Curraghboy Community Biodiversity Action Plan 2019-2023

Actions for Biodiversity in Curraghboy

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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 Curraghboy.

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 CURRAGHBOY

Curraghboy *An Currach Buí* is a village located 14 km northwest of Athlone on the R362 regional road. The village is centered around the local shop, public house, church and handball alley.

View of Lough Funshinagh

3.1 DESIGNATED SITES

Lough Funshinagh SAC is located approximately 2km to the north of Curraghboy. The lake, which is underlain by Carboniferous limestone, is classified as a turlough because it fluctuates to a significant extent every year and occasionally dries out entirely (approximately two to three times every ten years). In most years, however, an extensive area of water persists. On the shores which are inundated by high waters, a second Annex I habitat "'rivers with muddy banks with Chenopodion rubri p.p. and Bidention p.p. vegetation' occurs. The lake is filled with vegetation, providing excellent breeding habitat for wildfowl, and the site is designated a Wildfowl Sanctuary. Winter visitors include Bewick's Swan, Whooper Swan and Golden Plover, as well as Wigeon, Teal, Mallard, Shoveler, Pochard, Tufted Duck, Coot, Lapwing and Curlew.

In summer, the site attracts a good diversity of breeding waterfowl. Species which breed at the site include Shoveler, Gadwall and Pochard, while Black-necked Grebe and Pintail may breed sporadically. Lapwing and Snipe are regular breeders, and sometimes also Redshank and Ringed Plover. Lough Funshinagh is one of the sites used by the River Suck flock of Greenland White-fronted Goose. Nowadays, however, it is not regularly used, possibly because some of the former feeding areas have become overgrown with scrub (DAHG, 2015).

Other SACs local to Curraghboy include Lough Croan Turlough SAC and SPA located 3.5 km west of Curraghboy. Lough Croan Turlough is also a Wildfowl Sanctuary and is SPA designated for Greenland White-Fronted Geese, Golden Plover and Shoveler. Ballynamona Bog and Corkip Lough SAC is located 4km south of Curraghboy. The site is designated for both turlough and raised bog habitats.

BIODIVERSITY IN & AROUND CURRAGHBOY (CONT)

3.2 HABITATS IN CURRAGHBOY

TREELINES AND HEDGEROWS

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 if there also the occasional tall trees this further increases the structural diversity of the habitat and provides song posts for birds.

Land surrounding Curraghboy village is primarily improved agricultural land. Mature treelines and hedgerwos border some pastures and farm yards.

RIVERS AND PONDS

The Cross River runs west to east approximately 400m to the south of the village. The Cross River joins the Shannon south of Athlone. The River Shannon is an SAC an SPA. The Cross river is flanked by mature treelines for 500 m just south of Curraghboy.

There are several farm ponds dotted around farmland around Curraghboy. Just north of the school there is a shallow pond with abundant aquatic vegetation and a narrow marginal transitional area of rushes. Farm ponds are a valuable biodiversity asset to have in the locality as ponds are becoming increasingly rare due to land drainage. These small wetlands provide a biodiversity resource for a range of wildlife including insects and other invertebrates, common frog, smooth newt and bird species.

GRASSLANDS

Grasslands surrounding the village are primarily improved agricultural grassland. There are pockets of less improved semi-natural grassland including a pasture currently grazed by horses opposite the school. Here wildflowers such as common hogweed and red clover are evident in the grass sward.

STONEWALLS AND BUILDINGS

Stonewalls are a feature in Curraghboy with pastures and roadsides lined with traditional stone walls. There is a nice long stretch of stone wall running along the southside of the main road. This is in good condition. Some nice ferns have taken hold in shallow cracks. Mosses and ferns on stone walls provide additional niche habitats for tiny invertebrates. They also enhance the character and aesthetic look of stone walls.

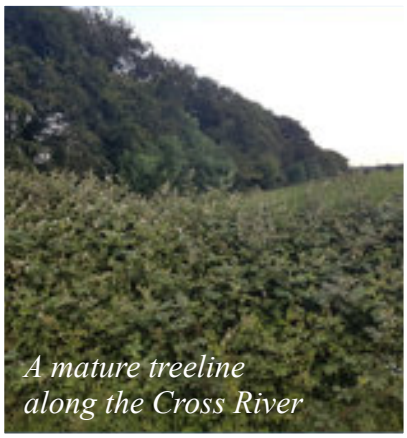
Older buildings and particularly those built of stone often provide nest sites for bird species and roosting opportunities for bats. Birds and bat may nest and roost in houses, farm buildings and other structures and it is important to be aware of this when planning renovations works to buildings.

ROADSIDE VERGES & 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.

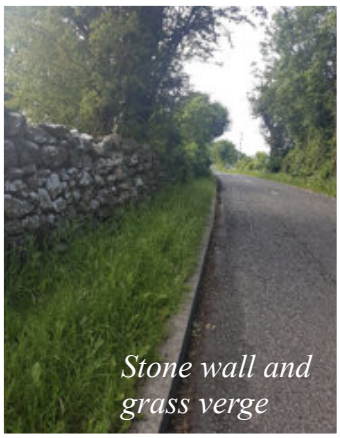
GARDENS

Gardens are becoming increasing important as refuges and resources for wildlife particularly where they are managed sensitively keeping the needs of wildlife in mind. In Curraghboy Village the garden surrounding St Brigid's Church is a wonderful resource and there is an opportunity to enhance the garden further for biodiversity.



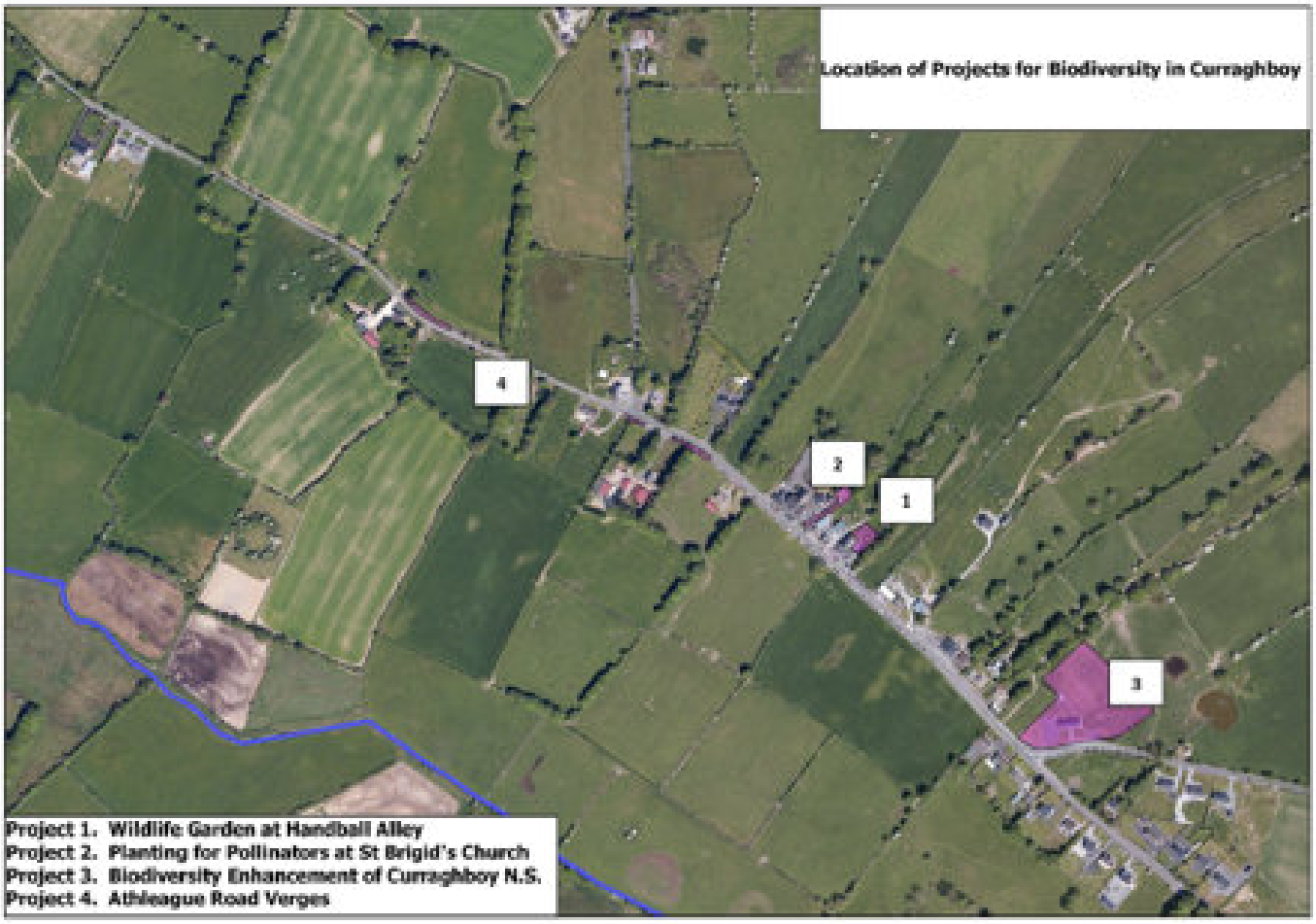
A mature treeline along the Cross River

A farm pond at Curraghboy is a biodiversity hotspot



Stone wall and grass verge

Fig. 1 Location of Biodiversity Projects in Curraghboy



4. BIODIVERSITY PROJECTS

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

The biodiversity projects outlined not only provide opportunities for the conservation and enhancement of areas for biodiversity but also afford opportunities for 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 (overleaf) 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 Curraghboy.

SCHEDULE OF PROJECTS AND KEY MILESTONES

NO.	PROJECT	PARTNERS	MILESTONES	YEAR
1	Wildlife garden at Handball Alley	Curraghboy Tidy Towns Handball Alley Committee	Grassland cut Garden designed Hedgerow and tree planted	Year 1
			Pond created Planters planted Seating Bat boxes, Bird boxes and feeders installed	Year 2
2	Planting for pollinators and people at St Brigid's Church	Curraghboy Tidy Towns Parish Priest	Consultation with parish priest Plants chosen for planters Plants planted Plants maintained Pollinators recorded	Year 1-2
3	Biodiversity Enhancement of Curraghboy National School	Curraghboy Tidy Towns Curraghboy National School	Set up allotment scheme or GIY club Tidy up composting area Clean out beds Vegetable and fruits sown/planted. Harvest and maintenance of vegetable beds	Year 2-3
			Partner with local bee keeper to set up bee hives	Year 2-3
			School Pollinator Plan Plant orchard Grassland management	Year 1-2
			Pollinator friendly perennial plants Composting system Bat, bird boxes and feeders	Year 2-3
4	Athleague Road grassland management and street trees	Curraghboy Tidy Towns	Change mowing regime Plant spring bulbs	Year 1
5	Community Biodiversity Training and Pilot Gardens Project	Curraghboy Tidy Towns	Engage tutor for training Run course	Year 1-2
			Plan pilot gardens project Nominate gardens Showcase gardens Awards	Year 2-3

NO.	PROJECT	PARTNERS	MILESTONES	YEAR
6	Lough Funshinagh Feasibility Study	Curraghboy Tidy Towns Consultees: NPWS Birdwatch Ireland	Secure funding Engage Consultants	Year 1-3
7	Community Bat event	Curraghboy Tidy Towns	Identify a speaker Plan event Run event	Year 2-3
8	GLAS stories	GLAS Farmer	Record/photograph wildlife encounters and GLAS farm activities Publicise through social media	Year 1-3

PROJECT 1

WILDLIFE GARDEN AT HANDBALL ALLEY

Curraghboy community have an opportunity to develop an under-utilised small space to the rear of the Handball Alley into a wildlife garden for the benefit of both people and biodiversity. The space may then be used for relaxing or small outdoor meetings and will be useful to use as a demonstration wildlife garden. Currently the space is dominated by unmanaged dry meadow grassland. It is planned to create a small pond surrounded by a wildflower lawn and marginal meadow grassland. Hedgerows will be planted to increase shelter and a native tree to provide some structural diversity. Bat boxes, bird boxes and bird feeders will be installed. Log piles, insect hotels and sand piles for bees could be added to provide more niche habitats. Planters with herbs and other wildlife friendly plants will be planted in new planters adjacent to the building walls. The grassland areas will be managed by an infrequent mowing regime to allow wildflowers to bloom through the season.

PROJECT 2

PLANTING FOR POLLINATORS AND PEOPLE AT ST BRIGID'S CHURCH

There are a number of spaces within the Curraghboy village that can be enhanced with plants for pollinating insects. It is planned to rejuvenate the stone wall planters at St Brigid's Church with pollinator friendly perennial plants to provide food for pollinators throughout the season from spring to autumn.

The vegetable beds to the rear will also be revitalised. This may be done as part of a village allotment scheme or with the schoolchildren. Consideration will be given to installing a bee hive in the under-utilised yard to the rear of St Brigid's Church. A local bee keeper might be interested in helping with this project.

PROJECT 3

BIODIVERSITY ENHANCEMENT AT CURRAGHBOY NATIONAL SCHOOL

The community plan to work in partnership with the primary school to undertake a number of projects for biodiversity in the school grounds.

COMMUNITY ORCHARD

It is planned to plant a community orchard of heritage fruit and nut trees for the community to enjoy to the front of the school. Orchards are a great way to highlight the value of pollinators in the production of our food and to reconnect people with basic food sources.

WILDFLOWER LAWN

Areas suitable for wildflower lawns will be considered and wildflowers encouraged by a reduced mowing regime. Suitable areas include the sloping ground to the rear of the ball court and also on sloped margins around the sport playing fields.

MEADOW GRASSLAND

An annual mowing schedule will be considered to maintain an area of meadow grassland beside the sports pitches that is not used by the children for playing or sports.

Proposed location for Community Orchard

Large area of grassland that could be managed as a meadow

The grounds could be further enhanced for wildlife by erecting additional bird boxes and bat boxes in trees surrounding the school. Adding a bird feeder in view of a classroom window provides an opportunity for children to study the bird life.

All these projects could be implemented with the help of the schoolchildren. The schoolchildren will have an opportunity to monitor the number and type of wildflowers in the grassland areas and monitor the use of the nest boxes and bird feeders recording the birds that they observe.

COMPOSTING AWARENESS

Curraghboy Tidy Towns group plan to work with the local school to set up a composting system in the grounds for composting of the grass cuttings and other garden plants from the school grounds. Awareness of composting will be raised by involving the children in the project and promoting the project through a home composting survey, a home composting guide and through interlinked art, maths and science projects.

PROJECT 4

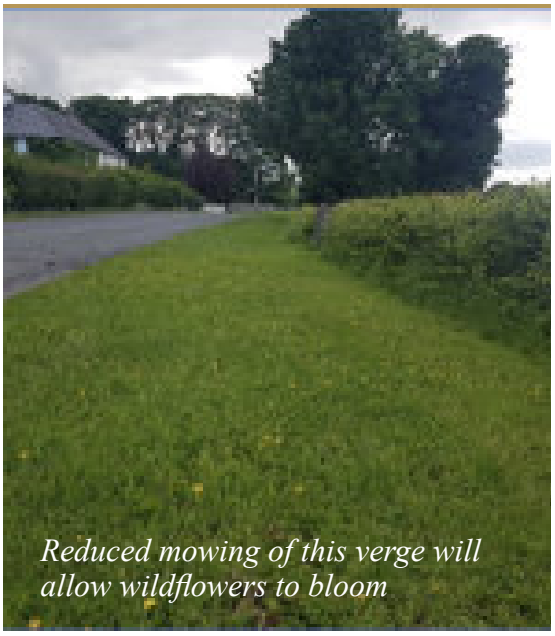
ATHLEAGUE ROADSIDE VERGES

Project number 4 will showcase how a reduced mowing regime is better for biodiversity and how green areas and parkland grasslands can be enhanced for pollinators.

As you approach Curraghboy Village from the west you are greeted to the village with a managed grassland verge. A reduced mowing scheme will be implemented here to allow the wildflowers to bloom. A narrow strip next to the road can be maintained short to provide a neat appearance.

On entering the village there is a prominent line of young street trees. Curraghboy Tidy Towns plan to plant an abundance of spring flowering bulbs such as crocus and snowdrops that will provide an important food source for pollinators in the early spring months.

Signage will be erected to highlight these important actions to passers by.



Reduced mowing of this verge will allow wildflowers to bloom

PROJECT 5

COMMUNITY BIODIVERSITY TRAINING AND PILOT GARDENS PROJECT

Curraghboy Community plan to engage a tutor to provide bespoke biodiversity training to residents and other community groups of Curraghboy Village. The focus of the training will be to raise awareness of local biodiversity habitats, gardening for wildlife, composting, water protection and management and citizen science survey training.
Complementary to this project a Pilot Wildlife Gardens Project will be run in which ten local residential gardens will be nominated to plant pollinator friendly plants and create spaces suitable for wildlife in local residents gardens.

PROJECT 6

LOUGH FUNSHINAGH FEASABILITY STUDY

Curraghboy Tidy Towns group hope to commission consultants to carry out a feasability study to improve access to Lough Funshinagh SAC and Wildflowl Sanctuary to view and study the wildlife and habitats of Lough Funshinagh perhaps by way of a floating walkway.

Consultation will take place with the National Parks and Wildlife Service, and Birdwatch Ireland and local landowners to investigate the opportunities and constraints to increase public access to enjoy the wildlife of Lough Funshinagh.

PROJECT 7

RAISING AWARENESS OF BATS

Curraghboy Tidy Towns plan to run a community event centered around bats. An ecologist or bat enthusiast will be engaged to provide a talk and lead a walk to observe bats and their habitats in Curraghboy. Possible partners for this project include the NPWS ranger and or a local Bat group for example Galway Bat group or the Midlands Bat group (covers Westmeath and Longford) or Bat Conservation Ireland.

Common Pipistrelle
(Pipistrellus pipistrellus)

PROJECT 8

A GLAS FARMER'S DIARY

The work of GLAS farmers and the wildlife encountered on a GLAS farm will be highlighted through community social media through short diary accounts, news and photographs provided by a Local GLAS farmer.

5. PROJECT RESOURCES

This section provides a key card for projects 1-6 which outlines the objectives of the project, the key tasks and provides links to appropriate resources for undertaking the project.

WILDLIFE GARDEN AT HANDBALL ALLEY

Objective: To design and create a small space for people and wildlife to the rear of the Handball Alley

Partners: Curraghboy Tidy Towns, Handballl Complex Committee

Actions

- Engage the local community in the planning and set up of the wildlife garden
- The first step is to cut the existing meadow grassland
- Cut the grass in September and remove all the cuttings.
- Rake the cut grass and remove. Rake the dead thatch of grass that has built up under the grassland and remove.
- Research and plan the garden. Plant a native hawthorn hedgerow around perimeter, plant a native tree, create a mini wildlife pond, Manage marginal areas of meadow grassland, a central area of wildlife lawn. Create log piles, bee nesting habitats and a hedgehog shelter. Plant planters with pollinator friendly planting. Install a bird nest box and bird feeders.

Evaluation and citizen science

- Monitor the success of the garden, its upkeep and the interest of the community.
- Record the wildlife you see in the garden and "submit your sightings" on the NBDC website http://www.biodiversityireland.ie
- Log your actions for pollinators https://pollinators.ie/record-your-actions/

Resources

Local communities: Actions to help pollinators https://pollinators.ie/resources/local-communities/

https://pollinators.ie/gardens/

https://pollinators.ie/resources/

Guidance for creating and maintaining ponds:

https://www.wildlifetrusts.org/actions/how-build-pond

https://www.rspb.org.uk/get-involved/activities/give-nature-a-home-in-your-garden/garden-activities/createaminipond/

PLANTING FOR POLLINATORS AND PEOPLE AT ST BRIGID'S CHURCH

Objective: To rejuvenate the garden planters and vegetable beds at St Brigids's Church to provide resources for pollinators and other wildlife

Partners: Curraghboy Tidy Towns, Parish Priest

Actions

• Engage the local community to help with the planting

• Use a peat free compost to improve the condition 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 stone planters which will provide food through spring, summer and autumn for pollinating insects. Supplement with wildlife friendly shrubbery or greenery if required.

• Restore the raised vegetable beds to the rear of the church. Plant with a variety of fruit, vegetable and herbs as part of a community allotment scheme or Grow Your Own club

• Restore and make use of the existing composting system to the rear of the church.

• 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.

• Record the wildlife you see and "submit your sightings" on the NBDC website http://www.biodiversityireland.ie

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

Resources

Faith communities Action for Pollinators: https://pollinators.ie/communities/faith-communities/

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: http://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-friendly-planting-code-temporary-draft.pdf

BIODIVERSITY ENHANCEMENT AT CURRAGHBOY NATIONAL SCHOOL

Objective: To enhance the grounds at the school for people and wildlife and educational purposes. To promote composting in the community

Partners: Curraghboy Tidy Towns, Curraghboy National School staff, schoolchildren and parents.

Key tasks:

• Engage the school community to develop a pollinator plan for the school

• Plant a heritage orchard of fruit and nut trees (e.g. apple, pear, hazel) in the dedicated area.

• Consider managing an area of meadow grassland to the rear of the school. Cut annually in autumn. Make hay or remove and compost the cuttings. Engage the children in recording the wildflowers in June.

• Consider a reduced mowing regime for areas outside of the children's play areas. The orchard area and the sloped ground beside the oil tank is ideal. Cut every 6 weeks or so with the mower on the highest setting. Remove and compost the cuttings.

• 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 this gardening action for pollinators.

• Install a composting system for the grass cuttings and other garden waste generated by the school. Promote composting at home through cross curricular projects related to the composting project.

• Erect bird nest boxes, bat boxes in treeline to rear of school and bird feeders within sight of classrooms.

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

How to develop a pollinator plan for your school: How to develop a school pollinator plan: https://pollinators.ie/wordpress/wp-content/uploads/2018/05/How-to-guide-Schools-2018-WEB.pdf

Junior pollinator plan: https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Junior-Pollinator-Plan-Irish-2018-WEB-1.pdf

Sources of heritage varieties: **http://www.irishseedsavers.ie/**; https://futureforests.ie/

How can you help pollinators in your garden? https://pollinators.ie/gardens/

How to guide for pollinator actions: https://pollinators.ie/resources/

How can Schools help pollinators: https://pollinators.ie/schools/;

Composting resources: https://stopfoodwaste.ie/

ATHLEAGUE ROADSIDE VERGES

Objective: To implement a reduced mowing regime on village grassland areas and to enhance the grasslands for pollinators. To highlight these simple actions for biodiversity to the public

Partners: Curraghboy Tidy Towns.

Key tasks:

• Reduce the frequency of cutting on the Athleague road. Cut the grass every 6 weeks or so on the highest lawnmower setting to allow low growing wildflowers such as clovers and self heal to bloom. Remove all the cuttings and compost to reduce the nutrient status of the soil.

• Collect wildflower seed locally and sow in additional wildflower seed if necessary adding clovers, self heal and bird's-foot trefoil.

• Plant spring flowering bulbs under the street trees in the village. Plant crocuses and snowdrops in groups or drifts.

• Erect signage to raise awareness of your actions for pollinators.

Evaluation and citizen science

• Monitor the number and diversity of wildflowers in the grassland

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

Resources

Collect and sow wildflower seed: https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Seeds-2018-WEB.pdf

How to guide for pollinator actions: https://pollinators.ie/resources/

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 pericyclamen*): 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 supress existing vegetation.

SPACING

• It is recommended to plant 7plants/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

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

SOME POLLINATOR FRIENDLY PLANTS

PLANTS AND HERBS

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

SOME POLLINATOR FRIENDLY PLANTS

BULBS

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

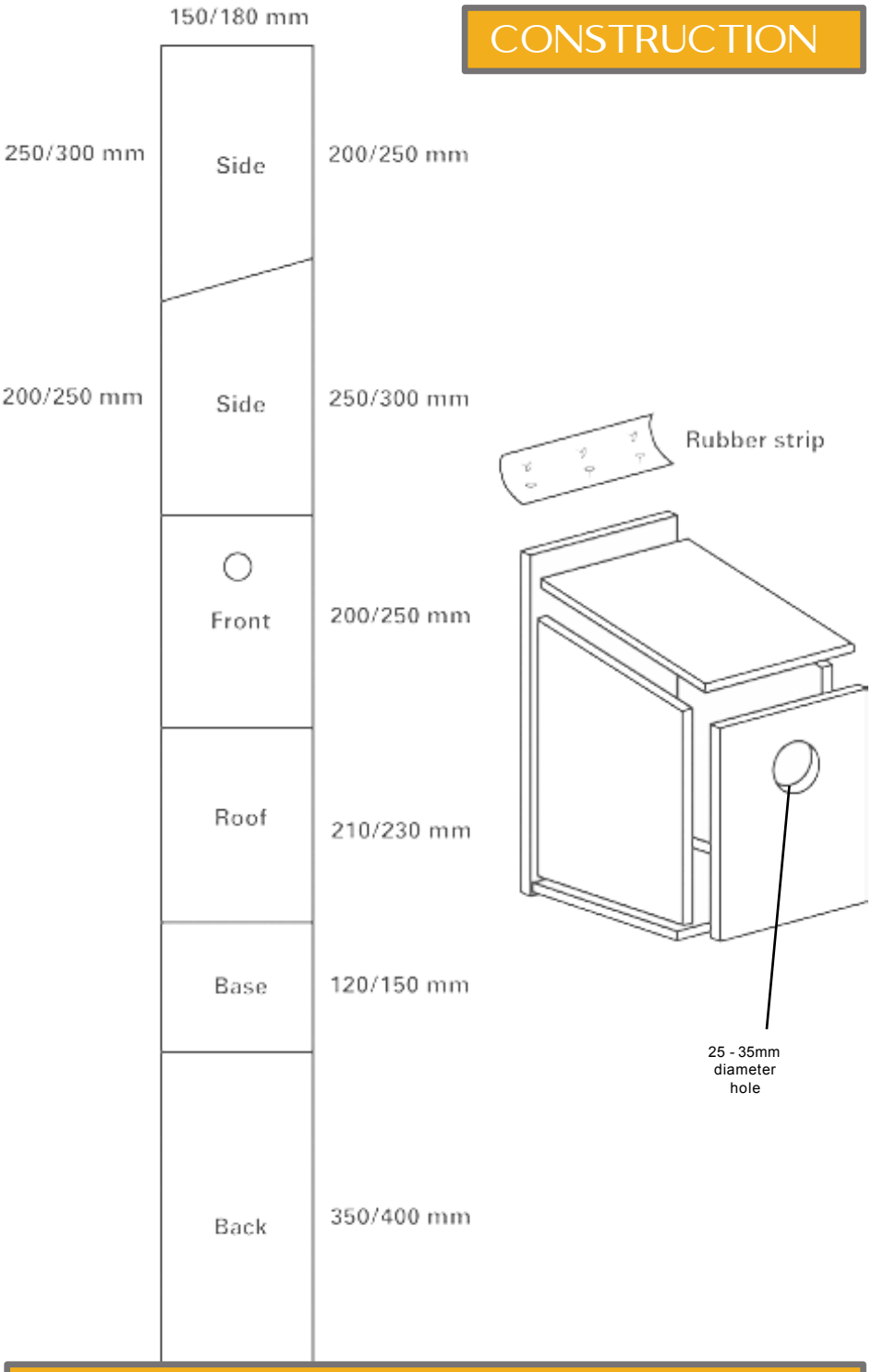
4.

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.

Adapted from www.rspb.org and www.birdwatchireland.ie

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

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