

# KILTOOM COMMUNITY BIODIVERSITY ACTION PLAN 2019-2023



## ACTIONS FOR BIODIVERSITY IN KILTOOM



Riadas na hÉireann  
Government of Ireland



Coimisiún Eorpach  
Riadas na hÉireann  
Government of Ireland

The LEADER Programme 2014-2020 is financed by the Department of Rural and Community Development under the Rural Development Programme 2014-2020 and by the EU under the European Agricultural Fund for Rural Development. Europe investing in rural areas.



## ACKNOWLEDGEMENTS

Deborah D'Arcy would like to thank Kiltroom Community Development Committee and other participants for their commitment to this project. I also want to commend their dedication to promoting biodiversity in their community. Thanks also to Denise McDonnell Roscommon LEADER Partnership for her ongoing support of groups throughout the county and support during this project.

## ON POLLINATION

In plants the transfer of pollen between flowers of the same species by wind or animals leads to fertilisation which is necessary for the production of seeds and fruit by the plant. Pollination is essential for the production of fruit and viable seeds. For us, this means we have a range of fruit and vegetables to eat. For wildlife, this provides fruit and seeds for animals to eat and the persistence of wildflowers in the landscape.



## 1. INTRODUCTION

Ecologists Seán Meehan, Deborah D'Arcy and Billy Flynn were commissioned by Roscommon LEADER to work with communities in County Roscommon to provide biodiversity training and facilitate the development of local biodiversity plans. The principal aim of this LEADER initiative is to increase the awareness of the importance of biodiversity in communities and empower individuals and groups to make positive contributions for the benefit of both wildlife and people.

It is encouraging and commendable to see that all the communities to date have taken biodiversity into account when designing past and current projects thereby reflecting their awareness and concern for



wildlife and habitats. The aim of this project is to further build upon these achievements and to strive for greater community participation to ensure that as many people as possible are made aware of the value of biodiversity

in their localities and have an opportunity to contribute to its conservation and enhancement.

This biodiversity plan was drawn up following a series of workshops in the community which provided training in biodiversity awareness and allowed collaboration to identify projects to conserve and enhance biodiversity in Kiltoom.

Emphasis was placed on incorporating the objectives of the All-Ireland Pollinator Plan 2015 - 2020 into the biodiversity projects. This national plan proposes actions that will increase habitat and food sources for a range of pollinating insects and provides a useful foundation from which other biodiversity related projects can evolve.

## WHAT IS BIODIVERSITY?

Biodiversity refers to the variety of life on Earth. It includes all living things (organisms) that make up the natural world (including humans). Biodiversity also refers to the places where animals and plants live (habitats) and the complex interactions between living things and their environment which we call ecosystems.

## WHY IS BIODIVERSITY IMPORTANT?

Humans are a component of biodiversity and we are dependent on biodiversity to provide a range of ecosystem services. Human activities such as agriculture, forestry and fishing depend on services provided by biodiversity. We rely on biodiversity for the provision of clean air and water, food and medicines, natural landscapes, flood control, noise pollution control and much more. A healthy environment is important for human health and well-being. Biodiversity provides us with natural amenities to enjoy, parks and green spaces, wildlife and landscapes to admire and thus improves our quality of life. The attractiveness of our country as a tourist

destination, a place to live and do business depends to a large extent on the rich biodiversity of the county. Our country's natural heritage contributes to the attractiveness of landscapes, villages and urban centres.

## WHAT'S THE LOCAL BIODIVERSITY ACTION PLAN FOR?

The purpose of a Local Biodiversity Action Plan (LBAP) is to set out appropriate locally based actions for the conservation, management and/or enhancement of habitats for the benefit of native species. This local biodiversity action plan:

- Makes recommendations for the conservation of biodiversity through appropriate actions for the protection, management or appreciation of an area of high ecological value.
- Identifies actions to improve or enhance local areas so as to increase their value as habitats for species.
- Encourages actions to raise awareness of the importance of biodiversity and its conservation.

## 2. KEY ACTIONS FOR BIODIVERSITY

### 2.1 HABITAT CREATION AND MANAGEMENT

Habitat creation is one way to increase the diversity of habitats and enhance an area for biodiversity. Examples of small-scale habitat creation that may be appropriate and practical for community groups, schools and residents to undertake include managing an area as meadow grassland or wildflower lawn, planting hedgerows, treelines or groves of trees or creating a pond.

Habitat creation should only be attempted in an area that is currently of low biodiversity value such as amenity grassland. Introducing a habitat uncommon in an area such as a pond may be of more benefit than planting more trees in an area that already has good tree cover.

Creating a small complex of habitats such as a small woodland or grove of trees along with some meadow grassland around the edges to create a collection of semi-natural habitats will be of more benefit to biodiversity as it will provide resources for a greater number of species.

#### HEDGEROW AND TREE PLANTING

Planting native hedgerows, trees and woodlands provide food, shelter and niche habitats for a range of plant and animal life and is one of the easiest ways of increasing the biodiversity value of an area.

Native trees and shrubs are best for wildlife. These species colonised Ireland naturally and are adapted to the environmental conditions here and other plant and animal life have adapted to co-exist within them.



*Hedgerows are wildlife corridors*

#### MEADOW GRASSLANDS AND WILDFLOWER LAWNS

The traditional hay meadows once widespread in Ireland are now very scarce due to changes in farming practices. Meadows are a haven for wildlife in summer being rich in wildflowers and the insects, birds and bats that depend on them. Managing little used grassland areas as a meadow is one way to increase the resources available to wildlife. Not only does this allow the growth of wildflowers which provide essential pollen for our pollinating insects, long grass hosts a variety of other insects and invertebrates and produce seed, both important food sources for birds. Bat species will forage over a meadow grassland rich in insect life. Long grass also provides cover and nesting habitat for small mammals.

Meadow grassland can be established in parkland areas or along grass verges. In general areas of meadow grassland or long grassy verges should be cut once a year in autumn and the

cuttings removed. Removing the cuttings is important to prevent the build-up of nutrients in the soil. Wildflowers flourish in a nutrient poor soil where they can compete successfully with the more competitive grasses. Gradually over the years the number and diversity of wildflowers within the meadow will increase. It may take several years before you see an increase. however, avoid using commercially available wildflower mixes to enhance your meadow. These mixes often contain species that are not native to Ireland and are really only suitable for gardening and not for creating natural habitats such as meadows. In addition, some species in these mixes are plants of disturbed ground or arable fields and are unlikely to thrive in a meadow grassland.

To increase the species diversity of a meadow, collect seed from a grassland that is already more species rich such as from field margins, river banks or roadside verges or collect green hay from these areas and spread on your

meadow. Planting the seeds in pots and introducing them as plug plants may help their survival and is a fun project to do with schoolchildren.

Reducing the frequency of cutting for lawns and other amenity or roadside grassland is another way to provide increased resources for wildlife in particular pollinating insects. Where long meadow grassland is not a practical option, encouraging a wildflower lawn may be suitable. Cut the grass only every 6 weeks or so using the highest setting on the lawnmower and remove the cuttings. This reduced cutting regime allows low growing wildflowers such as dandelions, clover, selfheal, and bird's-foot trefoil to flower providing important nectar supplies for bees.

## POLLINATOR FRIENDLY PLANTING

While native plants are best for wildlife and should only be planted in wild areas, there are a wide range of both native and non-native garden plants which provide food for pollinating insects which can be used in gardens and formal plantings. However, some garden plants are not suitable for pollinators. Planting a range of pollinator friendly plants which flower at different times throughout year will provide an important source of pollen and nectar for pollinating insects throughout the spring, summer and autumn.

## COMPOSTING

Compost your garden and food waste in a designated composting area. Composting reduces the

amount of waste going to landfill and provides a source of nutrient rich compost for gardening. This reduces the need to purchase garden compost often sourced from peat bogs contributing to the loss of these treasured habitats.

Avoid tipping of garden waste into waysides or wild areas. Grass cuttings disposed of in waysides and other wild places smothers wildflowers. Garden plants which are disposed of outside garden areas can take root and spread. Some garden plants can become very invasive and spread to wild areas outcompeting our native plants and can lead to damage of our natural habitats.



*Many plant varieties provide food for pollinators*

## BEE NESTING HABITAT

Honeybees live in hives and are looked after by bee keepers. Our wild bees do not enjoy such protection and must find a suitable place to nest. Bumblebee colonies make their nest on the ground often in long grass or other vegetation. Cut such long grassy verges between October and March so as to avoid disturbing bumble bee nests.

Solitary mining bees make their nest in tiny burrows in south/east

facing banks of bare soil, sand, or peat. Keep vegetation sparse on any earth banks or stony banks to provide nest sites for solitary bees. Scrape back to bare soil annually during October to February to create bare ground for solitary bees to burrow into.

Cavity nesting bees make their nests in south/east facing stonewalls, masonry, cavities in wood or dead plant stems. Visit such areas on a sunny evening from May -September. If bees are seen, protect these areas from disturbance and, in particular, ensure that there is no herbicides or pesticides used near these areas. Additional nest sites can be provided by drilling holes in fence

posts (10 cm deep and 4-8mm in diameter).

## HERBICIDES AND PESTICIDES

Avoid the use of herbicides and pesticides as they cause harm directly and indirectly to wildlife. For example, using slug killer might result in fewer thrushes, hedgehogs and other slug-eating wildlife. Using herbicides to control "weeds" along grassy verges and around trees kills wildflowers which wildlife depend on for food and seeds.

## KEY ACTIONS FOR BIODIVERSITY (CONTINUED)

### 2.2 PROTECTING BIODIVERSITY

Conserving and protecting biodiversity is sometimes as simple as getting the time right. Scheduling management actions to avoid or minimise disturbance to wildlife is crucially important.

Without management, hedgerows can become gappy reducing their value to wildlife and their stock-proofing function. Under the Wildlife Act 1976 as amended, it is an offence to cut hedges between 1st March and 31st August in order to protect nesting birds unless there are clear traffic health and safety reasons to do so.



Hedgerows should be cut about every 3 years in rotation. This means that not all the hedgerows are cut in any one year but some are left uncut to provide resources for wildlife. Hedgerows can be cut between September and March but cutting hedgerows later in the autumn, in November or December is less disruptive to

pollinating insects. Hedgerows should be cut to an A shape which allows sunlight to reach the bottom of the hedge promoting a full and dense growth. The top of the hedge should be left uncut to leave some fruit and seeds through the autumn and winter months for birds to feed on.

Similarly delaying the annual garden clean up normally carried out in autumn until early spring provides some additional shelter for wildlife. Dead plant stems and fallen leaves provide places for invertebrates and other small wildlife to shelter and hibernate during the winter months.

### 2.3 RAISING AWARENESS

Raising awareness of biodiversity and encouraging or facilitating people to engage with and appreciate wildlife is an important tool in biodiversity conservation. Providing opportunities for people to experience and understand more about wildlife in their local area can instil respect, remind them of how they value nature and lead to effective conservation.

Where appropriate, interpretative signage highlighting the biodiversity present in an area or promoting a particular biodiversity project can be useful to draw peoples' attention. Even more effective, however, is increasing the amount of time people spend outdoors connecting with nature.

Furthermore, the health benefit of spending time with nature is widely recognised with known benefits for both physical and mental wellbeing.

Raising awareness of biodiversity can be facilitated by organising wildlife-themed walks, bat walks, wildflower walks and bird watching or competitions, such as best wildlife-friendly estate, best garden for wildlife or a wildlife photography competition.

Better still is providing opportunities for people to volunteer on a project, such as invasive plant species removal, tree planting or encouraging people to get involved in citizen science projects. It is often the social benefits of such events that will attract people to get involved.

### 2.4 CITIZEN SCIENCE

Citizen science engages the public to participate in recording wildlife. Keeping records of wildlife species and submitting these records to the National Biodiversity Data Centre ([www.biodiversityireland.ie](http://www.biodiversityireland.ie)) or other dedicated recording scheme is a great way to get people

involved in biodiversity conservation, improve skills in wildlife identification and foster a personal appreciation of nature.

All records are valuable even of common species seen every day. Such data is very important and is used in research, policy formation

and contributes greatly to our knowledge of biodiversity and its conservation. The National Biodiversity Data Centre runs annual one day wildlife identification training courses.

See the Appendix to this report for information on wildlife recording.



### 3. BIODIVERSITY IN & AROUND KILTOOM

Kiltoom (Cill Tuama) is a small rural community in Co. Roscommon northwest of Athlone on the western shore of Lough Ree. The centre point of this rural community is Kiltoom Community Hall and Ballybay Central National School both located beside the Church of the Risen Christ just off the N61 road. The community enjoys the facilities of St Brigid's GAA club and Athlone Golf Golf.



*View of Lough Ree*

Kiltoom townland is adjacent to Lough Ree which is the third largest lake in Ireland and is situated in an ice-deepened depression in carboniferous limestone on the River Shannon system. Some of its features (including the islands) are based on glacial drift. It has a very long, indented shoreline and hence has many sheltered bays. Although the main habitat, by area, is the lake itself, interesting shoreline, terrestrial and semi-aquatic habitats also occur.

Lough Ree is a Special Area of Conservation (SAC) selected for the following habitats and species: Natural Eutrophic Lakes, Orchid-rich Calcareous Grassland, Active Raised Bog,

Degraded Raised Bog Alkaline Fens, Limestone Pavement, Old Oak Woodlands, Bog Woodland and Otter.

Lough Ree and its adjacent habitats are of major ecological significance. Some of the woodlands around the lake are of excellent quality and include some of the best examples of this habitat in Ireland. St. John's Wood is particularly important as an area of potentially ancient woodland; The lake itself is an excellent example of a mesotrophic to moderate-eutrophic system, supporting a rare fish species and a good diversity of breeding and wintering birds.

Lough Ree is also designated as

Special Protection Area SPA for a number of bird species: Whooper Swan, Wigeon, Teal, Mallard, Shoveler, Tufted Duck, Common Scoter, Goldeneye, Little Grebe, Coot, Golden Plover, Lapwing and Common Tern. Other species which occur in winter include Great Crested Grebe, Cormorant, Curlew and Black-headed Gull as well as the resident Mute Swan.

Common Tern breed at the site and it is a traditional breeding site for Black-headed Gull. Lough Ree is also a noted site for breeding duck and grebes. Of particular note is that Lough Ree is one of the two main sites in the country for breeding Common Scoter (DAHG, 2015)

## BIODIVERSITY IN & AROUND KILTOOM (CONT)

### 3.2 HABITATS IN KILTOOM

#### RAISED AND CUTOVER BOGS

Raised and cutover bogs are a prominent feature of Kiltoom particularly surrounding Lough Ree. Bog woodland has developed over some areas of bog. At Cornaseer, there is a very wet woodland which was surveyed in the National Survey of Native Woodlands. This woodland has a canopy of birch and grey willow. There are deep, wet pools from previous cutaway operations. The woodland has developed by natural regeneration following abandonment of peat extraction operations in the past. Another area of bog woodland dominated by downy birch is located at Barrymore.

#### TREELINES AND HEDGEROWS

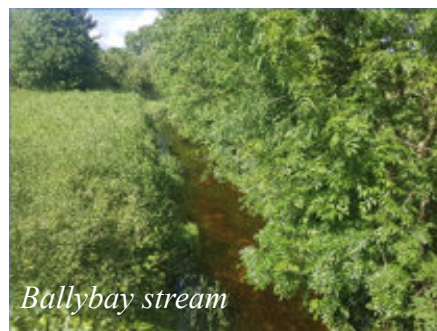
Treelines and hedgerows border the agricultural land and some farmyards in and around Kiltoom. There is a significant treeline behind the Church of the Risen Christ. Hedgerows and treelines are valued as linear woodland habitats which provide resources for insects, birds, bats and other small mammals. They serve as ecological corridors through which species can move and are very important to maintain connectivity between fragmented habitats. A dense hedgerow provides suitable nesting habitat and occasional tall trees further increase the structural diversity of the habitat and provide song posts for birds.

#### RIVERS

Ballybay Stream is located about 200 east of the Ballybay Central School and flows into Lough Ree. There are several other small streams that arise in the townland and feed into Lough Ree. These streams provide ecological and hydrological connectivity to the Lough Ree SAC and SPA.

#### SCRUB AND WOODLANDS

Scrub transitional to woodland extends to the north and west around the school. Woodlands scrub and planted forestry cover large areas of cutover bog within the area. A small area of scrub transitional to woodland separates the Community Centre from the Main N61 road. Here willow and birch are emerging over the bramble and gorse scrub.



*Ballybay stream*

#### GRASSLANDS

Grassland within the townland are primarily improved or semi-improved agricultural grassland. Less improved grassland areas support wet grassland or dry calcareous or neutral grasslands. Large areas of amenity grassland occur on Athlone golf course adjacent to and in stark contrast to

the wet callows bordering Lough Ree. St Brigid's GAA Club have a large field of hay meadow within their property.

#### STONEWALLS AND BUILDINGS

Stonewalls feature along field boundaries and roadsides often obscured by hedgerows. Stones walls provide dry crevices to host a range of invertebrates. Mosses and ferns on stone walls provide additional niche habitats for tiny invertebrates. They also enhance the character and aesthetic look of stone walls.

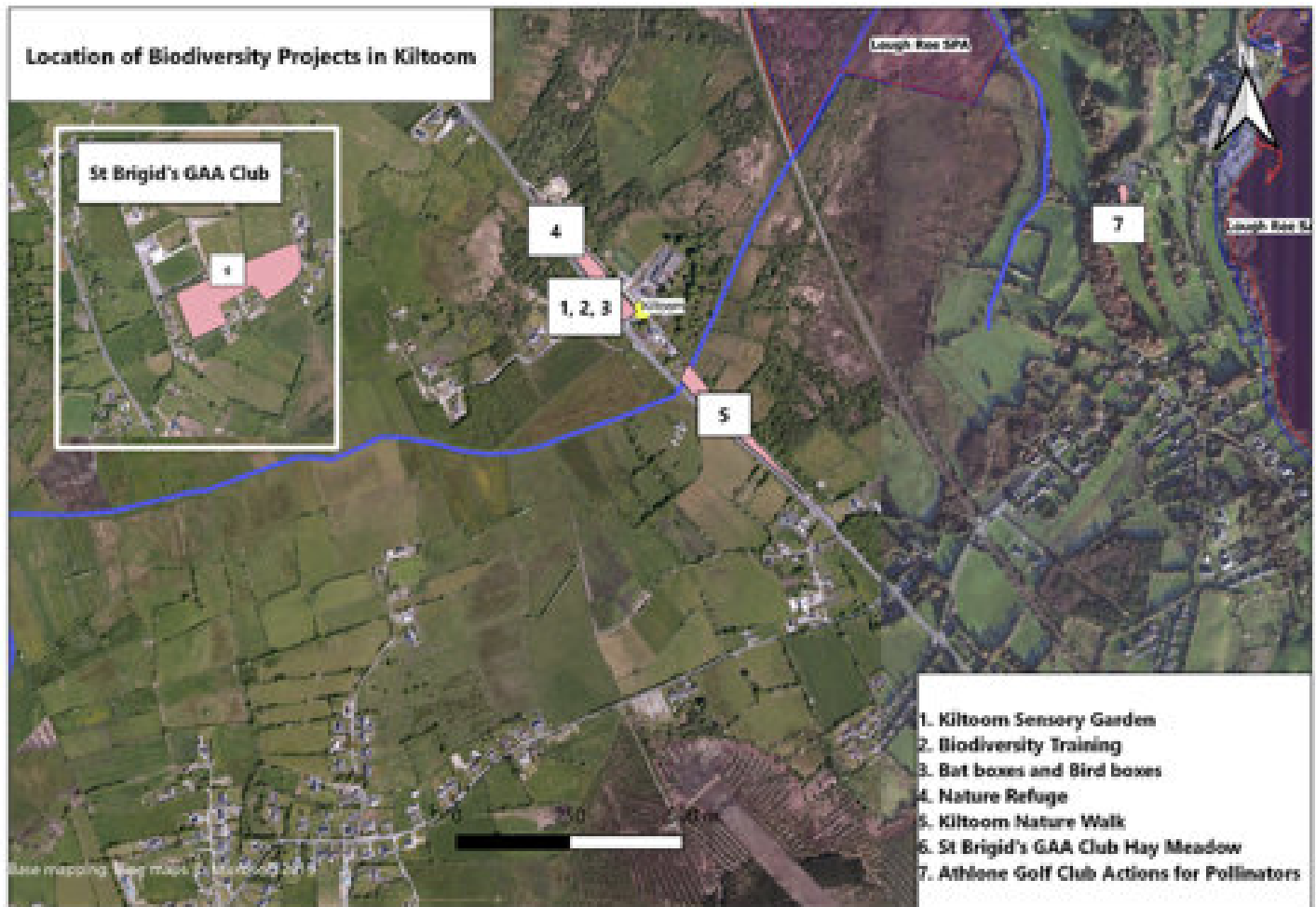
Older buildings and particularly those built of stone often provide nest sites for bird species and roosting opportunities for bats. Birds and bat may nest and roost in houses, farm buildings and other structures and it is important to be aware of this when planning renovations works to buildings.

#### ROADSIDE VERGES AND BANKS

Roadside verges and banks provide refuges for a variety of wildlife and are particularly important refuges for wildflowers and associated insects where they are not affected by fertilisation, pesticide and herbicides. On the old road beside Kiltoom Community Centre, wide grass verges have a good complement of wildflowers.



Fig. 1 Location of Biodiversity Projects in Kiltoom



## 4. BIODIVERSITY PROJECTS

This section outlines a number of projects that were proposed and discussed with Kiltoom Community through the course of a series of workshops. A map showing the locations of the projects is provided in Figure 1.

Prior to the process of producing this biodiversity plan Kiltoom Community Development Committee were in the final stages of preparing an ambitious plan for a sensory garden to be located across from Ballybay National School. This sensory garden will not only provide an excellent resource and amenity for children and adults but will also provide resources for wildlife, in particular, pollinating insects. A comprehensive planting plan with a huge variety of garden plants, herbs trees and shrubs will enhance this area and provide an excellent educational resource for

the school.

Additional to this, several other biodiversity projects have been identified during the course of the workshops involving other groups in the community. These projects not only provide opportunities for the conservation and enhancement of areas for biodiversity but also afford opportunities for people, in particular young people, to experience nature, to learn more about biodiversity and to get involved in active conservation and recording of biodiversity in their local area.

Table 1 provides a schedule for projects which was drawn up in consultation with the community and includes actions to conserve, raise awareness of and celebrate biodiversity in Kiltoom.

## SCHEDULE OF PROJECTS AND KEY MILESTONES

No.	PROJECT	PARTNERS	MILESTONES	YEAR
1	Kiltoom Sensory Garden	Kiltoom Community Development Committee	<p>Creation of a sensory garden incorporating a range of features for biodiversity including pollinator friendly planting, trees and shrubs.</p> <p>Engage the local school children in the creation and management of the garden</p>	Year 1&2
2	Biodiversity Training	Kiltoom Social Club	Engage a tutor for biodiversity training. Run course in biodiversity awareness and practical skills for wildlife gardening and actions for pollinators	Year 1-2
3	Bat boxes and bird boxes	Kiltoom Community Development Committee	<p>Erect bat boxes and bird nest boxes in remaining trees after clearing of vegetation for the new car park.</p> <p>Monitor the use of the boxes with school children</p>	Year 1-2
4	Nature Refuge	Kiltoom Community Development Committee	Highlight the woodland/scrub area between the old road and new road as a nature refuge. Engage an ecologist to draw up a management plan.	Year 1-3
5	Kiltoom Nature Walk	Kiltoom Community Development Committee	<p>Implement sensitive grass verge management along the old road.</p> <p>Promote the use of this path as a nature walk for schoolchildren and locals.</p> <p>Conduct bee and butterfly monitoring transects along this walk.</p>	Year 1-3
6	Hay meadow management and biodiversity awareness	St Brigid's GAA Club	<p>Manage the hay meadow for maximum biodiversity benefit collaborating with a farmer.</p> <p>Raise awareness amongst club members of the action for biodiversity.</p> <p>Promote biodiversity friendly practices to other GAA clubs.</p>	Year 1-3 and beyond



No.	PROJECT	PARTNERS	MILESTONES	YEAR
7	Actions for Pollinators at the Golf Club	Athlone Golf Club	<p>Raise awareness of pollinator friendly gardening by erecting signage to highlight the pollinator friendly planting (lavender beds) at the entrance to the club house.</p> <p>Alter the grassland management on the sloped grassland at the club house to allow the wildflowers to bloom.</p> <p>Review and consider actions from the pollinator guidance specific for golf courses available from the NBDC</p>	Year 1-3
8	Pollinator friendly planting	Mulvey's Garden Centre	<p>Facilitate and promote pollinator friendly planting and wildlife friendly gardening by displaying wildlife friendly plants.</p> <p>Provide information on flowering times so that customers can choose a variety of plants that flower through the season.</p>	Year 1

## PROJECT 1

### KILTOOM SENSORY GARDEN

Kiltoom Community Development Committee plan to create a sensory garden. The garden will include different distinct zones appealing to each of the senses. A comprehensive planting plan to include fruit trees and fruiting plants, swathes of grasses and highly scented plants such as honeysuckle, lilac and lavender. A pollinator garden planted with a range of plants to flower throughout the season and a garden dedicated to butterflies and wildflowers.



## PROJECT 2

### COMMUNITY BIODIVERSITY TRAINING

Kiltoom Community Development Committee in cooperation with Kiltoom Social Club plan to run a biodiversity animation programme to raise awareness within the community of biodiversity issues. It is proposed to engage a tutor and provide a series of talks and workshops over the winter months in biodiversity awareness, wildlife gardening and habitat management.

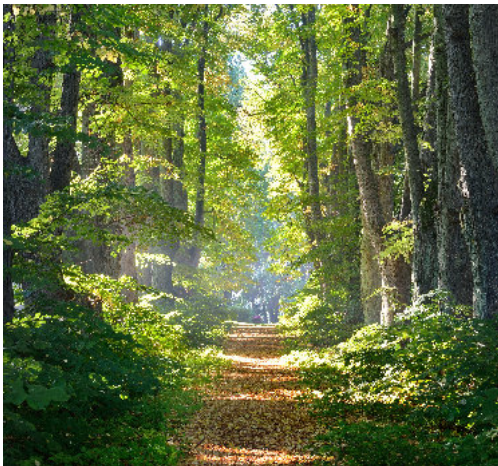
## PROJECT 3

### FACILITATING WILDLIFE WITH BIRD AND BAT BOXES

Kiltoom Community Development Committee plan to install a number of bat boxes and bird boxes in trees surrounding the car park. This is especially important to replace the loss of habitat when trees are removed for development or health and safety reasons.

## PROJECT 4

### KILTOOM NATURE REFUGE



Kiltoom Community Development Committee plan to protect and care for two semi-natural scrub/woodland areas along the partly abandoned and partly public old road at Ballybay Kiltoom Co. Roscommon. Advice from an ecologist will be sought with a view to preparing a management plan to promote the development of the woodland and a diverse ground flora. Management actions may

include for cutting back (but not removing) bramble and other competitive species to allow more light into the woodland floor to promote the germination of tree seedlings and the development of a diverse woodland flora. It is also proposed to raise public awareness of biodiversity actions and the wildlife associated with the nature reserve through the erection of interpretative signage.

## PROJECT 5

### KILTOOM NATURE WALK

Promote the use of the Ballybay Old Road as a nature walk. Manage the grassy verges by cutting once a year in autumn and remove the cuttings to promote the growth of wildflowers. Keep the bramble and nettles in check by cutting back but don't remove altogether as bramble and nettles are valuable wildlife resources.

Consider training for the bumblebee and butterfly monitoring schemes run by the National Biodiversity Data Centre. The old road walk would make an ideal transect. Record the number and diversity of bumblebees and butterflies encountered along the walk.



*The Old Road in Kiltoom is a safe nature walk*



## PROJECT 6

### ST BRIGID'S GAA HAY MEADOW MANAGEMENT & BIODIVERSITY AWARENESS



*The hay meadow at St Brigid's GAA club*

St Brigid's GAA club are fortunate to have a large hay meadow adjacent to the football pitches. The hay is currently cut every year by a local farmer. The GAA Club plan to review the management to ensure that it is of maximum benefit to biodiversity promoting the growth and proliferation of wildflowers. Awareness of this action for biodiversity and the value of the hay meadow for

biodiversity will be promoted to club members.

It would be useful to highlight this biodiversity project to promote and encourage management of marginal grassland areas in other GAA clubs around the country and to encourage support for the All Ireland Pollinator Plan by the GAA.

## PROJECT 7

### PROMOTING ACTIONS FOR POLLINATORS AT ATHLONE GOLF CLUB

Athlone Golf Club plan to support the All Ireland Pollinator Plan and to promote wildlife friendly gardening by highlighting the benefit of the lavender beds located at the entrance to the clubhouse to pollinators.

There is specific guidance available from the NBDC titled Pollinator-friendly Management of Golf Courses and this will be reviewed by the club to see how they can support the All Ireland Pollinator Plan. Members will be



consulted and made aware of any changes in mowing regimes or practices at the club to support pollinators.

As a start, consideration will be given to reducing the frequency of mowing of the sloped grassland areas at the entrance to the club house. These areas are currently mown short but have a good complement of wildflowers growing within the grassland. Reducing the cutting regime to every 6 weeks or so will allow the flowers to bloom. This simple action for pollinators will be highlighted to club members by erecting signage at the club house entrance.

## PROJECT 8

### PROMOTING AND FACILITATING WILDLIFE FRIENDLY GARDENING

Mulveys Garden Centre agreed to promote and help customers choose wildlife friendly plants at the garden centre. Pollinator friendly plants and other wildlife friendly trees and shrubs will be highlighted in displays. Mulveys also agreed to source packets of native Irish wildflower seeds for sale in the shop.

## 5. PROJECT RESOURCES

The next section provides a key card for each of the projects with the exception of Project 2 which is a training programme. Each key card outlines the objectives of each project, the key tasks and provides links to appropriate resources for undertaking the project. Some key resources are also provided in the Appendix.

### KILTOOM SENSORY GARDEN

#### **Objective(s):**

To create a sensory garden as an amenity and educational resource for the school and wider community.  
To provide resources for pollinators

**Partners:** Kiltoom Community Development Committee, Ballybay National School

#### **Key tasks:**

- Create and plant the garden as per the detailed design.
- Ensure a range of pollinator friendly plants that flower throughout the year are planted in the garden
- Engage the schoolchildren in identifying and recording the butterflies and bees and other wildlife visiting the garden
- Erect signage to highlight the wildlife of the area and your actions for pollinators.
- Work with the school to draw up a pollinator plan for the school

#### **Evaluation and citizen science**

- Record the different butterfly and bumblebee species with the schoolchildren.
- Submit your sightings (records) to the NBDC website <http://www.biodiversityireland.ie>
- Log your actions for pollinators <https://pollinators.ie/record-your-actions/>

#### **Resources**

- Junior Pollinator Plan <https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Junior-Pollinator-Plan-2018-WEB-1.pdf>
- School pollinator plan: <https://pollinators.ie/wordpress/wp-content/uploads/2018/05/How-to-guide-Schools-2018-WEB.pdf>
- List of pollinator friendly plants: <https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Planting-Code-2018-WEB.pdf>
- How to guide for pollinator actions: <https://pollinators.ie/resources/>
- Bumblebee Identification guides: <https://pollinators.ie/record-pollinators/id-guides/>
- Butterfly identification: <http://www.biodiversityireland.ie/record-biodiversity/butterfly-monitoring-scheme/about/how-to-identify-butterflies/>
- Identification swatch guides are available to purchase from the NBDC and are particularly useful for schoolchildren <http://www.biodiversityireland.ie/shop/>



## FACILITATING WILDLIFE WITH BAT BOXES AND BIRD BOXES

**Objectives:** To replace lost habitat and facilitate wildlife.

**Partners:** Kiltoom Community Development Committee, Ballybay National School

**Actions:**

- Trees and vegetation should only be removed in the autumn/winter outside the bird nesting season (March 1st to August 31st)
- All trees due for removal should be surveyed by an ecologist prior to removal to check for the potential bat roosts within the trees.
- Install 3 bat boxes for every mature tree removed. These can be purchased or man-made (see appendix).
- Orientate the boxes in three different aspect on the tree to provide a variety of temperature conditions (see detailed guidance in the appendix).
- Make or purchase bird boxes and install in remaining trees. Provide a variety of different boxes to suit different bird species. Be mindful of bird territorial behaviour and don't place the boxes too close to each other. (See detailed guidance in the appendix).
- Enlist the help of schoolchildren to monitor the use of the bird boxes.
- Record the bird species using the boxes.
- Submit your records of sightings to the NBDC ([www.biodiversityireland.ie](http://www.biodiversityireland.ie))

**Resources**

- Birdwatch Ireland resources for kids:  
<https://birdwatchireland.ie/our-work/fun-learning/>
- Records submission: : <https://records.biodiversityireland.ie/start-recording>
- Bat Conservation Ireland: <https://www.batconservationireland.org/>

## KILTOOM NATURE REFUGE

**Objective:** To prepare a management plan for the woodland/scrub nature refuge.

**Partners:** Kiltoom Community Development Committee

**Actions**

- Engage and ecologist to survey the woodland and to draw up a management plan
- Remove any litter with regular litter picks 4 times a year.
- Engage the school children in recording the plants and animal life in the woodland.
- This could be done as school project incorporating cross curricular studies.
- Promote the area as a nature refuge by installing signage. Install an interpretation board displaying the wildlife found including trees, wildflowers, birds and butterflies etc.

**Evaluation and citizen science**

- The woodland management plan will include regular monitoring surveys to track the progress of the woodland development.
- Record the bees and butterflies and other wildlife you observe and "submit your sightings" on the NBDC website

**Resources**

- Junior Pollinator Plan <https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Junior-Pollinator-Plan-2018-WEB-1.pdf>
- Native tree identification: <https://treecouncil.ie/tree-advice/native-species/>
- Record submission: <http://www.biodiversityireland.ie/record-biodiversity/>
- Bumblebee Identification guides: <https://pollinators.ie/record-pollinators/id-guides/>
- Butterfly identification: <http://www.biodiversityireland.ie/record-biodiversity/butterfly-monitoring-scheme/about/how-to-identify-butterflies/>
- Identification swatch guides are available to purchase from the NBDC and are particularly useful for schoolchildren <http://www.biodiversityireland.ie/shop/>

## KILTOOM NATURE WALK

**Objective(s):** To promote the growth of wildflowers along the old road and to engage in citizen science by participation in the bumblebee and butterfly monitoring scheme.

**Partners:** Kiltoom Community Development Committee

**Key tasks:**

- Review vegetation growing along the old road.
- Remove any litter with regular litter picks 4 times a year.
- Mow/ cut back 1 m grass verge either side of the road once a year in September/October. Remove the cuttings and compost.
- Monitor the growth of wildflowers. The aim is to get a good diversity and cover of wildflowers.
- Engage the schoolchildren in identifying and recording of wildflowers along the walk
- Erect signage to highlight the wildlife of the area and your actions for pollinators.

**Evaluation and citizen science**

- Consider participating in the NBDC bumblebee and butterfly monitoring scheme
- Record the number of different wildflowers each year
- Record the different butterfly and bumblebee species with the schoolchildren.
- Submit your sightings (records) to the NBDC website <http://www.biodiversityireland.ie>
- Consider participating in the NBDC bumblebee and butterfly monitoring schemes
- Log your actions for pollinators <https://pollinators.ie/record-your-actions/>

**Resources**

- How to guide for pollinator actions: <https://pollinators.ie/resources/>
- Bumblebee Identification guides: <https://pollinators.ie/record-pollinators/id-guides/>
- Butterfly identification: <http://www.biodiversityireland.ie/record-biodiversity/butterfly-monitoring-scheme/about/how-to-identify-butterflies/>
- Sign up for the bumblebee monitoring scheme and /or butterfly monitoring scheme.  
<http://www.biodiversityireland.ie/record-biodiversity/surveys/partners-surveys/>  
<http://www.biodiversityireland.ie/record-biodiversity/bumblebee-monitoring-scheme/>

## ST BRIGID'S GAA HAY MEADOW MANAGEMENT

**Objectives:** To manage the hay meadow within the GAA property to promote maximum flora and fauna diversity

**Partners:** St Brigid's GAA, local farmer

### Actions

- Liaise with local farmer to arrange an annual cut of the meadow. Avoid fertilising the grassland. Discuss cutting times with the farmer. Cutting in early September is preferable as this will allow later flowering species to set seed.
- Allow 10% of the grassland (around the margins usually where the machinery cannot reach) to be left uncut to provide shelter for insects during the winter.
- Some aftermath grazing would be beneficial in autumn. This keeps the grass growth in check, breaks up dead vegetation and creates bare ground for seed germination. If grazing is not possible consider harrowing or scarifying the ground with a rake. Alternatively consider holding a community event on the grassland area in autumn such as a family play day or fun football game or cross country running so as to create some disturbance to the soil.
- Consider collecting wildflower seed or green hay locally from roadside verges or other species-rich meadow and scatter on the grassland after scarification.
- Consider sowing yellow rattle seed after scarification in autumn. This will help control the dominance of grasses and promote wildflower diversity.
- Raise awareness of your action for pollinators amongst the GAA community by holding a family fun day in autumn at the meadow, erecting signage and promoting the action for biodiversity in the club newsletter and social media

### Evaluation and citizen science

- Engage an ecologist or local naturalist or botanist to survey the meadow grassland to record the number and diversity of grasses and wildflowers and other wildlife in the meadow every year to track the increase in species richness.
- Submit the records of plants and animals recorded in the meadow to the NBDC website <http://www.biodiversityireland.ie>
- Consider participating in the NBDC bumblebee and butterfly monitoring schemes
- Log your actions for pollinators <https://pollinators.ie/record-your-actions/>

### Resources

- <https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Farmland-Actions-to-Help-Pollinators.pdf>
- Local communities: Actions to help pollinators <https://pollinators.ie/resources/local-communities/>
- <https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Seeds-2018-WEB.pdf> <https://pollinators.ie/resources/>
- <https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Wildflower-Meadows-2018-WEB.pdf>
- **Seed sources:** EcoSeeds <https://www.ecoseeds.co.uk/>; Design by Nature: <http://www.wildflowers.ie/>; Irish Seed Savers: <http://www.irishseedsavers.ie/>
- **Signage:** <https://pollinators.ie/resources/>



## PROMOTING ACTIONS FOR POLLINATORS AT ATHLONE GOLF CLUB

**Objective(s):** To support the All-Ireland Pollinator Plan. To implement a reduced mowing regime on the sloped grassland areas at the entrance to the club to allow the wildflowers to bloom. To highlight these simple actions for biodiversity to the club members

**Partners:** Athlone Golf Club

**Key tasks:**

- Reduce the frequency of cutting on the sloped grassland area at the club entrance to every 6 weeks or so to allow wildflowers to bloom. Remove all cuttings and compost. A short cut margin can be mown around the edges to maintain a neat appearance.
- Erect simple signage to raise awareness of your action for pollinators and highlight the value of the existing lavender beds for pollinators
- Review the guidance for Pollinator-friendly management of golf courses available from the NBDC and consider implementing some of the actions on the golf courses and around the club grounds
- Erect signage to raise awareness of your actions for pollinators (signage templates available <https://pollinators.ie/resources/>)

**Evaluation and citizen science**

- Monitor the success of the new mowing regime to ensure the flowers have a chance to bloom
- Consult club members and monitor their reactions and support for the pollinator plan
- Log your actions for pollinators <https://pollinators.ie/record-your-actions/>

**Resources**

- [https://pollinators.ie/wp-content/uploads/2019/06/Pollinator-friendly-management-of-Golf-Courses\\_June-2019.pdf](https://pollinators.ie/wp-content/uploads/2019/06/Pollinator-friendly-management-of-Golf-Courses_June-2019.pdf)
- Actions to help pollinators <https://pollinators.ie/resources/local-communities/>
- How can you help pollinators in your garden [https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Gardens\\_actions-to-help-pollinators-2018-WEB.pdf](https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Gardens_actions-to-help-pollinators-2018-WEB.pdf)
- Signage templates: <https://pollinators.ie/resources/>

## PROMOTING ACTIONS FOR POLLINATORS AT ATHLONE GOLF CLUB

**Objective(s):** To provide advice and highlight pollinator and wildlife friendly plants at the garden centre

**Partners:** Mulveys Garden Centre

**Key tasks:**

- Highlight native trees and shrubs and their benefit to wildlife
- Arrange pollinator friendly plants and wildlife friendly shrubs and trees in the garden centre where they can be easily found. Erect simple signage to highlight.
- Highlight the flowering times of the pollinator friendly plants so that customers can choose a range of plants that flower at different times throughout the year.
- Source native Irish wildflower seed for sale in the shop. Don't stock non native wildflower seed.
- Erect simple signage to show your support for the All Ireland Pollinator Plan.

**Resources**

- Pollinator friendly plants: <https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Planting-Code-2018-WEB.pdf>
- Signage templates: <https://pollinators.ie/resources/>
- Businesses actions to help pollinators: [https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Businesses\\_actions-to-help-pollinators-2018-WEB.pdf](https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Businesses_actions-to-help-pollinators-2018-WEB.pdf)
- Business technical appendix: [https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Businesses\\_actions-to-help-pollinators\\_Technical-Appendix-2018-WEB.pdf](https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Businesses_actions-to-help-pollinators_Technical-Appendix-2018-WEB.pdf)

## APPENDIX A

### 1.1 GUIDELINES FOR PLANTING A NATIVE HEDGEROW

#### WHICH SPECIES?

- The best guide is to look at hedgerows growing locally and plant the same native species.
- Plant native species which are adapted to Irish conditions and benefit wildlife more.
- Locally grown plants, tolerant of local conditions, are likely to thrive.
- Plants grown from locally collected seed conserves local provenance.
- Thorny species such as hawthorn or blackthorn are essential for a stock proof hedgerow.
- A variety of species provides a varied food supply throughout the year for more wildlife. Include another hedgerow species or climber approximately every metre for stock proof hedgerows.
- If stock proofing is not a consideration plant 4 or 5 different species for a species-rich hedgerow.
- Include a tree species at irregular intervals, provided it will be allowed to grow up and is NOT topped when routinely trimming the hedgerow.
- Avoid non-native trees that cast dense shade, such as sycamore, beech and chestnut.
- If native varieties are not available, do not use ornamental garden varieties as they crowd out the desired plants and are not so good for biodiversity.

#### HEDGEROW SPECIES

These species survive routine trimming as a hedgerow while individual stems can be allowed to grow up and mature into trees.

- Hawthorn (*Crataegus monogyna*): Predominant hedgerow species. Hardy, fast-growing and tolerates most soils except very wet.
- Blackthorn (*Prunus spinosa*) suits most soils except very wet. Suits exposed and coastal sites. Spreads by suckers, good for gapping up.
- Holly (*Ilex aquifolium*): slow growing evergreen. Tolerates exposed sites and shade. Suitable under trees. Male and female plants required for berries.
- Spindle (*Euonymus europaeus*): prefers alkaline, but tolerates a wide range of soils. Open, infertile site better for fruit production.
- Guelder rose (*Viburnum opulus*): prefers alkaline, fertile, clay soils and neutral wet soils. Acid soils unsuitable. Competitive in new hedgerows.
- Hazel (*Corylus avellana*): prefers heavier, fertile soils. Tolerates some shade. Understory species.

#### CLIMBERS

Climbers colonise hedgerows, but can be planted.

- Dog rose (*Rosa canina*): tolerates wide range of soils. Provides rose hips.
- Honeysuckle (*Lonicera periclymenum*): prefers neutral to light acid soils. Notable scented flowers.

#### TREES

These trees are suitable in hedgerows, provided they are allowed to grow up and mature and are not topped when trimming the hedgerow.

- Alder (*Alnus glutinosa*): useful for very wet sites and river banks. Adapted to most soils. Ideal nurse species as shelters new hedgerows and fixes nitrogen.
- Crab apple (*Malus sylvestris*): thrives in all fertile and heavy soils.
- Downy birch (*Betula pubescens*): suits poorly drained peat.
- Silver birch (*Betula pendula*): needs good drainage and sunny site.
- Willows (*Salix* spp.): useful for wet sites and stabilising river banks. Tolerate flooding. Fast growing.
- Wild cherry (*Prunus avium*): prefers fertile soils. Wet soils unsuitable. Shallow rooting. Tolerates some shade. Susceptible to bacterial canker.
- Rowan (*Sorbus aucuparia*): grows in poor thin acid soils. Suits exposed sites. More fruit in open infertile sites.
- Wych elm (*Ulmus glabra*): Suitable for sandy, loamy and clay soils but prefers well drained soil. Suits acid, neutral and basic soils.
- Pedunculate oak (*Quercus robur*): prefers clay soils and damp lowlands. Poorly drained infertile soils unsuitable.
- Ash\* (*Fraxinus excelsior*): prefers well drained neutral to alkaline soils. Tolerates exposed or coastal areas. Shallow rooting system doesn't suit tillage fields. Casts shade.

\*Note: Due to the spread of ash dieback disease (*Chalara fraxinea*) planting large numbers of ash trees is not recommended and planting ash is not grant aided.

## APPENDIX A

### 1.1 GUIDELINES FOR PLANTING A NATIVE HEDGEROW (CONTINUED)

#### HEDGEROW PLANTING

##### WHEN?

Hedgerow planting should be done during the tree planting season between November and February. To make planting easier, cover the ground with black polythene at least 6 months before hand to suppress existing vegetation.

##### SPACING

- It is recommended to plant 7 plants/metre in a double staggered row. This means a spacing of 300mm (1') between plants in each row and at least 300mm (1') between the two rows. Of the 7 plants in every metre, at least 6 should be hawthorn for a stock proof hedgerow.
- The other plant in every metre should come from the list above which tolerate routine trimming.
- If stock proofing is not a consideration then a more species rich hedge can be planted choosing up to four species from the list above.

#### PLANTING

- Prepare the ground and ensure that plant roots do not dry out. This can be done by keeping them in their bag in a cool place until planting or dig them into a temporary trench. During planting, avoid exposing the plants to air.
- Dig a trench and plant to the same depth as previously planted in the nursery.
- Hawthorn, blackthorn and dog-rose should be cut back to 100mm (4") from ground level to promote shoots at this level. Leave a few hawthorns un-pruned, placing tree shelters on them to identify and protect as single stemmed mature trees.
- Identify a few other species for retention as single stemmed trees. Trees such as pedunculate oak, ash and rowan are also suitable.
- Retain approximately ten single stemmed small trees per 300 m; too many make hedge cutting difficult and cast shade on the hedgerow.

#### ON-GOING MANAGEMENT

- Water in dry weather
- Control competing vegetation to prevent smothering and allow lower branches develop, giving a dense base.
- Manual weeding
- Mulching immediately after planting helps weed control. Mulch such as wood chippings, paper or cardboard must extend 150mm outside the plants.
- Fence off livestock using temporary fencing. Consider livestock reach and future access for machine trimming, when positioning the fence. Rabbit proof fencing may be needed to protect from rabbits or hares.
- Replace plants which fail to grow.
- For the first few years after planting, cut hawthorn back to 75mm (not other species) above previous level of cut, gradually shaping into a triangular profile.

---

#### BIBLIOGRAPHY:

Teagasc (2009). Countryside Management Series 4 New Farm Hedgerows.  
Tree Council of Ireland. [www.treecouncil.ie](http://www.treecouncil.ie)



## APPENDIX B

The following table provides a list of some pollinator friendly plants. The list is not exhaustive and your local nursery can advise on other pollinator friendly plants.

**Important:** In towns and villages non-native horticultural or ornamental plants can be an important additional food source for pollinators. It is important to choose species that are good sources of nectar and pollen. However, you should not plant these in natural or semi-natural habitats. They should also not be planted in farmland (outside of farm gardens).

### SOME POLLINATOR FRIENDLY PLANTS

#### TREES AND SHRUBS

SPRING	SUMMER	AUTUMN/ WINTER
Apple ( <i>Malus sp.</i> )	Rock Rose	Hebe
Field maple ( <i>Acer campestre</i> )	Horse chestnut ( <i>Aesculus</i> )	Ivy
Willow ( <i>Salix sp.</i> )	Deutzia	Honeysuckle ( <i>Lonicera sp.</i> )
Crab apple ( <i>Malus sylvestris</i> )	Firethorn ( <i>Pyracantha sp.</i> )	Tree ivy
Wild Cherry ( <i>Prunus avium</i> )*	Laburnum	Barberry ( <i>Mahonia</i> )
Rowan ( <i>Sorbus aucuparia</i> )*	Viburnum	Musk willow ( <i>Salix aegyptiaca</i> )
Broom ( <i>Cytisus sp.</i> )	Foxglove tree ( <i>Paulownia tomentosa</i> )	Sweet box ( <i>Sarcococca confusa</i> )
Forsythia	Blackcurrant ( <i>Ribes nigrum</i> )	Sweet box ( <i>Sarcococca hookeriana</i> )
Viburnum sp.	Redcurrant ( <i>Ribes rubrum</i> )	
Bird cherry ( <i>Prunus padus</i> )*		
Hawthorn ( <i>Crataegus monogyna</i> )*		
Juneberry Tree <i>Amelanchier x</i>		

## SOME POLLINATOR FRIENDLY PLANTS

## PLANTS AND HERBS

SPRING	SUMMER	AUTUMN/ WINTER
Hellebores ( <i>Helleborus sp.</i> )	Columbine ( <i>Aquilegia</i> )	Heathers
Rosemary ( <i>Rosemarinus officinalis</i> )	Yarrow ( <i>Achillea</i> )	Lavender ( <i>Lavandula</i> )
Castor Oil plant ( <i>Fatsia japonica</i> )	Bistort ( <i>Persicaria bistorta</i> )	Asters
Bugle* ( <i>Ajuga reptans</i> )	Angelica ( <i>Angelica</i> )	Catmint ( <i>Nepeta</i> )
Aubrieta	Bell flowers ( <i>Campanula</i> )	Raspberry ( <i>Rubus</i> )
Wallflower ( <i>Erysimum</i> )	Chives ( <i>Allium</i> )	Eupatorium
Cranesbills ( <i>Geranium</i> )	Comfrey ( <i>Symphytum</i> )	Scabious ( <i>Knautia, Scabiosa</i> )
Blueberry ( <i>Vaccinium</i> )	Foxglove ( <i>Digitalis</i> )	Snapdragon ( <i>Antihirrhums</i> )
Skimmia ( <i>Skimmia japonica</i> )	Hebe	Sunflowers ( <i>Helianthus</i> )
Pasque flower ( <i>Pulsatilla vulgaris</i> )	Lupin ( <i>Lupinus</i> )	Ivy ( <i>Hedera helix</i> )
Spurges ( <i>Euphorbia sp.</i> )	Monkshood ( <i>Aconitum</i> )	Chrysanthemums
Lungwort ( <i>Pulmonaria sp.</i> )	Sage ( <i>Salvia</i> )	Borage ( <i>Borago</i> )
Perennial candytuft ( <i>Iberis sempervirens</i> )	Thyme ( <i>Thymes</i> )	Majoram ( <i>Origanum</i> )
Elephant ear ( <i>Bergenia sp.</i> )	Coneflower ( <i>Echinacea purpurea</i> )	Knapweed ( <i>Centaurea</i> )
Leopard's bane ( <i>Doronicum × excelsum</i> )	Bell Heather ( <i>Erica cinerea</i> )*	Larkspur ( <i>Delphinium</i> )
Green alkanet ( <i>Pentaglottis</i> )	Red Turtlehead ( <i>Chelone obliqua</i> )	Dahlia species & hybrids (Dahlia)
	Bugbane ( <i>Actaea simplex</i> )	Salvia species (Sage - autumn-flowering)
	Bee Balm ( <i>Monarda</i> )	<i>Aconitum carmichaelii</i> (Carmichael's monk's)
	Oxeye sunflowers ( <i>Heliopsis sp.</i> )	<i>Helianthus × laetiflorus</i> (Perennial sunflower)
	Black-eyed Susan ( <i>Rudbeckia</i> )	<i>Leucanthemella serotina</i> (Autumn ox-eye)
	Wallich Mil Parsley ( <i>Selinum wallichranum</i> )	Majoram ( <i>Origanum</i> )

## SOME POLLINATOR FRIENDLY PLANTS

## BULBS

SPRING	SUMMER	AUTUMN/ WINTER
Winter aconite ( <i>Aconitum</i> )	Onion (Allium species ornamental and edibles)	Colchicum species (Autumn crocus)
Bluebell*( <i>Hyacinthoides non-scripta</i> )		Russian Sage
Crocus		Winter aconite ( <i>Eranthis hyemalis</i> )
Grape hyacinth ( <i>Muscari armeniacum</i> )		Snowdrop ( <i>Galanthus sp.</i> )
Single flowered dahlia		





## APPENDIX C

### CONSTRUCTING BIRD BOXES AND SELECTING THEIR LOCATION

1.

Use a plank of wood about 150 mm wide and 15 mm thick. Cut out pieces to the dimensions opposite. The bottom of the entrance hole must be 125 mm from the floor. The inside wall below the entrance hole should be rough to help the young birds to clamber up when it's time for them to leave.

2.

When assembling the box use screws or galvanised nails.

3.

Attach the lid with a brass or a plastic hinge that will not rust, or hinge it with a strip of leather or rubber (an old piece of bicycle inner tube will do). Fasten it down with a good catch. Do not nail down the lid, since you will need to clean out the box in the autumn

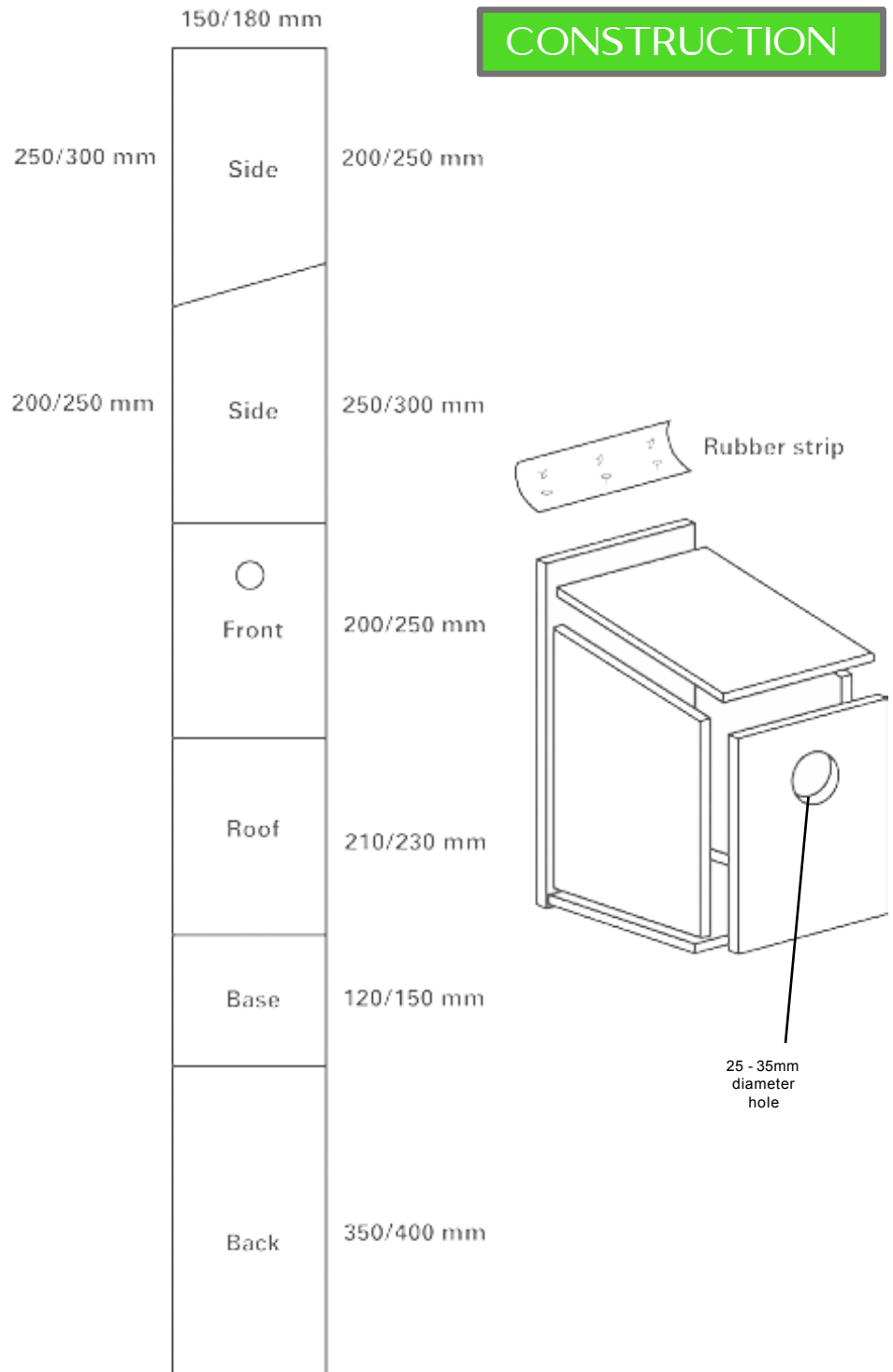
4.

By altering the size of the hole you can make a box to suit different species.

- Blue tit and coal tits~25 mm
- Tree sparrow~28 mm
- House sparrow~32 mm

5.

It is best to use hardwood and leave the wood untreated. Softwood boxes can be treated with selected water-based preservatives, which are known to be safe for animals, such as Sadolin.



MAKE THE SAME BOX WITH THE UPPER HALF TAKEN AWAY ALTOGETHER FOR ROBIN, PIED WAGTAIL AND WREN.

## LOCATION SELECTION

Put your nest box up before the start of the breeding season in February. If you put the box up in winter and put a small handful of wood shavings inside, birds may roost in it for warmth.

Don't use straw as this will become damp and mouldy over the winter. The box should be located at least 2 m from the ground (preferably 3-5 m) so cats, other predators and curious people (especially children) don't disturb the nesting birds.

Choose a location that is situated away from bird tables and feeders as nesting birds are territorial and may feel threatened by other birds

feeding nearby. Unless there are trees or buildings which shade the box during the day, face the box between north and south-east, thus avoiding strong sunlight and the wettest winds. Make sure that the birds have a clear flight path to the nest box without any obstructing vegetation directly in front of the entrance. Tilt the box forward slightly so that any driving rain will hit the roof and bounce clear.

Use a wire strap to attach the box to a tree to avoid damaging the tree and check annually to ensure the wire is not cutting into the tree trunk.

Open-fronted boxes for robins and wrens need to be situated low down, below 2 m, well hidden in vegetation such as dense bramble thickets.

## NEST BOX CARE

If birds take up residence in your nest box, avoid going near the box or disturbing the nest as this may result in the parent birds abandoning their young. Observe and admire the activity from afar, preferably from inside looking through a window.

The box can be opened from the end of October and cleaned out. Empty out old nest material and any unhatched eggs and clean the inside of the box with boiling water to kill off any parasites that may be still in the box.



## APPENDIX D

### CONSTRUCTING BAT BOXES AND SELECTING THEIR LOCATION



Bats are social animals and often congregate in large numbers. Providing bat boxes offer bats additional roosting areas, or can often help to replace lost or degraded roosting sites such as demolition of old buildings.

#### BAT BOX CONSTRUCTION

There are many designs for bat boxes. Check the resources page for alternatives. Bat boxes should be draught free and preferably painted black with a non-toxic paint to allow for maximum absorption of heat during the day

that keep the bats warm. The bat box described below is for summer occupancy since it lacks the required insulating properties to make it suitable for a hibernation site.

#### MATERIALS AND CONSTRUCTION

- The only critical measurement is the width of the crevices: between 15-20mm.
- This kit requires approximately 1.6m of rough wood and 25 screws (8 x 1 ½ inches) to assemble

- Pre-drill the holes to prevent the wood splitting.
- Box should be made from untreated rough sawn timbers.
- Timber should be about 20 mm thick.
- The box should be rainproof and draught-free.
- Crevices can be between 15-20 mm wide
- Fixings may be by use of brackets, durable bands or wires



## LOCATING YOUR BAT BOX

Bat boxes are best positioned as high as possible but at least 4 or 5 m from the ground in a sheltered and wind free position, exposed to the sun for part of the day (6-8 hours). They can be fitted to walls, other flat surfaces and trees. A clear flight line to the entrance is important. Ideally put up 2-3 boxes in a group with varying aspects ranging from south east to south west, e.g. around a tree trunk, as bats may move between roosts to remain comfortable.

Bats are nocturnal and adapted to low light conditions. Artificial light sources should not be directed onto bat boxes or flight paths as most bat species find artificial lighting very disturbing. Don't position bat boxes in areas that are illuminated at night.

Bat boxes are more likely to succeed in areas where bats are frequently found in buildings and where there is a good mixture of habitat such as trees nearby. Bat boxes may be more successful if located close to a linear feature such as a line of trees or hedgerow. Some bat species use these features for navigation between their roosting sites and feeding grounds thus avoiding flying in open and exposed areas. Ensure the bats approach to the

box is not impeded, for example by branches – clear away underneath the box so the bats can land easily before crawling up into the box.

If fixing the box to a tree, use headless or domed nails not fully hammered home to allow the tree to push the box off without splitting, or strap the box to the tree. Iron nails can be used on trees with no commercial value. Copper nails can be used on conifers, but aluminium alloy nails are less likely to damage saws and chipping machinery.

On buildings, place the boxes as high as possible to reduce the likelihood of the bats falling prey to cats or being disturbed by humans. As with trees, the aspect of the box on the building should capture sun for part of the day.

## MONITORING BAT BOXES

Making and erecting bat boxes is a great conservation action but what is more beneficial is to establish whether they are being used, at what time of year and by which species. There are nine species of bat found in Ireland.

## HOW LONG BEFORE BATS USE THE BOX?

Sometimes it may take several years for the bats to find the box. Be patient!

It is highly unlikely bats will shift their roost from a well-used site to a newly positioned box and there may be plenty of other suitable roosting sites in the area. However, at other times bats will use the box within a few months, and if you are extremely lucky, maybe even within a few weeks!

## HOW WILL I KNOW IF THE BOX HAS BEEN SUCCESSFUL?

To check if the box is being used, look out for droppings, urine staining, listen for 'chattering' and watch the box for an hour either side of sunset to observe any bats leaving to feed.

**Remember disturbance of a bat roost is an offence under the Wildlife Acts 1976 and 2000). Therefore, a bat box should not be opened or interfered with unless the person is licensed to do so.**

## APPENDIX E

### BIODIVERSITY RECORDING



Submitting records of species that you have observed and submitting them to the National Biodiversity Data Centre (NBDC) or another dedicated recording scheme is a great and practical means to become involved in biodiversity conservation. You are also improving your wildlife identification skills and getting ‘back in touch with nature’. Such data is very important and is used in research, policy formation and contributes greatly to our knowledge of biodiversity and its conservation.

The NBDC collate records of all species recorded, in addition to running targeted recording schemes such as the butterfly and bumblebee recording schemes. Anyone can get involved and they are keen to recruit new recorders. Visit [www.nbdc.ie](http://www.nbdc.ie) for details.

#### HOW TO STORE AND SUBMIT RECORDS

The information recorded needs to be as accurate as possible. To take an accurate record you need to:

- Correctly identify the species (or get help in doing so)
- Record when (the date) and where you saw it. For the location, you need a grid reference. You can submit records to the NBDC centre through their online records submission form. This has a “find a

grid reference feature” to easily find an accurate location for your record.

- You can also submit records for any wildlife species using their Biodiversity Smartphone App.

The number of conservation organisations running citizen science recording projects in Ireland is continually increasing:

- Birdwatch Ireland run the Garden Bird Survey and other more specialised recording schemes such as the Countryside Bird Survey, Irish Wetlands Bird surveys (iWeBS). They also coordinate ‘species action projects’ such as the Swift Nest Box project and Barn Owl Project which you may be able to get involved with. Visit [www.birdwatchireland.ie](http://www.birdwatchireland.ie)
- The Irish Wildlife Trust also run targeted recording schemes such as for smooth newt and common lizard. Visit [www.iwt.ie](http://www.iwt.ie)
- For botanical recording contact the Botanical Society of Britain and Ireland (BSBI). The BSBI run several outings a year and are very encouraging to new and emerging botanists and members. Visit <http://www.bsbi.org.uk/ireland.html>
- Submit wildlife sightings and sightings of road kill to [www.biology.ie](http://www.biology.ie)



Riadas na hÉireann  
Government of Ireland



Coimisiún Eorpach  
European Union  
Rural Development  
Programme 2014-2020

The LEADER Programme 2014-2020 is financed by the Department of Rural and Community Development under the Rural Development Programme 2014-2020 and by the EU under the European Agricultural Fund for Rural Development. Europe investing in rural areas.