

KNOCKCROGHERY COMMUNITY BIODIVERSITY ACTION PLAN 2019-2023



ACTIONS FOR BIODIVERSITY IN KNOCKCROGHERY



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 Knockcroghery Tidy Towns 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 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 thus reflecting their awareness and concern for



wildlife and habitats. The aim of this project is to further build on 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 Knockcroghery

An 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) 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 KNOCKCROGHERY

Knockcroghery (*Cnoc an Chrocaire*) is a village in Co. Roscommon.

It is located between Athlone and Roscommon town, near Lough Ree on the River Shannon.



View of Lough Ree

3.1 DESIGNATED SITES

Knockcroghery is located 1.5 km west of 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 KNOCKCROGHERY (CONT)

3.2 HABITATS IN KNOCKCROGHERY

TREELINES AND HEDGEROWS

Treelines and hedgerows border the agricultural land and some farmyards in and around Knockcroghery. 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 AND STREAMS

Knockcroghery Stream bisects the village and is bordered by tall treelines. It flows into Lough Ree. The community have cleaned up the stream and it is an important amenity resource for the community. The Lecarrow stream arises just east of the village and also enters Lough Ree. These streams provide ecological and

hydrological connectivity to the Lough Ree SAC and SPA.

WOODLANDS

There are small pockets of woodland located around the village. Broadleaved woodland has developed on an archaeological site just south of Dun Ard. Other pockets of woodland are associated with older farmsteads.

GRASSLANDS

Knockcroghery Tidy Towns currently manage several areas of meadow grassland in and around the village. Wildflower meadows are managed at Dun Ard, on a roadside verge near the railway crossing and along other verges with plans to extend their management to other areas of meadow grassland in the future. These meadows are species rich. Yellow rattle a species characteristic of old hay meadows occurs in the meadow at Dun Ard. Wet meadows occur at Ashwood and Greenhills Estates. Common spotted orchids were noted at the verge of the wet meadow at Ashwood

There is a large area of amenity grassland in the central park area in the village. This large area could be enhanced both visually and for wildlife with some areas managed as meadow grassland and wildflower lawns.

STONEWALLS AND BUILDINGS

Stonewalls are a feature of the village with a lovely example bordering the main road. Stone walls also feature along field boundaries often obscured by hedgerows. Stone 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.



Knockcroghery Stream

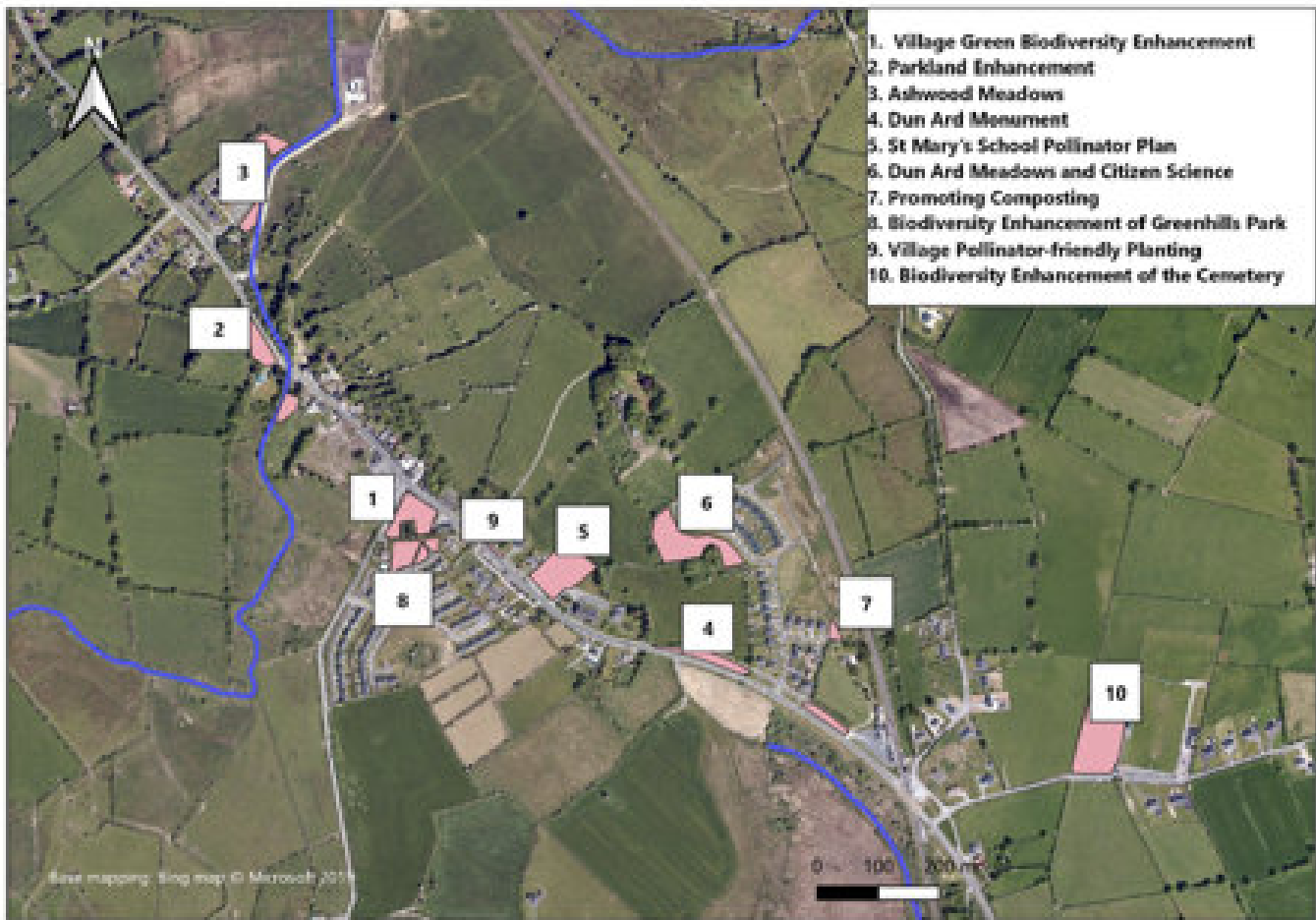


Species rich wildflower meadow at Dun Ard



Stone wall in Knockcroghery

Fig. 1 Location of Biodiversity Projects in Knockcroghery



4. BIODIVERSITY PROJECTS

This section outlines a number of projects that were proposed and discussed with Knockcroghery Tidy Towns Group 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 Knockcroghery Tidy Towns were already implementing reduced mowing regimes and annual mowing for meadow grassland around the village. Further areas for reduced mowing were discussed and identified during the workshops. The Tidy Town group is very well equipped to implement the meadow

mowing regimes acquiring suitable tractors and machinery for the tasks.

Several other biodiversity projects have been identified during the course of the workshops. These projects provide opportunities for the conservation and enhancement of areas for biodiversity.

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 Knockcroghery.

SCHEDULE OF PROJECTS AND KEY MILESTONES

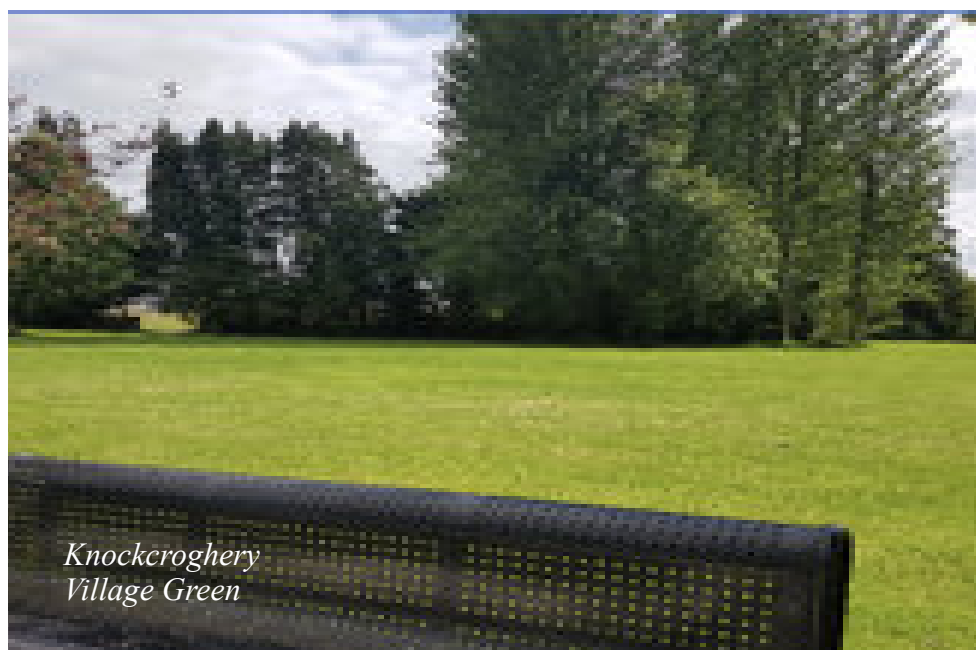
| No. | PROJECT | PARTNERS | MILESTONES | YEAR |
|-----|-------------------------------------|---|--|--------------------|
| 1 | Village Green Biodiversity | Knockcroghery Tidy Towns | Consult with local community on proposed change in grassland management to village green. Run a family fun day to highlight the work of the Tidy Towns and to attract more volunteers. | Year 1-2 |
| 2 | Parkland Enhancement | Knockcroghery Tidy Towns | Reduce the frequency of mowing around the beech and chestnut trees. Plant native spring bulb e.g. bluebells and wild garlic Plant native trees to fill gaps in Maintain a wide long meadow grassy verge to hedgerow boundary | Year 1-2 |
| 3 | Ashwood meadows | Knockcroghery Tidy Towns Ashwood Residents | Consult with local residents about reduced mowing regime for meadow grassland. Create a designated composting area Raise awareness of the negative impacts of garden waste tipping. Manage 2-3m verge to wet meadow for orchids | Year 1-3 |
| 4 | Dun Ard Monument | Knockcroghery Tidy Towns | Plant native hedgerow along wall. Revise grass cutting to create areas of wildflower lawn around the Dun Ard monument. | Year 1 |
| 5 | St Mary's School Pollinator Plan | Knockcroghery Tidy Towns St Mary's National School | Work with local school to draw up a pollinator plan for school. Conduct an annual field trip with schoolchildren to visit the meadows in May/June. Install signage to raise awareness of actions for pollinators | Year 1-3 |
| 6 | Dun Ard Meadows and Citizen Science | Knockcroghery Tidy Towns | Monitor the plant species diversity in the meadow Delay cutting until September if possible. Consider participating in the bee and butterfly monitoring scheme. | Year 1-3 & ongoing |

| No. | PROJECT | PARTNERS | MILESTONES | YEAR |
|-----|--|---|---|----------|
| 7 | Compost project | Knockcroghery Tidy Towns | Create a designated composting area for Tidy Towns grass cutting. Use compost in garden planting. Avoid the use of peat-based compost. | Year1 |
| 8 | Greenhills Estate | Knockcroghery Tidy Towns Greenhill Residents | Consult with local residents on management plan for green parkland area. Consider meadow management, orchard and hedgerow planting | Year 1-2 |
| 9 | Pollinator Planting | Knockcroghery Tidy Towns | Plant additional pollinator friendly perennial plants in village planting schemes. Erect signs to raise awareness of pollinator friendly plants | Year 1-2 |
| 10 | Biodiversity enhancement of the cemetery | Knockcroghery Graveyard Committee | Plant wildlife friendly climbers along wall Plant native trees along the hedgerow. | Year 1-2 |

PROJECT 1

VILLAGE GREEN BIODIVERSITY ENHANCEMENT

Knockcroghery Tidy Towns plan to consult with the local community with a view to changing the mowing regime of the village green to enhance the area for biodiversity. Consideration will be given to changing the mowing regime to create areas of wildflower meadows and /or wildflower lawns. Additional tree planting could also be considered. A community event to highlight the work of the Tidy Towns would be a good idea celebrate the work of the Tidy Towns Group and raise awareness of actions for biodiversity.



PROJECT 2

PARKLAND ENHANCEMENT

This project will aim to enhance the large grove of chestnut and beech trees by underplanting with bluebells and wild garlic. The hedgerow to the field boundary will be planted with native tree species to fill in

gaps and a wide grassy verge maintained along the hedgerow. The riverside parkland will be enhanced by repairing the stone wall and underplanting the trees with bluebells.



PROJECT 3

ASHWOOD MEADOWS



Common Spotted Orchid

Knockcroghery Tidy Towns plan to work with the Ashwood Residents to maintain an area of meadow grassland along by the river. This will enhance the river corridor here. A designated composting area for the grass cutting collected will be provided to discourage garden waste tipping.

In addition, the wet meadow at the back of the estate will be brought into management.

Common spotted orchids grow at the margin of the grassland where the sward is shorter. A 2 metre wide margin along the edge of the grassland will be cut once a year in September to encourage the growth of the orchids and other wildflowers. The sward height will be monitored and cut again before March if growth is strong. Consideration will be given to managing the entire grassland area if it is not too wet to mow.

PROJECT 4

DUN ARD MONUMENT

A native hedgerow will be planted along the wall to connect an existing hedgerow with the treeline along "The Priest's Field". The mowing regime along the wide grass verge will be reviewed to create a pattern of wildflower lawn within the grassland.

PROJECT 5

ST MARY'S SCHOOL POLLINATOR PLAN

Knockcroghery Tidy Towns will work with the St Mary's National School to encourage them to draw up a pollinator plan for the school. A field trip to Dun Ard Meadow in May or June would be an excellent opportunity for schoolchildren to experience the wildlife of the meadows.



PROJECT 6

DUN ARD MEADOWS AND CITIZEN SCIENCE

Dun Ard meadows are a lovely example of hay meadow habitat. The hay is currently cut every year by a local farmer. Consider delaying the cut till September to allow late flowering species to set seed. Monitor the species richness in the grassland by recording the plant species every year. Collect yellow rattle seed and use to sow into other meadow grasslands around the village to promote wildflower diversity.

It would be useful to highlight this biodiversity project to promote and encourage

management of marginal grassland areas in other green areas and gardens in Knockcroghery and to encourage support for the All-Ireland Pollinator Plan by residents.

Monitor bee and butterfly populations in the meadow. Consider joining the bee and/or butterfly monitoring scheme with the NBDC. Do a walked 1.5 km transect incorporating the meadows.



PROJECT 7

PROMOTING COMPOSTING

Knockcroghery Tidy Towns plan to create a designated area for composting of grass cutting and other plant waste for the Tidy Towns workers. The compost can then be used to enrich

planting beds and avoid the use of peat based compost. Raise awareness of composting amongst residents to discourage garden tipping of grass cutting into waysides and to encourage home composting.

PROJECT 8

BIODIVERSITY ENHANCEMENT OF GREENHILLS PARK

Knockcroghery Tidy Towns plan to consult the residents of Greenhills Estate to consider enhancing the green areas for biodiversity. Consideration is being given to managing the overgrown wet meadow grassland to create areas of meadow grassland and wildflower lawns of varied sward height. Other suggestions include a community orchard and hedgerow planting to create additional habitat in this area. Paths may be mown around seating to create access.



The wet grasslands at Greenhills estate

PROJECT 9

VILLAGE POLLINATOR-FRIENDLY PLANTING

Knockcroghery Tidy Towns plan to enhance the village planting beds with additional pollinator-friendly planting. A range of plants species will be chosen to ensure flowers are blooming throughout the year.

PROJECT 10

BIODIVERSITY ENHANCEMENT OF THE CEMETERY

The graveyard is located south of the village on the L7510 Road. There may be an opportunity, pending consultation with the graveyard committee to enhance the graveyard for biodiversity. Planting a range of wildlife friendly climbers

such as ivy and honeysuckle to cover the boundary wall would provide food pollinators. A range of pollinator friendly plants could also be added to the planting along the wall. A line of native trees such as oak, birch or rowan would enhance the hedgerow boundary.



The hedgerow could be enhanced with some native trees to provide additional resources for wildlife

5. PROJECT RESOURCES

The next section provides a key card for each of the projects. 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.

PROJECT 1: VILLAGE GREEN BIODIVERSITY ENHANCEMENT

Objective(s): To enhance the village green for pollinators and to raise awareness of the actions carried out by the Tidy Towns for biodiversity

Partners: Knockcroghery Tidy Towns

Key tasks:

- Consult with the local community regarding a management plan for the village green
- Plan for areas of wildflower lawn and meadow grasslands with paths mown through and around to maintain a neat appearance.
- Erect signage to highlight the wildlife of the area and your actions for pollinators.
- Run a family fun day to highlight the work of the Tidy Towns and to attract more volunteers.

Evaluation and citizen science

- Log your actions for pollinators <https://pollinators.ie/record-your-actions/>
- Monitor the community response to the change in management to the green

Resources

- How to guide for pollinator actions: <https://pollinators.ie/resources/>
- Community actions for pollinators: https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Local-Communities_actions-to-help-pollinators-2018-WEB.pdf
- Signage: <https://pollinators.ie/resources/>

PROJECT 2: PARKLAND ENHANCEMENT

Objectives: To enhance the Chestnut and Beech Grove and River Parkland areas for biodiversity.

Partners: Knockcroghery Tidy Towns

Actions:

- Reduce the frequency of mowing around the beech and chestnut trees.
- Plant native spring bulbs e.g. bluebells and wild garlic under the chestnut and beech trees
- Plant native spring bulbs under the sycamore by the river also
- Plant native trees to fill gaps in hedgerow to rear of grove
- Maintain a wide long meadow grassy verge to hedgerow boundary
- Repair the old stone wall to the rear of the park by the river. Consider training for stone wall building for TUS workers.
- Install bat boxes in the mature trees at the grove and along the river. 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 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)

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/>

PROJECT 3: ASHWOOD MEADOWS

Objective(s): To enhance the green area for biodiversity; To promote the growth of orchids and other wildflowers in the wet meadow; To encourage composting.

Partners: Knockcroghery Tidy Towns

Actions

- Consult with local residents
- Manage the area of grassland along the river as meadow grassland cutting annually in September. Collect the cuttings. If the vegetation is too long and is falling over cut sooner in August and again in October. In subsequent years the earlier cut should not be necessary.
- Cut a 1-2 metre verge along the wet meadow grassland where the orchids are growing once a year in September and again before March if grass growth is strong to maintain a medium height sward favourable for the orchids. Do not cut after March.
- Consider extending the annual cut to the wider grassland area if possible.
- Set up a designated composting area in the estate for the grass cutting. Promote composting amongst residents and discourage wayside dumping of grass cuttings.

Evaluation and citizen science

- Record the wildflowers in the meadow

grasslands every year to track the number and diversity to observe the increase in species richness.

- Monitor the orchids to see if they occur every year. Don't panic if they don't appear! Orchids sometimes don't flower every year.
- Record the bees and butterflies and other wildlife you observe and "submit your sightings" on the NBDC website

Resources

- Community actions for pollinators: https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Local-Communities_actions-to-help-pollinators-2018-WEB.pdf
- 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/>

PROJECT 4: DUN ARD MONUMENT

Objective(s): To provide hedgerow connectivity; To promote the growth of wildflowers in the grass verge

Partners: Knockcroghery Tidy Towns

Key tasks:

- Plant a species rich native hedgerow with hawthorn, blackthorn, elderberry, dog rose, etc. along the wall.
- Reduce frequency of mowing of the grassland around the monument to every 6 weeks of so to create areas of wildflower lawn. Monitor the growth of wildflowers. The aim is to get a good diversity and cover of wildflowers.
- If necessary scarify the soil and sow in clovers, self heal and bird's-foot trefoil from seed collected from the meadow grasslands.
- Erect signage to highlight the actions for pollinators.

Evaluation and citizen science

- Monitor the growth of the hedgerow. Replace any failing trees.
- Monitor the diversity and area of coverage of the wildflowers in the grassland
- Log your actions for pollinators <https://pollinators.ie/record-your-actions/>

Resources

- How to guide for pollinator actions: <https://pollinators.ie/resources/>
- Collecting wildflower seed: <https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Seeds-2018-WEB.pdf>
- Hedgerows for pollinators: <https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Hedgerows-2018-WEB.pdf>
- Signage: <https://pollinators.ie/resources/>

PROJECT 5: ST MARY'S NATIONAL SCHOOL POLLINATOR PLAN

Objective: To enhance the grounds at the school for pollinators; to raise awareness of pollinators.

Partners: Knockcroghery Tidy Towns, St Mary's National School staff, schoolchildren and parents.

Key tasks:

- Review the Junior pollinator plan guidance and the guidance for schools
- Engage the school community to develop a pollinator plan for the school.
- Consider an orchard, fruit and vegetable beds and pollinator friendly planting
- Provide nest sites for bees (see guidance).
- Plant a variety of pollinator friendly perennial plants at the school which will provide food through spring, summer and autumn for pollinating insects.
- Erect signage to raise awareness of your action for pollinators

Evaluation and citizen science

- Engage students in recording wildlife you

observe and “submit your sightings” on 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-Irish-2018-WEB.pdf>
- How to develop a school pollinator plan: <https://pollinators.ie/wordpress/wp-content/uploads/2018/05/How-to-guide-Schools-2018-WEB.pdf>
- Sources of heritage varieties: <http://www.irishseedsavers.ie/>; <https://futureforests.ie/>
- Identification swatch guides are available to purchase from the NBDC and are particularly useful for schoolchildren <http://www.biodiversityireland.ie/shop/>

PROJECT 7: DUN ARD MEADOWS AND CITIZEN SCIENCE

Objective(s): To maximise the management for wildlife benefit; To monitor the species richness of the meadows. To raise awareness of meadow management; to participate in citizen science

Partners: Knockcroghery Tidy Towns

Key tasks:

- Monitor the plant species diversity in the meadow by recording the number and diversity of plant species every year.
- Consider delaying the cut as late as possible – September if possible. Monitor sward and preferably cut when all wildflowers have set seed.
- Mow paths through or around meadow to create access and to create varied sward height. Leave 10% unmown (e.g. at margin) to provide shelter for invertebrates. Control the advance of bracken scrub by cutting back.
- Conduct a demonstration day on meadow management to raise awareness among the local community of the benefits of meadow management and how to do it.

Evaluation and citizen science

- Log your actions for pollinators <https://pollinators.ie/record-your-actions/>
- Engage and 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
- 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/>
- Signage: <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/>
- 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/>

PROJECT 7: COMPOSTING PROJECT

Objective: To encourage composting and raise awareness of garden waste tipping

Partners: Knockcroghery Tidy Towns, Residents Associations.

Key tasks:

- Formalise the composting area and install a composting bays for use by the Tidy Towns
- Provide composting bays in Ashwood Estate for composting of cuttings for green areas..
- Promote composting at home perhaps through the local the school
- Raise awareness to discourage garden waste tipping in local newsletters and social media pages.
- Raise awareness of home composting benefits and avoiding the use of peat based compost products.

Evaluation and citizen science

- Monitor the designated composting areas to ensure that they are not used for dumping of other waste
- Monitor the compost to ensure enough brown material is incorporated.

Resources

- Composting resources: <https://stopfoodwaste.ie/>

PROJECT 8: BIODIVERSITY ENHANCEMENT OF GREENHILLS ESTATE

Objective: To enhance the wet grassland and the green area at Greenhills Estate for biodiversity and for amenity use

Partners:
Knockcroghery Tidy Towns, Greenhills Residents

Key tasks:

- Consult with the Greenhill residents to decide on a plan a management plan for the green areas.
- Plant a heritage orchard of fruit and nut trees (e.g. apple, pear, hazel) in the green area
- Consider managing the area of wet grassland. Cut once a year in September and remove the cuttings. Cut a path through and mow more frequently to create sward height diversity and for access
- Scarify the soil after mowing and spread green hay from Dun Ard meadows to increase species richness.
- Plant a native hedgerow at the perimeter
- Erect signage to raise awareness of the actions for biodiversity

Evaluation and citizen science

- Log your actions for pollinators: <https://pollinators.ie/record-your-actions/>
- Monitor the response of the community to the new amenity area.
- Monitor the diversity of wildflowers in the grassland.

Resources

- Sources of heritage varieties: <http://www.irishseedsavers.ie/>; <https://futureforests.ie/>
- Community actions for pollinators: https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Local-Communities_actions-to-help-pollinators-2018-WEB.pdf
- How can you help pollinators in your garden? <https://pollinators.ie/gardens/>
- Seed collecting: <https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Seeds-2018-WEB.pdf>
- Signage: <https://pollinators.ie/resources/>

PROJECT 9: PLANTING FOR POLLINATORS

Objective: To rejuvenate the planters and planting schemes to provide resources for pollinators and other wildlife

Partners: Knockcroghery Tidy Towns

Actions

- Engage the local community to help with the planting
- Use a peat-free compost to improve the condition of the soil.
- Avoid the use of herbicides or pesticides. Research alternative methods of pest control to protect new plants from snails and slugs.
- Plant a variety of pollinator friendly perennial plants in the planters (opposite the Post Office) and other planting schemes which will provide food through spring, summer and autumn for pollinating insects. Supplement with wildlife-friendly shrubbery or greenery if required.
- Erect signage to raise awareness of the action for pollinators.

Evaluation and citizen science

- Monitor the health of the plants, upkeep and the interest of the community.

- Log your actions for pollinators:
<https://pollinators.ie/record-your-actions/>

Resources

- How can you help pollinators in your garden?
<https://pollinators.ie/gardens/>
- How to guide for pollinator actions:
<https://pollinators.ie/resources/>
- Pollinator friendly plant lists:
<https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Planting-Code-2018-WEB.pdf>

PROJECT 10: TO ENHANCE THE GRAVEYARD FOR BIODIVERSITY

Objective: To enhance the graveyard for biodiversity.

Partners: Cemetery Committee, Knockcroghery Tidy Towns

Actions

- Plant a range of wildlife friendly climbing plants along the western wall boundary. E.g. Ivy honeysuckle, Tube clematis (*Clematis heracleifolia*) or Persian ivy (*Hedera colchica*)
- Avoid the use of herbicides or pesticides. Research alternative methods of pest control to protect new plants from snails and slugs.
- Plant a variety of pollinator friendly perennial plants in the border which will provide food through spring, summer and autumn for pollinating insects. Supplement with wildlife-friendly shrubbery or greenery if required.
- Plant native trees along the hedgerow boundary. Rowan and birch are medium sized trees. Oak will grow very large.
- Erect signage to raise awareness of the action for pollinators.

Evaluation and citizen science

- Monitor the health of the plants, upkeep and the interest of the community.

- Log your actions for pollinators:
<https://pollinators.ie/record-your-actions/>

Resources

- How can you help pollinators in your garden?
<https://pollinators.ie/gardens/>
- How to guide for pollinator actions:
<https://pollinators.ie/resources/>
- Pollinator friendly plant lists:
<https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Planting-Code-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

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

| | SPRING | SUMMER | AUTUMN/ WINTER |
|-------|---|--|--|
| BULBS | 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

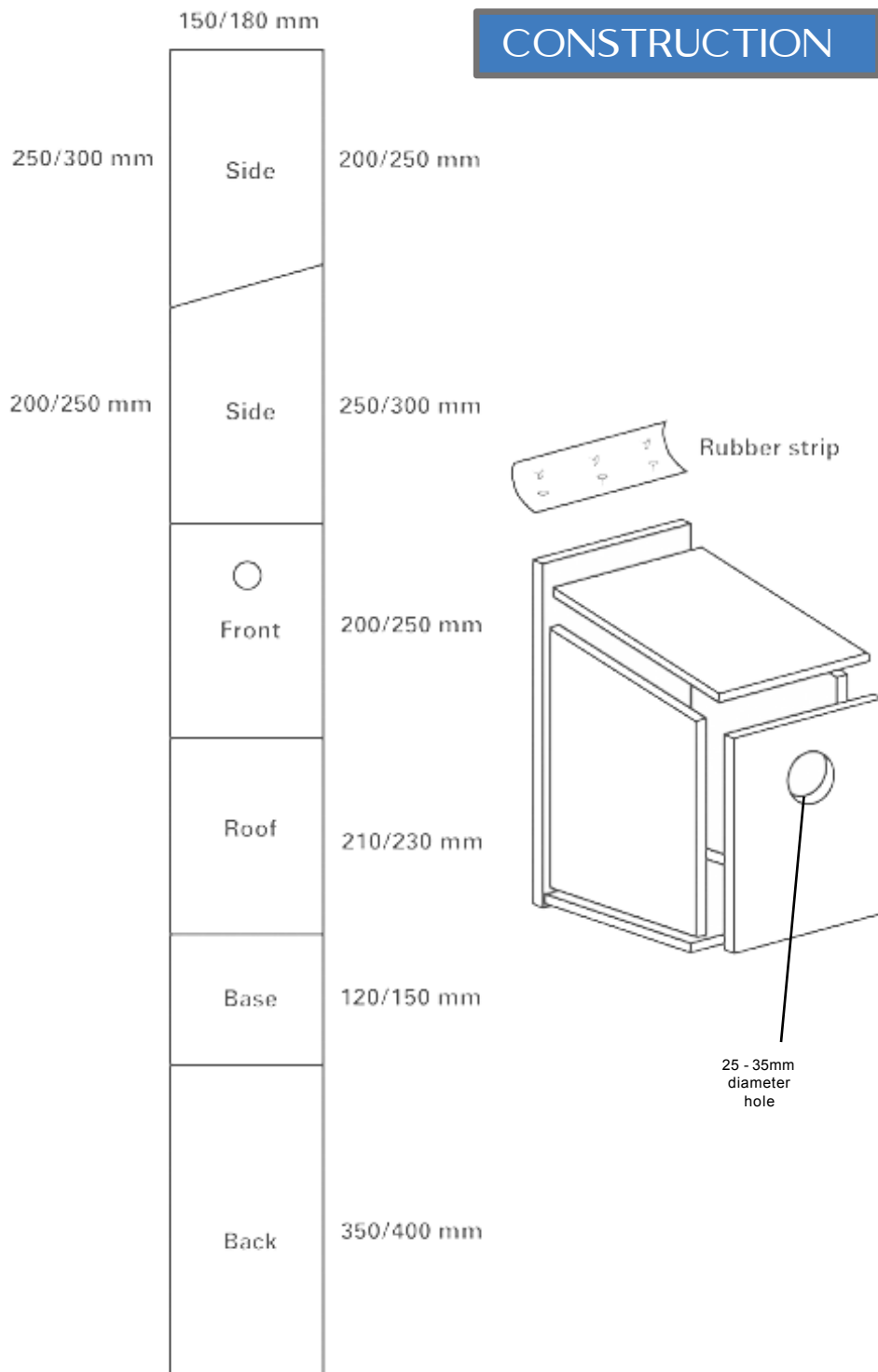
4.

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.



CONSTRUCTION

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 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
- The Irish Wildlife Trust also run targeted recording schemes such as for smooth newt and common lizard. Visit 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



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.