

Kilcullen

Biodiversity Action Plan 2021-25



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Acknowledgements & Contact Details

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The project represented a collaboration between the Rural Development Team in County Kildare LEADER Partnership CLG and the Heritage Section in Kildare County Council. The project launched in February 2020 and culminated in February 2021.

County Kildare LEADER Partnership CLG and Kildare County Council would like to thank members of the community for their involvement and engagement with the process to develop this action plan. We would also like to thank Kilcullen Community Action for nominating Kilcullen to take part in the project when expressions of interest were initially sought and for their role in encouraging others in the community to get involved.

Finally, we would like to thank Brian Gaynor from Green Pine Consultants and consultant ecologist and botanist, Dr. Fiona MacGowan, for their commitment and dedication to the project and for sharing their expertise generously with the community. They liaised directly with communities, delivered a dedicated programme of training sessions, produced a very helpful series of newsletters, and brought this plan together.

We hope that the Biodiversity Action Plan will be beneficial in guiding local actions to promote and protect biodiversity in the coming years.

Getting Involved:

If you wish to get involved with any of the actions outlined in this Plan, please contact either:

Kilcullen Community Action: <https://www.facebook.com/Kilcullencommunityaction/>

or

Kildare County Council Heritage Officer:

Phone: 045 980791

Fax: 045 980835

Email: heritageofficer@kildarecoco.ie

Website: <http://www.kildare.ie/countycouncil/Heritage/index.html>

If you would like to apply for LEADER funding towards implementing some actions in the Plan, please email the LEADER team on info@countykildarelp.ie or call us on 045 895450. You can also check out our website: <https://www.countykildarelp.ie/>

Photographs: Photos used in this Plan are courtesy of members of Kilcullen Community Action, Dr Fiona MacGowan, Suzanne Behan and Brian Gaynor.

Section 1:

Introduction

Kilcullen is a residential town, with a population of just under 4,000, within commuting distance of Dublin. It is a vibrant community with excellent facilities - educational, sporting and social. It is also well served with shops and businesses, many of which have been in business for generations.

A key feature of Kilcullen is the fact that the River Liffey flows through the town centre. In fact, the town grew up following the construction of the first bridge over the Liffey in 1319. The name Cill Chuilinn (The Church of The Holly) comes from the nearby monastic site where a church was first established in 486 AD. There are other important historical sites in the area - the most important being Dun Ailinne, the ancient Royal Site of Leinster. Kilcullen is surrounded by a number of large stud farms which are hugely important habitats for wildlife.

Once on the main route from Dublin to Waterford and Kilkenny it was bypassed by the M9 in 1994. The Liffey continues to be an important focal point in the town and a hugely important habitat for wildlife. Over the years riverside walks have been developed to allow access to the public and these walks link the town with the wider countryside and form an important wildlife corridor.

Kilcullen has participated in the National Tidy Towns competition for many years and has consistently improved scores in the competition in recent years. In 2019, Kilcullen won a special Endeavour Award, as the town in County Kildare with the highest overall increase in marks - a success which indicated the great work of a growing number of volunteers and the general support from the overall community. In recent years the Tidy Towns Competition has placed increasing emphasis on the environment and Kilcullen has embraced this aspect fully. The promotion of Biodiversity and of Energy use are two areas that are currently under development with plans in preparation for the town. A Town Design Statement is also being prepared which will focus on future development of the town and how this might best be done in a sustainable way.

This Biodiversity Action Plan aims to guide the local community and stakeholders in their efforts to protect and restore some of this natural heritage and maximise the benefits that nature can provide for the people of Kilcullen. The Plan is not intended to be a static document but rather to be regularly reviewed and updated over its life.

A healthy natural world is crucial to our way of life; it provides us with clean air & water, food, shelter, and much more!

Process to Produce This Plan

At the end of 2019, Kilcullen Community Action submitted an Expression of Interest to be part of an upcoming initiative entitled the *Kildare Community Biodiversity Project*. The project was an initiative between County Kildare LEADER Partnership and the Heritage Officer in Kildare County Council. It was funded by the LEADER programme for 2014-2020. Green Pine Consultants and Dr. Fiona MacGowan were contracted to deliver the project. The team brought together qualifications in biology, ecology, botany, and landscape architecture, as well as skills in working with community groups.



The project kicked off in February 2020 with a launch night in Newbridge Town Hall. There were over 75 people in attendance from the ten communities that were selected to take part. The project involved reconnaissance visits to assess biodiversity in each community, as well as a series of free public training workshops, and the development of local Biodiversity Action Plans. Due to Covid 19 restrictions, the training sessions took place in September and October via Zoom Meetings. These were open to all stakeholders and members of the public with an interest in making their locality a better place for people and nature. During this process, the views of all participants were sought during the workshops and through a questionnaire. Several community groups attended the training sessions and their input was invaluable to the production of this Plan.

What is Biodiversity?

Biodiversity refers to the variety and variability of all living things including plants, animals, microbes, fungi and people. It also includes the places where plants and animals live (known as habitats), the interactions among living things (the web of life) and their environment (ecology).

Biodiversity is all around us, everywhere and in our everyday life. It forms complex systems that sustain life on Earth. Each part of the system is important no matter how small or trivial it may seem to us. Think of it as a puzzle; having a biodiverse system allows us to see the full puzzle but when we start to remove different pieces, or species, the picture loses important parts.

We rely completely on biodiversity to provide us with the basic elements we need such as clean air and water, food, fuel, building products and medicines. We also rely on it for the many free 'services' such as nutrient recycling, pollination and water filtration etc. It is therefore vital that we make space for nature in our towns, villages and countryside for us to continue living full and healthy lives.

“Biodiversity underpins the functioning of the ecosystems on which we depend for food and fresh water, health and recreation, and protection from natural disasters. Its loss also affects us culturally and spiritually. This may be more difficult to quantify, but is nonetheless integral to our wellbeing”

Ban Ki-moon, Secretary General of the United Nations

Section 2:

Biodiversity in Our Area

Kilcullen is set within a landscape that is rich in biodiversity starting with the River Liffey running through the centre of the town. The town is placed between the mighty Wicklow Mountains visible to the east and the great expanse of Ireland's Central Plain stretching away to the west. A riverside walk along the Liffey joins the old centre of the town with Newabbey graveyard to the east where Kilcullen's late medieval history is on display. This part of the town is also notable for its beautiful backdrop of many mature deciduous trees. Indeed, aerial imagery of the town shows a wealth of mature deciduous trees - a historical legacy of large estates and stud-farms such as Castlemartin and Newabbey. The tall trees form part of the character of the Kilcullen backdrop with their seasonal changes keeping the people of Kilcullen informed on the passage of time! The conservation areas of note in the locality include an area of native Ash woodland which is a proposed Natural Heritage Area (pNHA) just 6km to the east along the Liffey known as The Liffey Meander Belt. The Curragh of Kildare lies to the west of the town and is inextricably linked through both social and natural history to Kilcullen. A prominent landscape feature 10km to the east of Kilcullen is the Poulaphouca reservoir, the largest waterbody in this part of Ireland. Please note that further details on your local conservation sites can be found at: www.npws.ie/protected-sites/

Kilcullen is home to some prominent mature deciduous trees, a historical legacy of large estates and stud-farms such as Castlemartin and Newabbey.



Main Biodiversity Sites

There are numerous places of important biodiversity value in Kilcullen. The following are some of the main ones in and around the town.

Site of Biodiversity Interest

River Liffey & the Valley Park: This river is famous as the river of Dublin city but before that it rises in the Wicklow Mountains and meanders its way through much of the plains of Kildare. Although not given conservation status, the Liffey is a font of biodiversity especially as it winds through the centre of Kilcullen as part of the Valley Park. This park has been developed by the community over the years and includes woodland, wildflower meadow and ornamental planting that support a variety of wildlife.



The Bridge Community Farm & Nature Trail: The Kilcullen Nature Trail is an invaluable asset to the Kilcullen; it builds community, promotes the outdoors and wellness, and draws people into town to shop on the Main Street. Not only is the Nature Trail used by the residents of Camphill, but it is also extremely popular with the broader community. Families with buggies, pensioners, and everyone in-between can be spotted enjoying the river walk, garden, farm animals - all free and accessible in the centre of town. It was built a few years ago as part of a Difference Day with the help of 250 volunteers.



Kilcullen Residential Estates: Several residential estates in the town have begun to manage sections of their green spaces as wildflower meadow. These meadows dotted across the town are part of the national effort to halt the decline of this valuable habitat which supports native pollinators, birds, and other wildlife.

Poulaphouca Reservoir (SPA 004063): This is an artificial lake created in 1944 to create a hydro-electrical power source. It was created using both the Kings River and the River Liffey. Nature has taken to this large body of water ever since and it is now a Special Protection Area for the protection of Greylag geese and Lesser black-backed gulls.

The Curragh (pNHA 000392): The Curragh of Kildare long famed in song, story and legend is an ancient landscape, likely to have been grazed for thousands of years. It features many areas of interest for botanists and mycologists alike. The lack of fertiliser applications and its open grassy habitats have led to there being an interesting assemblage of mushroom species (fungi) in particular. Also, the grass and herb species which grow there have, of course, long been known for producing fantastic horses as well as sheep.

Liffey Valley Meander Belt (pNHA 000393): A small belt of Ash woodland along the banks of the River Liffey just 1km northwest of Ballymore Eustace and 6km east of Kilcullen. This area is a small remnant of what would have been the dominant type of native woodland to this part of Co. Kildare. The woodland merges with flood meadow habitat along the river featuring Meadowsweet and Flag iris giving an idea of habitat types that would have been far more extensive in the past.

Recent Progress

A lot of work has been carried out in recent years already to enhance the town's biodiversity. The following are some examples of these:

- An Information evening on bird nest boxes was held in 2019 and this was followed up with the installation of 20 nest boxes across the town in association with Wild Kildare.
- Local residents planted over 70 trees on their land as a copse.
- Kilcullen Community planted 700 trees as part of Kilcullen 700 in 2019.
- Pollinator beds were created along the Curragh Road.
- Native pollinator friendly plants were included in Kilcullen in Bloom window boxes.

In autumn 2020, members of the local community took part in the Kildare Community Biodiversity Project. It involved three biodiversity training sessions (all online) and led to the production of this Action Plan. Several of these actions have already been delivered between the end of the training and the publication of this Action Plan including:

- In the Valley Park, the creation of wet planting areas with crossings on sections of the path where the natural springs occur was commenced to allow water to drain away.
- The creation of a community garden which includes orchard trees, olive trees, edible beds was started.
- Wildflower grass verges on the R448 at Nicholastown were prepared.
- 116m of native hedgerow was planted on the Naas road in front of the Bishop Rogan Park Industrial Estate and a further 75m were planted along the northern section of the Dunlavin Road leading to Newabbey Graveyard.
- A 'Free Garden Tree Giveaway' was run in December 2020 where 300 native trees were distributed amongst the community.
- Over 40 Pedunculate Oak (*Quercus robur*) tree were planted in the Valley Park.
- Install Hedgehog retreats around the town, ideally in conjunction with the schools. (1.4.3)



20 bird boxes were installed across the town in 2019 in partnership with Wild Kildare





Local actions have begun to make a big difference for Kilcullen's biodiversity – for example native tree planting, wildflower meadows, pollinator friendly planting have all increased the habitat for wildlife in the town



Wildlife of Kildare

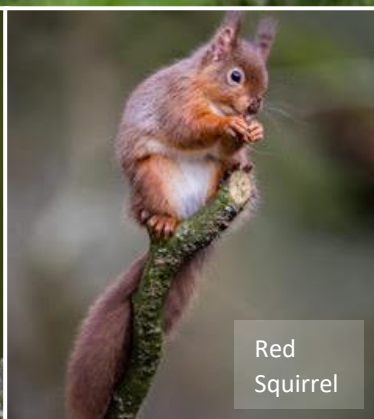
Badger



Robin



Red Squirrel



Great Spotted Woodpecker



Rabbit



A collection of photos courtesy of Kildare wildlife photographer Suzanne Behan

Grey Wagtail



Red Fox



Mute Swan



Kingfisher



Section 3: A Call to Action

This is a shared plan of action for the town to build on the recent progress made to improve areas for biodiversity and to start developing other opportunities to maximise the town's full biodiversity potential. In doing so this will hopefully engage new people and groups in managing their local green space with biodiversity in mind. The plan has four main objectives, each with several targets and actions:

1. **Objective 1:** Making Kilcullen wildlife friendly
2. **Objective 2:** Raising awareness of local wildlife and how to protect it.
3. **Objective 3:** Collecting evidence to track change and measure success.
4. **Objective 4:** Build local capacity to manage and record biodiversity.



Did you know: Irish pollinators are estimated to contribute €59 million annually to the Irish economy!

Objective 1: Making Kilcullen biodiversity friendly

All types of land can be used to increase the levels of biodiversity in the town including built features and green spaces. Each landowner whether public or private can also play their part in enhancing their lands for biodiversity.

Target 1.1 Make the town's public spaces more biodiversity friendly			
No.	Action	Who	When
1.1.1	Carry out the following biodiversity habitat enhancement works within the 'Valley Park':		
	A. Eradication of Himalayan Balsam - this should be carried out as part of a wider landscape approach for the River Liffey (see Action 1.3.1)	KCA/Newbridge TT. Ballymore TT	2021-25
	B. Reduction of existing non-native shrubs over the course of 5-years. Allow natural regeneration of native ground flora and augment with native shrub / small tree species such as Holly, Hazel, Rowan, Hawthorn, Buckthorn, etc.	KCA#1	2021-25 (outside bird nesting season)
	C. Plant 50 no. Pedunculate Oak (<i>Quercus robur</i>) whips throughout the Park	KCA	Dec 2020
	D. Manage the wildflower meadow by cutting and lifting it each year. Plan for this at the beginning of the year. This could be a good location for a Heritage Week event demonstrating traditional hand scything. Augment with native wildflower plugs (spring) and seed (autumn).	KCA#1	2021-25 (Aug each year)
	E. Plant a native hedgerow along the fence on the walk to Newabbey Graveyard (this should only be carried out with the prior approval of the landowner)	KCA/Local Farm.	2021-2023
1.1.1	F. Construct bioswale(s) with crossings on sections of the path where the natural springs occur to allow water to drain away	KCA/KCA#1	2021
1.1.2	Explore the opportunities to enhance habitat within the library grounds by carrying out the following actions:		
	A. Manage the lawn space as a short cut wildflower meadow in consultation with the library. The fringes along the footpath should be mown regularly to maintain a sharp and tidy appearance.	KCA#5/Kildare County Librarian	Spring 2021
1.1.2	B. Create a community edible garden which includes orchard trees, an edible hedge around the perimeter and edible beds.	KCA#5/KCA#6	In progress 2020-2021
1.1.3	Carry out the following biodiversity habitat enhancement and landscape works at the Nicholastown Junction:		
	A. Lower the height of the shrub beds to restore the view onto the Dún Ailinne sculpture	KCA#2, KCA#3	2021-2022
1.1.3	B. Manage a section of the grass as shortcut wildflower meadow	KCA#2, KCA#3	2021-2022
1.1.4	Manage wildflower grass verges on the R448 (Naas Rd & at Nicholastown) by cutting and lifting them each year. Plan this at the beginning of the year. This could be managed as part of an overall contract for meadow management across the town. Augment with native wildflower seed, particularly Yellow Rattle after it is cut and lifted.	KCA#2, KCA#3 /Pollinator Group	2021-25
	Explore opportunities to manage other roadside verges around the town and on approach roads as wildflower rich verges.	KCA, Pollinator group	2022
1.1.5	Plant a native hedgerow to infill current gaps on the Naas road, eastern side, in front of the Bishop Rogan Park Industrial Estate. 116 Metres	KCA	November 2020 - March 2021

Target 1.1 Make the town's public spaces more biodiversity friendly			
No.	Action	Who	When
1.1.6	Plant a native hedgerow along the northern section of the Dunlavin Road leading to Newabbey Graveyard including a couple of Oak trees allowed to grow to full height. 75m length	KCA	November 2020 - March 2021

Target 1.2 Make the town's private lands more biodiversity friendly			
No.	Action	Who	When
1.2.1	Run a 'Free Garden Tree Giveaway' each year on a Saturday morning in Feb/March. Tree mix (whips only) to include: Rowan, Birch, Hazel and Wild Cherry.	KCA#7– Climate action group	2021-25 (Feb/March)
1.2.2	Carry out the following biodiversity habitat enhancement works at Nicholastown Estate: <ul style="list-style-type: none"> A. Manage the wildflower meadow and wildflower verges at the front of the estate by cutting and lifting them each year. Plan for this at the beginning of the year. This could be a good location for a Heritage Week event demonstrating traditional hand scything and the use of vintage farm machinery. Augment with native wildflower plugs (spring) and seed (autumn). B. Explore the potential to create a forest garden or native community woodland to the rear of the estate. 	KCA#2, KCA#3	2021-2022
1.2.3	Explore the opportunity to carry out the following habitat enhancement works in Nolan's car park (all actions should be agreed with the landowner): <ul style="list-style-type: none"> A. Replace the Laurel hedge with a native hedge that incorporates edible plant species. B. Plant a specimen Oak (<i>Quercus robur</i>) tree in the planting bed at the entrance 	KCA/Nolans/Pollinator group	2022-2023
1.2.4	Explore the opportunity to continue existing habitat enhancement works along the Pinkeen stream, in association with St Bridget's Pitch n Putt (all actions should be agreed with the landowner): <ul style="list-style-type: none"> A. Plant a native hedgerow along the perimeter fence leading down to Kilcullen GAA. B. Manage the stream bank and a strip along the top to grow as a wildflower rich grassland. 	KCA/Nolans/Pollinator group	2021
1.2.4	Explore the opportunity to continue existing habitat enhancement works along the Pinkeen stream, in association with St Bridget's Pitch n Putt (all actions should be agreed with the landowner): <ul style="list-style-type: none"> A. Plant a native hedgerow along the perimeter fence leading down to Kilcullen GAA. B. Manage the stream bank and a strip along the top to grow as a wildflower rich grassland. 	KCA to engage with the Pitch n Putt	2021-24
1.2.5	Explore the opportunity to manage areas under the copses of trees on the large green space in Sunnyhill estate as wild grassy habitat. Wildflower plugs such as Common Knapweed can be planted to add colour and diversity (all actions should be agreed with the residents).	KCA#8 & KCA#9 /Residents assoc	2022
1.2.6	Explore the opportunity to plant native and pollinator friendly climbers along the block wall in Newberry estate. Species mix can include native Ivy (<i>Hedera helix</i>), Honeysuckle and <i>Pyracantha</i> . Plants to be planted @ 3/m. (all actions should be agreed with the residents).	KCA#8 & KCA#9 /Residents assoc	2022
1.2.7	Manage the grass verge on Cnoc na Gréine Avenue as a wildflower meadow strip. Maintain a mown grass verge along the roadside.	KCA#8 & KCA#9 /Residents assoc	2022
1.2.8	Manage the wildflower meadow in Moanbane Park along the Naas Rd embankment by cutting and lifting it each year. Plan this at the beginning of the year. This could be managed as part of an overall contract for meadow management across the town. Augment with native wildflower seed, particularly Yellow Rattle after it is cut and lifted. Explore opportunities with the residents to expand the meadow and plant more native trees on the larger green area.	Residents Assoc	2022

Target 1.2 Make the town's private lands more biodiversity friendly			
No.	Action	Who	When
1.2.9	<p>Manage the wildflower meadow strips in Hermitage Park by cutting and lifting it each year. Plan this at the beginning of the year. This could be managed as part of an overall contract for meadow management across the town. Augment with native wildflower seed, particularly Yellow Rattle after it is cut and lifted.</p> <p>Explore opportunities with the residents of Hermitage Park to expand the meadows, plant more native trees, and create areas of natural play on the larger green area.</p>	KCA#5/Residents assoc – in progress	2021
1.2.10	Explore the opportunity to plant a native hedgerow along the security fence within Kilcullen Tennis Club grounds along the western boundary (town side). Tennis club /planning application in process to revisit end 2021	KCA /Tennis club	2021 -2022
1.2.11	<p>Explore the opportunity to maximise the campus of Scoil Bhríde for outdoor learning and biodiversity by:</p> <ul style="list-style-type: none"> A. Managing the lawn space on the front boundary as a wildlife garden which could include a wildflower meadow, wildlife pond (this should be made safe and secure), sensory garden and signage (made as part of art activities) B. Planting the bank on the boundary with Cross and Passion with native trees and shrubs. This should include trees from the following mix: Rowan, Hazel, Guelder Rose, Hawthorn, Holly, Spindle, & Oak (2-3 only). C. Work with school on their herb garden used raised beds / containers at selected site in the grounds 	<p>Scoil Bhríde Green committee/KCA</p> <p>Scoil Bhríde Green committee/KCA/</p> <p>Scoil Bhríde Green committee /KCA</p>	<p>2022</p> <p>2022</p> <p>2021</p>
1.2.12	<p>Explore the opportunity to maximise the campus of Cross and Passion College for outdoor learning and biodiversity by:</p> <ul style="list-style-type: none"> A. Creating a new pocket of native woodland on the north western part of the grounds (above the soccer pitch). B. Planting a native hedgerow along the boundary with Scoil Bhríde. C. Creating an orchard (use traditional local varieties of fruit trees only) and meadow on the lawn area behind the new portacabins. Extend the meadow to the soccer pitch side of the portacabins if this ground isn't being used for other purposes. D. Managing a 1-2m strip of wildflower meadow verge at the base of the front boundary wall. E. Infill planting in the pollinator friendly flower beds at the front of the school. Use more pollinator friendly plants such as blue hardy geraniums and Lady's Mantle. F. Manage the piece of ground between Scoil Bhríde and the GAA pitches as a semi-shade wildflower meadow. 	CPC Green committee /KCA, & Scoil Bhríde	2021-22

Target 1.3 Make the town's surrounding lands more biodiversity friendly			
No.	Action	Who	When
1.3.1	Participate in a Himalayan Balsam control project for the River Liffey catchment area. The study should include other Invasive Species recorded.	KCA/Newbridge TT & Ballymore TT/Kildare Co. Co./LAWCO Officer/Local Angling Groups/Inland Fisheries Ireland/National Biodiversity Data Centre	2023
1.3.2	Carry out a hedgerow resilience project by augmenting existing hedgerows in the surrounding landscape with new trees such as Oak, Wild Cherry, etc. This will future-proof hedgerows against the potential impacts of Ash Dieback.	KCA/Trees on the Land	2023

Target 1.4 Deliver species-specific conservation projects			
No.	Action	Who	When
1.4.1	Install more Swift boxes on suitable locations in the village including further boxes on Scoil Bhríde. This could be delivered as part of the environment Non-Government Organisation (eNGO) Wild Kildare's Swift box project work. Lobby for Swift bricks to be included in future developments.	KCA, Local eNGOs such as Wild Kildare	2020-21
1.4.2	Install more open style bird boxes around the town to encourage larger bird species following on from erection of small bird boxes in 2020.	KCA, Local eNGOs such as Wild Kildare	2021
1.4.3	Install Hedgehog retreats around the town, ideally in conjunction with the schools.	KCA, Local eNGOs such as Wild Kildare, Naas Mens Shed	2020

Objective 2: Raising awareness of local biodiversity & how to protect it

It is important to raise awareness so that the public, community & residential groups, and businesses know how to help our wildlife.

Target 2.1 Increase the number of people within the community who are aware of their local biodiversity and who understand the need to conserve it

No.	Action	Who	When
2.1.1	Continue the installation of interpretation posts at selected locations in the 'Valley Park' and along the Pinkeen stream. These can cover the following topics: the natural springs, wildflower meadows, woodland plants and animals, and local cultural and built heritage.	KCA/KCA#1 some in progress	2021
2.1.2	Explore the potential for a looped walk around the town connecting various sites of natural, built and cultural heritage such as the Valley Park, Nicholastown, Newabbey graveyard, etc. Any trail should include interpretation of local biodiversity.	KCA/Lions club/GAA/Soccer	2022
2.1.3	Run a minimum of 2 wildlife related events (e.g. walks, talks, workshops) each year. This should use the results of the questionnaire in the back of this Plan as a guide for topics of interest and how to deliver them during Covid 19. They should also include: <ul style="list-style-type: none"> A half day practical workshop on the traditional uses of plants, e.g. Dandelions. This ties in with the idea of changing people's attitudes to 'weeds' such as Dandelions and the need to control them using herbicide (see Action 2.3.1). A wildflower walk around the town which should include the orchids at Laurelwood estate <p>These can be delivered as Kilcullen only events or in partnership with other neighbouring communities where appropriate.</p>	KCA – KCA#2/KCA#1/KCA#4	2022-25 (time of year is dependent on each specific event)
2.1.4	Use any empty /derelict shop fronts on Main Street to display / interpret the local natural, built and cultural heritage of Kilcullen. A good example of this is the bulb window display opposite Bardon's Bar.	KCA#10	2021-25
2.1.5	Use local social media to raise awareness of local biodiversity and conservation issues.	Comms officer KCA#3	2021-25
2.1.6	Hold a Bat awareness event, erect boxes in partnership / conjunction with Bats Kildare (Mad About Bats) and an educational evening on the same.	KCA, local eNGOs such as Kildare Bat Group	2021
2.1.7	Host and take part in Daubenton's Bat survey event to set up an annual survey.	KCA, local eNGOs such as Kildare Bat Group	2021
2.1.8	Host a Pollinator information event in conjunction with Kilcullen Mart to raise awareness of biodiversity in agriculture.	KCA/Kildare Heritage Office/NBDC	2021
2.1.9	Incorporate Holly into the new welcome sign project for the town's approach road in view of its part in the town's name.	KCA	2022

Target 2.2 Support education opportunities in schools at all levels			
No.	Action	Who	When
2.2.1	Ensure the local schools have copies of the All-Ireland Pollinator Plan guides for schools and the Junior All-Ireland Pollinator Plan (www.pollinators.ie/resources).	KCA/Pollinator Group	2021
2.2.2	Support the local schools with wildlife events / activities. Where possible this should utilise using the different areas of habitat on the campus. This can be a wildlife walk, talk, or workshop.	KCA#2/KCA#1/ KCA#4	2021-25
2.2.3	Install signage to maximise outdoor learning about the different areas of biodiversity habitat on the school grounds. These can be created by the school pupils as part of art class activities.	KCA	2021-2023

Target 2.3 Provide clear information to different sectors within the community on how they can take actions to enhance their spaces for biodiversity			
No.	Action	Who	When
2.3.1	Run a half day weed control workshop to raise awareness of the harmful effects of herbicide use on human health and for biodiversity to different landowners around the town. This workshop should also cover alternative weed control solutions where weed control is necessary and encourage a change of mindset in other situations where 'weeds' could be allowed to grow. Consider organising this event in partnership with other local communities.	KCA/KCA#3/KCA#1	2021-2023
2.3.2	Participate in, and if necessary help organise, a series of county wide farm talks / walks (min. of 2 per year) that will positively enhance biodiversity in the landscape e.g. utilizing farm green infrastructure for the farm business, farm woodland grants, etc. Communicate the details of each event with the local farming community.	kCA, Local organic farms/suppliers Kildare Co. Co.	2021-25
2.3.3	Engage with the industrial estates about biodiversity enhancement projects they can undertake.	KCA	2021-2025
2.3.4	Ensure the different sectors within the community have copies of the relevant All-Ireland Pollinator Plan resource guides e.g. sporting organisations, faith communities, etc.	KCA	2022
2.3.5	Post links to the All-Ireland Pollinator Plan guides on local social media each year.	KCA#3	2020-25
2.3.6	Implement a policy of no Invasive plant species in new planting schemes in the village.	KCA	TBC
2.3.7	Engage with Kildare County Council on any new developments in the village that they should incorporate best practice green infrastructure design principles and biodiversity features (e.g. Swift bricks, see Action 1.4.1). This should ideally be done at the planning stage. Where plans have developed beyond planning, engage with the developers about the benefits that green infrastructure design can deliver for them.	KCA/Pollinator Group/ Climate action group	2021-2024

Objective 3: Collecting evidence to track change & measure success

To ensure that our actions are making a difference we need to gather a baseline of data on our wildlife and then measure our success or lack thereof against this. This data can be gathered through regular surveys and Citizen Science efforts. This plan sets out the following targets to achieve this:

Target 3.1 Build a baseline of data on local biodiversity and track changes			
No.	Action	Who	When
3.1.1	Monitor the Swift population numbers in the town annually and the uptake of newly installed Swift boxes.	KCA – local eNGOs	2021-23
3.1.2	Facilitate Wild Kildare’s ‘Moth Atlas’ for the county	KCA – Wild Kildare	2021-23
3.1.3	Develop at least 2 bumblebee transects in the town and submit records to the NBDC	KCA#4 Pollinator group	2021-2022
3.1.4	Develop at least 2 butterfly transects in the town and submit records to the NBDC	KCA#4 Pollinator group	2021-2022
3.1.5	Survey the plant species within the wildflower meadows at Nicholastown, Valley Park, Moanbane Park and the Hermitage Park.	KCA#4 Pollinator group Resident assoc	2021 & 2025
3.1.6	Survey the orchids found at Laurelwood estate and elsewhere in the town.	KCA	2022
3.1.7	Carry out a botanical survey of Newabbey Cemetery and its surrounding walls	KCA	2022
3.1.8	Record all biodiversity records onto the National Biodiversity Data Centre. Encourage other members of the community to do likewise.	KCA, local eNGOs.	2021+
3.1.9	Record and map all biodiversity actions delivered at: https://pollinators.biodiversityireland.ie/	KCA /Murphy surveyors	2021-2025
3.1.10	Monitor bird boxes installed in 2020 around the town for successful nesting	KCA	2021-2025
3.1.11	Monitor Dipper boxes	KCA, local eNGOs	2021-2025

Target 3.2 Measure progress of this Plan on a regular basis			
No.	Action	Who	When
3.2.1	Set up a sub-committee that will be responsible for carrying out an annual review and steering the delivery of this BAP. This should include representatives of different sectors within the community.	KCA	2021
3.2.2	The sub-committee shall carry out an annual review of the Action Plan.	KCA	2021, 2022 & 2024
3.2.3	Carry out a more detailed mid-term review of the Action Plan.	KCA	2023
3.2.4	Carry out a full detailed review of the Action Plan in the final year.	KCA	Summer 2025
3.2.5	Plan for the updating / renewing of a subsequent 5-year plan to run from 2026-2030.	KCA	2025

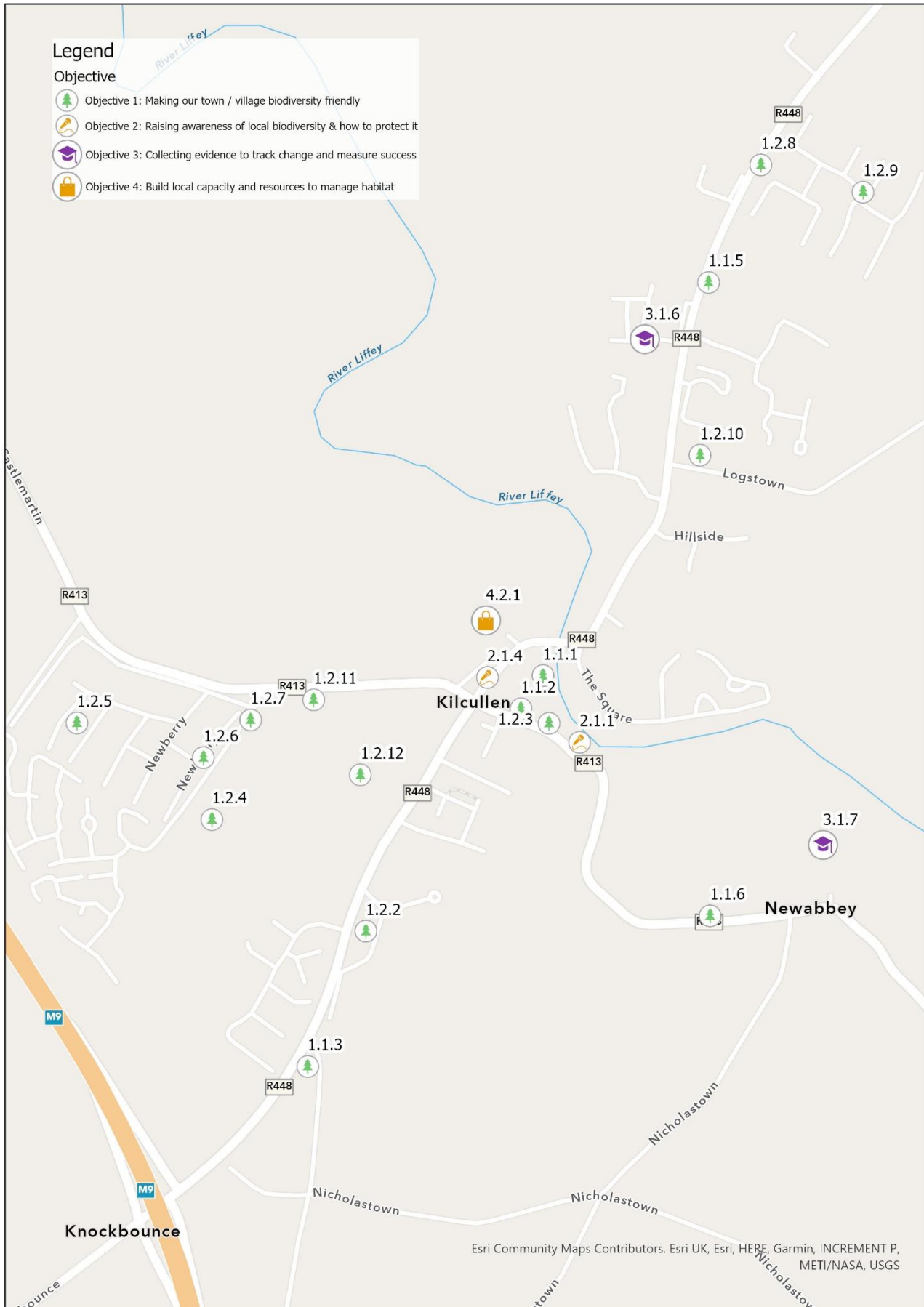
Objective 4: Build local capacity to manage & record biodiversity

The following targets and actions aim to ensure that we have the resources and capacity to carry out the actions identified in Objectives 1-3.

Target 4.1 Build the capacity within the community to manage and record biodiversity			
No.	Action	Who	When
4.1.1	Identify all wildlife groups active in Kilcullen e.g. bird ringers seen in the Liffey, then make contact and offer help / partner on local projects.	KCA	2021-2022
4.1.2	Identify sources (sites) of native wildflowers (this should include Yellow Rattle) as places for community seed collections - this can include other donor sources in the county	Pollinator group	2022
4.1.3	Create an email list of local volunteers who can be called upon for practical conservation volunteering events throughout the year such as management of wildflower meadows, invasive species removal, tree planting, etc.	KCA	2021+
4.1.4	Hold an event to communicate this BAP to the local community	KCA	2021
4.1.5	Participate in a meeting of all 10 Kildare 2020 BAP applicants to discuss opportunities for collaboration to deliver selected projects outlined in this Plan.	KCA, KCC	2020-21

Target 4.2 Build up local resources of materials and equipment to manage and record biodiversity			
No.	Action	Who	When
4.2.1	Install a 15m long polytunnel at the back of Bardon's pub (with approval from the landowner). This will be used to grow all the town's flowers and plants for use in new community planting schemes. This will create the opportunity to raise funds by selling native plants and pollinator friendly plants.	KCA/KCA#3/Landowners	2020-2021
4.2.2	Source meadow maintenance equipment for community use. Options available are to 1) purchase equipment, potentially in partnership with other neighbouring towns and villages; and 2) work with the private sector to build up their capacity for managing meadows (hire companies and / or local landscape contractors). If working with other neighbouring groups then an annual schedule for its use, maintenance /servicing plans, insurance & other costs should be agreed in advance.	KCA/KCA#2/ Ann/KCA#1	2021
4.2.3	Build up a stock of biodiversity educational resources. Liaise with the local library.	Library / KCA	2021-25
4.2.4	Build up a stock of biodiversity recording equipment such as bat detectors, moth traps, etc.	KCA	2021-25

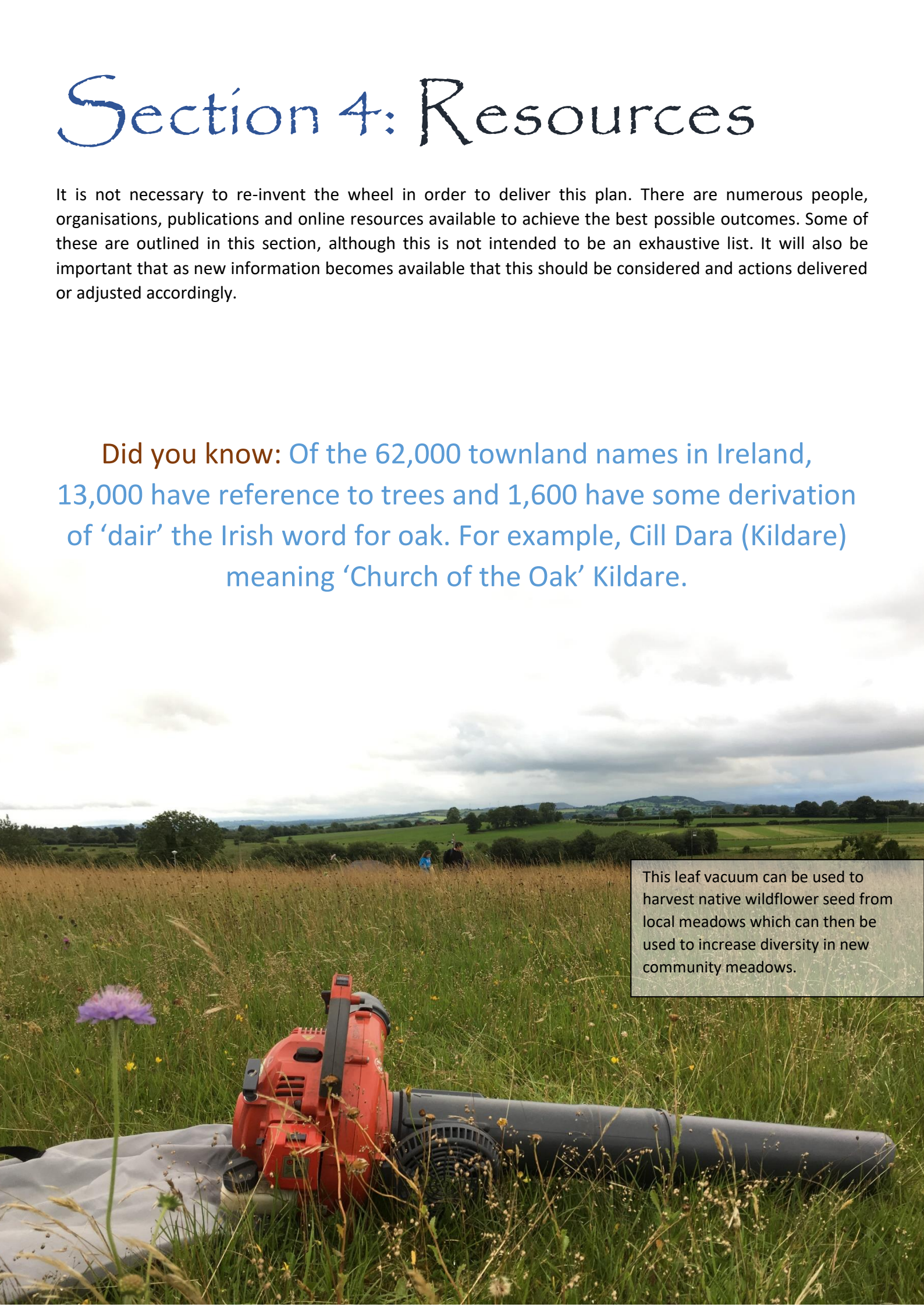
Mapping the Actions



Section 4: Resources

It is not necessary to re-invent the wheel in order to deliver this plan. There are numerous people, organisations, publications and online resources available to achieve the best possible outcomes. Some of these are outlined in this section, although this is not intended to be an exhaustive list. It will also be important that as new information becomes available that this should be considered and actions delivered or adjusted accordingly.

Did you know: Of the 62,000 townland names in Ireland, 13,000 have reference to trees and 1,600 have some derivation of 'dair' the Irish word for oak. For example, Cill Dara (Kildare) meaning 'Church of the Oak' Kildare.



This leaf vacuum can be used to harvest native wildflower seed from local meadows which can then be used to increase diversity in new community meadows.

Links to useful online resources

The following is a list of useful links to guides on a range of common biodiversity subjects.

Subject	Link(s)
Bats	<ul style="list-style-type: none"> https://www.batconservationireland.org/ https://kildarebatgroup.wordpress.com/
Birdwatching	<ul style="list-style-type: none"> http://www.birdwatchkildare.com/?page_id=23 https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/ www.irishbirding.com
Children's Biodiversity Activities	<ul style="list-style-type: none"> https://birdwatchireland.ie/our-work/fun-learning/for-kids/ https://www.woodlandtrust.org.uk/blog/2020/03/kids-nature-activities-self-isolation/ https://www.rspb.org.uk/fun-and-learning/
General Biodiversity Issues	<ul style="list-style-type: none"> https://www.biodiversityireland.ie/ www.npws.ie
Habitat Boxes	<ul style="list-style-type: none"> https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-How-to-Guide-1-ALT_FINAL.pdf https://birdwatchireland.ie/app/uploads/2019/09/Nestboxes-factsheet.pdf https://www.batconservationireland.org/wp-content/uploads/2015/05/BCIrelandGuidelines_BatBoxes.pdf
Hedgerows	<ul style="list-style-type: none"> https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-How-to-Guide-3-FINAL-1.pdf https://www.heritagecouncil.ie/content/files/conserving_hedgerows_2mb.pdf https://63273-649646-raikfcquaxqncofqfm.stackpathdns.com/wp-content/uploads/2019/04/Hedgerow-CasestudyASPaul21-Send-for-New-Website.pdf https://mosart.ie/wp-content/uploads/2016/02/Irish-Hedgerows-Networks-for-Nature.pdf www.hedgelaying.ie
Interpretative Signage	<ul style="list-style-type: none"> https://www.nature.scot/sites/default/files/2019-11/Guidance%20-%20Natural%20heritage%20interpretation_1.pdf https://www.heritagecouncil.ie/content/files/bored_of_boards_1mb.pdf https://pollinators.ie/resources/signage-templates/
Invasive Alien Species	<ul style="list-style-type: none"> https://invasivespeciesireland.com/ https://www.fisheriesireland.ie/Invasive-Species/invasive-species.html
Local Biodiversity News	<ul style="list-style-type: none"> https://www.facebook.com/Wild-Kildare-1437313092971392/ http://www.birdwatchkildare.com/ https://kildarebatgroup.wordpress.com/ http://www.kildare.ie/CountyCouncil/Heritage/Biodiversity/
Nature Trails	<ul style="list-style-type: none"> http://www.walkingroutes.ie/WalkingTrails/Kildare
Orchards	<ul style="list-style-type: none"> http://www.irishseedsavers.ie/blog/wp-content/uploads/2014/10/CreatingAnOrchard.pdf https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/11466/1973262.pdf http://www.wetlandsystems.ie/goephow.html https://www.theorchardproject.org.uk/
Peatlands	<ul style="list-style-type: none"> www.ipcc.ie www.bordnamona.ie/transform/biodiversity www.abbeyleixbog.ie
Pollinator Friendly Planting Schemes	<ul style="list-style-type: none"> https://pollinators.ie/resources/ https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Planting-Code-2018-WEB.pdf www.rhs.org.uk
Pollinators	<ul style="list-style-type: none"> https://pollinators.ie/
Recording Biodiversity	<ul style="list-style-type: none"> https://www.biodiversityireland.ie/record-biodiversity/
Reducing Herbicide Use	<ul style="list-style-type: none"> https://greensideup.ie/16-natural-alternatives-to-herbicide-why-you-should-use-them/
Schools & Biodiversity	<ul style="list-style-type: none"> https://greenschoolsireland.org/biodiversity/ https://pollinators.ie/schools/ http://www.heritageinschools.ie/teachers-resources/strand/living-things-science/p3?q=&c=

Subject	Link(s)
	<ul style="list-style-type: none"> • https://www.eckilkenny.ie/images/Biodiversity_Plan_for_Schools.pdf • http://www.heartoftheglens.org/cms/wp-content/uploads/2017/12/Teachers-Outdoor-Learning-Resource.pdf • http://www.ipcc.ie/discover-and-learn/resources/
Swifts	<ul style="list-style-type: none"> • https://birdwatchireland.ie/our-work/surveys-research/research-surveys/swift-surveys/ • www.swiftconservation.ie/
Tree Identification & Selection	<ul style="list-style-type: none"> • https://www.treecouncil.ie/nativeirishtrees • https://drive.google.com/file/d/0B-qemRFHRDRSVnh3bmxGOEVaMHc/edit • http://www.clarecoco.ie/services/planning/publications/tree-design-guide-for-towns-and-villages-in-co-clare-2017-28115.pdf
Wildflower Meadows	<ul style="list-style-type: none"> • https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Wildflower-Meadows-2018-WEB.pdf
Wildflowers	<ul style="list-style-type: none"> • http://www.wildflowersofireland.net/index.php • www.bsbi.org
Wildlife Ponds	<ul style="list-style-type: none"> • https://www.wildlifetrusts.org/actions/how-build-pond • https://invasivespeciesireland.com/wp-content/uploads/2017/10/AQUATICS_BOOK5.pdf
Woodland	<ul style="list-style-type: none"> • http://www.woodlandsofireland.com/sites/default/files/Management%20Guidelines%20for%20Ireland%27s%20Native%20Woodlands%202017.pdf • https://www.forestryfocus.ie/social-environmental-aspects/biodiversity-and-nature-conservation/biodiversity-in-forests/conservation-and-restoration/ • http://www.woodlandsofireland.com/sites/default/files/Silvicultural%20Guidelines%20for%20Native%20Trees.pdf • https://www.wildlifetrusts.org/wildlife-advice/how-manage-woodland-wildlife

Potential project funders

The following table outlines some of the potential sources of funding to help deliver the actions outlined in this Plan. It is also worth remembering other traditional forms of fundraising such as working with local businesses, bucket collections, table quizzes, etc.

Fund / Funding Body	Description
LEADER Programme, County Kildare LEADER Partnership CLG	To discuss potential project ideas and the availability of funding, contact the County Kildare LEADER Partnership offices at (045) 895 450 or email info@countykildarelp.ie . Website: www.countykildarelp.ie/
Kildare County Council	For additional information in relation to funding for biodiversity and heritage projects, contact the Heritage Officer - Tel. 045 980791 or email heritageofficer@kildarecoco.ie
Community Environment Action Fund – Kildare County Council	Formerly known as LA21, this fund covers small community environmental projects.
Community Foundation for Ireland	The Community Foundation for Ireland has funded biodiversity surveys and action plans under their Environment and Nature programme. https://www.communityfoundation.ie/insights/news/environment-and-nature-fund-2019
Heritage Council	The Heritage Council supports a wide range of heritage projects throughout the country through our annual grants programme. https://www.heritagecouncil.ie/funding
Waters & Communities	Their aim is to support communities and stakeholders in the delivery of local water quality projects and initiatives and have an annual grant package available. Contact your local officer to discuss potential projects by searching: http://watersandcommunities.ie/community-water-officers/
Trees on the Land	This charity aims to increase the amount of native Irish trees across Ireland. https://www.treesontheland.com/
NeighbourWood Scheme	This Forestry Service grant supports the creation and enhancement of new native community woodland schemes over 1ha in size (up to 12ha size) including the improvements to woodland facilities such as trail infrastructure. https://www.agriculture.gov.ie/media/migration/forestry/grantandpremiumschemes/2015/NeighbourWoodScheme240717.pdf

Useful contacts & sources

To help deliver the actions it will be important to work with a range of local and national stakeholder groups. The following outlines some of these. It is worth remembering that there may also be local individuals in your community who have particular interests and skillsets worth tapping into to deliver the actions. Remember that skills other than ecological skills can be an important asset when delivering certain actions.

Organisation / Group	Area of Expertise	Contact Details
Kildare County Council	The local Heritage Officer is available to discuss and provide information on biodiversity and heritage related matters and projects.	Tel. 045 980791 or email heritageofficer@kildarecoco.ie
Kildare Public Participation Network	Public Participation Networks (PPNs) act as an independent structure to facilitate public participation in policy and decision making with the local authorities. Community and voluntary, social inclusion, and environmental groups are encouraged to join Kildare PPN.	Telephone: 045 980700 Email: admin@kildareppn.ie Website: https://www.kildareppn.ie/
County Kildare LEADER Partnership CLG	If your idea is eligible in principle for LEADER funding, a Project Development Officer will work with you to develop specifications of your project, help you with procurement, and assist in bring forward an application for funding. Funding is available in the following categories: capital, training, marketing, and analysis and development	Telephone: (045) 895 450. Email info@countykildarelp.ie . Website: www.countykildarelp.ie/
Wild Kildare	Local volunteer environmental organisation.	https://www.facebook.com/Wild-Kildare-1437313092971392/
Irish Wildlife Trust	National environmental charity covering all aspects of biodiversity.	https://iwt.ie/
BirdWatch Ireland Kildare	For information on Ireland's birds.	https://birdwatchireland.ie/
National Parks and Wildlife Service	Responsible for managing the Irish State's nature conservation responsibilities.	https://www.npws.ie/
All-Ireland Pollinator Plan	National Plan with the aim of creating an Ireland where pollinators can survive & thrive.	https://pollinators.ie/
National Biodiversity Data Centre	National centre for the collection, collation, management, analysis and dissemination of data on Ireland's biological diversity.	https://www.biodiversityireland.ie/
Vincent Wildlife Trust	National environmental charity with the aim of conserving and research into selected Irish mammals.	https://www.vincentwildlife.ie/
Botanical Society of Britain & Ireland	National organisation that promotes the study, understanding and enjoyment of British and Irish botany.	https://bsbi.org/ireland
The Local Authority Waters Programme	A shared service working with Local Authorities and State agencies to meet obligations under the EU Water	http://watersandcommunities.ie/

(Waters & Communities)	Framework Directive for the development and implementation of River Basin Management Plans in Ireland.	
Kilcullen Community Action Group	Local community group.	https://www.facebook.com/Kilcullencommunityaction
Kilcullen Pollinator Group	Local wildlife group.	kilcullenpollinatorgroup@gmail.com
Bat Conservation Ireland	An all-Ireland charity that promotes the conservation of bats and their habitats.	https://www.batconservationireland.org/
Kildare Bat Group	Members of Bat Conservation Ireland with a particular interest in Kildare bats.	https://kildarebatgroup.wordpress.com/
Kildare Animal Foundation	A local non-profit organisation dedicated to the welfare of cats, dogs and small animals.	https://animalfoundation.ie/
Irish Peatland Conservation Council	A national charitable organisation with the aim of conserving and protecting a representative sample of Irish bogs, and to campaign on bog-related issues.	http://www.ipcc.ie/
Kildare Community 4 Climate Action	This is a network of groups and individuals who are working together for climate action and community resilience in Kildare. The network originated as a result of the LEADER-funded “Communities 4 Climate Action” training programme that was held in 2019.	https://www.facebook.com/KildareC4CA/



The All-Ireland Pollinator Plan is one of the best sources of information on how to make our community spaces better for pollinators and wildlife in general. Check out the resources section of their website here:

<https://pollinators.ie/resources/>

Habitat Management Guidelines

Wildflower Meadows:

Before creating any new meadows, it is important to consider and plan for the maintenance requirements. If the proper planning is not done at the outset it may cause considerable hassle down the line. This is particularly important for the end of season cut of a hay meadow as the grass could be knee height. Remember meadows are managed landscapes! You will need to consider the following:

- Who is going to cut the meadow?
 - Is it volunteers, the local authority or a contractor?
 - Or for larger meadows can it be conservation grazed?
- How are they going to cut it?
 - Have they got the right equipment suitable for the site?
- How are you going to gather and remove the cuttings from the site?
- What are you going to do with the cuttings after they have been removed from the site?

There are a few different types of wildflower meadows that you may consider depending on your site and preferences. Each requires different management. We have listed two such types of meadows here:

Hay Meadows:

- Cut 1-2 times per year, once at the beginning of the season to remove any winter growth and a final cut in mid-August to September (if there are late flowering species then you may consider delaying the cut)
- Mow the fringes along paths, car parks and roadsides
- Mow paths through larger meadows to encourage people to use them
- Put up signs to let people know what you are doing
- Increase species diversity as needed by harvesting local seed and either over-seeding it on the grass after it has been cut or by growing the seed on as plug plants for planting out the following spring.
- Control listed noxious weeds.



Short Cut Meadows:

- Cut approximately every 6 weeks from mid-April through to autumn
- Mow the fringes along paths, car parks and roadsides
- Mow paths through larger meadows to encourage people to use them
- Put up simple signs to let people know what you are doing
- Increase species diversity as needed by harvesting local seed and either over-seeding it on the grass after it has been cut or by growing the seed on as plug plants for planting out the following spring.



For more information visit the All-Ireland Pollinator Plan website and resources page:

<https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Wildflower-Meadows-2018-WEB.pdf>

Designing and Planning for New Tree Planting in Community Spaces:

For the creation of new areas of community woodlands, copses, avenues or individual trees on community spaces the most important thing to remember is 'Right Tree Right Place'. Remember that for all larger woodland creation projects and works on existing woodlands, you should always seek expert advice before proceeding.

The following are some of the practical considerations that should help guide you in the design and planning for smaller tree planting projects:

Local Site Considerations	Soil - is it very wet or free draining?
	Is the site designated (as natural, built or archaeological) or adjoining a designated site or site of particular biodiversity interest? If so, check with relevant organisation for approval.
	For larger planting schemes, do you need to prepare the site for planting?
	Do you need to protect against rabbits / hares / deer?
	Check for overhead powerlines or underground services.
Practical Design Considerations	Consider safety and sightlines - set back from primary paths in public spaces or at road junctions
	Consider whether anti-social behaviour is a problem in the area and manage for it in advance
	Where possible, include other community amenities as part of larger planting schemes - paths, outdoor classrooms, natural play, picnic tables, etc.
	Consider neighbouring houses before planting.
	Where possible, plant small groups of trees in public spaces instead of lots of individual trees. This will be easier to maintain.
	When planting trees at larger sizes you'll need to stake and tie them. Remember to adjust tree ties each year and remove after 2-3 years.
Community & Stakeholder Consultation	Consult with local community to gain support for the works. Be innovative with how you engage local families and children in the development of the woodland e.g. dedicate a tree to each family resident next to the project, carry out volunteer tree planting events, develop ancillary amenities such as benches and natural play, etc.
	Communicate the plans with the person or organisation responsible for maintaining the green spaces (i.e. local authority, contractor or local volunteer) to avoid accidental damage to the trees.
	Agree a plan for managing around the base of individual trees to avoid damage from lawnmowers and strimmers.

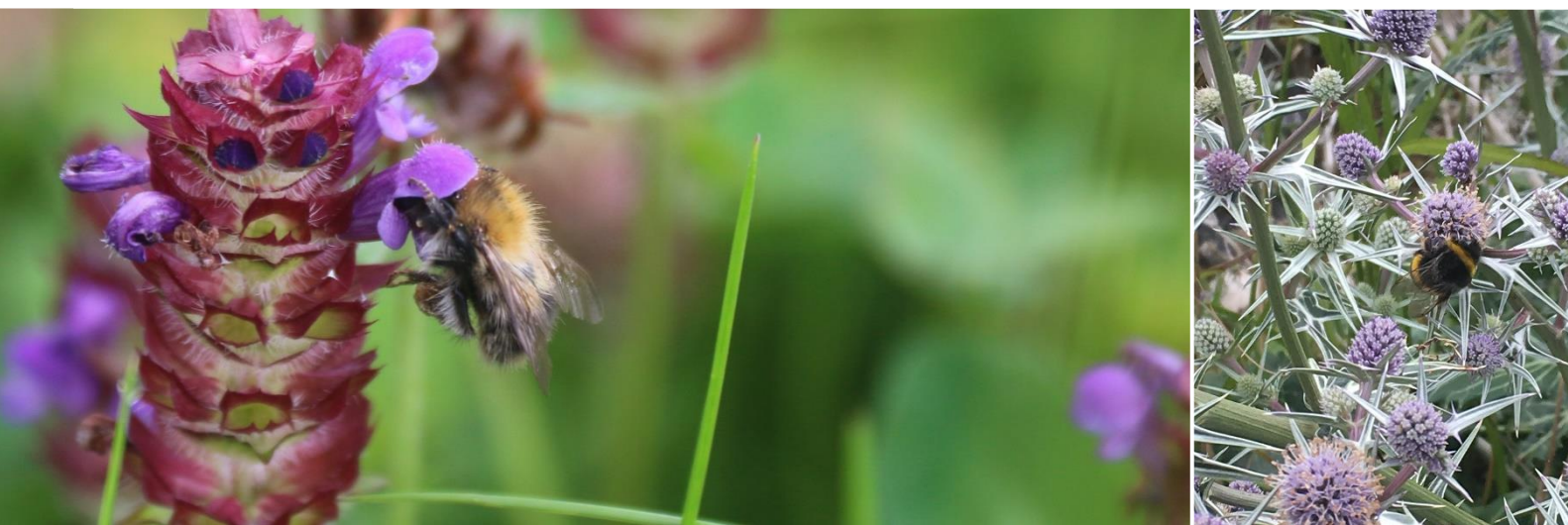
For more practical information, check out the Trees on the Land website: <https://www.treesontheland.com/planting-guide>

Managing for Pollinators:

- Think about their essential needs – food, water, & shelter – and try to provide these where possible because just like us they cannot survive without them.
- Use pollinator friendly perennials (and small shrubs such as lavender) instead of annual bedding plants in flower beds and containers (see Appendix 2 for some options).
- For butterflies and moths, consider the larval foodplants of these species. For example, the nettle is the foodplant for the caterpillars of 5 species of butterfly.
- Minimise the use of herbicide for managing weeds. Where possible try to embrace these native wildflowers for their visual interest and biodiversity value.
- Check out the All-Ireland Pollinator Plan for lots of practical tips and ideas on managing for pollinators: <https://pollinators.ie/>



Did you know: 100 crops provide 90% of the world's food. Of these, 71 are pollinated by bees!



Planting for Biodiversity

Pollinator-friendly plant list recommended for community / garden flowerbeds

Herbaceous Perennials – tall for the back of beds	Herbaceous Perennials – short for the front of beds
<ul style="list-style-type: none"> • Japanese anemones (<i>Anemone</i> x hybrid) – pink and white (autumn); • Verbena bonariensis (late summer); • Foxgloves (<i>Digitalis</i> spp) (early summer) – both pink and white varieties; • Mullein (<i>Verbascum</i> spp) (summer); • Fennel (<i>Foeniculum vulgare</i>); • Teasel (<i>Dipsacus</i> sp.) - Goldfinches love their seeds in winter. • Some Rudbeckia daisies will add bold colour too. 	<ul style="list-style-type: none"> • Sedum ‘Autumn Joy’ (autumn); • Masterwort (<i>Astrantia major</i>) (available in various shades of pink and white, long flowering from summer into autumn); • Yarrow (<i>Achillea</i> spp) (summer into autumn); • Avens (<i>Geum</i> sp.) – brightly coloured with long-lasting flowers; • Columbine/Granny’s bonnet (<i>Aquilegia</i> sp) (early summer) • Macedonian scabious (<i>Knautia macedonica</i>). • Hardy Geraniums/Cranesbills (<i>Geranium</i> spp) in a mix of colours, blue, pink and white. These plants (particularly blue varieties such as ‘Johnson’s blue’) partner well with Lady’s mantle (<i>Alchemilla mollis</i>) which are particularly lovely planted along the edges of beds. • Lenten Hellebores (<i>Helleborus orientalis</i>) will give winter and spring interest. • Penstemons: A semi-woody perennial with tubular flowers that last from early summer right through to late autumn. • Lady’s mantle (<i>Alchemilla mollis</i>): attractive green flowers and leaves that flop over bed edges.
<p>Also consider:</p> <ul style="list-style-type: none"> • Herb species are great for pollinators as well as providing food for ourselves: chives, thyme, rosemary, oregano / marjoram and sage. • Native wildflowers add great colour and biodiversity interest & will be a great addition to flowerbeds. Some may be crucial for different species of native biodiversity as food plants. 	

General list of shrub and tree species recommended for biodiversity enhancement:

Native Hedgerow Mix Species to Select From

Planting & Managing a Native Hedgerow for Biodiversity

The main hedging species is:

- Hawthorn / Whitethorn (*Crataegus monogyna*)

Smaller percentages of the following species:

- Elder (*Sambucus nigra*)
- Blackthorn (*Prunus spinosa*)
- Hazel (*Corylus avellana*)
- Holly (*Ilex aquifolium*)
- Privet (*Ligustrum vulgare*)
- Spindle (*Euonymus europaeus*)
- Guelder rose (*Viburnum opulus*)
- Dog rose (*Rosa canina*)

Trees such as Oak (*Quercus robur*), Crab apple (*Malus sylvestris*), etc. should be planted randomly along the length

- Plant @ 4-8 plants per metre
- Plant in a double staggered row where possible
- Allow 1.5-2m width for a mature hedge – the wider the better!
- Cut on a 3-year cycle so that the it can flower and fruit
- Cut outside the bird nesting season (1st March-31st August) unless for road safety reasons

Pollinator-friendly trees and shrubs recommended for community / garden flowerbeds

Wildlife-friendly tree species	Wildlife-friendly shrub species
<ul style="list-style-type: none"> • Pedunculate oak (<i>Quercus robur</i>) – prefers neutral/limestone soils • Sessile oak (<i>Quercus petraea</i>) – prefers slightly acid soils • Willow (<i>Salix</i> spp) – good for damp/waterside conditions • Hazel (<i>Corylus avellana</i>) – likes neutral to limey soils • Alder (<i>Alnus glutinosa</i>)– good for damp/waterside conditions • Aspen (<i>Populus tremula</i>) • Silver birch (<i>Betula pendula</i>) • Downy birch (<i>Betula pubescens</i>) - good for damp/ waterside conditions • Yew (<i>Taxus baccata</i>) – note that ‘fastigiata’ is the upright form (Irish Yew) • Holly (<i>Ilex aquifolium</i>) • Rowan / Mountain ash (<i>Sorbus aucuparia</i>) – flowers and fruit for spring and autumn interest • Whitebeam (<i>Sorbus aria</i>) – flowers and fruit for spring and autumn interest • Crab apple (<i>Malus sylvestris</i>) – flowers and fruit for spring and autumn interest • Wild cherry (<i>Prunus avium</i>) – flowers in spring and colourful fruit and leaves in autumn 	<ul style="list-style-type: none"> • Fruit bushes e.g. the native Raspberry (<i>Rubus idaeus</i>) and Blackberry (<i>Rubus fruticosus</i>). Also Currants and Gooseberries (<i>Ribes</i> spp.). • Ling heather (<i>Calluna vulgaris</i>) - prefers acid/peaty soil conditions • Bell heather (<i>Erica cinerea</i>) - prefers acid/peaty soil conditions • Broom (<i>Cytisus scoparius</i>) terrific colour, blooming through April & May. • Firethorn (<i>Pyracantha</i>)* - a very thorny climber, good for wall cover with creamy blossoms in summer and colourful berries in autumn. Different species have different coloured berries ranging from yellow through orange to scarlet red. • Honeysuckle/Woodbine (<i>Lonicera periclymenum</i>) – a climber with beautifully scented flowers, particularly in the evening when they attract nectar-seeking moths. • Dog rose (<i>Rosa canina</i>) – a climber with beautiful flowers in June and red rosehips in autumn. • Elder (<i>Sambucus nigra</i>) – creamy flowers (most important ingredient in a very tasty cordial!) in June and black berries in autumn (only edible when cooked, great for jams and jellies) • Spindle tree (<i>Euonymus europaeus</i>) – strikingly beautiful orange seeds carried in bright pink capsules called ‘cardinals’ hats’ • Blackthorn (<i>Prunus spinosa</i>) – featuring sloe berries in autumn • Purging Buckthorn (<i>Rhamnus catharticus</i>) – an uncommon shrub – the favourite food plant of the Brimstone butterfly • Alder-buckthorn (<i>Frangula alnus</i>) – a rare native also favoured by the Brimstone butterfly. • Privet (<i>Ligustrum vulgare</i>) • Guelder rose (<i>Viburnum opulus</i>) – beautiful flowers and berries. • Gorse (<i>Ulex europaeus</i>) – the heady, coconut aroma of its bright yellow flowers is the smell of an Irish summer’s day.

*indicates a species not native to Ireland but non-invasive and wildlife friendly.

Selecting Plants

Point of Note	Reason
Use native plants including wildflowers where possible	<ul style="list-style-type: none"> • Native wildlife has adapted alongside these species and so they will typically support more wildlife than exotic species • It conserves our local flora
For native species; only use Irish provenance stock	<ul style="list-style-type: none"> • They are better suited to the Irish climate • It helps conserve local genetics • Minimise the risk of importing new pests and diseases. • Supports local Irish growers

Invasive Alien Species

Invasive Alien Species (IAS) are plants or animals that were introduced and are causing problems for native biodiversity. It is important that we can recognise the main IAS and take appropriate steps to control them:

- Avoid using IAS in new planting schemes and where possible remove existing ones. Encourage other local groups, landowners and the local authority to do the same.
- Raise awareness of IAS by delivering talks and posting on social media about them and the problems they cause.
- Carry out IAS surveys and submit records to the National Biodiversity Data Centre and the local authority.

Species	Problem(s)
Some of the Common Terrestrial Plant IAS	
Himalayan Balsam (<i>Impatiens glandulifera</i>)	<ul style="list-style-type: none"> • Can dominate riverbanks and outcompete native flora
Japanese knotweed (<i>Fallopia japonica</i>)	<ul style="list-style-type: none"> • Can dominate riverbanks and outcompete native flora • Can negatively impact built structures
Giant Hogweed (<i>Heracleum mantegazzianum</i>)	<ul style="list-style-type: none"> • Can dominate riverbanks and outcompete native flora • Can cause serious skin burns to humans
Giant Rhubarb (<i>Gunnera tinctoria</i>)	<ul style="list-style-type: none"> • Can dominate riverbanks and outcompete native flora
Monbretia (<i>Crocsmia</i> spp.)	<ul style="list-style-type: none"> • Can dominate grassy areas and outcompete native ground flora
Spanish Bluebell (<i>Hyacinthoides hispanica</i> and hybrids)	<ul style="list-style-type: none"> • They hybridize with native Bluebells
Cherry laurel (<i>Prunus laurocerasus</i>)	<ul style="list-style-type: none"> • Can take over woodland and prevent native ground flora & saplings from growing.
<i>Rhododendron ponticum</i>	<ul style="list-style-type: none"> • Can take over woodland and prevent native ground flora & saplings from growing.
Pheasant Berry (<i>Leycesteria Formosa</i>)	<ul style="list-style-type: none"> • Can take over native woodland and prevent native ground flora & saplings from growing.
Some of the Common Aquatic Plant IAS	
Floating pennywort (<i>Hydrocotyle ranunculoides</i>)	<ul style="list-style-type: none"> • Can grow up to 20cm per day and may quickly dominate a waterbody. • Forms thick mats which can look like land & so be a danger to people & livestock • Impedes water flow and chokes waterways which can make it difficult for boats and angling and can increase the risk of flooding. • Poses a threat to plants and fish by blocking out light and impeding access to fish feeding and resting spaces.
Curly Leaved Waterweed (<i>Lagarosiphon major</i>)	<ul style="list-style-type: none"> • Capable of forming very dense infestations in suitable habitats & occupying the full water column in waters up to 6m deep with significant impacts on native wildlife. • Serious threat to tourism, angling, boating & other recreational pursuits as well as conservation goals.
Parrot's feather (<i>Myriophyllum aquaticum</i> , <i>Myriophyllum brasiliense</i> , <i>Myriophyllum proserpinacoides</i>)	<ul style="list-style-type: none"> • Can produce a thick raft of vegetation. • A fragment as small as 5mm can re-grow. • Poses a threat to plants & fish by blocking out light & reducing oxygen levels. • Can choke waterways so increasing the risk of flooding.
New Zealand pigmyweed (<i>Crassula helmsii</i>)	<ul style="list-style-type: none"> • Can regenerate from tiny fragments & therefore easily takes over new areas. • Forms very dense mats which overgrow native plants and reduces light levels.
Water primrose (<i>Ludwigia grandiflora</i>)	<ul style="list-style-type: none"> • Currently only recorded from one site in Ireland. • Grows into a thick carpet which can out-grow native species and clog waterways.
Water fern (<i>Azolla filiculoides</i>)	<ul style="list-style-type: none"> • Produces a thick mat of floating vegetation. • Danger can lie when people and livestock attempt to walk on it. • The plants are so small, at no bigger than 2.5cm, that it can easily be transported on other plants as a contaminant. • Reduces oxygen levels in the water.

Equipment Checklist

The following is a list of some useful equipment to help manage your wild habitat and carry out Citizen Science work. Please make sure that any tools or machinery are only operated by suitably trained persons, that they are kept in good repair, all necessary health and safety precautions are followed, and that they are fully insured. The same applies to any contractors hired to undertake works on your behalf. Please note that due to Covid 19 it is worth considering any other special health measures and equipment that may need to be taken when carrying out community work.

Equipment	Description	Tick (✓)
Wildflower Meadows		
Polytunnel	It is useful to have at least one community polytunnel to grow wildflower plugs from locally harvested seed that can then be planted out into local public meadows. It is ideally located in a secure place where a dedicated person(s) responsible for managing the plugs can have access to it. Suitable venues include a community garden / allotment garden and in schools (where the pupils can grow some trays on as part of a school project). These can double up during the main growing season for fruit and vegetable growing.	
Meadow Cutting Tools / Machinery	For larger meadows: consider using a local contractor with the right equipment. Where it's not practical to get a contractor then some of the following machinery / tools may be considered: <ul style="list-style-type: none"> • Power scythe with hay rake and mini-baler or a buck rake (this could be purchased in partnership with other local groups or by Kildare County Council) • Brush cutter • Hand held scythe, hay forks and rakes 	
Seed Harvesting	There are a few ways of harvesting your own wildflower seed. For most, it may be simply harvesting seed by hand, in which case you will need something to put it into e.g. a paper yogurt cup or cotton pillow sack are ideal. To collect certain seed such as Yellow Rattle seed on a larger scale it would be worth purchasing or hiring a leaf vacuum.	
Seed Storage	To dry the collected wildflower seed you can simply spread it out in cardboard box(es). If the seed is fully dry when collected it can also be stored in breathable pillow cases / sacks in a cool dry room. Do not store in plastic bags or containers as the seeds may sweat and spoil.	
Everyday Habitat Management		
Hand Tools	It is useful to have a stock of general tools available for carrying out community volunteer days such as tree planting, basic invasive species control of selected species, etc. You can always ask volunteers to bring their own but it is useful to have some spares. These will include: spades, loppers, saws, rakes, wheelbarrows, buckets, lump hammer, mattock, etc.	
Hand Held Power Tools	Similar to the hand tools above, having some hand-held power tools for the group may be useful. A cordless drill is probably the most important of these. Other power tools may be available either privately from members / volunteers or through rental hire as needed.	
Safety Equipment	It is very important that all volunteers have the necessary protective clothing for the jobs being carried out. Some of the basic equipment worth having a supply of include Hi-Viz vests, ear muffs, gloves, dust masks, visors and safety goggles.	
Citizen Science & Community Events		
Identification resources	There are identification books for all the common species groups and habitats. The National Biodiversity Data Centre also has swatches available from their online shop.	
Bats	Consider having a few bat detectors (and torches!) for bat events, as most people may not have one. The Magneta Bat5 is a good starter model.	
River Sampling	River sampling events are great for families and children. For these you'll need some trays or buckets, charts and fishing nets.	
Butterfly and Bumblebee Events	Pollinator workshops and events are always popular to run during the summer. They are even better when there is a field element to it and it is useful to have a few butterfly nets and some potting jars to help identify specimens.	
Moth Identification	Another really great Citizen Science project is the identification of moths. It is useful for the community to have (or have access to) a few moth light traps with suitable batteries and chargers and the identification guide books (both for micro and macro moths).	
Bird Identification	For bird identification events it can be useful to have a few spare pairs of binoculars (although it is normal to ask people to bring their own).	

Examples of Wildflower Meadow Maintenance Equipment



Polytunnel used to grow plugs



Pillow cases used to store dry wildflower seed



Leaf vacuum used to harvest wildflower seed



A power scythe is ideal for cutting smaller to medium sized meadows



The hay rake can help gather hay for ease of collection



Larger machinery may be necessary for bigger meadows

Examples of Equipment for Citizen Science and Community Events



Moth trap used to identify moths



Swatches from the NBDC



Butterfly nets

Did you know: The National Biodiversity Data Centre has taken in over 650,000 species sightings as of November 2020

Mood Board

Interpretation



A biodiversity sign, useful on sites with lots of natural interest.



Murals are a great option to brighten up a dull wall.



Biodiversity interpretation post, a relatively inexpensive option.

Sculptures



A bespoke sculptural feature in Ennis Town Centre.



An artistic willow weave sculpture on the roundabout beside Kildare Shopping Centre.

Wildflower Meadows



Encourage people to use them by mowing paths and installing seating and breakout points.



They are great for natural play and add interest to otherwise dull mown grasslands.



They can be used in a range of different settings to deliver multiple economic, social & environmental benefits.

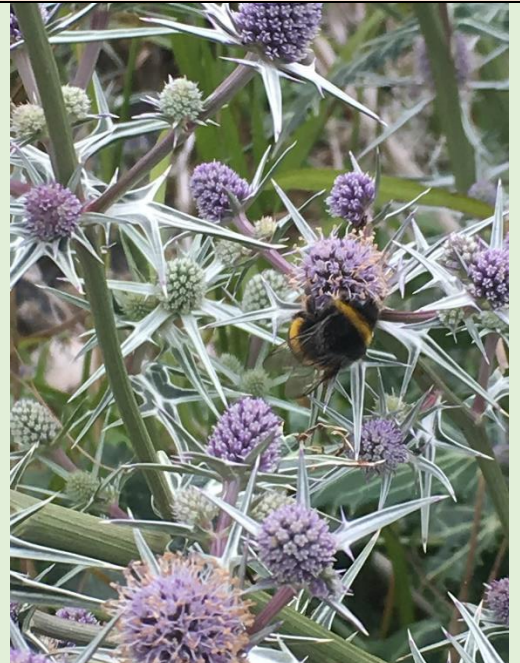


They are a part of our cultural heritage and landscape and can be used to encourage tourism.

Pollinator Beds



Use native wildflowers in mixes where possible as they have added benefits for wildlife and they are every bit as attractive as non-native species.



Perennial pollinator-friendly plants add visual interest, reduce annual work and costs, and are great for wildlife.

Natural Play



Natural play uses natural features to create play opportunities.



They can be much more cost effective to install and maintain and are often much more interesting.



Natural features such as earth banks and planting make great play features and can be used in combination with slides, etc.



Natural habitats such as meadows and woodlands are great natural playgrounds.

Edible Woodlands



Forest gardening is a way of managing woodlands for productive uses such as wild food and timber products. Each layer of the woodland is managed for this including the canopy, shrub and ground floor. They have been developed in a wide range of settings including private gardens, schools, public green spaces, residential spaces (such as above in Manchester, England), etc.



Edible hedges are a form of linear woodland which uses a wide range of berry and nut species to create a hedge.

Greening the Grey



Bioswales can be used in urban areas to manage and treat rainwater runoff from roads, car parks and other hard surfaces. They allow the water to drain slowly into the ground. Vegetation helps treat the water and add biodiversity value & visual interest.



Green roofs, even on small canopies such as above, deliver a wide variety of environmental benefits such as clean air, retain and improve water quality, have air cooling effects add visual interest and are great for biodiversity.



This bioswale, in an urban park setting, is allowed to fill up during heavy rain water events and drain slowly after. It has become an amenity within the park and has significantly increased the amount of biodiversity within the park. Residential and public green spaces should be designed to deliver multiple benefits like this park achieves.



Green walls can soften grey urban spaces and deliver a wide range of other benefits such as sequester carbon, reduce the urban heat island effect, increase biodiversity, etc.



In a lot of cases green walls can simply be created by planting climbers such as native ivy (*Hedera helix*) on bare walls – they are particularly good to cover up dull block work walls (photo above shows a newly planted wall in Portlaoise).

Section 5:
Results of
Questionnaire



Did you know: 5 native butterfly species rely on the common nettle as their larval foodplant

The purpose of the questionnaire was to gather information from the ten communities on biodiversity-related issues relevant to them and their local area. It gathers information about the importance of biodiversity in their everyday lives, local sites or features of biodiversity value, preferences for events going forward, and their willingness to get involved in delivering actions such as those set out in this plan.

It was delivered as an online survey using Google Forms during the training period from September to November 2020. All participants were invited to complete the questionnaire as part of the training. Forty-five people responded to the questionnaire and the results are explained below.

Question 1: How important is the natural environment to your everyday life?

All 45 participants from across the ten communities answered this question. Options were provided on a scale of 1 to 5, with 5 being 'very important' and 1 being 'not important'.

There were thirty-five respondents who gave it a rating of 5, nine gave it a rating of 4 and one gave it a rating of 3.

Conclusion: Overall the natural environment is very important in the everyday lives of the people who responded to this questionnaire. This would suggest that it is important that we conserve biodiversity in local communities and there will be an appetite amongst them to see actions carried out that will do this.

Question 2: List 3 ways that you think nature and biodiversity can deliver benefits for your community or site of interest (Kilcullen Responses Only).

The responses listed a range of different ecosystem services that benefit the town. These included the importance in delivering us clean air, food, and a healthy environment to live. It was also recognised that habitat boosts local species of wildlife such as birds and pollinators.

Question 3: List your top 3 biodiversity hot spots in your locality (Kilcullen Responses Only).

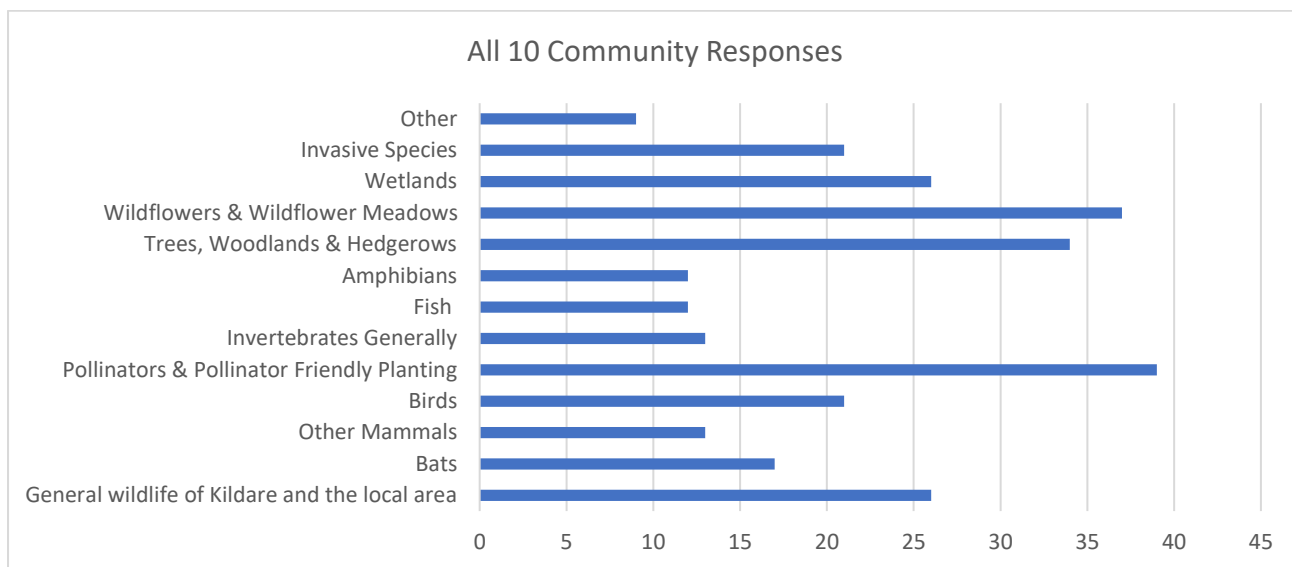
The responses highlight a range of sites both in the town and in the surrounding landscape that are seen as important for biodiversity. The biodiversity hotspot mentioned the most was the River Liffey. Other sites mentioned included the Curragh, the Old Cemetery, local gardens and the canal near the town.

Question 4: Would you like to get involved in helping biodiversity in your local area? (Kilcullen Responses Only).

All respondents stated that they would be interested in getting involved in helping biodiversity in Kilcullen. This included conservation projects specific to pollinators and hedgehogs. One respondent would be happy to help but wasn't aware of what specific projects were taking place that they could get involved with. This highlights the need to increase awareness of local conservation projects and the potential to further develop the local volunteer base.

Question 5: To raise awareness of local biodiversity, which of the following would you like to be covered through community training events such as evening talks, webinars, walks, etc. (responses for 10 groups)

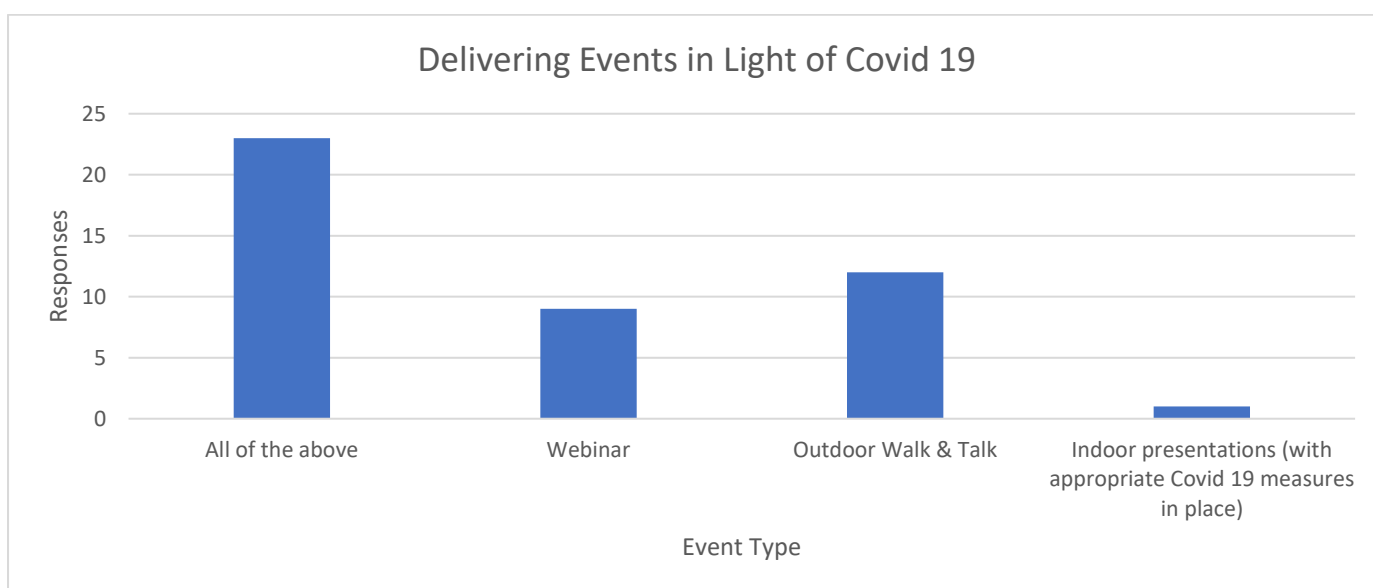
Events related to pollinators and pollinator-friendly planting, wildflowers and wildflower meadows, and trees, woodlands and hedgerows were the most popular responses with each of these receiving over 30 mentions each. Events about general wildlife of Kildare, invasive species, birds and wetlands were also popular with each receiving over 20 mentions each. The full list of responses is shown below.



There were no 'other' suggestions from the respondents from Kilcullen.

Question 6: Covid 19 has changed how talks / workshops / presentations are delivered, at least in the short term, with webinars becoming more widely used. Which of the following would be your preferred format for community biodiversity events during this period?

The majority of the responses were for a mix of different event types, with each obviously taking appropriate measures in relation to Covid 19. Of the singular event types, outdoor walks and talks were the most favoured, followed by webinars.



Responses shown: All 10 communities

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