

Leixlip

Biodiversity Action Plan 2022-26



**The Community
Foundation for Ireland**

by



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Acknowledgements & Contact Details

This action plan was produced as part of the Community Foundation Ireland funded project where towns and villages across Ireland were encouraged to work with an ecologist to compile a Biodiversity Action Plan for their local area.

Getting Involved:

Like all TidyTowns groups, Leixlip Tidy Town Association is completely voluntary so we're always happy to welcome more help! As this BAP shows there's plenty of different kinds of projects worth getting involved in whether that be the weekly litter pick or maybe just working on one particular project that interests you. If you wish to get involved with any of the actions outlined in this Plan, please contact us at our Leixlip Tidy Town Association Facebook page:

Leixlip TidyTowns: <https://www.facebook.com/LeixlipTidyTownAssociation/>

Photographs: Photos used in this Plan are courtesy of Dr Fiona Mac Gowan and Brian Gaynor of Green Pine Consultants.

Section 1

Introduction

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 Leixlip. 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!

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 picture 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

An historical village with a rich history of its own, Leixlip now forms part of the greater western suburbs of Dublin city. The village, however, features a green heart running through its centre in the form of the tree-lined banks of the Liffey, Rye Water and Silkeachain rivers. Indeed, the Rye and Silkeachain join the Liffey less than 100m from the Main street. In addition, the Grand Canal runs around the northern and western edges of Leixlip. The Louisa Bridge crosses both the canal and the railway track in west Leixlip and this area is well known by generations of naturalists in Ireland as it hosts a number of rare species and habitats. The village is encircled by a great walkway along the banks of the Liffey and Rye Water rivers. The walk extends out to the Grand Canal or the walker can wind their way back to the Main Street along the tree-lined Captain's Hill featuring beautiful historic houses that hint at the village's fascinating history. The conservation areas of note in the locality include the start of the Liffey Valley pNHA (proposed Natural Heritage Area) which stretches from Leixlip to Chapelizod. The Royal Canal which runs along the northern bounds of Leixlip is also a pNHA. The stretch of the Rye Water river from Leixlip back to the Carton Estate is protected as a Special Area of Conservation (SAC). Please note that further details on your local conservation sites can be found at: www.npws.ie/protected-sites/

Main Biodiversity Sites

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

River Liffey: 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. The Liffey is a font of biodiversity especially as it winds through the centre of Leixlip with its adjacent walkway making it more accessible than along other stretches of its length. It is also noteworthy that the stretch of the River Liffey from Leixlip to Chapelizod is protected as the Liffey Valley pNHA 000128 (see p.22 for the NPWS site description).



Silleachain stream and Lane: The Silleachain is a small tributary of the Liffey that rises in a former wetland with the poetic name of the Moor of Meath north of Leixlip, just over the border into Co. Meath. While classed as a stream, the Silleachain cuts through a deep, wooded gorge, along the western side of St Catherine's Park. It runs into the Liffey on the east side of the village. The Silleachain Lane runs parallel to the stream forming a beautiful walk with a rural feel from the Glendale Road down through to the village centre beside the entrance to St Catherine's Park.

Royal Canal (pNHA 002103): The Royal Canal is a man-made waterway linking the River Liffey at Dublin to the River Shannon near Tarmonbarry. The canal NHA comprises the central channel and the banks on either side of it. The main water supply is from Lough Owel (also an NHA) via a feeder channel into the canal at Mullingar. The ecological value of the canal lies more in the diversity of species it supports along its linear habitats than in the presence of rare species. Its accessibility to the walker and cyclist make it a great spot for some nature watching on the edge of Dublin city.



Leixlip Residential Estates: Several residential estates in and around Leixlip have begun to manage sections of their green spaces for pollinators. These areas dotted across the locality are part of the national effort to halt the decline of this valuable habitat which supports native pollinators, birds, and other wildlife.

Rye Water Valley/Carton (SAC 001398): The Rye Water river begins its journey to the west near Enfield. For a short section of its journey through the Carton Estate and into Leixlip it is designated with the highest level of conservation importance as a special Area of Conservation. This is because it features important rare petrifying springs habitat as well as two very rare species of whorl snails. These latter species are incredibly difficult to find but their presence indicates a high level of ecological quality in the area which features many other species that will delight the nature-lover who visits. The area around Louisa Bridge is accessible for all to see.



The Leixlip Wildflower Bed: In recent years, LTTA began to manage the triangular green area on Station Road opposite the Garda Station as a wildflower meadow. This lovely spot is a biodiversity highlight of the locality with several species of wildflowers growing happily alongside the grasses and trees providing excellent habitats for many of our beleaguered pollinator species. Local awareness has also been increased through the provision of information signs, inviting mown grass paths and benches where the locals can sit and enjoy the peace and the hum of happy insects. A beautiful Pyramidal orchid was found during a summer visit demonstrating how nature will quickly reward our efforts!



St Catherine's Park: This public park, jointly run by Kildare, South Dublin & Fingal Co. Cos. is a green lung in an increasingly urbanised area formed from what was originally a Norman estate. The park is a mix of amenity grassland, hedgerows and woodland thus featuring examples of several different habitats where Leixlip residents can explore their local biodiversity.



Recent Progress

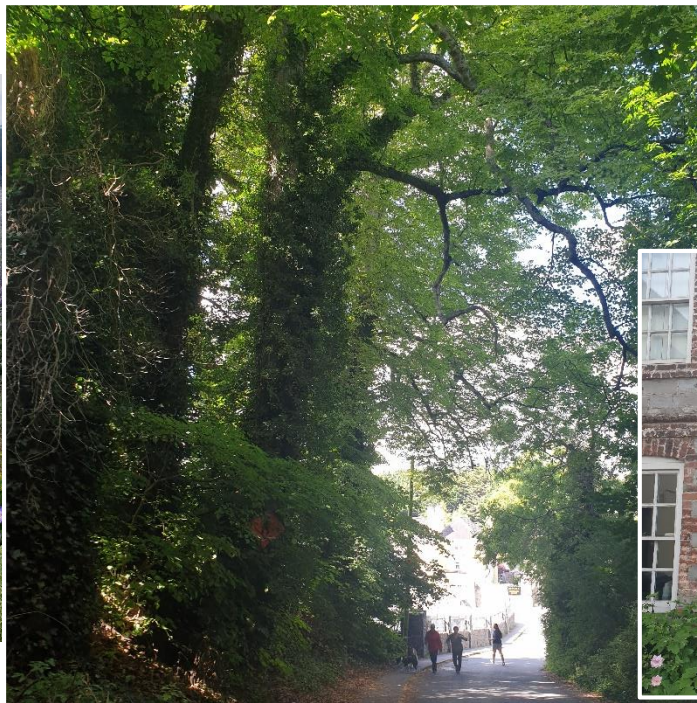
In the summer of 2020, members of Leixlip Tidy Town Association met to organise this BAP.

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

- A wildflower area has been managed on the Station Road for several years.
- Wildlife information boards have been erected at the Rye Water walkway, along the Grand Canal & at the Louisa Bridge.
- A Community Orchard was planted along the Rye water river.
- A simple Biodiversity Trail extending to over 1.5km with 3 information panels and necessary guide posts was completed in early 2021
- A Leixlip Tree Trail is being developed



The wild Pyramidal orchid species has started growing in the wildflower area on Station Road, a sign of increasing biodiversity in Leixlip as nature is allowed prosper here



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



Section 3: A call to action

This is a shared plan of action for the village to build on the recent progress made to improve areas for biodiversity and to start developing other opportunities to maximise the village'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 Leixlip 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 Leixlip biodiversity friendly

All types of land can be used to increase the levels of biodiversity in the village 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 village's public spaces more biodiversity friendly			
No.	Action	Who	When
1.1.1	Carry out the following biodiversity habitat enhancement works within the Rye Valley Park: A. Consult with the Kildare LAWCO in relation to vegetation in the river at the Rye Bridge B. Reduction of existing non-native shrubs (e.g. Snowberry, Cherry laurel) 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, Spindle, Elder etc. C. Plant pollinator-friendly bulbs (Snowdrops, Crocuses, Muscari, Alliums) under the shrubs along the paths D. The path edges from the Penal Church to the village could be planted with Hardy Geraniums and Lady's mantle perennials. E. Augment the planting of the small raised flowerbeds along the paths with pollinator-friendly herbaceous perennials (see Appendix for suitable pollinator-friendly shade-tolerant plants)	LTTA & LAWCO LTTA LTTA LTTA LTTA	2022-26 2022-26 (outside bird nesting season) Sep 2022-26 Spring/Autumn 2022-26 2022-26
1.1.2	The wildflower banks on either side of the Mass Steps need manual weed clearance and then planting with a mix of shrubs and herbaceous perennials that will give good ground cover, thus leaving no room for the weeds! Recommended pollinator-friendly shrubs include: Guelder rose (<i>Viburnum opulus</i>); Spindle (<i>Euonymus europaeus</i>) and Broom (<i>Cytisus</i> sp.) interspersed good ground cover perennials such as: the hardy Geraniums; Astrantias; Penstemons; Hellebores; Japanese anemones; Sedum 'Autumn Joy', Nepeta etc (see Appendix for further suggestions)		2022-26
1.1.3	Ensure planting of tubs and pots in public spaces in Leixlip are pollinator-friendly. These can be with a mix of flowering bulbs, herbs and colourful summer bedding plants. See Appendix for suggestions.		2022-26
1.1.4	The small plaza featuring the sculpture of the meeting of the Rivers Liffey and Rye could be softened with: A. tubs of flowering bulbs, herbs and colourful summer bedding plants. B. A large tub with a small tree such as an Irish Whitebeam would give a lovely backdrop to the statue if situated in the corner behind.		
1.1.5	A bare wall along the Rye river path could be planted with native Ivy and Honeysuckle.		
1.1.6	Liaise with Kildare Co. Co. and TII to ensure grass verges along the main roads are managed as short wildflower meadows, cut every 4-6 weeks		2022-26

P.T.O.

Target 1.1 Make the village's public spaces more biodiversity friendly			
No.	Action	Who	When
1.1.7	<p>Liaise with Kildare Co. Co. to:</p> <ul style="list-style-type: none"> A. ensure the lawn area at the Library is managed as short wildflower meadows, cut every 4-6 weeks B. Explore the possibility of planting a pollinator friendly herbaceous perennial border in the lawn at this prominent road junction C. Explore the possibility of planting a pollinator friendly herbaceous perennial flower bed (perhaps raised to prevent soil slippage onto the road) on the lane at the back of Confey Church up against a palisade fence. 		2022-26
1.1.8	<p>Continue to manage the Leixlip Wildflower Bed</p> <ul style="list-style-type: none"> A. Add small 4x4 posts with lots more information through the meadow. B. Manage with a cut and lift in Feb/Mar annually followed by a cut and lift in September C. Mow short cut paths through D. Keep some small areas as short-wildflower meadows. These areas will be suitable for picnics etc. 		2022-26

Target 1.2 Make the village's private lands more biodiversity friendly			
No.	Action	Who	When
1.2.1	<p>Explore the possibility to liaise with various Residents Associations around Leixlip where biodiversity habitat enhancement works could be carried out:</p> <ul style="list-style-type: none"> A. Management of large grass areas as long wildflower meadow by cutting and lifting them each year. Plan for this at the beginning of the year. Augment with native wildflower plugs (spring) and seed (autumn). B. A short wildflower meadow, cut every 4-6 weeks might work better in some large grass areas. C. Explore the opportunity to plant native and pollinator friendly climbers along any bare block walls in housing estates. 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). 		2022-26
1.2.2	<p>Explore the opportunity to maximise the campus of local schools for outdoor learning and biodiversity by:</p> <ul style="list-style-type: none"> A. Managing the lawn spaces (where games are not played) as a wildlife garden which could include a wildflower meadow), sensory garden and signage (made as part of art activities) B. Work with school on a herb garden used raised beds / containers at selected site in the grounds C. Infill planting in the flower beds with pollinator-friendly plants that flower during term time such as Hellebores, Japanese anemones, <i>Sedum</i> 'Autumn joy', hardy geraniums, Pin cushion plants (<i>Astrantias</i>), Lady's mantle. D. Explore the potential to plant school boundaries with native hedgerows 		2022-26

Target 1.3 Make the village'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.	LTTA with Kilcullen CA/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.	LTTA/Trees on the Land	2023

Target 1.4 Deliver species-specific conservation projects			
No.	Action	Who	When
1.4.1	Install more open style bird boxes around the village to encourage larger bird species following on from erection of small bird boxes in 2020.	LTTA, Local eNGOs such as Wild Kildare & Birdwatch Ireland	2022-26
1.4.2	Take part in the citizen science project: Irish Hedgehog Survey ideally in conjunction with the local schools & then use this information to install Hedgehog retreats around Leixlip. See: www.irishhedgehogsurvey.com for more information.	LTTA, Local eNGOs such as Wild Kildare, & local schools	2022-26

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
2.1.2	<p>Run a minimum of 2 wildlife related events (e.g. walks, talks, workshops) each year. They could include:</p> <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 village • A summer's evening bat walk that could be followed by a community barbeque • Trees of Leixlip • Birds of Leixlip • Hold an event to highlight the ecology and lifecycle of the Salmon which Leixlip is called after! <p>These can be delivered as Leixlip only events or in partnership with other neighbouring communities where appropriate.</p>	Outside experts invited in by LTTA	2022-26 (time of year is dependent on each specific event)
2.1.3	Use any empty /derelict shop fronts on Main Street to display / interpret the local natural, built and cultural heritage of Leixlip.		2022-26
2.1.4	Use local social media to raise awareness of local biodiversity and conservation issues.		2022-26
2.1.5	Continue to hold Bat awareness events in partnership / conjunction with Bats Kildare (Mad About Bats) and further awareness locally of these species.	LTTA, local eNGOs such as Kildare Bat Group	2022-26
2.1.6	Continue taking part in Daubenton's Bat (a.k.a the water bat) surveys.	LTTA, Kildare Bat Group	2022-26

Target 2.2 Support education opportunities in schools at all levels

No.	Action	Who	When
2.2.1	Check that the local schools have downloaded their copies of the All-Ireland Pollinator Plan guides for schools and the Junior All-Ireland Pollinator Plan (www.pollinators.ie/resources).	LTTA/Pollinator Group	2022-26

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	Use local social media to raise awareness locally of the harmful effects of herbicide use on human health and for biodiversity to different landowners around the village. 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.	LTTA	2022-26
2.3.2	Engage with the industrial estates about biodiversity enhancement projects they can undertake.	LTTA	2022-26

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
2.3.3	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.	LTTA	2022
2.3.4	Post links to the All-Ireland Pollinator Plan guides on local social media each year.	LTTA	2022-26
2.3.5	Implement a policy of no Invasive plant species in new planting schemes in the village.	LTTA	TBC
2.3.6	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.	LTTA	2022-26

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 village annually and the uptake of newly installed Swift boxes.	LTTA – local eNGOs	2022-26
3.1.2	Facilitate Wild Kildare's 'Moth Atlas' for the county	LTTA – Wild Kildare	2022-26
3.1.3	Develop at least 2 bumblebee transects in the village and submit records to the NBDC	LTTA	2022-26
3.1.4	Develop at least 2 butterfly transects in the village and submit records to the NBDC	LTTA	2022-26
3.1.5	Record all biodiversity records onto the National Biodiversity Data Centre. Encourage other members of the community to do likewise.	LTTA, local eNGOs.	2022-26
3.1.6	Record and map all biodiversity actions delivered at: https://pollinators.biodiversityireland.ie/	LTTA	2022-26
3.1.7	Monitor any bird boxes installed around the village for successful nesting	LTTA	2022-26
3.1.8	Install and monitor Dipper boxes with the help Birdwatch Ireland	LTTA	2022-26

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.	LTTA	2022
3.2.2	The sub-committee shall carry out an annual review of the Action Plan.	LTTA	2022-26
3.2.3	Carry out a more detailed mid-term review of the Action Plan.	LTTA	2024
3.2.4	Carry out a full detailed review of the Action Plan in the final year.	LTTA	Summer 2026
3.2.5	Plan for the updating / renewing of a subsequent 5-year plan to run from 2027-2031.	LTTA	2026

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.

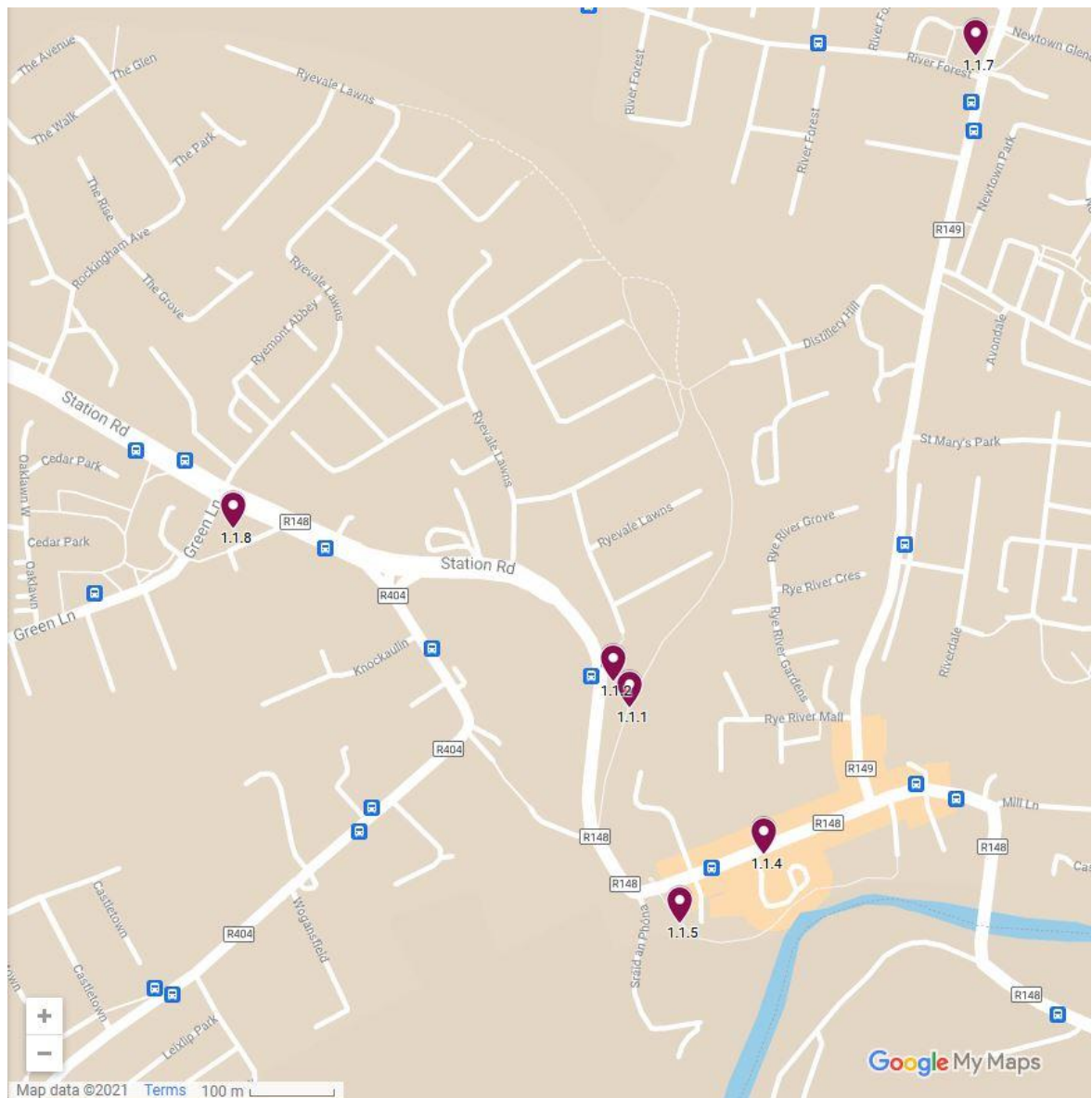
Target 4.1 Build the capacity within the community to manage and record biodiversity

No.	Action	Who	When
4.1.1	Identify all wildlife groups active in Leixlip, then make contact and offer help / partner on local projects.	LTTA	
4.1.2	Identify sources (sites) of native wildflowers (this should include Yellow Rattle e.g. Castletown House meadow) as places for community seed collections - this can include other donor sources in the county	Work with other Co. Kildare TT groups & Kildare Heritage Officer	
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.	LTTA	
4.1.4	Hold an event to communicate this BAP to the local community	LTTA	2022
4.1.5	Participate in a meeting of the other 10 Kildare 2020 BAP applicants to discuss opportunities for collaboration to deliver selected projects outlined in this Plan.	LTTA, KCC	TBC

Target 4.2 Build up local resources of materials and equipment to manage and record biodiversity

No.	Action	Who	When
4.2.1	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.	Work with other Co. Kildare TT groups & Kildare Heritage Officer	
4.2.2	Build up a stock of biodiversity educational resources. Liaise with the local library.	Library / LTTA	
4.2.3	Build up a stock of biodiversity recording equipment such as bat detectors, moth traps, etc.	LTTA	


Mapping the Actions: Map of Leixlip pinpointing the map-able Objective 1 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-raikfcquaxqncofqm.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/

Subject	Link(s)
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/biodiveristy/ • https://pollinators.ie/schools/ • http://www.heritageinschools.ie/teachers-resources/strand/living-things-science/p3?q=&c= • 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-villages-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 (Waters & Communities)	A shared service working with Local Authorities and State agencies to meet obligations under the EU Water Framework Directive for the development and implementation of River Basin Management Plans in Ireland.	http://watersandcommunities.ie/
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/>

NPWS SITE SYNOPSIS: LIFFEY VALLEY pNHA 000128

(a map showing the extent of this pNHA is freely available to view at:

www.npws.ie/maps-and-data)

The Liffey Valley site is situated along the River Liffey between Leixlip Bridge on the Kildare-Dublin border and downstream of the weir at Glenaulin, Palmerstown, Co. Dublin. The river meanders through low hills for much of its course through the site and forms the focus for the site itself. The Mill Race between Palmerstown and the weir at the Wren's Nest Public House is also included in the site.

The river is a Salmon river and there are a series of weirs along the river between Palmerstown and Leixlip. The water level in the Mill Race has dropped and the channel has been filled with vegetation in a number of areas as a result.

The main terrestrial habitat included within the site is mixed deciduous woodland on fertile, limey alluvium and boulder clay, in which Beech (*Fagus sylvatica*) is dominant in some areas. Elsewhere Ash (*Fraxinus excelsior*) and willow species (*Salix* spp.) are common and there are also some stands of larch (*Larix* spp.) and Scots Pine (*Pinus sylvestris*). Toothwort (*Lathraea squamaria*) has been recorded on a number of tree species.

The ground flora commonly includes Ivy (*Hedera helix*), Primrose (*Primula vulgaris*), violet species (*Viola* spp.), Lords-and-ladies (*Arum maculatum*) and Hart's tongue (*Phyllitis scolopendrium*). These woodlands occur on both sides of the river and normally consist of old estate woodlands.

A wet marsh occurs on the strip of land between the Mill Race and the river east of the metal bridge and west of the paint factory. This marsh is fed by seepage from the Mill Race and plant species such as Bulrush (*Typha latifolia*), Marsh-marigold (*Caltha palustris*) and sweet-grass (*Glyceria* spp.) occur here. This strip of land also contains rough grassland which is not regularly grazed. Much of the river bank and the banks of the Mill Race are fringed with willow (*Salix* spp.) and Alder (*Alnus glutinosa*).

The threatened Green Figwort (*Scrophularia umbrosa*), a species listed in the Irish Red Data Book, is recorded from a number of stations along the river within the site. This stretch of the river Liffey has the greatest number of recently recorded populations of this species in Ireland. The rare and legally protected Hairy St. John'swort (*Hypericum hirsutum*) (Flora Protection Order 1987) has been recorded from the woodlands in this site. This species has only been recorded in Kildare and Dublin, at sites on the river Liffey, since 1970. The threatened Yellow Archangel (*Lamiastrum galeobdolon*), listed in the Irish Red Data Book, is also recorded from these woodlands.

The section of river within the site is used by canoeists. The West Link Bridge spans the valley west of Palmerstown. Recent management of woodlands at Brooklawn and Quarryvale has cleared a lot of Cherry Laurel (*Prunus laurocerasus*) and undergrowth. Some mature Beech have been removed from this area.

This site is part of the Liffey Valley Special Amenity Areas Order 1990. The site is important because of the diversity of the habitats within the site, ranging from aquatic to terrestrial. A number of rare and threatened plant species have been recorded from the site.

(Written 5/11/2009)

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:

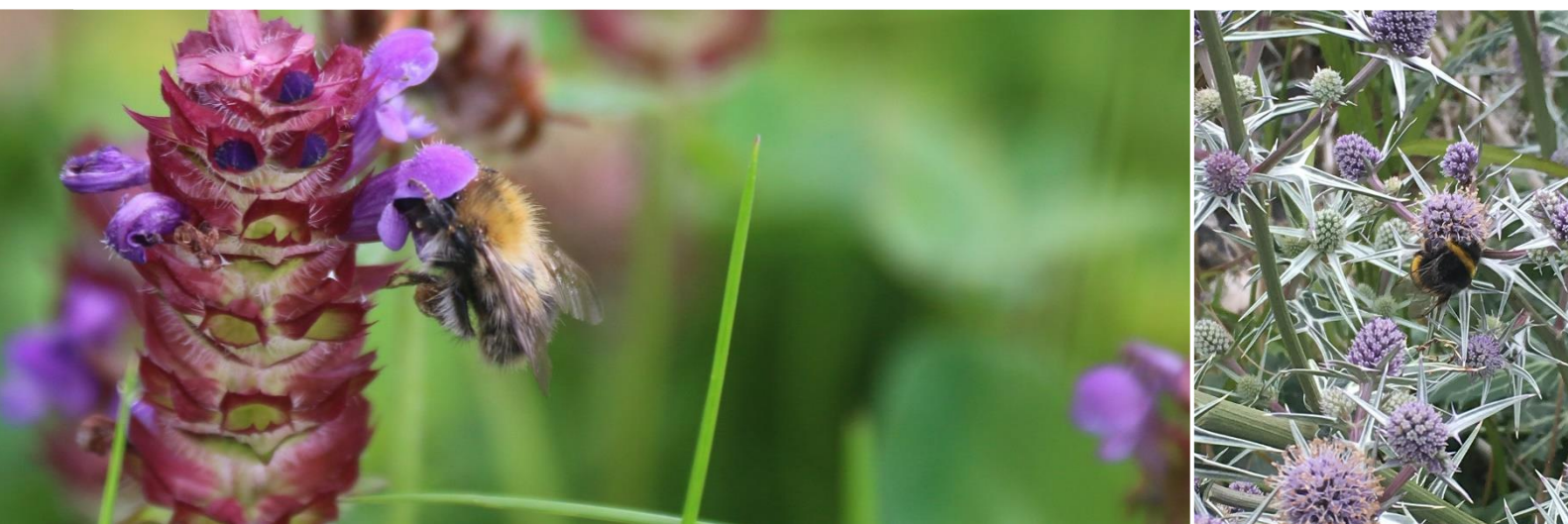
<https://www.treesontheland.com/planting-guide>

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.

Also consider:

- 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.

Shade tolerant pollinator-friendly plants include:

- **Irish bluebells** (*Hyacinthoides non-scripta*) N.B. Avoid the invasive Spanish bluebells!
- **Wood anemones** (*Anemone nemorosa*)
- **Aquilegia/Columbine** (*Aquilegia* spp)
- **Wild garlic** (*Allium ursinum*)
- **Wood Violets** (*Viola*)
- **Jacob’s ladder** (*Polemonium caeruleum*)
- **Bleeding heart** (*Dicentra*)
- **Lungwort** (*Pulmonaria*)
- **Hellebores/Lenten roses**
- **Penstemons**
- **Wild strawberries** (*Fragaria* sp.)

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

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

Native hedgerow mix species to select from:	Planting & managing native hedgerow for biodiversity:
<p>The main hedging species is:</p> <ul style="list-style-type: none"> • Hawthorn / Whitethorn (<i>Crataegus monogyna</i>) <p>Smaller percentages of the following species:</p> <ul style="list-style-type: none"> • Elder (<i>Sambucus nigra</i>) • Blackthorn (<i>Prunus spinosa</i>) • Hazel (<i>Corylus avellana</i>) • Holly (<i>Ilex aquifolium</i>) • Privet (<i>Ligustrum vulgare</i>) • Spindle (<i>Euonymus europaeus</i>) • Guelder rose (<i>Viburnum opulus</i>) • Dog rose (<i>Rosa canina</i>) <p>Trees such as Oak (<i>Quercus robur</i>), Crab apple (<i>Malus sylvestris</i>), etc. should be planted randomly along the length</p>	<ul style="list-style-type: none"> • 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

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>Crocasmia</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.	

P.T.O.

Equipment checklist cont.

Equipment	Description	Tick (✓)
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 Village 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 fruit 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).



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*Nature Walks & Talks *Biodiversity Action Plans
*TidyTowns guidance *Native Woodland Schemes
*Botanical Surveys *Biodiversity Management



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