019.

- *Pollinator-friendly management of: Group Water Scheme Sites.* All-Ireland Pollinator Plan, Guidelines 6. National Biodiversity Data Centre Series No. 16. April 2018.
- *Pollinator-friendly management of: Golf Courses.* All-Ireland Pollinator Plan, Guidelines 8. National Biodiversity Data Centre Series No. 18. April 2019.

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.
- *Protecting rare pollinators: Great Yellow Bumblebee.* All-Ireland Pollinator Plan, How-to Guide 6. National Biodiversity Data Centre Series No.19. July 2019.

Further resources are planned for the final year of the first phase of the AIPP (2020), pending funding for their development. These include:

- *Pollinator-friendly management of: Sports Clubs*
- *Pollinator-friendly management of: Towpaths and Trails*
- *Pollinator-friendly management of: Data Centres*
- *Guidelines for horticulture to focus on the use of imported bumblebee colonies*

Videos & animations currently produced:

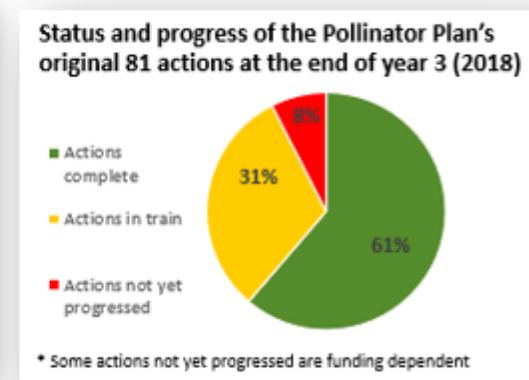
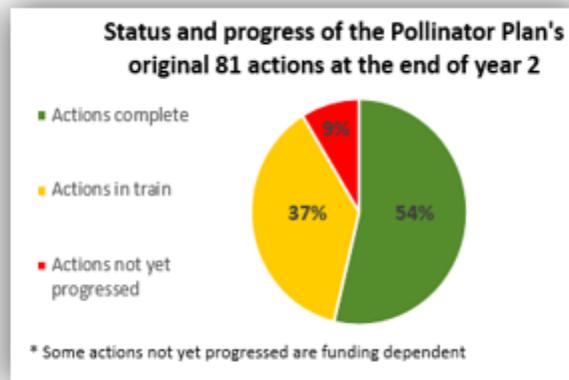
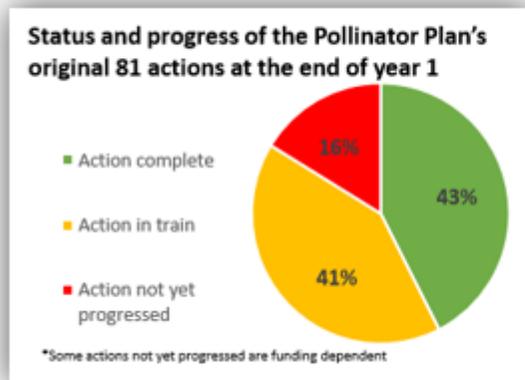
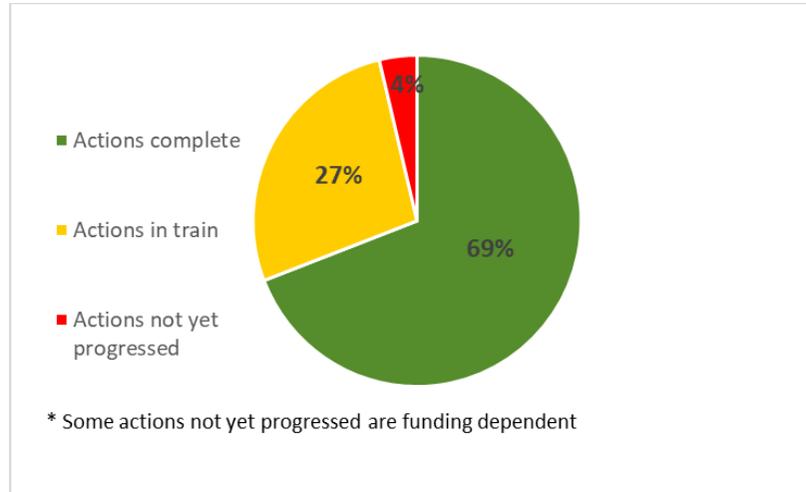
- Short animation on the Plan (2018) - funded by Kildare County Council and Wicklow County Council through Creative Ireland
- Short animation to help explain life cycle of bees and differences between bumblebees and solitary bees (2019) – part funded by National Biodiversity Action Fund through Kildare and Wicklow County Council Heritage Offices.
- Video: Introduction to the Plan (2017) – funded by Waterford County Council Heritage Office through Creative Ireland
- Video: How Farmers can support the Pollinator Plan (2017) – funded by Waterford County Council Heritage Office through Creative Ireland
- Video: How Councils can support the Pollinator Plan (2017) – funded by Waterford County Council Heritage Office through Creative Ireland
- Video: How Tidy Towns Groups can support the Pollinator Plan (2018) - funded by Waterford County Council Heritage Office through Creative Ireland
- Video: Bumblebee Monitoring Scheme (2018) - funded by Waterford County Council Heritage Office through Creative Ireland
- Video: 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 end Year 4 (2019)

✓ Of the 81 actions in the Plan; 56 have been completed this year as agreed (69%), 22 are in train (27%) and 3 have not yet been progressed (4%).

Status and progress of the Pollinator Plan’s original 81 actions at the end of year 4



Mid-term review

A Mid-term review of the All-Ireland Pollinator Plan was published in 2018. 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 was 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 aimed to transparently and honestly assess where we were at the midpoint (October 2018). It is available at <https://pollinators.ie/about/annual-reviews/>

Final reporting and the next phase of the Plan (2021-2025)

The Plan was published in late 2015, with implementation beginning in 2016. 2020 will be the fifth and final year of the All-Ireland Pollinator Plan (2015-2020). At the end of 2020 a final report on the first phase will be published.

It is the intention of the Steering Group that 2020 would see a series of initiatives to discuss the next phase and that a new Plan will be published to cover 2021-2025. As per development of the original Plan, we want this to include significant public consultation elements and two large conferences are currently planned, at which audiences will have the opportunity to feed into development of the next phase:

- Northern Ireland: Full day strand of talks and discussions on the AIPP at the Ulster Beekeepers Conference in February 2020 <https://www.ubka.org/latest-news/ubka-2020-converence/>
- *Ireland's Buzzing: International Conference on Pollinator Conservation 2020*. This will be held in Limerick coincide with World Bee Day in 2020 (May 20th). It is being organised in collaboration with Limerick City and County Council. Limerick was recently selected as an EU Green Leaf City for 2020. It will be a two-day event, with the first day focused on learning about international best practice, and the second day having a more national focus that will provide the audience with an opportunity to contribute ideas into the next phase of the Plan. www.pollinators.ie/conference

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 four years.

ALL-IRELAND POLLINATOR PLAN 2015-2020: 81 ACTIONS TO HELP POLLINATORS REVIEW OF PROGRESS YEAR 4

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 2019
	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 2019	
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>There are 24,181 sand habitats put in place under The Conservation of bees (sand) action and there are 18,644 Bee boxes put in place under the Conservation of bees (boxes) action in the 3 tranches of GLAS. There are currently 48,625 participants in GLAS. The specification</p>	

			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	The Environment Farming Scheme (EFS) first opened for applications in 2017. After two tranches, 26 agreements contain the 'Creation of Pollinator Margins – Annual Wildflower' option and 4 agreements contain the 'Creation of Pollinator Margins – Pollen and Nectar' option. Both options aim to support pollinators. Tranche 3 of EFS opened in 2019. Once applications have been validated by DAERA, Tranche 3 agreements are planned to commence in January 2020.	
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 in review (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	The Irish Organic Association have been actively involved in promotion of the All-Ireland Pollinator Plan, mainly by hosting information about the plan on the website,	

			<p>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 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 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</p>	
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			<p>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>The Organic Trust continues to strongly support the actions outlined and remains committed to the objectives enshrined therein.</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 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</p>

			<p>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 and 2019.</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 2020.</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 2019	
<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. 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 nutritional benefits of species rich grassland over improved agricultural fields.</p>	

			See site for more information and other projects across the UK: http://www.magnificentmeadows.org.uk/	
	❖ 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 2020.	

Target 1.1.3: Encourage the sustainable use of agricultural pesticides

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019	
A6. Encourage the responsible and sustainable usage of pesticides (insecticides, herbicides & fungicides) in Ireland	❖ In conjunction with the National Action Plan for the Sustainable Use of Pesticides, develop best-practice guidelines for farmers to reduce their use outside of cropping systems to minimise risk to pollinators.	DAFM	DAFM have produced guidance notes on Integrated Pest Management. This guidance provides farmers with a tool to help them make the most appropriate and environmentally sound crop protection decision. In addition, DAFM have finalised a decision support document to support responsible pesticide use in public, amenity and garden areas. This 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.
	❖ 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. Information on actions that can be taken in relation to pollinators and can be found using this link. http://www.pcs.agriculture.gov.ie/sud/pollinators/ . Work on awareness raising with the agricultural sector will continue.
	❖ Within NI, support the UK wide Voluntary Initiative (VI) on Promoting Responsible Pesticide Use	UFU	The UFU continue to be involved in the VI and in promoting responsible pesticide use. A new initiative 'Beeconnected' was launched across the UK in 2017 and in NI this is being led 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.
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	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

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019
A8. Establish a farming subgroup to discuss the best ways to ensure the Irish agricultural landscape retains sustainable pollinator populations into the future *	<ul style="list-style-type: none"> ❖ 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 	Steering group	<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</p>

	<p>any issues that minimise the chance of success</p> <ul style="list-style-type: none"> - Pollinator actions for incorporation into future agri-environment schemes - How best to communicate the message to the farming community 		<p>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>
<p>A9. Provide clear information on actions that can be taken on farms to make them more pollinator-friendly</p>	<ul style="list-style-type: none"> ❖ 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 	<p>National Biodiversity Data Centre, Teagasc, Ballyhoura Development Ltd., other partners</p>	<p>These guidelines were published in September 2017. A dissemination/communications plan has been developed and initiated. It will continue into 2020 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 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 	<p>Steering Group</p>	<p>Training is offered to Bord Bia Origin Green auditors each year. We have also been liaising with Teagasc and the ACA on incorporating pollinator actions into future knowledge transfer programmes.</p>

			Currently there are Bees Information Boards being used at 500 GLAS Courses in 62 locations in Ireland (developed by Teagasc). These are also printed in a book 'Teagasc GLAS Actions Information Manual' given to all GLAS farmers at Teagasc courses.	
	<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>CAFRE have established and maintained a range of agri-environment options within the estate which benefit pollination. These options also contribute towards our LEAF Marque accreditation and they have been used as part of training link to the Environmental Farming Scheme.</p> <p>The Pollen and Nectar Mix at CAFRE Enniskillen Campus was maintained in 2018/19 with much bee activity taking place. The species rich hay meadow restoration site at Enniskillen Campus was a hive of activity this year with bees and other pollinators. Each year the species richness of this restoration site has increased providing additional sources for pollinators. The pollen and nectar mix and the hay meadow are located close to the Fermanagh Beekeepers</p>	

			<p>site on the Campus and also close to the traditional orchard which was established in 2015 and 2017.</p> <p>An area of pollen and nectar mix was also resown at CAFRE Loughry Campus in a field adjacent to the traditional orchard and the Mid-Ulster Beekeepers site.</p> <p>A small wildflower meadow adjacent to the constructed wetland site at CAFRE Greenmount Campus has been maintained. Within the walled garden, wildflower beds have been established and pollinator nesting habitat creation demonstrated with sand piles and drilled wood. In Autumn 2019, hawthorns and elders were selected and marked along existing maintained hedgerows to be allowed to mature into flowering hawthorn trees and therefore enhance the availability of pollen sources on the farm.</p>	
		Teagasc	<p>A Teagasc Biodiversity Working Group will oversee the implementation of biodiversity measures on Teagasc research farms and agricultural colleges such as hedge planting as part of their Biodiversity Plan</p> <p>A newly developed Teagasc Biodiversity Management Practice Index will be used as a Knowledge Exchange Tool at farmer discussion groups</p>	

			<p>Teagasc are engaged in all biodiversity European Innovation Projects</p> <p>A new initiative ‘Teagasc Hedgerow Week 19’ with a focus on the management of routinely trimmed hedges for biodiversity will be repeated in September 2020.</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. Three students are currently involved in Biodiversity KT Masters. A research project is taking place on mapping biodiversity.</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	<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] 	Plant animal interactions research group (TCD) & National Biodiversity Data Centre	<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.</p> <p>Development of this into a system that can be used by farmers is a long-term action.</p>	
A12. Provide farmers with a system that will indicate potential crops based on geographic area, known pollinator distribution, and floral resource availability.	<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 	National Biodiversity Data Centre & Plant animal interactions	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	

<p>This system will also flag areas where lack of pollinators is likely to be a limiting factor.</p>	<p>will combine data sources in this model</p> <ul style="list-style-type: none"> ❖ 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>research group (TCD)</p>	<p>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>	
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1.2 MAKING IRELAND POLLINATOR-FRIENDLY: PUBLIC LAND

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019	
<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: Where appropriate NPWS sites are being managed in a pollinator-friendly way.</p> <p>NIEA: Where possible, NIEA manage Country Parks in a pollinator-friendly way. Many previously reported actions are ongoing. As a broad overview for 2019:</p> <ul style="list-style-type: none"> • Roe Valley Country Park held a Bee Inspired event including walks, talks, building bee hotels and providing pollinator friendly plants • Roe Valley Country Park has sown a field with native wildflower mix • Ballyquintin Point Nature Reserve has changed grazing prescriptions to encourage wildflower seed production • Crawfordsburn Country Park have sown wildflower mix at the Visitors Centre and placed planters with pollinator friendly mixes • Beach front area at Crawfordsburn Country Park has been sown with native wildflower seed 	

			<ul style="list-style-type: none"> • Any crops taken from Carwfordsburn Country Park are taken after wildflowers have set seed • Quoile Country Park maintain planters with pollinator friendly varieties <p>Wider NIEA:</p> <ul style="list-style-type: none"> • NIEA held a guided Bumblebee Safari with Lagan Valley Regional Park • NIEA gave a talk at a CEDaR Invasive Species training event on Non-Native plants species that are not invasive and good for Pollinators • NIEA gave a talk at an Ulster in Bloom Seminar on Planting for Pollinators 	
<p>A14. Encourage pollinator-friendly management of public parks and green spaces</p>	<p>❖ Integration of the Pollinator Plan into future county/city development or biodiversity plans (where appropriate and when reviewed)</p>	<p>Steering Group to consult Local Authorities/Councils (in conjunction with Heritage & Biodiversity Officers)</p>	<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. Following this event, a hard copy of the guidelines was sent to all Council CEOs across the island. We have also been working closely with Heritage and Biodiversity Officers and many Councils have begun the process of integrating the AIPP into existing policies.</p> <p>Almost all Councils are now taking some actions for pollinators. In 2019, we initiated a more structured framework where Councils sign up as formal partners of the Plan. In this, they agree to support the core ethos, take at</p>	

			<p>least four pollinator-friendly actions within the following five years, and report annually on the positive pollinator actions planned, implemented or maintained.</p> <p>As of the end of November 2019, 17 Councils have already signed up as a formal partner of the Plan (this is 40% of the total across the island). More are known to be in progress. See Appendix A for current Council partners.</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 2019 winners were:</p> <ul style="list-style-type: none"> - Town Park Category: Tymon Park; South Dublin County Council - Country Park/Demesne: Malahide Castle Demesne; Fingal County Council - Walled Garden: Ashtown Walled Garden, Phoenix Park; OPW - Community Award: Headford Community Garden <p>Overall winner: Malahide Demesne and Talbot Botanical Gardens (Fingal County Council)</p>	

			Castletown Demesne presented on their activities at the third regional AIPP conference in April 2019.
A15. Encourage pollinator-friendly management of educational properties and raise awareness of the importance of pollinators	<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</p> <p>Keep Northern Ireland Beautiful – Eco-Schools NI</p>	<p>A junior version of the All-Ireland Pollinator Plan was published in February 2016. It is available in English and Irish.</p> <p>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 2019, had a half-day dedicated to Pollinator Activities, linking to the AIPP.</p> <p>Schools taking part in our pilot theme of “Food and Biodiversity” have the option of choosing “Protecting Pollinators” as a school project. Guidelines on making their school grounds more pollinator friendly and links to the AIPP will be provided to all schools focusing on this project.</p> <p>The AIPP for Schools was promoted at our annual Teachers’ Seminars (29 events) nationwide, in Autumn 2019.</p> <p>Green-Schools is having a huge impact on the ground. We have reviewed practical changes</p>

			<p>made by schools and in the last five years the Green-Schools working on the Biodiversity theme have created 690 wildflower areas. The number of native wildflower areas GS Biodiversity schools created in 2018/2019 was 194.</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 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</p>

			<p>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:</p> <p>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. Bumblebee identification workshops took place in May 2019 at Cushendun and Minnowburn.</p> <p>Pollinator friendly habitat management: <u>Fermanagh:</u> Across our three estates we now manage around 45 hectares of grassland as late summer cut wildflower meadow. Some of the areas that make up this total were traditionally cut on a weekly basis as lawns. We've had good success with hand collecting and spreading yellow rattle seed in some of the former lawn areas at Crom. It has taken well and is helping increase the biodiversity of formerly grass dominated swards.</p> <p><u>North Coast:</u> Causeway: 4.65 ha of herbal leys sown in Spring 2019 with programme of invertebrate and pollinator monitoring, 0.7ha wildflower meadow established in 2013 at Innisfree Farm, Giant's Causeway (mowed once a year)</p>

			<p>and Wild bird cover (0.2ha) buffer zones in arable fields.</p> <p>Rathlin: 1 ha of formerly grazed field was shut up as hay meadow in 2019 with cut in late August, which produced species rich meadow. 1.35ha wildflower area created in Cushendun and we continue to manage as a meadow.</p> <p>Downhill Demesne: 36 hectares of formally improved grassland is being converted into species rich hay meadow; utilising green hay & grazing</p> <p><u>Belfast:</u></p> <p>Minnowburn: 3.9 ha of meadow (Ned's meadow) created in 2014 under NI Challenge Fund with Ecoseeds in partnership with Lagan Valley Regional Park; in 2019 green hay from Ned's meadow spread on 4.5 ha field to improve species diversity.</p> <p>Gobbins: species rich green hay applied to small area (0.4ha) of improved field.</p> <p>Rowallane: 0.5 ha of grassland and verges unmown from May to September with late cut and lift.</p> <p><u>Mid-Ulster:</u></p> <p>Springhill: 1 ha of species rich meadow with late cut and lift.</p> <p>Argory: 1 ha of wildflower area along River Blackwater.</p> <p><u>South Down:</u></p>	
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			<p>Broad Meadow – 3.5ha grassland is now being managed to create a species rich hay meadow.</p> <p>Under the “Don’t mow: let it grow” banner, we are managing 3ha of grassland which historically was mown as formal grassland with All-Ireland Pollinator Plan signage. The area along the boundary of Castle Ward and the Audleystown Road, is a wildlife/species rich grass sward in the making: this is mob grazed only and accounts for 2ha.</p> <p><u>East Down:</u> Orchard restoration at Island Taggart and New Taggart. Orchard creation at Bar Hall farm (0.11 hectares in extent) and Orlock.</p> <p>Provision of bee nesting habitat: Solitary bee bank at Inishfree farm, Giant’s Causeway</p> <p>Monitoring: 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. The bumblebee transect at Crom now</p>	
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			<p>forms an integral part of our annual biological monitoring programme on the estate. Butterfly transect at White Park Bay, Innisfree Farm and Springhill. Butterfly transect set up at Derrymore. Also weekly moth trapping, all year round when weather permits</p> <p>Casual records: Casual recordings of pollinators are carried out at Mt Stewart. Giant's Causeway, Dunseverick, White Park Bay. Casual recordings submitted CEDAR of pollinators at Springhill and Derrymore Casual recording of pollinators at Derrymore</p> <p>Our Land Outdoor & Nature Strategy is underway in the National Trust and we are focussing much more on managing our land for nature and better recording/monitoring of selected habitats and species going forward.</p> <p>NT had a Very Important Pollinator (VIP) theme at Balmoral show in 2019 and gave away 2,500 pollinator friendly seeds packets.</p> <p>Note: a more extensive update was provided than could be fully included here.</p>	
<p>A17. Adoption of pollinator-friendly management within the Bord na Mona network of sites</p>	<ul style="list-style-type: none"> ❖ Identification of potential pollinator-friendly habitats on cutaway bogs ❖ Identification of corridors to link pollinator-friendly areas 	<p>Bord na Mona</p>	<p>BnM baseline ecological survey continues to identify pollinator-friendly habitats on cutaway bogs. Marsh Fritillary identified on new sites this year, including Paul's Lough</p>	

<p>*Note this is semi-state land</p>	<p>❖ Incorporate pollinator actions within the next BnM Biodiversity Action Plan</p>		<p>Bog, Ballydangan Bog, Killeglan, Lodge Bog and Baunmore Bog.</p> <p>Pollinator-friendly actions (such as maintaining and enhancing species-rich pioneer grassland habitats) continue to be included in BnM bog rehabilitation plans.</p> <p>BnM has sought Organic status for a significant proportion of its cutaway bogs. This is to support the developing Móna Herb project, which is focusing on the development of medicinal herbs using wild plants that grow naturally on the cutaway. Examples include Yarrow, Dandelion and Bog Myrtle, the flowers of which are also used by pollinators. This will be the largest area managed organically in Ireland and has led to changes in management practices on BnM landholdings. An example of this would be the spraying of Glyphosate (and other non-organic weed control) which has stopped along BnM railways. The BnM railways are typically formed using limestone-based gravels, and diverse dry calcareous grassland communities have established along these routes. Cessation of weed control on the rail network will support establishment of diverse flowering plants with the railway lines providing valuable networks and corridors for pollinators throughout the cutaway and wider landscape. The reduction in the use of</p>	
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			<p>herbicides in such a large area is likely to have significant, positive benefits for pollinators.</p> <p>BnM continue to increase the area of cutaway rehabilitation and bog restoration. In 2019 bog restoration in Clonwhelan Bog has been completed and the 2nd year of the Littleton Bog Group Rehabilitation Programme is nearly complete.</p> <p>As part of this programme at Littleton, raised bog habitat at Ballysorrell bog and Knockahaw bog was restored. Monitoring in 2019 already indicates the development of diverse grassland habitats on the cutaways that attract pollinators. Bog restoration measures, such as re-wetting of the high bog, are ongoing and to date are showing signs of success and are already encouraging the growth and spread of Sphagnum.</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 and is continuing in 2019. Re-vegetating these areas will be positive for some pollinating insects by providing new habitat over the longer term.</p> <p>Awareness of All-Ireland Pollinator Plan promoted at various BnM Ecology events in 2019.</p>	
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			<p>Pollinator-friendly management (e.g. natural grassy meadows) is being encouraged at BnM offices, with part of the lawn at Derrygreenagh managed as a wildflower meadow. It is hoped that this will offer an example for expanding such management at other Bord na Mona sites.</p>
<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 2019. At our Annagh & Termoncarragh Meadows reserves, Co Mayo some 13 different species were recorded in 2018 (9 true and 3 cuckoo), including Great Yellow, Red Shanked Carder, Large Carder and Red-tailed Cuckoo and active nests of 6 different species were found including two nests of Great Yellow. Events and in-field training were held with representatives from Belmullet Tidy Towns group. The Annagh & Termoncarragh Meadows reserves in Co Mayo remain 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>We collaborated with the National Biodiversity Data Centre to produce the guidelines - <i>Protecting rare pollinators: Great Yellow Bumblebee</i>. The management section of these guidelines being primarily based on our work at our Mullet reserves</p> <p>In addition, pollinators continue to feature in the advocacy work we undertook in relation to agriculture and forestry policy.</p>
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>Monitoring at key reserves: Bumblebee monitoring was completed on one of our transects at Portmore Lough, and we plan to increase monitoring as much as resource and skills allow. All records are sent into the bumblebee monitoring scheme. Volunteers continue to receive ID and survey training for bumblebees. RSPB volunteers will continue to be trained to complete annual monitoring at Belfast WoW and Portmore.</p> <p>Pollinators are included as part of the activities we do with children's educational groups at Portmore, we've also been supplying visitors with identification resources for garden pollinators. We've created some informal seasonal information boards about pollinators and displayed them through the spring and summer months. Volunteers and visitors to our reserves are directed to bumblebee identification leaflets and encouraged to record bumblebees that they find in their own gardens/areas.</p>

			<p>Maintain habitats for nesting bees: We have incorporated pollinator educational activities at our Kids Corner at Belfast WoW. A new bug hotel has been installed at the wildlife garden in RSPB WoW.</p> <p>Reserve management plans: Maintaining habitats for nesting bees and incorporating pollinators into reserve management plans will continue and be expanded where possible. At both sites, some areas of thick grassy vegetation that may be suitable nesting habitat are left uncut, there are also trees with cavities for species which prefer to nest in trees, as well as a number of artificial bee 'nestboxes'. Pollinator monitoring has been incorporated into our reserve management plans for butterflies, moths and bumblebees. Consideration given to reserve management when doing any new planting/sowing wildflowers in the visitor areas to benefit pollinators.</p> <p>Other Actions</p> <p>Farming Together with Nature - Farm Advisory Project East County Down: This spring saw 27.15ha of wild bird cover sown by project farmers across Co. Down. In addition to this, an additional 9.4ha will be added to this in the spring of 2020 due to RSPB staff promoting wild bird cover options. Wild bird cover is a sacrificial crop made up of cereals such as oats and barley, seed rich plants such as linseed and</p>	
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			<p>quinoa, with several farmers including sunflowers or annual wildflowers within the mix. This provides a vital source of pollen and nectar over the spring and summer months while also provide ideal hibernating opportunities during the winter. RSPB continue to encourage spring sown cereals and overwintering stubbles which encourages arable plants and leaving stalks for hibernating insects. Many of these cereal options have adjacent margins such as rough tussocky grasses (approx. 70ha), annual wildflowers (approx. 12ha), or pollen and nectar mixes (approx. 5ha). More added pollinator value to these include the large amount of native boundary hedges throughout these farms, which we encourage to manage on a rotation of 2/3 years and aim for a thick lower structure.</p> <p>Pettigoe Plateau SAC: upland blanket bog site situated within Fermanagh. Through the Cooperation Across Borders for Biodiversity (CABB) project. RSPB have been leading on developing a conservation action plan to improve the overall condition of the site. A new breeding site for marsh fritillary was identified in February of 2018 on the site. Partnership working with Butterfly Conservation allowed priority mapping of this habitat and surveys to be carried out (2018-2019). The Project manager regularly surveys all flying invertebrates and has submitted several 100</p>
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			<p>records to NI's Centre for Environmental Data and Recording.</p> <p>Antrim Hills - Farmer Advisory Project: 3Ha of wild bird cover was planted through DAERA's Environmental Farming Scheme and over 392 Ha of species rich purple moorgrass and rush pasture was brought under management prescriptions.</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 2020.</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, has become a feature of the National Botanic Gardens Glasnevin since 2013.</p>	

			Extensive areas of herb-rich grassland are now encouraged at the National Botanic Gardens, Kilmacurragh.
A22. Investigate whether local communities can be encouraged and supported to take pollinator-friendly management actions by Local Development Companies	<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 	Steering group; SECAD.	<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, SECAD, mainly through our Wild Work initiative, have continued to promote the All-Ireland Pollinator Plan through education and outreach; relation building and physical on-the-ground projects:</p> <p>This year Wild Work has directly sown over 11,000 meters of native wildflower seed. Furthermore, we have handed out 1,550 packs of native wildflower seeds to the public to promote the growing of native flowers for pollinators where people live and work. We also presently manage 18 lawns and/or meadows for pollinators and are overseeing 26 pollinator-friendly landscaping and habitat management projects.</p> <p>Through our education and outreach activities we have given 69 awareness-raising sessions to schools, community groups and businesses. Pollinators and the All-Ireland Pollinator Plan is always a strong focus of these sessions.</p>

			<p>In addition to our on-the-ground projects and education sessions Wild Work has continued to build relationships within the business, community, farming and state sectors. Overall, we estimate that through our network we have reached approximately 75,080 people with our message of bringing nature back into people’s lives, with its strong focus on actions for pollinators. We have directly cultivated relationships with 76 entities to generate pollinator plan actions and have provided 124 hours of consultation support to people interested in helping pollinators.</p> <p>We have seen the development of Biodiversity Action Plans (BAPs) for business and community groups become a significant part of the work that Wild Work does. We presently have 8 BAPs either in development or currently being implemented. All of these have a pollinator focus, highlighting actions that can be taken for pollinators and referencing the All-Ireland Pollinator Plan. In addition to BAPs we have also produced 5 pollinator-themed recommendations reports for organisations interested in supporting the All-Ireland Pollinator Plan.</p> <p>Note: a more extensive update was provided than could be fully included here.</p>	
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<p>A23. Make information on pollinator-friendly management available through the Tidy Towns Initiative</p>	<ul style="list-style-type: none"> ❖ Promotion of pollinator actions within the initiative ❖ Growth in the number of towns adopting actions within public spaces 	<p>Tidy Towns</p>	<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 successful initiative, with 162 different towns and villages entering the award in its first four years (see Appendix A for list). There has been a noticeable increase in the quality of entries year upon year. The overall winners of the 2019 award were Buncrana in County Donegal (large town) and Geashill in County Offaly (small town).</p>
<p>A24. Garden-friendly pollinator actions promoted by Community Gardens Ireland</p>	<ul style="list-style-type: none"> ❖ Promotion to members ❖ Uptake by members 	<p>Community Gardens Ireland</p>	<p>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.</p>
<p>A25. Promote the development of reference sites and case studies across</p>	<ul style="list-style-type: none"> ❖ Partners to consider making sites that are managed in a pollinator-friendly way available as reference sites 	<p>All partners</p>	<p>Partners are being encouraged to act as reference sites where possible. The location of these will be made available on the Pollinator Plan website.</p>

public land to act as education and training tools	<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 continually being developed by the Data Centre. As they are developed, they are made available on the Pollinator Plan website. Where appropriate, agreement is being sought that these can be identified as reference sites.	
A26. Development of cost-benefit analyses providing land managers with information on the cost implications of management actions, e.g. regular spraying and mowing versus twice annual cut and removal of grass [Action 68]	<ul style="list-style-type: none"> ❖ Identification of all cost-benefit analyses that would be useful 	Steering group	<p>The following cost-benefit analyses were identified as immediate priorities (2016):</p> <ul style="list-style-type: none"> • Regular mowing (22 cuts a year, grass mulched back in) versus pollinator-friendly mowing (5 cuts a year and grass removal) • Pollinator-friendly perennial bedding versus annual bedding 	
	<ul style="list-style-type: none"> ❖ Completion of these cost-benefit analyses and appropriate dissemination of information <p>Note: this is a research action that will be dependent on funding</p>	National Biodiversity Data Centre	<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>	

A27. Promote the Pollinator Plan to other organisations involved in managing public or semi-state land	❖ Increase in the number of other organisations supporting the Plan	Steering group	The Plan has continued to be promoted throughout 2019. At time of print, an additional 7 partners have formally agreed to support the Plan in 2019, bringing the total to 108. Any additional partners who wish to report on supporting activities in 2019 have done so in Appendix B.	
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Target 1.2.2: Create linking areas of flower-rich habitat along transport routes

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019	
A28. Adoption of an All-Ireland scheme to create pollinator highways along road networks	❖ Development of guidelines for pollinator-friendly roadside management *	Don't Mow Let it Grow Steering Group, Life lives on the Edge (Wexford CoCo), National Biodiversity Data Centre	A toolkit is currently being developed by Don't Mow Let it Grow in N. Ireland An evidence-based guideline document for pollinator-friendly management of transport corridors was published in August 2019. It was developed by Transport Infrastructure Ireland and the Pollinator Plan in collaboration with Iarnród Éireann, Translink and Infrastructure NI.	
	❖ Incorporation of pollinator actions into existing landscaping guidelines or environmental handbooks where appropriate and when reviewed	Transport Infrastructure Ireland (TII), Infrastructure NI, Local Authorities	This is being progressed now that the evidence-based guidelines for pollinator-friendly management of transport corridors has been published (2019).	

	<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 19 Road Verges and 18 areas within Council Parks involved in the project. Over 100 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 by the end of 2019.</p> <p>Toolkit section of the website is currently being populated with outputs to date, fully available by the end of 2019.</p> <p>Public perception survey 1043 respondent across the 3 years. This will be included in the Economic Appraisal which will be included in the toolkit section of the website</p> <p>Botanical surveys are completed for the 3 years and a summary will be included in the toolkit.</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, animated videos and teachers notes, for teachers to deliver themselves or with the support of volunteers.</p>	
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			<p>Council have committed to continuing the Don't Mow Let It Grow management on the existing sites.</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 2019, the IWT People for Bees programme delivered 20 workshops and talks on pollinator conservation to approximately 580 attendees across 11 counties.</p> <p>This included 11 half day training workshop delivered in counties Donegal, Dublin, Kerry, Galway, Limerick, Westmeath to a total of 292 people. The 11 training workshops were organized in association with local community groups and were open to these 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</p>

			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’.	
	❖ 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	Pollinator-friendly roadside management continues to be promoted by all relevant parties.	
	❖ Investigate whether pollinator-friendly actions can be incorporated into the ‘pure mile’ project which encourages local community groups to manage a mile-long stretch of road for biodiversity	Steering group	PURE (Protecting Uplands & Rural Environments) have been approached and are supportive of the Pollinator Plan. They have included links to the AIPP resources in their own documentation.	
A29. Adoption of an All-Ireland scheme to create pollinator highways along rail networks	❖ Provision of guidelines for pollinator-friendly rail network management *	National Biodiversity Data Centre	An evidence-based guideline document for pollinator-friendly management of transport corridors was published in August 2019. It was developed by Transport Infrastructure Ireland and the Pollinator Plan in collaboration with Iarnród Éireann, Translink and Infrastructure NI.	
	❖ Incorporation of pollinator actions into existing biodiversity plans where appropriate and when reviewed ❖ Level of uptake	Translink, Iarnród Éireann	This is being progressed now that the evidence-based guidelines for pollinator-friendly management of transport corridors has been published (2019).	

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	It is hoped this can be developed and published in 2020. Reason it has not progressed: human resource limitations
	❖ Incorporation of pollinator actions into existing biodiversity plans where appropriate and when reviewed ❖ Level of uptake	Waterways Ireland	<p>We have continued bespoke on-site management on the Royal Canal following the discovery of a large Marsh Fritillary colony outside Mullingar. This was expanded in 2019 to a pilot Citizen Science Project in association with Butterfly Conservation Ireland and Baltrasna Boreen Biodiversity Group. The area was managed for pollinators and other wildlife and the group monitored the results. We also developed a tailored cutting programme, in consultation with our citizen science stakeholders, which involved 1) cutting the grassy verge on the canal side and then blowing the cuttings into the canal. These were then collected by a waiting Waterways Ireland Weed Harvester. On the landward side the verge was cut and cuttings blown into the hedge base. This will hopefully result in greater diversity over the coming years by preventing nutrient enrichment of the soil by decomposing grass.</p> <p>Four new sites were managed for pollinators on the Grand Canal at Daingean, Clonony, Pollagh and Ticknevin. A trial of a combo flail/collector – used primarily on golf courses -</p>

			<p>was undertaken in Daingean to assess this as a viable management tool for canal pollinator sites. Unfortunately, the piece of plant could not effectively cut and collect with sections not being cut adequately as well as cuttings being left on site. A follow up trial was undertaken using conventional agricultural plant which cut, and subsequent collected as round bails. Whilst this was possible in Daingean due to the wide tract of land it will not be applicable to all canal sites. Other sites were cut but an effective collection protocol still needs to be developed. At the time of writing we are interested in the trial undertaken by Ennis tidy Towns in Clare with a Zero Grazer.</p> <p>A new site was left grow to support pollinators on the Barrow Line near Athy. Future collection options are also being investigated for this site. Pollinator management on long, linear sections of grassland poses a series of logistical issues, but Waterways Ireland are committed to trialling new management protocols to overcome this.</p> <p>We continue to work with local community groups in the management/roll out of pollinator-friendly management schemes and other project supports. Some examples are:</p> <ul style="list-style-type: none"> - Royal Canal Amenity Group - Clones Development Society 	
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			<p>- IWAI North Barrow Group</p> <p>We continue to advocate for pollinator-friendly management along newly opened sections of Greenway. This is undertaken in partnership with Local Authorities.</p> <p>Note: Waterways Ireland provided a more extensive update than could be fully included here.</p>	
A31. Provision of pollinator-friendly management guidelines to the National Trails Office who inspect 744 (on public and private land) recreational trails	❖ Provision of guidelines	Steering group	<p>This action has not yet been progressed but will be considered for 2020</p> <p>Reason it has not progressed: human resource limitations</p>	
A32. Promote pollinator-friendly management of future transport routes, e.g. future greenway cycle routes	❖ Guidelines on pollinator-friendly management provided to those responsible for future transport routes	Steering group	<p>The AIPP has been collaborating with Waterford City and County Council and in 2018 developed a pollinator plan for the new Waterford Greenway (46km route between Waterford City and Dungarvan). Greenways are included in the evidence-based guidelines for pollinator-friendly of transport corridors (published 2019).</p>	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019	
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	<p>This is continuing to be actively progressed.</p> <p>A number of Councils e.g., Dún Laoghaire–Rathdown are running trials on herbicide alternatives. It will be necessary to have more trials before best-practice guidelines on pesticide alternatives can be properly developed.</p> <p>This is a long-term action</p>	
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 2019	
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	<p>The Plan was promoted to members in 2019, via our ezine, meeting handouts, talks and online.</p> <p>GIY HQ opened in September 2016. A wide range of pollinator-friendly actions have been adopted on site.</p>	
A36. Garden friendly pollinator actions promoted within the An Taisce Green Communities network	❖ Provision of guidelines for pollinator-friendly management *	National Biodiversity Data Centre	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 2019, 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	Engagement has been ongoing with Garden Centres. This will continue to be progressed in 2020. Glanbia CountryLife ran a large pollinator campaign across their garden centres in summer 2019.	

Target 1.3.2: Encourage businesses to become pollinator-friendly

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019	
A39. Encourage business properties to make their outdoor spaces more pollinator-friendly (including country hotels, golf courses, quarries, retail carparks)	<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). * 	National Biodiversity Data Centre	‘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	

	<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 * 	National Biodiversity Data Centre, NIEA	<p>guidelines align with relevant environmental systems. The Data Centre collaborated with BITC Ireland and Bord Bia in creating these documents.</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 204 companies have now signed up. Seven businesses signed up in 2016, 14 in 2017, 65 in 2018, and 118 so far in 2019 (until end Nov). For a list of the supporting companies see Appendix A.</p> <p>From 2018, a dedicated annual report allows each business to provide a short update on their activities in support of the AIPP to date. It is published in parallel to this main AIPP annual review document. The 2019 report will be available on the website in December https://pollinators.ie/businesses</p> <p>Short case studies are also regularly published outlining the actions different business are taking. Six of these were published on the website (and on social media) in 2019.</p> <p>Guidelines for pollinator-friendly management of Golf Courses were published in 2019 in collaboration with Golf Course Superintendents Association of Ireland.</p>
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	❖ Disseminate this information to the business community	Bord Bia	Bord Bia disseminated the Business Guidelines to their >500 Origin Green companies via email	
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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 2019	
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	❖ Investigate mechanisms for machinery rings, skills exchange & advice sharing	Steering Group	<p>This continues to be investigated. It is of most relevance to local authorities/councils.</p> <p>An AIPP blog series was started in 2019 to address this action and to better share knowledge. This is being actively maintained https://pollinators.ie/blog</p>
A42. Ensure that the Pollinator Plan is compatible with other biodiversity initiatives	❖ Liaise with other partners to ensure land management advice for promoting biodiversity is joined up and is not contradictive	Steering Group	<p>This has been ongoing in 2019, 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.</p>

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 2019	
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 2019, the Pollinator Plan has continued to be promoted via published articles, interviews on television and radio, and other events. In 2019 this included:</p> <ul style="list-style-type: none"> -38 published newspaper articles - 15 radio interviews - 3 TV interviews -37 additional articles (blogs, websites, newsletters, magazines) - 22 presentations at events - 9 presentations at conferences - 10 Other (speaking/panel events/stands at 3rd party events, including Bloom in the Park. Electric Picnic, etc.) <p>2019 saw the production of a new online animation to help explain life cycle of Bees and differences between bumblebees and solitary bees– funded by National Biodiversity Action Fund through Kildare and Wicklow County Council Heritage Offices.</p> <p>World Bee Day May 20th, 2019 saw a major awareness campaign run in partnership with</p>	

			<p>the Irish Examiner. 200,000 copies of an A3 poster on actions for Bees, and a 32-page booklet on the All-Ireland Pollinator Plan were distributed. Promotion was also run across their internet/radio advertisements and an immersive read piece.</p> <p>The annual 'Burren in Bloom' (June 7-9th 2019) focused on pollinators and promotion of the All-Ireland Pollinator Plan across a weekend of events, including recorder training, guided walks and talks.</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

			<p>14. Pollinator-friendly actions for businesses flow chart</p> <p>15. Pollinator-friendly actions for Local Councils flow chart</p> <p>16. Crops & need for flowers throughout the year infographic</p>
	❖ 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 https://pollinators.ie/media
	❖ Development of a range of promotional materials to promote pollinators	National Biodiversity Data Centre	<p>A very wide range of promotional material is available at www.pollinators.ie These include (fully listed within A51):</p> <ul style="list-style-type: none"> • 7 key guidelines documents outlining evidence-based actions for: Local Communities, Gardens, Schools, Businesses, Councils, Transport Corridors and Faith Communities. • 2 guideline documents for specific sectors: Group Water Scheme sites, Golf Courses • 6 How-to-guides. <p>Other materials that have been developed include:</p> <ul style="list-style-type: none"> ✓ A short monthly newsletter that is distributed to the mailing list ✓ A series of short videos that use a peer-to-peer approach to explain the Plan to different sectors

			<ul style="list-style-type: none"> ✓ Two short animations ✓ Educational posters (4) ✓ Downloadable signage templates to mark pollinator-friendly land ✓ Downloadable presentations for all sectors ✓ Case studies of organisations taking pollinator-friendly actions ✓ Bookmark to raise awareness ✓ A series of A5 information flyers have also been developed: <ul style="list-style-type: none"> - Pollinator-friendly Garden plants - Food for pollinators on the Farm - Pollinator-friendly Herbs - Pollinator-friendly grass-cutting ✓ A website Blog series - by various contributors with experience in taking actions for pollinators - explores challenges and experiences with pollinator-friendly actions to allow sharing of knowledge. 	
	<p>❖ Investigate whether national events should be organised and what form this should take</p>	Steering Group	<p>The first UN World Bee Day was initiated in 2018 (20th May). A decision was made to focus national AIPP events around this day. World Bee Day 2019 was marked by a large awareness campaign run with the <i>Irish Examiner</i> newspaper. It included articles, a</p>	

			<p>poster and a 32-page A5 pull out magazine on how to help pollinators across sectors.</p> <p>President Michael D Higgins invited Dr Úna FitzPatrick and Prof Jane Stout to visit Áras an Uachtaráin to mark World Bee Day and highlight the success of the All-Ireland Pollinator Plan.</p>
	<ul style="list-style-type: none"> ❖ 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, www.pollinators.ie, and via Facebook, Twitter #AllIrelandPollinatorPlan and Instagram. A short newsletter highlighting progress is distributed to the mailing list on a monthly basis.</p> <p>The website continues to grow and develop with interesting articles, including Blog content and animations.</p>
A44. Organise a biennial pollinator meeting to bring together those implementing the Plan and other interested parties	<ul style="list-style-type: none"> ❖ Biennial pollinator meeting organised to provide a forum for reporting on progress within the Plan ❖ Pollinator meeting venue to rotate around provinces 	National Biodiversity Data Centre	<p>The first pollinator meeting took place in Ulster (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. The third event (April 2019) again focussed on Councils and was held in Cork City in collaboration with Cork City Council and Cork County Council. Both events attracted</p>

			<p>enormous interest and were vastly overbooked.</p> <p>2020 will see the All-Ireland Pollinator Plan hold a two-day international conference on pollinator conservation. It is being held in May 2020 to coincide with World Bee day. This event will bring together a large audience to learn from international experts about successful pollinator initiatives around the world. It will also provide an opportunity to hear about the challenges and innovative approaches adopted by other national pollinator strategies in Europe, as well as key successes from the first phase of the All-Ireland Pollinator Plan (2015-2020). Importantly, the event will provide the audience with an opportunity to contribute their thoughts and ideas into the next version of the All-Ireland Pollinator Plan, so that together we can make the 2021-2025 Plan as ambitious as possible. It is being hosted and organised by Limerick City and County Council. Limerick is an EU Green Leaf City for 2020 https://pollinators.ie/conference</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 2019.</p> <p>In RoI they have come together to fund a special pollinator award in the Tidy Towns</p>

			<p>competition (Action 23). 162 towns and villages (listed in Appendix A) have entered the Pollinator Award over the last three years, with many more towns/villages 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 in 2018. The animations and videos produced since 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	❖ Advice to include increasing awareness of the importance of pollinators, encouraging habitat	CIEEM	This has not yet been progressed with CIEEM but is planned for 2020.	

in relation to ecological Impact Assessment (EclA) and mitigation design to include pollinator-friendly measures	<p>creation and enhancement measures; encouraging the preparation of Biodiversity Action Plans (BAPs)</p> <ul style="list-style-type: none"> ❖ Implementation of training for CIEEM members 		Reason it has not progressed: waiting until How-to-guides on protecting rare pollinator species were published. An evidence-based guide on protecting the endangered Great Yellow Bumblebee was published in September 2019.	
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	Local Communities: actions to help pollinators was published by the National Biodiversity Data Centre in April 2016. Limerick's Buzzing, Ballyhoura Development Ltd. & SECAD fed into the development of that document. SECAD are currently acting as a test case for roll out through a Local Development Company (see A22).	
A48. Promote the conservation of a rare and endangered Irish bumblebee species and use as an educational tool for threatened species conservation	<ul style="list-style-type: none"> ❖ 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	<p>Information on the Shrill Carder Bee is available on the pollinator website maintained by the National Biodiversity Data Centre.</p> <p>It was decided to prioritise publishing an evidence-based guideline document on protecting the Great Yellow Bumblebee, which is under more immediate threat. This was published in 2019 along with a range of associated resources: https://pollinators.ie/greatyellowbumblebee</p>	
	<ul style="list-style-type: none"> ❖ Promote conservation of the species through EclA, mitigation design, BAP work 	CIEEM	This will be actively progressed through collaboration with the Data Centre in 2020.	
	<ul style="list-style-type: none"> ❖ Raise awareness and encourage conservation of this species at the site level 	BurrenBeo Trust, Limerick's Buzzing	Resources have been published: Protecting rare pollinators: Great Yellow Bumblebee. All-Ireland Pollinator Plan, How-to	

			<p>Guide 6. National Biodiversity Data Centre Series No.19. July 2019</p> <p>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 guideline document was launched in Belmullet in collaboration with Mayo CoCo in September 2019.</p> <p>A weekend field meeting in the Burren to hunt for new populations of the Shrill Carder bee was organised by the Data Centre in 2019.</p> <p>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.</p>	
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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 2019	
A49. Produce pollinator educational materials that can be used within the curriculum	<ul style="list-style-type: none"> ❖ Preparation of material ❖ Investigation of platforms and methodologies of delivery to build on existing initiatives 	An Taisce Green-Schools, Eco-Schools, OPAL, Learning	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>of primary and secondary schools</p>	<p>Note: this action is resource dependent & requires identification of funding sources</p>	<p>Through Landscapes (Polli:Nation) with assistance from other partners</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 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 Ireland's Biodiversity theme, simple life-cycle information cards for bee species have again been disseminated to junior primary classes in over 90 schools across Ireland for the 2019-20 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
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			<ul style="list-style-type: none"> Protected 2 bee banks (1 x 1000 holes and 1 x 200 holes) Allowed 7500m2 to go wild or have reduced mowing regime. <p>The Polli:Nation project is complete and there is no further engagement with schools. However, several Polli:Nation schools are further developing their grounds independently and through their contact with Butterfly Conservation submitting their actions onto the AIPP website.</p> <p>Butterfly Conservation are leading on the writing of a paper assessing the success of undertaking a trackable, citizen science project in schools.</p>	
<p>A50. Incorporate material on the identification and conservation of pollinators within agricultural and horticultural colleges</p>	<ul style="list-style-type: none"> ❖ Incorporation within appropriate curriculums ❖ Use of this material to raise awareness among all farmers 	<p>CAFRE</p>	<p>CAFRE host and provide admin support to the UBKA in relation to the bee keeping course. Please see 2018/19 Beekeeping course enrolment numbers below:</p> <ul style="list-style-type: none"> Preliminary Beekeeping Course – 262 Intermediate Beekeeping Course – 61 <p>CAFRE hosted a number of training and promotion events linked to the Environmental Farming Scheme (EFS) in Autumn 2019 at Greenmount, Loughry and Enniskillen Campuses. The events included information about the importance of pollinators and the promotion of the various EFS Options which</p>	

			<p>aim to help pollinators by providing additional food sources on farms. In addition, CAFRE produced a number of press articles promoting these Scheme Options including the wildflower margin option.</p> <p>A bumblebee ID course was hosted at CAFRE Enniskillen in May 2019 and organised by Fermanagh and Omagh District Council. At the event several different bumble bees were found on the CAFRE Campus including heath bumblebees (<i>Bombus jonellus</i>).</p>	
		Teagasc	<p>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 is being provided to 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</p>	

			management of habitats'. It predates the AIPP but will be revised on next update. FIBKA are interested in delivering talks to agricultural students - under discussion at present.	
	❖ Provide optional Bumblebee Monitoring Scheme training to raise awareness of wild pollinators and as a means to monitor the success of any pollinator-friendly management implemented	National Biodiversity Data Centre	This was provided to CAFRE in 2019 and has been offered to Teagasc.	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A51. Develop tailored suites of pollinator-friendly management actions for all sectors and make available online *	<ul style="list-style-type: none"> ❖ Publication of guidelines for pollinator-friendly management across all sectors ❖ Investigate mechanisms to provide certification (where appropriate) to sites taking pollinator actions 	National Biodiversity Data Centre & partners	<p>We have consciously made the decision that rather than quickly releasing generic style resources, we will:</p> <ul style="list-style-type: none"> ✓ 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 projections.</p> <p><u>Currently published:</u></p> <ul style="list-style-type: none"> • <i>Local Communities: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 1. National Biodiversity Data Centre Series No.4. April 2016. • <i>Gardens: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 2. National Biodiversity Data Centre Series No.9. May 2016. • <i>Businesses: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 3. National Biodiversity Data Centre Series No.10. November 2016. • <i>Councils: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 4. National Biodiversity Data Centre Series No.12. February 2017. • <i>Farmland: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 5. National Biodiversity Data Centre Series No.14. September 2017. • <i>Faith Communities: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 7. National Biodiversity Data Centre Series No.14. August 2018. • <i>Transport Corridors: actions to help pollinators.</i> All-Ireland Pollinator Plan, Guidelines 9. National Biodiversity 	
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			<p>Data Centre Series No. 20. September 2019.</p> <ul style="list-style-type: none"> • <i>Pollinator-friendly management of: Group Water Scheme Sites.</i> All-Ireland Pollinator Plan, Guidelines 6. National Biodiversity Data Centre Series No. 16. April 2018. • <i>Pollinator-friendly management of: Golf Courses.</i> All-Ireland Pollinator Plan, Guidelines 8. National Biodiversity Data Centre Series No. 18. April 2019.
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> <ul style="list-style-type: none"> • <i>Creating wild pollinator nesting habitat.</i> All-Ireland Pollinator Plan, How-to-guide 1. National Biodiversity Data Centre Series No. 5. May 2016. • <i>Collecting and using pollinator-friendly wildflower seed.</i> All-Ireland Pollinator Plan, How-to-guide 2. National Biodiversity Data Centre Series No.6. May 2016. • <i>Hedgerows for Pollinators.</i> All-Ireland Pollinator Plan, How-to-guide 3. National Biodiversity Data Centre Series No.7. May 2016. • <i>Creation and management of a wildflower meadow.</i> All-Ireland Pollinator Plan, How-to-Guide 4.

			<p>National Biodiversity Data Centre Series No.13. April 2017.</p> <ul style="list-style-type: none"> • <i>Develop a Pollinator Plan for your school.</i> All-Ireland Pollinator Plan, How-to Guide 5. National Biodiversity Data Centre Series No.15. January 2018. • <i>Protecting rare pollinators: Great Yellow Bumblebee.</i> All-Ireland Pollinator Plan, How-to Guide 6. National Biodiversity Data Centre Series No.19. July 2019. 	
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 2019
<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 - again took part in the Census of Hives with DAFM. 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. Our own Bee Health Officer also reports in the journal each month on Bee Health issues. FIBKA has been actively promoting the All-Ireland Pollinator Plan at many events, both at local and national level.</p> <p>The FIBKA journal maintains a steady coverage of the Pollinator Plan via articles and reports,</p>

			so all our members (about 3000) are informed about the work of the Pollinator Plan. Our Journal, An Beachaire, continues to provide updates and reports on the Pollinator Plan as they are available.	
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Target 3.2: Support beekeepers in maintaining healthy honeybee populations

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019	
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	<p>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> <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, 2018 and 2019 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. This online map is updated by DAFM on a regular basis. A similar approach is taken in Northern Ireland.</p>	
<p>A56. Identify the seasonal floral diversity available to honeybee colonies in Ireland</p>	<p>❖ Participation of Ireland in the COLOSS CSI pollen project</p>	<p>University of Limerick</p>	<p>To build on the wide range of expertise and data accumulated in COLOSS “CSI Pollen project funding was sought and successfully awarded for the INSIGNIA project. This is an international based study with 16 different partners including the University of Limerick with Dr Mary F Coffey as the national coordinator. The aim of the project is to monitor for pesticides through different</p>	

			<p>matrixes in a honey bee colony in a sensible way to see what kind and quantities of pesticides are used in the field and eventually end up in the honey bee colony. Similar to the CSI pollen project, this innovative project involves a citizen science monitoring programme using beekeepers to collect biweekly pollen samples from honeybee colonies for analysis for pesticide residues and botanical origin. However as well as using well-established techniques such as pollen samples collected with pollen traps it will also use two innovative techniques: the collection of beebread using a novel sampling device, and the use of passive in-hive sampling devices, thus ensuring all pollen/nectar sources are represented. Pollen is a biological material subject to very rapid decay, and hence degradation of any chemical residues contained within it. To minimise the risk of losing data due to sample degradation, the project also aims to compare a variety of different methods for sample storage and transport. This project commenced earlier this year and during the 2019 active season, pollen samples were collected from beekeepers in 4 different EU countries. Beekeepers in Ireland were not actively involved during this sampling period. However, once these samples have been analysed and the most suitable and economical methods identified, a more extensive monitoring programme will be initiated in 2020 and will be carried out in</p>
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			<p>sentinel apiaries in nine EU Member states. Ireland is one of these EU countries; hence Irish beekeepers will be encouraged to be actively involved in this project in year 2. The sampling sites chosen will include different land uses, hence ensuring a contrasting range of expected pesticide exposure. Dr Coffey will be in contact with beekeepers early in 2020 or beekeepers willing to participate should contact Mary.Frances.Coffey@ul.ie</p> <p>The samples obtained will be analysed for residues of agricultural pesticides and veterinary products, both authorised and unauthorised, as well as identification of botanical origin. The results of the monitoring programme will then be combined with geospatial land use data including the CORINE database, in order to develop models of plant biodiversity and pesticide exposure for honeybees, which will enable pesticide contamination to be linked to crop and other plants. The extrapolation of the results to other pollinators will also be assessed, in order to contribute to the implementation of European environmental legislation.</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.	
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>DAERA</p> <p>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.</p> <p>AFBI: AFBI held a microscope and bee disease workshop at the Ulster Beekeepers Association Conference in February 2019.</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 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. Our journal also provides information and advice about the management of bee diseases, testing, etc. on a continual basis, for all levels of beekeeper (Beginner, Improver, Senior).</p> <p>FIBKA run beekeeper examinations, from Preliminary (for beginners) to Senior Level (which involves microscopy to identify bee diseases, as well as Senior Scientific and</p>	
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		<p>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. It is difficult to fund the work, however, since we receive no support from the DAFM in this regard except for the free AFB testing at Oak Park.</p> <p>Our Summer Course at Gormanston attracts beekeepers internationally and provides excellent lectures for all levels of beekeeper and other interested people. There is also a strong emphasis on other pollinators, and particularly on planting suitable for wild pollinators. 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. No assistance for this has been provided by DAFM. Our journal reports on the situation of the Asian Hornet in UK.</p> <p>Our beekeeper of the year 2019 is Peter Walsh of South Kilkenny BKA, acknowledging his tireless work to publicise the importance</p>	
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			<p>of hedgerows for all pollinators. He also counts bumblebees and says that bumblebees are the best indicators of the health of the environment.</p> <p>NIHBS: highlights disease recognition at our workshops and Bee Improvement / Open / Training days at locations throughout Ireland and during 2019 venues included Tipperary, Offaly, Mayo, Galway, Kildare, Donegal and Kerry.</p> <p>Research work is continuing, in liaison with various academic institutions e.g. NUIG and LIT. NIHBS has 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 2019
<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' 'How to Improve your Local Bees' 'A Beekeeping Regime that facilitates Varroa Tolerance in Honeybees' 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. Voluntary conservation areas increasing across the island; we now have VCAs in parts of Armagh, Cork, Derry, Donegal, Down, Dublin, Galway, Kildare, Laois, Leitrim, Limerick, Louth, Offaly, Tipperary and Waterford.</p> <p>NUI Galway Research: Citizen scientists have been asked to participate in a new online</p>

			<p>survey to record sightings of the distinctive northern black “free living” bee.</p> <p>NIHBS takes every opportunity to protest against the unwarranted destruction of hedges and other habitats which have an extremely detrimental effect on all bees and pollinators.</p>	
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Target 3.4: Support growers by providing best practice advice on the use of imported bumblebee colonies

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019	
A60. Where horticultural growers find it necessary to use commercially imported bumblebees, provide advice on best practice	❖ Develop guidelines on importation, maintenance, disposal of commercial bumblebee colonies	DAFM	A code of practice / guidelines covering importation, maintenance and disposal of commercially sourced bumblebees used for crop pollination is in preparation and should be finalised shortly.	
		DAERA	Forest Service Bee Health Inspectorate have published guidance on the procedure to follow for top fruit growers in Northern Ireland to assist importers to ensure that import requirements are understood and followed.	

4 Expanding our knowledge on pollinators and pollination services

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019	
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, funded by IRC – due for completion 2021.	
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>Priority areas (B-lines) have been identified in N. Ireland by Buglife.</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, developed models to quantify the financial value of pollination services to Irish economy in terms of domestic production and in terms of imports. In addition, a survey assessed the public's willingness to pay for pollinator conservation. The report is published here: http://www.epa.ie/pubs/reports/research/biodiversity/Research_Report_291.pdf	
A65. Understand the relative contribution of different pollinator taxa to prioritise conservation strategies for the delivery of pollination and natural pest control services	❖ 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]	Plant animal interactions research group (TCD); National Biodiversity Data Centre	This cannot be progressed until the database [Action 11] is more fully developed. Best progressed in future years when the initiative is further developed	

	❖ Publish information on IPI website			
A66. Integrate plant and land-cover data to generate floral resource heat-maps for Ireland showing which areas can provide adequate nutrition for pollinators and have the potential to provide pollination services for adjacent insect-pollinated crops	❖ Integrate data and produce national level maps [Action 12]	Plant animal interactions research group (TCD); National Biodiversity Data Centre	See update to A12: A model predicting the value of different land use types based on floral quantity and quality has been developed by Eileen Power and Jane Stout (TCD) and Jon Yearsley (UCD) and tested against available data on pollinator abundance – the model has been validated and tested for sensitivity and refined. Publication in the scientific literature is pending. This will begin to allow the generation of floral resource heat maps in the future. This is a longer-term action.	
A67. Develop predictive models to determine the economic impacts of land-use changes on pollinators and pollination services	❖ Develop technologies to database, map, and evaluate pollination service in Ireland [Action 12]	Plant animal interactions research group (TCD); National Biodiversity Data Centre; and others	Predictive models are currently being developed using the INVEST tool by researchers at GMIT as part of the Farm-Ecos project	
A68: Carry out a series of cost benefit analyses for pollinator-friendly actions	❖ Build on existing studies to determine the costs and benefits of pollinator-friendly actions (e.g. legume-rich grassland vs. artificial fertilizer application; reduced mowing regime; changes in pesticide	Plant animal interactions research group (TCD); and others	See update to A9 – an academic project to look at cost-benefits analysis of biodiversity enhancement on farmland is ongoing.	

	use), particularly on farmland, public and semi-state land		Information that will feed into this objective is also ongoing through various other research projects such as http://www.smartgrass.ie/	
A69. Determine how pollinators and pollination services vary according to the surrounding landscape at a range of scales	❖ Understand how land-use at different scales relates to pollinator abundance/ diversity and pollination services	Plant animal interactions research group (TCD)	PhD project on 'Pollinator ecology at a landscape scale' has 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.	

Target 4.3: Understand the impact of pesticides on wild pollinators in an Irish context

ACTION	PROGRESS MEASURE	RESPONSIBILITY		
A70. Determine the response of wild pollinators to pesticide use in the Irish context	❖ Determine levels of exposure and impacts of pesticides on pollinators in grass-dominated agricultural landscapes	Plant animal interactions research group (TCD); DAFM; and others	<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</p>	

			Stanley (UCD) with Jane Stout (TCD), Blanaid White (DCU) and Jim Carolan (NUIM).	
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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 2019	
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 2019, the National Biodiversity Data Centre ran two workshops on general pollinator identification in addition to the bumblebee 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 2019	
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 4,300+ records have so far been submitted to the All-Ireland bee database in 2019. An additional 1,200 records have so far been submitted to the All-Ireland hoverfly database in 2019. Both	

			<p>these are significant increases on 2018 levels.</p> <p>An online Atlas of Irish Pollinators is available. It includes species accounts of all bee species and hoverfly species.</p>	
A74. Monitor wild pollinators across the landscape to detect the early warning signs of a threat to Irish pollination service	<ul style="list-style-type: none"> ❖ Continue to support and grow the All-Ireland Bumblebee Monitoring Scheme ❖ Provide training to all interested parties 	National Biodiversity Data Centre	<p>Five Bumblebee Monitoring Scheme Workshops were delivered in 2019, all to Pollinator Plan partners. Four were held in ROI and one in Northern Ireland.</p> <p>The National Biodiversity Data Centre continues to support and grow the All-Ireland Bumblebee Monitoring Scheme. In 2018 there were 106 transects. Data is currently still being validated for 2019.</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., others as appropriate	<p>See above – monitoring scheme training was provided to five partner organisations in 2019.</p> <p>General AIPP training was also provided to Tidy Towns groups across three counties and to two Councils in 2019.</p>	

	❖ Establish a national sampling framework for solitary bees and hoverflies that identifies the most efficient way to collect data to assess changes in conservation status (Red List) at 10-yearly intervals.	National Biodiversity Data Centre	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 by all relevant partners and we have 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 proposal for an All-Ireland Pollinator Monitoring Scheme was submitted to NPWS and NIEA in November 2019.	

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

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019	
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	
A76. Develop a publicly available online system to map locations where	❖ Development of a system where all those who have taken pollinator-friendly actions (farmers, schools,	National Biodiversity Data Centre	This system was launched in spring 2017. It has not been actively promoted due to human resource constraints. Despite this,	

<p>pollinator-friendly actions have been taken with a view towards creating an integrated network of pollinator habitat across the landscape *</p>	<p>land managers, individuals) can log their location and the action(s) taken.</p> <ul style="list-style-type: none"> ❖ System to be interactive and show progress in the creation of pollinator-friendly habitat across the landscape 		<p>currently more than 1,100 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, golf courses, group water scheme sites and headquarters/campuses. It will open to other sectors in 2020 (e.g. farmers).</p> <p>Additional development work to further enhance the system will be completed in 2020.</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 in future years as we move further into the implementation phase.</p>	

DELIVERY OF THE PLAN AND MEASURING PROGRESS

ACTION	PROGRESS MEASURE	RESPONSIBILITY	PROGRESS BY NOVEMBER 2019	
A78. Annually review the steering group	<ul style="list-style-type: none"> ❖ Review the steering group annually and expand/restructure as required 	Steering group	<p>It has been agreed that the size remain constant (max 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 (2019-2020) 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	<p>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.</p>	
A80. Incorporation of the Pollinator Plan into future relevant national strategies	<ul style="list-style-type: none"> ❖ Promotion of the Plan to relevant organisations 	Steering group	<p>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>.</p>	
A81. Renew the Plan in 2020	<ul style="list-style-type: none"> ❖ A new version of the Pollinator Plan to be developed for 2021-2025 	Steering group	<p>Plans are in place, and preparatory work has begun. A second version of the AIPP to cover 2021-2025 will be developed across 2020. Pending funding, it will be published at the beginning of 2021.</p>	

The steering group oversee progress within the AIPP through:

- Publication of an annual report to track progress in the 81 actions within the Plan. Those organisations with responsibility for actions are requested to submit short annual progress reports in November each year, beginning 2016. This document is the fourth of those reports.
- Publication of a mid-term review in 2018 (this was published in October 2018)
- Organisation of an annual event where those involved in implementing of the Plan can get together and report on progress [action 44]
- Mechanisms have been created to measure the number of individual site-based actions that are taken [action 76]. The AIPP 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 2019-2020 (to oversee implementation of the AIPP)

Member	Affiliation
Dr Úna FitzPatrick (chair)	National Biodiversity Data Centre
Dr Jane Stout (deputy chair)	Trinity College Dublin
Mr Ken Bradley	DAERA; Environmental Policy Division
Ms Pauline Campbell	DAERA; Northern Ireland Environment Agency
Ms Niamh Carmichael	Centre for Environmental Data and Recording (CEDaR)
Ms Rachael Conway	Butterfly Conservation
Ms Hannah Denniston	Department of Agriculture, Food and the Marine
Ms Susie Hill	Ulster Beekeepers Association
Ms Catherine Keena	Teagasc
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 Brian Nelson	National Parks and Wildlife Service
Ms Eimear Fox	Transport Infrastructure Ireland
Ms Melina Quinn	National Trust

We express our enormous thanks to those who have left the group this year. They all made an extremely important and positive contribution to the Plan during their time on the Steering Group – Ms Catherine Bertrand (Butterfly Conservation), Dr Tomas Murray (National Biodiversity Data Centre), Dr Damian McFerran (CEDaR) and Dr Veronica Santorum (Ecologist).

In 2019, the project officer post was 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 with assistance from 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 108. 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 Rural Link*

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
Department of Infrastructure NI

Charities/NGOs

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

Hedge Laying Association of Ireland
Irish Peatland Conservation Council (IPCC)
Irish Seed Savers*
Irish Wildlife Trust
Kilkenny Civic 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*
Woodlands of Ireland

Councils - note that most Councils across the island have engaged with the Plan but the process of signing up as a formal Local Authority partner was only instigated in 2019 and is currently ongoing. The following have currently signed (as of end November). Separate annual updates on their activities are available on the website: <https://pollinators.ie/councils/council-partners>

Antrim and Newtownabbey Borough Council
Ards and North Down Borough Council

Lisburn & Castlereagh City Council
Mayo County Council

Cork City Council
Dublin City Council
Dun Laoghaire Rathdown County Council
Fingal County Council
Kerry County Council
Kilkenny County Council
Limerick County Council

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*
Open Air Laboratories (OPAL) UK

Semi-state companies

Bord Na Mona
Gas Networks Ireland*

Leader Companies

Ballyhoura Development Ltd
Mayo North East*
South and East Cork Area Development (SECAD)

Monaghan County Council
South Dublin County Council
Tipperary County Council
Waterford City & County Council
Wexford County Council
Wicklow County Council

Native Irish Honeybee Society
Ulster Beekeepers Association

Trinity College Dublin
University College Dublin*
University of Limerick *
Waterford Institute of Technology*

Community Groups (individual Tidy Towns groups separate and listed below)

Annascaul Adventures*

GLAN Tralee*

Other

British Embassy Dublin*

Department of Business, Enterprise & Innovation, Carlow*

Representative Church Body, Church of Ireland House*

Circle of Life garden (national organ donor commemorative garden) *

Tidy Towns Groups These 162 groups have made their local area 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	Belcarra	Connolly	Hollyfort	Kinnitty	Roscommon
Abbeyleix	Bennettsbridge	Coole	Hollywood	Ladysbridge	Rosscarbery
Abbeysrule	Birdhill	Coon	Inistioge	Lawrencetown	Rosslare
Ardclough	Birr	Crinkill	Julianstown	LEAP Project Easkey	Scariff
Ardmore	Blackwater	Donnybrook	Keep Kilkenny Beautiful	Lecanvey	Shallee
Arklow	Blessington	Drinagh	Kells	Leighlinbridge	Shannonbridge
Ashbourne	Borris in Ossory	Drogheda	Kenmare	Lisacul	Silvermines
Ashford	Bridgetown	Dromiskin	Kilbeg Staholmog	Lismore	Skerries
Askeaton	Bruff	Drumkeeran	Kilcornan	Listowel	Sligo
Athboy	Buncrana	Drumlisk	Kilcross, Sandyford	Malahide	Sneem
Athleague	Cahir	Drumshanbo	Kilcullen	Maynooth	Stratford-on-Slaney
Baile Slachtmhar Béal an Mhuirthead	Carndonagh	Dunboyne	Kildorrery	Monaghan	Streamstown
Ballacolla	Carrigaline	Dunboyne Senior Primary School	Killane	Monivea	Strokestown
Balla	Castleconnell	Edenderry	Killarney	Mountmellick	Summerhill
Ballina	Castlecoote	Emly	Killenard	Moville	Swords
Ballinamuck	Castlelyons Bridesbridge	Ennis	Killeshandra	Mullaghmore Active	Tarbert
Ballincollig	Castletownroche	Ennistymon	Killorglin	Mullingar	Templeglantine
Ballintubber	Charleville	Fenor Bog	Kilmaine	Mulranny	Terryglass
Ballyboden	Clifden	Ferns	Kilmoyley	Multyfarnham	Thomastown
Ballyboughal	Clonaslee	Geashill	Kilmuckridge	Naas	Timolin
Ballycanew (Camolin)	Clonbullogue	Glaslough	Kilnaleck	Newtownshandrum	Tinahely
Ballyduff	Clondalkin	Glenroe	Kilross	Phibsboro Village	Tuam
Ballyfarnon	Clonegal	Glin	Kilrush	Portmarnock	Tuamgraney
Ballymore Eustace	Clonmel	Gorthaganny	Kilsheelan	Portrunny	Tullahought
Ballymote	Cloughjordan	Grange	Kilteevan	Raheny	Westport
Banagher	Cobh	Greenore	Kiltegan	Raphoe	Wicklow
Bandon	Collooney	Headford	Kinlough	Roosky	Woodford

Business Supporters: As of end of November 2019. Business supporters agree to take one pollinator-friendly action in the first year of signing up and at least another two within the following five years. A parallel 2019 annual review of actions by each business supporter is available online <https://pollinators.ie/businesses>

- Abbott Diabetes Care Ireland
- ABP
- Accenture
- Acheson & Glover
- Adare Manor Golf Resort
- AIB
- Airmid Natural Irish Skincare
- Aldi Stores Ireland
- Allergan Pharmaceuticals Ireland
- Alltech Ireland
- Alpha College of English
- An Óige - Irish Youth Hostel Association
- Analog Devices International
- Anovocare Nursing Home
- Ard na Gaoithe B&B
- Ardenode Stud
- Arlington Lodge Suites
- Arrabawn Co-operative Ltd.
- Arvato SCM Ireland Limited.
- Ash Ecology and Environmental Ltd
- Astellas Ireland Co Ltd
- Balfour Beatty
- Ballymaloe Cookery School
- Ballymaloe Foods
- Bandon Co-Op
- Bee Green Ireland
- Beeactiv Ltd.
- Belfast Zoological Gardens
- Belview Egg Farm Ltd
- Bí Urban
- Blanchardstown Centre
- Blarney Castle Estate and Gardens
- Bold Puppy
- Boortmalt
- Brookfield Farm
- Brookfield Renewable Ireland
- Bulmers
- Bumblebee Flower Farm
- Burren Nature Sanctuary
- Butler Community Centre
- Buttercup Micro Farm
- Cabra Castle Hotel
- Caherbeg Free Range Pork Ltd.
- Cairn Homes
- Carbery Food Ingredients
- Cathal O'Meara Landscape Architect
- Celtic Anglian Water Ltd
- Claremorris Free Range Eggs
- Clinic na gCapall
- Clóna Dairy Products Ltd
- Clondanagh Cottage & Farm
- Compsey Creamery
- Conroy Crowe Kelly Architects and Urban Designers
- Cool Planet Experience
- Country Crest
- Dawn Farm Foods
- Dawn Meats Carroll Cross
- Deaton Lysaght Architects
- DePuy Synthes
- Diageo Ireland - St James' Gate Brewery
- Down Business Centre
- Doyle Farm
- Dublin Airport
- Dublin City Gin Company
- Dundrum Town Centre
- Ecoseeds
- Elavon
- Elmpark Green
- Encirc Ltd
- Enniscorthy Enterprise & Technology Centre
- Envirico
- Facebook Data Centre Clonee
- Fairyhouse Steel
- Faith Wilson Ecological Consultant
- Farmhand
- Finnigans Farm

- Folens Publishers
- Fota Island Resort - Golf
- FP McCann Ltd.
- Fruit Hill Farm
- GAA National Games Development Centre
- Gannon Homes
- Genovese Foods
- Glanbia Consumer Foods
- Glenisk
- Grantstown Nurseries Ltd
- Granville EcoPark Limited
- Greencoup Ltd
- Griffins Garden Centre Ltd
- GUI National Golf Academy
- Gunn Lennon Fabrications Ltd
- Hawthorn Nurseries & Landscaping Ltd
- Heineken Ireland
- Helsinn Birex Pharmaceuticals
- Horticulture Consultants Ireland Ltd
- Icon Clinical Research
- Intel
- Ireland Beeswax Wraps
- Irish Country Meats Camolin
- Irish Country Meats Navan
- Irish Distillers Limited
- Irish National Stud & Gardens
- Irish Register of Herbalists
- ISME Ltd
- Janssen Supply Chain Ireland
- JLL Ireland
- John Doyle Funeral Director & Publican
- Joseph Brennan Bakeries
- KARE
- Keelings Farms
- Kennedy Wilson residential - Clancy Quay & Sandford Lodge
- Kia Ora Mini Farm Ltd
- Kilsaran International
- Kinahans Irish Whiskey Ltd
- Kinsale Mead Co
- KRA Renewables
- KSG Catering Ltd
- L. Mulligan Grocer
- Lakeland Dairies Bailieborough
- Landmark Designs Ltd
- Leinster Honey
- Lidl Ireland
- Limerick Self Storage
- Lismore Food Company
- Little Green Growers
- Lottie Dolls
- Machado Men's Grooming
- Mattest
- McAuliffe Pig Farms
- McAuliffe Trucking Ltd
- McBride Fishing
- McCormack Family Farms
- McGill Environmental Systems
- Meade Potato Company
- Merit Medical Ireland Ltd
- Michelle Delaney Herbalist
- Millbee Studio
- Milverton Landscapes
- Mo Bhia Duit
- Molex Ireland Ltd
- Molloy's Abbeystown Ltd Honest Bakery
- Morleys Garden Centre
- Mosney Independent Living Accommodation Centre
- Mr Jeffares Blackcurrants
- Mrs. C's Herbs and Candles
- Muckcross Creamery
- Newbridge Foods Ltd.
- Newgrange Gold
- Niks Tea Limited
- Northstone Materials Divison
- Novokem
- O'Donnell Furniture Makers
- Oliver Carty ULC & VOA Foods LTD
- Ollys Farm
- O'Neills Dry Cure Bacon CO
- Peter Cuthbert Horticultural Services
- Petigo Bandanas
- Portmagee Distilling and Brewing Company Ltd
- Portsalon Luxury Camping
- Pritchitts A Lakeland Dairies Company
- Quinn Building Products

- Quinn Packaging
- Radharc Landscaping
- Recordati Ireland Limited
- Redlough Landscapes Ltd
- Regeneron
- Relaxing Garden
- Rigney Bros
- Riverstown Family Practice
- Rocker Organic Farm
- Ronan Mac Diarmada & Associates Ltd.
- RTÉ
- SAP Landscapes
- Schram Plants Ltd
- SEB Life International
- Secret Valley Wildlife Park
- Shannonvale Landscaping Ltd
- Shines Seafood
- Siemens Healthcare Diagnostics Manufacturing Ltd.
- Southern Scientific Services Ltd
- SSE Wind Generation
- St Mullins Honey
- Sustainable Bio-Energy Ltd
- Sweeney Landscape Design
- Swords Pavilions Shopping Centre
- tang café
- Teva Pharmaceuticals
- The Apple Farm
- The City Hotel Derry
- The Rediscovery Centre
- Tipperary Boutique Distillery Limited
- Toyota Liffey Valley
- Triall Teoranta
- Turfworks
- Urru Culinary Store
- Voxpro - powered by Telus
- Wallaby Woods Donadea
- Waterford Oysters
- West Coast Crab Sales Ltd
- Wexford Preserves
- Wicklow Way Wines
- Wild Kitchen
- Wyeth Nutritional Ireland
- Young Nurseries

APPENDIX B: 2019 ACTIVITIES BY OTHER PARTNER ORGANISATIONS

Partner organisations who are not associated with a specific action in the 2015-2020 version were contacted and given the opportunity to provide a short update on their 2019 activities if they wished.

Partner	Activities
Annascaul Adventures	<p>GLAN Corca Dhuibhne initiative biodiversity project have asked Annascaul Adventures to take over Native Trees for people's gardens. We have 18,000 trees to be planted by the people in their gardens in West Kerry and South West areas. The Cottage Market Annascaul has a table with information on biodiversity. Wildflower Foxgloves - the seeds were collected locally and planted. Some were sold in the market and the rest were planted in the village and hedgerows. Dry walls on the Maum Road, Annascaul - we are protecting them. We have planted some local wildflowers in the gaps. Nionras Wildflower Garden - in this project we helped the little ones to make seed bombs in school. They took one seed bomb in a pot home, one seed bomb for their school garden and they gave us one seed bomb each for Wildflower Garden in the Village. Brackluin estate - the lawn was only cut every six to eight weeks. In the month of April and May it was not cut. We made log hives for our native honey bees. We had Irish Wildlife Trust Kerry Branch who did a talk on the history of our native honey bees in Ireland. In our third year we had two events for Biodiversity and Heritage - about biodiversity. We planted perennials and wildflowers (local seeds) together in the village. We have started preparing the grounds for wildflowers and heritage organic apple trees in the village. By December, hopefully we should have it finished. We have completed a book on The Fauna and Flora of Annascaul. We are waiting for it to be printed.</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. In 2019, collaboration has been forged with Koppert where AIT is comparing and contrasting different types of Non-thermal eco-innovations in order to decontaminate pollen used for feeding commercially farmed bumblebees, which is through an EPA Co-Funded doctoral scholarship. Aim is to reduce complex pathogen bioburden in pollen in order to enhance bumblebee health</p>

	and wellbeing. Mr Jack Eakins is the new doctoral scholar who is also helping to make happen an AIT management decision to promote implementation of a pollinator-friendly campus. This is also aligned with establishment of new Centre for Disinfection, Sterilization and Biosecurity at AIT under directorship of Prof Neil Rowan.
British Embassy Dublin	The British Embassy Dublin joined as a partner in November 2019. To launch our involvement, we held a small internal event to inform staff by delivering one of the website presentations. As part of our commitments we will be designating part of our site as wildflower areas, we already let these areas grow wild in summer 2019 and will properly plant them with native wildflower seeds in March 2020. We will also commit to limiting use of pesticides. In addition to the embassy site, we will also consider what may be possible in the Ambassador's residence.
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>Gas Networks Ireland (GNI) is committed to protecting biodiversity across our business and in our community. We are a business supporter of the All Ireland Pollinator Plan. With assets all over the island of Ireland we, recognised the potential to create a network of pollinator friendly habitat across the country and also to share our knowledge with other businesses. Our Biodiversity Enhancement Programme aims to increase awareness about biodiversity among our staff and stakeholders.</p> <ul style="list-style-type: none"> • In February 2019 at Ireland’s first National Biodiversity Conference, GNI were announced as one of 14 founding members of the Irish Business and Biodiversity Platform which included becoming a signatory of the ‘Our Seeds for Nature’ Charter, launched by the Department of Culture, Heritage and Gaeltacht, with a public pledge to manage all infrastructure, asset base and offices in Ireland and Scotland in line with biodiversity best practice; to strive to have a net positive impact on biodiversity in all our operations; and to promote red clover, which is good for bees and soil, by encouraging farmers to grow this as a feedstock crop to produce biogas. GNI also won the “Together for Biodiversity” Award at the conference. • GNI continue to be a Business supporter of the All-Ireland Pollinator Plan with measures currently implemented at 11 of our sites including reduced grass cuttings and pesticide use; installation of bird boxes, biodiversity awareness signage and planting of wildflowers • As part of a Biodiversity employee engagement exercise this year, GNI installed two beehives at one of their gas stations in Cork and produced their first batch of honey this Summer, 2019.

	<ul style="list-style-type: none"> • GNI have increased stakeholder engagement including the delivery of internal biodiversity awareness talks, nature walks to educate staff about biodiversity and presenting a biodiversity talk to other Business as part of a Business in the Community initiative in the National Botanical Gardens. • We have also increased engagement with the community by hosting biodiversity awareness sessions in local primary schools. 62 children in the local community have been engaged through school biodiversity awareness workshops, learning about the importance of bees, building insect hotels for their school grounds and installing bird boxes to attract nesting birds. • We also collaborated with Cork City Council and installed a large bug hotel with Biodiversity informative signage in Shalom Park beside the Children’s playground as part of a Biodiversity awareness initiative. • GNI’s 2018 and 2019 calendars, distributed to 5,000 landowners, celebrated Ireland’s biodiversity and provided advice to landowners on actions that could be taken to support biodiversity. • As part of an Irish Examiner initiative during National Biodiversity Week, GNI sponsored a “What you can do on World Bee Day to help save the bees?” poster. The poster was provided free with the paper to over 50,000 readers and also provided to 300 schools in Munster and 20 schools located near our office in Finglas, Dublin. • In 2019, GNI published their very first Sustainability report in alignment with the UN Sustainable Development Goals including the UNSDG Life On Land.
Irish Beekeepers Association CLG	<p>The Irish Beekeepers Association CLG, and associations around the country are committed to supporting, endorsing and publicizing the All Ireland Pollinator Plan. Our giant banner which is used at all events states that the IBA CLG endorses and supports the All Ireland Pollinator Plan. In 2019, 3,000 plus pollinator/bee friendly trees, donated by Coillte, were distributed to members, around the country for planting. The IBA contributed to the draft National Heritage Plan advising that government put the AIPP into force on a real basis, throughout the country. More adequate funding for the National Biodiversity Data Centre was also suggested. AIPP booklets have been distributed at events such as Forestry / Farming conference in Skibereen, Transition Year Show at Punchestown, and at events hosted by Teagasc during the Teagasc Hedgerow week. The AIPP was / and continues to be pushed at all events attended by the IBA. At the recent Galway Honey Show, the PRO advocated adequate funding for the NBDC so it can more adequately fulfil its remit. Individual affiliated associations manage pollinators, honeybees and some provide habitats for other pollinators. Tidy towns assisted to promote pollinator friendly planting and to increase awareness.</p>

	<p>Farmers are encouraged nationally to support pollinators and do so with catch crops etc as well as reducing chemical use. Members encouraged/supported to use local media to promote the AIPP. Members attend schools to promote pollinators and the AIPP.</p>
Marine Institute	<p>In 2019 the Marine Institute worked on developing an onsite meadow covering 7,000 sq mts. The meadow has greatly contributed to the biodiversity and amenity of the Marine Institute's grounds. Many wildflowers, including orchids, were observed in the meadow over the summer period. However, currently the meadow is grass heavy and with advice and help from Conservation Volunteers Galway (CVG) yellow rattle seed was sown in the autumn. This will help thin the grass and promote the establishment of more wild flowers. A proposal to extend the meadow to 10,000 sq mts (20% of the total site area, and about 40% of the grassed area) was approved in October.</p> <p>In addition, a vegetable garden has been established by the 'Muddy hands' group of volunteers, in a courtyard area that had been neglected and regularly sprayed with weed killer. The spraying of weed killer on Marine Institute grounds has been restricted and prohibited in the courtyard area. Produce in 2019 included lettuce, tomatoes, onions, courgettes, herbs, etc. A bee hotel was also erected. In parallel (also in the courtyard) a garden area is being developed, and in the summer of 2019 pollinator and wildlife friendly perennials, shrubs, and trees were planted, and wildflower seed sown. Further planting and sowing of seed will continue in 2020.</p>
Maynooth University	<p>Maynooth University continues to commit to the promotion of biodiversity and the 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. We also strive to reduce the University's impact on the natural environment and some of our ongoing Biodiversity projects are briefly described below. Over the past year we have increased the coverage of natural grass meadows by an additional 1200m² under our "Don't mow let in Grow" policy and have already identified additional sites that will be returned to grass meadows in 2020. Throughout 2019, we removed a number of annual bedding areas on campus and replaced with pollinator friendly Herbaceous planting schemes. We have also implemented a new targeted weed suppression system that has drastically reduced the overall volume of weed killer used on campus and the amount of pesticide drift to non-target areas. This year we produced Design Guidelines for all new landscape and building projects. Based on the promotion of biodiversity and pollinator protection, these guidelines specify that only beneficial plants & trees can be used and that low growing meadows instead of lawns are factored into the design phase. Adding to the An Taisce Green Flag and International Foundation of Environmental Education Awards that we received in 2018, this year Maynooth University was awarded a Green Flag for Parks award, being the first University in Ireland to be accredited within this category. The Green Flag for Parks award requires campuses and parks to demonstrate a continuation and progression across years and it is clear that our continued commitment to biodiversity and the AIPP</p>

	<p>was central to winning this prestigious award. Looking to the future we are currently drafting our 2020 Biodiversity Action plan, that will outline our objectives and targets with regard to the promotion and protection of biodiversity and pollinators across our campuses for the next five years.</p>
National Federation of Group Water Schemes	<p>The NFGWS (National Federation of Group Water Schemes) officially launched the new work area of Biodiversity improvement on Group Water Schemes (GWS) at the Rural Water Conference in September 2019. This followed on from the initial pilot project that took place on Ashill GWS in Co. Tipperary, which officially was opened in May 2018. In conjunction with the National Biodiversity Centre and Ashill GWS, the guide 'Pollinator friendly management of Group Water Scheme sites' was launched at this conference. We are encouraging all GWS to act as leaders in their communities, and manage their sites (sources, reservoirs, treatment plants) in a biodiversity friendly fashion. Community awareness is being rolled out through our updated primary schools' curriculum. We also hope to use biodiversity friendly measures as a way of protecting GWS sources from contamination and are encouraging GWS to create plans with this aim in mind. Schemes are also asked to track their actions through the mapping system on the National Biodiversity Centres' website, which now has a specific system for GWS. We are also including work on the elimination of pesticide usage around GWS assets such as valves and meters as pesticide usage is already banned around GWS sources, along with identification of invasive species of flora and fauna around and in GWS sites</p>
NUIG	<p>NUIG sowed pollinator friendly wildflower seeds across 3 locations on campus: College Park, Environmental Science and Arts Science service road. This was very successful, with pollinators and Instagrammers. We increased pollinator friendly planting schemes (including Rudbeckia, Hollies, Heathers, Sedums and Echinacea.) at Upper and Lower Newcastle Road entrances. We planted pollinator friendly bulbs at Engineering lawn that included Crocuses, Anemones, Muscaries and Camassia. Flowering period starts in early March and ends in May. We created a short 6 week meadow at Orbsen/I.T Building and at Geography courtyard. We installed the signage for All Ireland Pollinator Plan around campus. We trialled boiling water in July as a weed control method. We planted native hedge planting that included Hawthorn and Hazel at the rear of the Human Biology Building. We led walks on pollinators in May, June, August, September. We increased our pollinator teaching by incorporating new classes on pollinators for TY students, and in First Year Environmental Science. We delivered at least one walk and class on pollinators for Biodiversity and Land Use Planning, Sustainable Resource Management Policy and Planning. Sustainable Environments, a new MSc course has commenced, which includes the pollinator plan. We presented at GEEK club on NUIG biodiversity, which emphasised pollinators. From May – August, an intern mapped pollinator habitats. In the last month, we surveyed for brown hairstreak butterfly eggs which overwinter on blackthorn. As some eggs were laid on young blackthorn in a development site on campus, we are translocating those stems to an adjoining biodiversity area.</p>

<p>Representative Church Body, Church of Ireland House</p>	<p>Actions taken for pollinators:</p> <ul style="list-style-type: none"> ✓ Dublin Beekeepers Association have placed 2 hives in the grounds of the RCB offices and are responsible for the care of the bees. ✓ One third of all grassy areas mown under a pollinator friendly regime-5 cut and lifts ✓ Clover sward provides a food supply for bees ✓ Beds planted with Lavender and Pyracantha provide further food sources ✓ Areas of long grass have been allowed to grow around tree trunks to provide shelter and nest sites for bumblebees ✓ Herbicide use is restricted to the steps of the building and best practice in their use is followed to protect insect life ✓ The All-Ireland Pollinator Plan signs (bi-lingual) have been put up on site ✓ Bare stone wall has been left to provide nesting site for bees <p>Central to the RCB's role is the promotion of the mission of the Church of Ireland, and part of that mission includes safeguarding God's creation. Many Church of Ireland parishes are creating pollinator havens in churchyards, graveyards, and around parish centres, and the central Church office is proud to be part of this Church-wide initiative. Visitors to the RCB offices will see the grounds managed for wildlife and bi-lingual pollinator signs with the Church of Ireland logo. Future plans are to build on the actions taken as follows:</p> <ul style="list-style-type: none"> • Planting fruit trees to provide food and shelter for pollinators • Planting native wild flowers • Maintaining some bare soil to provide nesting sites for mining solitary bees • Install bee boxes to provide nesting opportunities for solitary bees
<p>True Harvest Seeds</p>	<p>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.</p>

UCD	<p>2019 has been a hugely exciting year in UCD, in which a number of new initiatives in support of the AIPP were implemented. An increase in the proportion of our grassland managed by reduced mowing regimes and the discontinuation of the use of glyphosate in the management of amenity areas are just two examples of the evolution of grounds management practices on campus. These supplemented by newly planted areas, new wildflower meadows and other green infrastructure projects such as a sedum roof on the Moore Centre for Business, will help to provide a valuable food source and habitat for pollinating insects into the future.</p> <p>UCD Lyons Research Farm have initiated a range of measures over the past year, including Integrated Pest Management procedures; reduced mowing of amenity grass and encouraging beneficial clover mixes in pasture swards; renovating hedgerows with pollinator friendly species such as whitethorn; allowing earthen banks to remain bare following infrastructure construction to provide nesting sites for solitary bees, and many more.</p> <p>Academic colleagues have been at the forefront of research and engagement on pollinators, through tours of the orchard and Apiary in Rosemount during World Bee Day, participating in panel discussions, e.g. `Making your garden pollinator friendly` during Staff Engagement Day and through academic projects such as the UCD Bumblebee Monitoring Programme on the Belfield campus.</p> <p>So reviewing positive developments over the past year and looking forward to the Plan`s next phase in 2020, further information can be found at the following links: UCD-Campus-Pollinator-Plan; UCD Estates Sustainability.</p>
Ulster in Bloom	<p>Regarding the Translink Ulster in Bloom judging, in partnership with the Royal Horticultural Society and many of the other `Bloom` regions, we introduced a new judging sheet in 2019. The new style report and assessment form has rebalanced the existing scoring system to 40% horticultural, 30% environmental and biodiversity and 30% community, reflecting the greater importance of the environment, biodiversity and the community across `Bloom`.</p>
Waterford Institute of Technology (WIT)	<p>The AIPP has been adopted with great enthusiasm at Waterford Institute of Technology, the pollinator objectives set out have now been adopted into the institutes document Environmental Policy at WIT 2019-2021. It has been such a successful first year and we are established and ready to implement more actions into 2020. One of the key objectives was to identify and protect existing habitats on campus, key areas have been highlighted and all groundsmen on our campus have agreed to limiting the use of herbicides and reduced mowing regime. New signage has been erected to create awareness amongst the student body and the public who use our facilities. Public workshops on planting for pollinators will be organised again next year having received positive feedback from attendees. A horticulture student group project has begun to assess insect hotels with the view to creating guidelines on design and placement criteria. WIT Arena (Novus) on our west campus has a total grass playing and training area of 76,500sqm or almost 8hectares. Recently it has been decided to designate significant areas for landscaping with pollinator friendly trees, shrubs and perennials, along with the creation of wildflower areas where suitable. This is an exciting development for staff and</p>

	students who will benefit from this enhanced landscape, which will showcase pollinator friendly plants for visitors to the WIT Arena, West Campus and the Waterford Greenway for years to come.
Wexford Naturalists' Field Club	<p>Wexford Naturalists' Field Club has continued with activities carried out in previous years to support the All-Ireland Pollinator Plan. In addition, during 2019 the Club has:</p> <ul style="list-style-type: none"> • Invited representatives from the local authority, Tidy Towns groups and the general public to our Club lecture '<i>Pollinators, plants and use of pesticides: implications for the delivery of pollination services</i>' by Dr Dara Stanley, UCD School of Agriculture and Food Science • Passed information to some of our local schools • Spread the message of the importance of leaving areas of grass uncut to allow wildflowers to flower • Raised awareness of the All-Ireland Pollinator Plan on South East Radio • Two of our members held a 'Biodiversity and Recording Information Evening' for their local community and gave a PowerPoint presentation on pollinators
Woodlands of Ireland	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).

END.