

Biodiversity Action Plan 2021-2025

Caherconlish, Co. Limerick



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Cover Photos: Caherconlish and its biodiversity areas. Top Row from the left: female Bullfinch in the hedgerow at Oakley Lawn Estate; treeline and wildflower verge at Oakley Lawn Estate; House Sparrow on roof overlooking Caherconlish National School; Second row from the left: Groody River at the Millennium Centre; the old Church of Ireland and Graveyard; Cinnabar caterpillars on Ragweed in the grounds of the old Church of Ireland Graveyard; Third Row from the left: Red Wing in the playing fields of Caherconlish AFC; Soldier Beetles on Spear Thistle on the banks of the Goody River near the Millennium Centre; Groody River view from Franklin's Garden; Fourth Row from the left: Invertebrate catch from Groody River at the Millennium Centre; walkers on the Creamery Loop Walk; Stone Wall Habitat at the Tennis Courts. Photos: © C. O'Connell.

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I am very grateful to Michael Collins for his comments and suggestions on the draft versions of this Plan.

1. Executive Summary

The Caherconlish Biodiversity Action Plan is written with support from the Community Foundation for Ireland and is an initiative of the Caherconlish Tidy Towns Association.

This biodiversity and conservation action plan documents the species and habitat richness of the town and its surrounding countryside creamery walk.

93 species of plant, 26 birds and 12 animals were identified during the Biodiversity survey carried out during two visits in February and July 2020. Additional information was obtained from Johnny O'Donnell in relation to garden birds and a frog record was provided by Michael Collins.

Habitat maps are presented for 8 study areas targeted by the Caherconlish Tidy Towns Association. No map was drawn for the town main street and entrances.

9 habitats were identified during the survey including wet grassland, unimproved agricultural grassland, hedgerow, amenity grassland, artificial surface, stone walls, flower beds and borders, scrub and grass verges.

81 biodiversity enhancement actions are proposed in this plan. The main thrust of the recommendations is for the community to create habitat. For example planting trees in groups to create woodland as opposed to planting trees in lines. Leaving grass to grow, flower and set seed under

planted trees forms a second habitat.

The biodiversity actions can be achieved if Caherconlish package them together in themes and seek funding for a suite of actions across a different range of biodiversity areas in the town. Tree planting creating woodland habitat is a good example and has been recommended over a range of the sites studied. A project could be designed with the aim of planting one tree for every citizen in the town helping to reduce the carbon footprint of the community. Such a project on a large scale would be attractive to sponsors and/or grant awarding agencies.

Similarly a pollinator project might see the community enhancing roadside verges and amenity grassland areas in housing estates, the Town Square and the old Church of Ireland graveyard through less mowing, providing insect hotels, planting butterfly gardens and planting bulbs.

Another project is to restore the riparian zone along the Groody River in the town. This would involve local landowners setting land aside for use in such a project. Landowners would need to be able to understand the benefits to them of such a project in terms of prevention of soil erosion, pollution, stock loss and the increased value of their land for biodiversity.

The construction of a wildlife pond is proposed as a stand alone project for the Town

Square.

Further surveys are proposed of bats in the old ruined Church of Ireland and countryside birds on the Creamery Walk.

To achieve these actions wider community engagement will be essential. Groups to be consulted will be members of different religious congregations, school management board, Gaelic and Football Clubs and FC, town businesses, farmers and local land owners.

Three invasive plant species were recorded in Caherconlish as part of this study in 6 different locations. These included Winter Heliotrope, Mile a Minute and Cherry Laurel.

It is essential that the use of sprays to kill weeds and wildlife is stopped, that litter and garden waste is disposed of properly and that the community go peat free in their choice of compost for window boxes, baskets and planters so that their actions truly are in favour of biodiversity in the wider countryside.

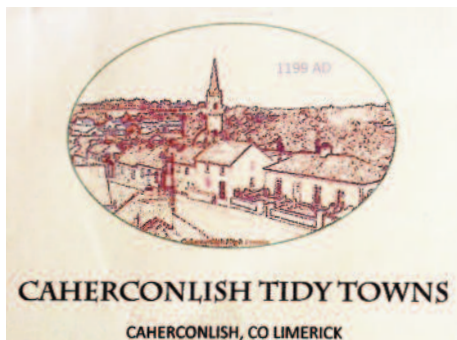
Funding for the actions in this plan may be sought from a variety of sources provided there is matched funding within the community.

Species data recorded on this survey will be lodged with the National Biodiversity Data Centre.

2. Introduction

This Biodiversity Action Plan has been created as an initiative of Caherconlish Tidy Towns Association. The project is funded by The Community Foundation for Ireland. This funding allowed the Caherconlish Tidy Towns Association to employ Dr Catherine O'Connell as an ecologist to develop the Action Plan, devise actions to maintain and enhance local biodiversity and to help Tidy Town members gain a better understanding of the biodiversity hot-spots in their locality.

Caherconlish Tidy Towns Association



Caherconlish Tidy Towns Association was established in 2016. The main objective for which the Association was established is the enhancement and development of the physical and social environment for the benefit of the entire community of Caherconlish Town, Co. Limerick and its immediate environs.

The top achievements of the Caherconlish Tidy Towns Association include:

- * Commencement of clearing, cleaning and planting the Groody River bank. This was totally overgrown and used as a dumping ground.
- * Entry to the National Tidy Towns Competition every year for the past 4 years. The group have increased their points in this competition and there is a huge interest in the community in their work.
- * Entry to Limerick in Bloom by planting pollinator friendly plants.
- * Annual Team Limerick Clean Up on Good Friday

The Association hold an AGM and an annual fundraiser in August to September which supports their work.

The Association is a registered charity CHY No. 20159191

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3. Caherconlish Village Location

Caherconlish (Irish: Cathair Chinn Lis) is a lovely rural village located in County Limerick (co-ordinates: 52.3537°N 8.2813°W).

Caherconlish has a population of 1,476 (2016). It is located 16km south east of Limerick City in the east of the county. The R513 route crosses the town from the N24 to Mitchelstown and is used by motorists as an alternative commuting route.

Caherconlish embodies two parishes - Caherconlish and Caherline. Despite its proximity to Limerick City, and how it may be increasingly seen as a commuter town of the city the

town has a rural resonance. The Millennium Centre is a focal point for social interaction, educational activities, fitness and health in the village. It was established in 1999 and promotes the sustainable development of enterprise and the environment to better the lives of all members of Caherconlish/Caherline and the wider local community (see www.caherconlish.net).

The River Groody flows northwards through the village and flows into the Shannon downstream of Plassey, where the University of Limerick is located. The main sports played in the village are hurling, Gaelic

football and soccer. Caherline GAA is the local hurling club while Caherconlish GAA is the football club. Their grounds are Father Hayes Memorial Park on the Mitchelstown Road. Caherconlish FC is the local soccer club in the village. They play in the Limerick District league and cup competitions¹.

Caherconlish Local Area Plans (2008-2014 and 2012-2018²) provide a public statement of Limerick County Council's planning policies for the town. These documents establish a framework for the planned, co-ordinated and sustainable development of the town of Caherconlish, including the

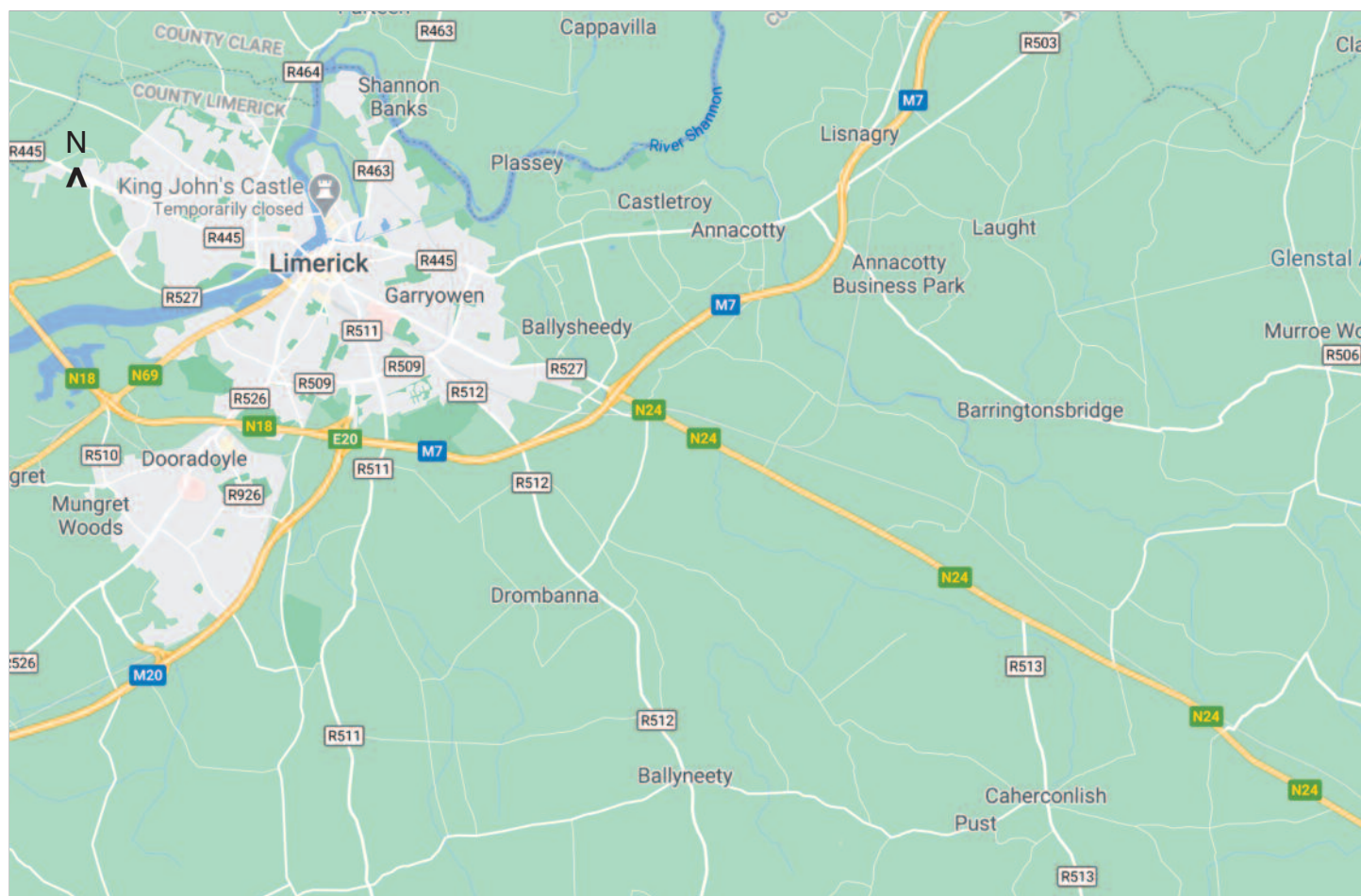


Figure 1: Location Map for Caherconlish Village in Co. Limerick. Source: © www.google.com

1 <https://en.wikipedia.org/wiki/Caherconlish> 30.1.20

2 Limerick County Council (2013) Caherconlish Local Area Plan 2012-2018. Limerick County Council.

conservation and enhancement of its natural and built environment over a six-year period. All planning applications in the town are screened against these documents.

The town has a rich historic built heritage and archaeological heritage with many buildings and structures of interest in the town and surrounding landscape (see Appendix 1 and Appendix 2). These can be viewed at Archaeology.ie. A full account of the history of the development of Caherconlish is provided in the Caherconlish Local Area Plan 2012-2018¹ and on the Millennium Centre website (www.caherconlish.net).

Plates 1-3 show the character of Caherconlish, Co. Limerick.



Plate 1: High Street and the Old Church of Ireland Spire in Caherconlish, Co. Limerick. Photo: © C. O'Connell



Plate 2: The historic site of Kenlyshe Castle in Caherconlish, Co. Limerick. Photo: © C. O'Connell



Plate 3: Caherconlish village entrance on the R513 from Limerick showing work undertaken by the Tidy Towns Association including tree planting and provision of flower beds. The Groody River flows behind the wall on the left hand side. Photo: © C. O'Connell

¹ Limerick County Council (2013) Caherconlish Local Area Plan 2012-2018. Limerick County Council.

4. Methods

Introductory Meeting

Dr Catherine O’Connell met with Caherconlish Tidy Towns Association representatives in February 2020 to begin the process of devising this plan. The meeting with 5 local representatives involved a tour of the Caherconlish area where the local community was able to present the biodiversity highlights of the area, review works undertaken to date to improve biodiversity and discuss problem areas with the ecologist.

Study Sites

Following this meeting a map was drawn up identifying five particular areas of study. At these sites the ecologist will determine the biodiversity present and make recommendations on its enhancement or maintenance. This map was forwarded to Michael Collins for verification and review. Additional aspects were added to the map including two village entry/exit points along the R513.

Biodiversity Field Visits

Field visits were undertaken to document the habitats and species present in the study sites with a view to mapping the information and making recommendations on biodiversity enhancement and maintenance. These visits took place on the 6th February and 14th July 2020.

Biodiversity Recording Sheet

A field recording sheet for biodiversity was developed for the project and is presented in Appendix 3. The information col-



Figure 2: First meeting with Caherconlish Tidy Towns Association outside the Millennium Centre (from the left Michael Collins and PJ Merrick). Photo: © C. O’Connell

lected at each study site was as follows: species of plant, animal and bird present, invasive species, habitat description and classification, photograph, biodiversity enhancement recommendations.

Desk Top Studies

A desk top study was undertaken to establish information in the public domain about Caherconlish, its history, archaeology, habitats and biodiversity. Information was searched on the websites of the National Biodiversity Data Website (biodiversityireland.ie), the National Parks and Wildlife Service (www.npws.ie), Ordnance Survey Ireland (www.osi.ie) and Archaeology Ireland (www.archaeology.ie).

Local Records

Through Caherconlish Tidy Towns Association information on birds and amphibians was obtained from locally resident recorders.

Community Engagement

On all site visits, members of the community who have shown a very strong interest in the project joined the ecologist (Figure 2).

One Newsletter about the project was prepared and distributed to the community with the assistance of the Millennium Centre. This is presented in Appendix 4.

5. Biodiversity in Caherconlish

Desktop research of biodiversity information available about Caherconlish and its surrounding countryside was undertaken. Very quickly, it was obvious that the area is under studied. A search for designated sites in the area yielded nothing close to the village. The nearest designated site being the Lower River Shannon Special Areas of Conservation (Site Code 2165¹) at some distance east of Caherconlish (see Figure 3).

Further information on the species diversity present in Caherconlish was sought from searches on the database of the National Biodiversity Data Centre. No information was available from this source.

A frog record was obtained from Michael Collins and garden birds recorded by Johnny O'Donnell who lives in Caherconlish village were also received.



Figure 3: Location map for the Lower River Shannon Special Area of Conservation (SAC) Site Code: 002165. Photo: © www.osi.ie Geohive maps.

¹ National Parks and Wildlife Service Lower River Shannon SAC 2165 Site Synopsis. Department of Arts, Heritage and the Gaeltacht. 2013

6. Caherconlish Biodiversity Areas

The Caherconlish Local Area Plan 2012-2018 cites as a weakness the lack of quality public open spaces in the town. The relatively young population and strong history of community development and a vibrant local voluntary sector are regarded as strengths. In terms of opportunities it states that the attractive elements of the townscape – the old church and grounds and the town square – could be improved for public amenity and the River Groody could be developed as a natural amenity.

Caherconlish Tidy Towns Association is targeting the following areas for biodiversity in this action plan (see Figure 4).

1. Groody River

The stretch from the north town gateway flowing east of the R513 and behind the buildings on Main Street to the Millennium Centre car park off the L5094.

2. Boskill Hedgerow

Located east of the town centre along the cul de sac to the Equestrian Centre.

3. Beechview Gardens Estate

This estate is east of the town centre off the L5094.

4. Oakley Lawn Estate

This is a Limerick County Council Housing Estate south of the town centre and west of the R513 off the L5089 road.

5. Creamery Loop Walk

2.7km walk incorporating the Our Lady Mother of the Church Catholic Church, old Church of Ireland Ruins and Graveyard, Kenlyshe Castle Site Archaeological Monument, Creamery Wetlands, Tennis Courts and School Grounds.

6. Town Square

Located in the centre of the village on the R513

7. Old Church of Ireland Graveyard

Located close to the centre of the village on the R513

8. Gateways and Main Street

North and south of the town and between along the R513.

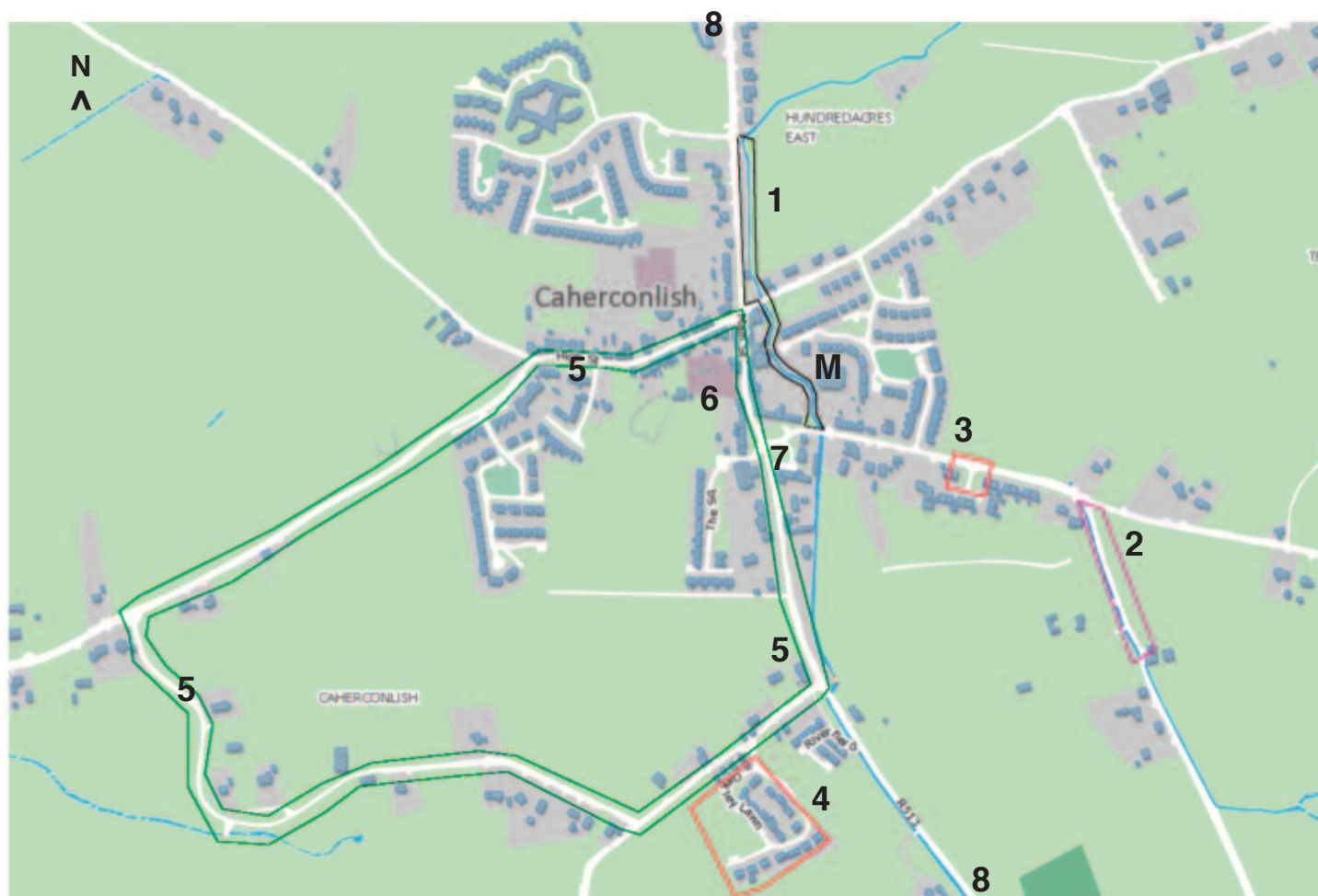


Figure 4: Biodiversity Study Areas agreed to be included in the Biodiversity Action Plan - Caherconlish, Co. Limerick.

1. Groody River, 2. Boskill Hedgerow, 3. Beechview Gardens Estate, 4. Oakley Lawn Estate, 5. Creamery Loop Walk, 6. Town Square, 7. Old Church of Ireland Graveyard, 8. Town Gateways and Main Street on the R513. M is the Millennium Centre. Source: © www.google.com

7. What is Biodiversity?

Biodiversity is the variety of living things around us, from mammals and birds to plants and microbes, and the habitats they live in. It is a term used to mean wildlife, but more inclusive, as the latter is often thought to refer to animals only.

The biodiversity of a site or locality is the range of species found there. A green space in any housing estate includes the familiar biodiversity of the blackbird and the robin, ducks, butterflies and the trees and grass, as well as many hundreds of species of smaller, more elusive and less familiar species such as bats, hoverflies, molluscs and fungi.

Table 1: The Values of Biodiversity

Biodiversity Value	Notes
Biodiversity is good for people	Naturalistic landscapes offer an alternative experience to more formalised, green space, and can be used for both exercise and relaxation.
Biodiversity involves communities	Encouraging biodiversity offers opportunities for people to get involved in creating and looking after parts of their local neighbourhood or park or for recording species through citizen science initiatives.
Biodiversity is cost-effective	Because biodiversity schemes, such as planting woodland, require less intensive maintenance, resources, which are always limited, can be directed to other activities in the community.
Biodiversity creates a sense of place	Biodiversity helps to make an area reflect the character of its own locality, rather than looking and feeling the same as everywhere else.
Biodiversity is good for wildlife	Biodiversity is good for wildlife, whether rare and protected species or common, familiar plants and animals.
Biodiversity contributes to sustainability	Less intensive techniques and the reduction of chemicals, water and fertilisers are all aspects of managing for biodiversity. The best ecological systems require low levels of intervention and are therefore readily sustainable.
Biodiversity contributes to a green infrastructure	The network of habitats, parks and green spaces in a village helps to ameliorate the effects of climatic extremes, heavy rainfall and pollutants. Naturalistic green spaces are generally more effective in this respect thanks to their more complex vegetation structure.

Table 2: Settings for Biodiversity

Biodiversity Locations in Your Area
Parks and public gardens
Natural and semi-natural spaces (including wastelands and derelict open land)
Green corridors
Rivers, streams and wetlands
Roadside verges
Cemeteries, churchyards and other burial grounds
Civic spaces, including market squares and other hard-surfaced areas designed for pedestrians
Accessible countryside in urban fringe areas
Urban planting schemes
Amenity green spaces
Playgrounds for children and young people
Allotments, community gardens and city farms
Outdoor sport pitches
Running tracks
Walkways

The Value of Biodiversity
Biodiversity is a key component of vibrant, rich and attractive open spaces in villages and the surrounding countryside. The values of biodiversity are listed in Table 1. Biodiversity value is reflected in the way that habitats, parks and green spaces are managed. People want nature in their public spaces and want to get involved in its management. Success will be the result of leadership, teamwork and commitment. What to aim for is that the care of parks, habitats and open spaces is informed by ecological principles. The result of this approach is the creation of more self-sustaining, cost-effective landscapes that provide better wildlife habitat and more locally distinctive surroundings. Using the biodiversity approach can put small villages on the visitor map and help local communities to be proud of their village because of it.

Where can we find biodiversity?

When people think of places to encourage wildlife, it is often the wilder, more out-of-the-way parts of the village or the woodland and hedges at the edge of the village. Actually everywhere has the potential for biodiversity (see Table 2). In order to enhance the opportunities for biodiversity, groups must create and encourage more species-rich and structurally diverse vegetation. Common examples include reducing mowing to encourage wildflowers and the establishment of field and shrub layers under groups of planted trees.

Why Does Caherconlish Need a Biodiversity Action Plan?

Global biodiversity is under threat. Action is required at local, national and global levels to protect our natural heritage. Habitat loss from exploitation of resources, agricultural conver-

sion, and urbanization are the main factors contributing to the loss of biodiversity. The consequent fragmentation of habitat creates small isolated patches of land that cannot maintain populations of species into the future.

Ireland's National Biodiversity Plan 2017-2021¹ highlights the



role that Communities can play in enhancing and protecting the biodiversity in their locality. A key action area arising from the National Biodiversity Plan is the need to take steps to protect pollinators. The All Ireland Pollinator Plan 2015-2020² aims to help local communities to enhance habitat for pollinators



through planting native species that provide food and shelter year round (see the Pollinator-friendly

Planting Code³).

The basics of Biodiversity Management

Managing sites for biodiversity involves twelve general principles that may challenge traditional practices.

1. You don't know what you've got until it's gone

Make the most of what is already there. Very often the value of this may not be recognised. For example, regularly-mown amenity grassland may in places contain a good number of wildflowers but these never flower because of the frequent mowing. Always make sure you know what you already have before you try to change it.

2. Challenge the myths

It is important to seek expert advice to ensure that myths about wildlife do not infiltrate management decisions. For example, not all birds nest in trees; many nest on the ground. Many shrubs promoted as good for butterflies are suitable only for the adults, which drink nectar, and if the food plants of their larvae are not present as well, they will not serve their purpose.

3. Keep it appropriate

Most habitats, parks and green spaces have a local distinctiveness: the species and their habitats generally relate to their locality and are derived from the underlying substrates and geology, climate, hydrology and ecological characteristics. A green space in the South West will have different biodiversity from one in the North East, even if the layout and structure are broadly similar. To ensure that biodiversity has a long-term future, management objectives must be appropriate to the local ecology, as must the species that are planted.

4. Keep it clean

Wildness is often thought to mean leaving nature to look after itself. But it is important to make sure the site does not appear neglected. Litter picking is as important in a wildlife area as in a formal rose bed.

5. Keep it dynamic

Standard management practice aims to keep elements of the landscape in the same condition: shrubs are pruned to a regular shape, lawns are close mown to the same height, all self-sown plants are removed from flower beds. Change is therefore limited. Management for biodiversity, on the other hand, may actively encourage change so that more varied opportunities are present for wildlife. Some grassland might be allowed to change gradually into woodland or shrubs may be pruned less frequently. Many species have no permanent place in a green space managed to suppress all change, yet continuity of habitat is absolutely vital to many species.

6. Size matters

Although the quality of a park is not generally dependent on its size, in the context of increasing biodiversity it can often be crucial. Some species, mainly birds and mammals, have minimum area thresholds. So it is important to provide the largest area or mass of habitat wherever possible, as this enhances the chances for species that have large territories or that are vulnerable to disturbance. This provides the basic rationale to extending biodiversity beyond

1. <https://www.npws.ie/sites/default/files/publications/pdf/National%20Biodiversity%20Action%20Plan%20English.pdf>

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

3. <https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-friendly-planting-code-temporary-draft.pdf>

the bounds of the nature garden and integrating it into the wider management of parks and green spaces.

7. Safety in numbers

A greater diversity of plants is likely to support a wider range of animals. For example, a wildflower meadow is usually thought to be better for wildlife than areas of unmown, tall grassland, because the greater variety of flowering plants supports more nectar-feeding insects than grasses alone. Similarly, a mixed planting of shrubs or a mixed hedge may help encourage more species of birds than a planting or hedge made up of a single species.

8. The sum is bigger than the parts

Combining different habitat types together creates a more complex and varied environment for wildlife, because of the larger number of opportunities for shelter and feeding. For example, the song thrush feeds both on invertebrates in open lawns and on berries from hedgerows or woodland edge. Thus, combining areas of short-mown grass with shrubs, hedges and woodland provides all sorts of foraging opportunities as well as nesting cover. Rich mosaics of different habitats can also be very attractive to people and are desirable if the size of the site and local circumstances permit.

9. More structure means more diversity

The key to providing enhanced habitats for biodiversity is generally increasing the structural diversity of the habitats.

For example, long grass meadows provide more opportunities than short swards. A woodland with ground flora, dead wood and a small tree layer provides significantly more habitat than one stripped of everything except its trees.

9. It's a matter of life and death

We are used to thinking of nature as the living things we can see all around us, whether they are plants or animals. However, biodiversity – the totality of living things – includes also those myriad species that are scarcely visible. Many organisms are involved in death and decay and in feeding upon and recycling the dead remains of other life into soil nutrients. Therefore, one of the ways of encouraging greater biodiversity is to encourage this natural recycling by, for example, leaving dead wood on the ground in woodland areas.

10. Life on the edge

Biodiversity hotspots often occur at the meeting point between two or more habitats. For example, where a shrubby woodland edge meets tall grass or meadow, plants and animals from both grassland and woodland habitats can thrive. Such boundaries and edges can be very useful where space is limited, particularly if allowed to merge rather than being maintained as two or more separate areas. They can be especially valuable in warm and sunny aspects where the greatest diversity of wildlife can be expected.

11. Remember the bigger picture

It is easy to focus on an individ-

ual site or a particular area or feature within that site, to the exclusion of the surrounding area. However, wildlife rarely takes notice of our site boundaries. We should not forget to look at how an individual site fits into a much wider network of spaces and how that connection can be strengthened. We should also consider the role of private gardens, which extend the habitat available for wildlife beyond the public open space.

12. Keep it sustainable

Throughout the 20th century, managers of parks and green spaces (as well as the countryside) often used specific techniques to remove biodiversity, which was seen to be a problem. This later rebounded through the food chain, or caused damage well away from the parks themselves. Adopting more sustainable approaches, for example reducing chemical inputs, water extraction and fertilisers, and avoiding the use of peat, can greatly enhance biodiversity.

Biodiversity Enhancement Actions

Appendix 5 presents a number of photo montages showing examples of some of the practical ways in which to enhance biodiversity in Caherconlish. These ideas and others will be recommended in the biodiversity action tables presented in Chapter 8 of this report.

8. Biodiversity Maps & Actions

8.1 Groody River

Location: The northern section studied is at N52.596378, E-8.472241 and the southern section studied is at N52.593924, E-8.470919 (see Figures 5 and 6).

The Groody River is a fast flowing stream that flows east of the R513 behind a cut stone wall on the Limerick side of Caherconlish. It flows alongside the Millennium Centre off the L5094. Stone cut bridges are located on the junctions between the R513 and the L5094 at the Millennium Centre and the R515 and the L5096 at Franklin's Garden.

The River Groody has received much attention from Caherconlish Tidy Towns Association, who have been involved in removing builder's rubble, green-waste and other polluting debris from its waters and banks. Two areas along the river provide open views of the flowing water and some green space along this otherwise hidden natural feature. These are at Franklin's Garden near the old Library Building and Michael Lynch's Off Licence and adjacent to the entrance of the Millennium Centre (see Plates 4-6).

Caherconlish Tidy Towns have also paid a good deal of attention to Franklin's Garden along the river. This area has been planted with pollinating flowers and berry providing shrubs. Bird nest boxes are installed on the trees. Adjacent to the gar-

den is a disused Library Building which is available to the community for their own use.

A plan to upgrade Franklin's Garden has been drawn up for the Tidy Town Group and is presented in Figure 9 with planting details presented in Appendix 6. Specific recommendations to enhance biodiversity are made in relation to this proposal in Table 4.

Habitat Types

The range of habitats along the river include riparian margin, recolonising bare ground, tree line, agricultural grassland, stone walls and lowland river. The distribution of these habitats are presented in Figures 7 and 8).

Riparian Zone

A narrow sloped strip of 2-3m along the Groody River is classified as riparian zone. This is periodically inundated when the river rises during wet period. The riparian zone is particularly obvious in the Northern section studied where it runs along agricultural grassland and behind Michael Lynch's Off Licence. This contains a mix of grassland and marsh species, although it is not well developed. Species of wetlands included: Angelica, Apium, Willow, Meadowsweet and Water Figwort. These were growing in a matrix of Willowherb, butterbur, burdock, ragweed, sow thistle, nettle, sorrel, hog weed and various grasses including Yorkshire fog and bent grass.

Again the riparian zone was obvious along the river at the waste ground area near the Millennium Centre. In this location wetland plants were also growing in the shallow moving water of the river including Branched bur-reed (*Sparganium erectum*) and reed sweet-grass (*Glyceria maxima*).

A kick sample of invertebrates present in the water found freshwater shrimp, water flea, mayfly and blood worm. The biotic index for this sample was 5 indicative of medium quality waters¹.

The open agricultural landscape along the eastern bank of the river at Groody North provided a great viewing opportunity for birds. House martins and swallows were feeding from insects rising from the fields and the larger countryside birds such as Jackdaw and rook were searching the grassland for invertebrates.

An issue observed in the Groody River north was the dumping of cut grass from the roadside verge along the river bank. This activity needs to stop and grass cuttings should be taken to a composting area at the old tennis courts or to a new area to be established.

Recolonising Bare Ground

The bare ground area beside the Millennium Centre is being recolonised by a variety of plants including brambles, nettles, thistles, clovers, butter-

¹ Orton, R., Bebbington, A. & Bebbington, J. Freshwater Name Trail. Field Studies Council, Shropshire.

cups, plantains, horsetails, cow parsley, hogweed, ragweed and Buddleia. This area is in private ownership and is grazed by ponies. Similarly another bare ground area occurs opposite Franklin's garden to the rear of Michael Lynch's Off Licence. Again this is being colonised by a variety of weed species which are attractive to wildlife. The soil is poor here which prevents luxurious grass growth and favours wild flowers. Notable in the river in this area was the presence of the Grey Wagtail. This bird is included on the Red list of Birds of Conservation Concern¹.

The variety of plants that were in flower attracted a diversity of insects including, bumble bee, soldier beetle and cinnebar moth caterpillars.

Stone Walls

The limestone boundary wall along the Groody River North represents an important source of biodiversity, particularly for lichens, molluscs, spiders, lizards, beetles and native plants such as ferns, stonecrop and ivy. This range of species can be encouraged and enhanced by leaving the walls undisturbed without cleaning.

Tree line

Mature trees were present on the banks of the Groody River South forming a treeline. The species recorded included: ash, beech, sycamore, holly, elderberry, hawthorn, oak and willow. Beneath these there was good growth of wild flowers and grasses. The habitat complexity increases biodiversity and blackbird, robin, starling and

rook were observed utilising the area.

Invasive Species

Cherry Laurel was observed planted in a garden hedge which backs onto Franklin's Garden (see Table 13).

Actions

The Groody River and its associated habitats is a natural wildlife corridor running through Caherconlish. As such it should be seen as an oasis of nature, a place where flora and fauna should be encouraged by undertaking a variety of biodiversity enhancement measures. The headline project is to create riparian zone along the river where there is land available and with the co-operation of land owners.

Land development for farming, urban areas, industry and flood control has removed much of the original vegetation along the Groody River in the village. This results in greatly increased amounts of sediment, nutrients and bacteria entering the waterway via runoff. Creating effective riparian zones can significantly reduce impacts on water quality and biodiversity.

A riparian zone is like a green belt along the river which provides food and shelter for the rich diversity of wildlife living along the riverbank. A riparian zone is a buffer between farmland, grassland or waste ground areas and open water. Riparian areas serve as migration routes and stopping points between habitats for a variety of wildlife. Trees and grasses in riparian areas stabilize stream-

banks and reduce floodwater velocity, resulting in reduced downstream flood peaks.

A key action to enhance biodiversity is to take steps to protect the Groody River banks and to create riparian zones where space is available and land owners are willing to cooperate because they see the benefits for farm and livestock management. Some on-farm benefits of riparian zones include:

- Reduced losses of sediment and nutrients from the land.
- Reduced stock losses, provision of shelter and helping with stock control.
- Reduced drainage maintenance from excessive weeds and silt.
- Minimised flood damage to farmland and infrastructure.
- Increased land and farm value.

Benefits for the wider community include:

- Stabilised banks and reduced erosion.
- Improved water quality and increased biodiversity.
- Improved recreational and cultural values.

An annual maintenance regime should be put in place that welcomes nature into the wild spaces and gardens along the river. Community engagement is vital in the successful implementation of the management actions proposed to enhance biodiversity presented in Table 3.

¹ Colhoun, K. & Cummins, S. (2013) Birds of Conservation Concern in Ireland 2014 - 2019. Irish Birds 9: 523-544



Figure 5: Groody River North, Caherconlish, Co. Limerick Location. Source: © www.google.com



Figure 6: Groody River South, Caherconlish, Co. Limerick Location. Source: © www.google.com

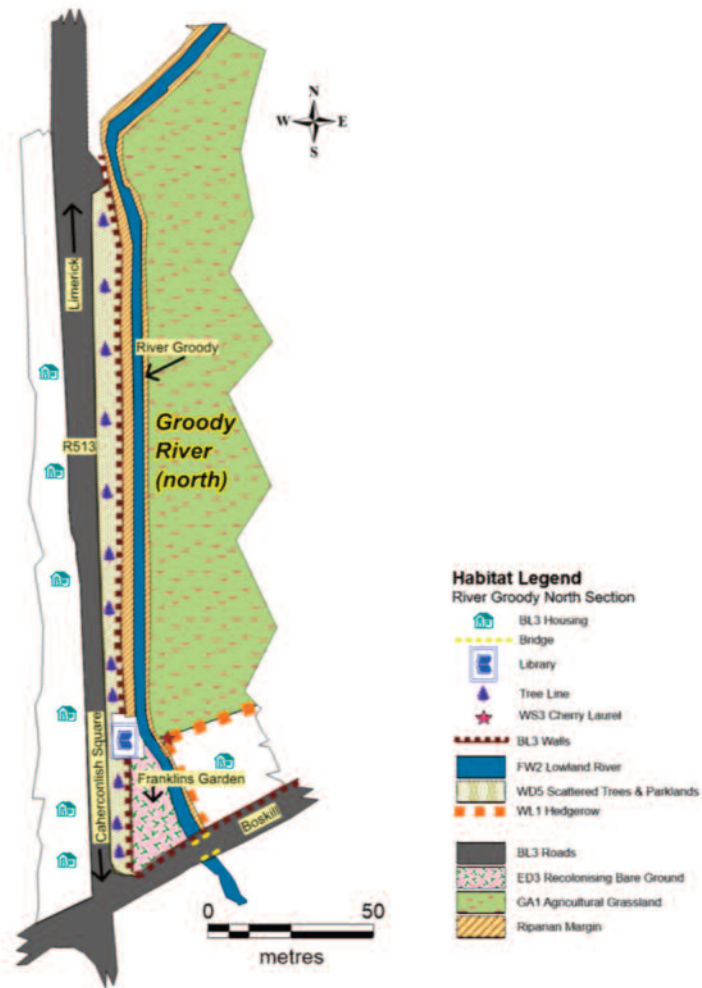


Figure 7: Above: Groody River North Habitat Map, Caherconlish, Co. Limerick. Photo: © D. Lyons
 Below left: The Groody River alongside Franklin's Garden with the Library Building in the background. Below right: The Groody River north of Franklin's Garden where it flows adjacent to farmland. The creation of a riparian zone on the banks of the river is recommended to enhance biodiversity.



Plate 4 left: The Groody River alongside Franklin's Garden with the Library Building in the background. A planting plan for Franklin's Garden has been developed and is presented in Appendix 6. Photo: © C. O'Connell
 Plate 5 right: The Groody River north of Franklin's Garden where it flows adjacent to farmland on its eastern bank. The creation of a riparian zone on the banks of the river is recommended to enhance biodiversity. Photo: © C. O'Connell



Figure 8: Groody River South Habitat Map, Caherconlish, Co. Limerick. Photo: © D. Lyons



Plate 6: The Groody River alongside the Millennium Centre. The river wetland, treeline and wildflower area are a biodiversity hotspot in Caherconlish with 52 species of plant, bird and animal recorded in this area during the development of this plan. Photo: © C. O'Connell

Table 3: Biodiversity Action Plan for the Groody River, Caherconlish, Co. Limerick.

Action Number	Action	Notes
8.1.1	Herbicide and fertiliser use along the river should be avoided.	As the river is a natural wildlife corridor and as its banks or riparian zone provide vital services, the use to herbicide and fertilisers should be avoided completely.
8.1.2	River clean up	The annual clean up of the Groody River should continue. Builders rubble, tar and corrugated roofing materials should be removed. Litter also needs to be cleared.
8.1.3	Leave Bridge and Stone Walls plants in place:	Unless vegetation is causing structural damage to the bridges or walls it is better to trim it back than to cut it down altogether. Leave moss and lichens on walls. Pruning should be undertaken using hand tools.
8.1.4	Freshwater Invertebrate Survey of the Groody River	An annual survey of freshwater invertebrates in the river near the Millennium Centre should be undertaken to monitor water quality. This project could be undertaken by citizen scientists or by school children. The species found in the river are indicative of water quality and the Field Studies Council have a freshwater name trail chart which explains how to score species identified.
8.1.5	Extend riparian zone into agricultural land on the north eastern bank of the Groody river	Where the Groody river flows between agricultural land and the R315, discuss the possibility of extending the riparian and grassland bank of the river into the agricultural land with the farmer owner. Even 2-3m managed for wildlife would greatly enhance the biodiversity in the area. Work the riparian zone in three parts. Select the right plants for the job, for example, for shelter, bank stabilisation, timber production, aesthetics and wildlife values. Plants that can withstand flooding should be planted on the lower bank zone such as sedges, bur-reed, flowering rush, flag iris, meadowsweet, water plantain and reed mace. On the upper plant zone which may flood occasionally plant native trees and shrubs for shelter and shade together with purple loosestrife, willowherb, ragged robin, ladies smock. The last zone should be a 1m strip of grass managed for wildflowers on the highest land above the river channel (see Action 8.1.10).
8.1.6	Dispose of grass cuttings from regularly maintained areas and shrub prunings to a neat and unobtrusive composting area to be established.	All brown and green waste should be picked up, chopped up and placed on a compost heap. Dumping grass cuttings along the river bank is damaging to the natural riparian habitats. Grass smothers plants and decreases the species range of flowering plants. It is unsightly and smelly and is better disposed of in a designated composting area to be established. Ideally two enclosures for compost should be constructed to allow turning. Compost produced can be used in planters in the town and in Franklin's Garden.
8.1.7	Invasive Species : Cherry Laurel at Franklin's Garden in private garden should be removed	Table 13 gives location details for Cherry Laurel at Franklin's Garden. This species should be removed by competent authorities. Please contact https://invasivespeciesireland.com/ for assistance.
8.1.8	Bird and Bat Boxes There are trees located along the river that may be suitable sites for the installation of bird and bat boxes.	This can be a community project involving school children and a local men's shed. The focus could be along the river near the Millennium Centre and Children's playground and Franklin's Garden.
8.1.9	Establish a Wildflower Meadow along the Groody River bank with the R513	Allow the grass to grow, flower and seed to form a wild flower meadow along the western river bank for bees and pollinators as part of the riparian zone creation. This area can be viewed safely from the path and green space along the R513. Once a year mow the entire meadow strip area and remove waste to a compost heap to help control vigorous grass growth. Scarify the ground with rakes to help wild flower seeds make contact with bare soil and germinate to increase the abundance of wild flowers in subsequent years.
8.1.10	Establish butterfly garden, wildflower area and riparian zone In the open space beside the bridge at the Millennium Centre	Establish a butterfly garden expanding the range of butterfly and moth friendly plants already in the area along the walls in consultation with the local owner. Butterfly and moth friendly plants to add include: Lavender, Honeysuckle, Tutsan, Hebe, thyme and self seeding herbs such as Calendula, Aquilegia, Marjoram, Michaelmas daisies (Aster), Catmint (Nepeta), Sedum or iceberg plant, Eupatorium, Salvia, Echinops, Stocks. This area has good visibility and is off the main road. Mow a path with a strimmer through the wildflower area to provide access. Remove excess bramble with secateurs. Enhance the riparian zone along both river banks by supplementing existing wetland plants with others typical of such zones (see Action 8.1.5). This project will require the Tidy Towns to gain management control of the land in liaison with the landowner.
8.1.11	Facilitate Community Engagement on the management plan for the river	Form a discussion group regarding the management regime for the river banks and a habitat creation programme with the local community. Find out what is important to local people. Decide what can be changed now and what might take longer to achieve.
8.1.12	Erect Information Signage	Signage will be required to inform users and visitors to the town about the Groody River and how it is managed for biodiversity

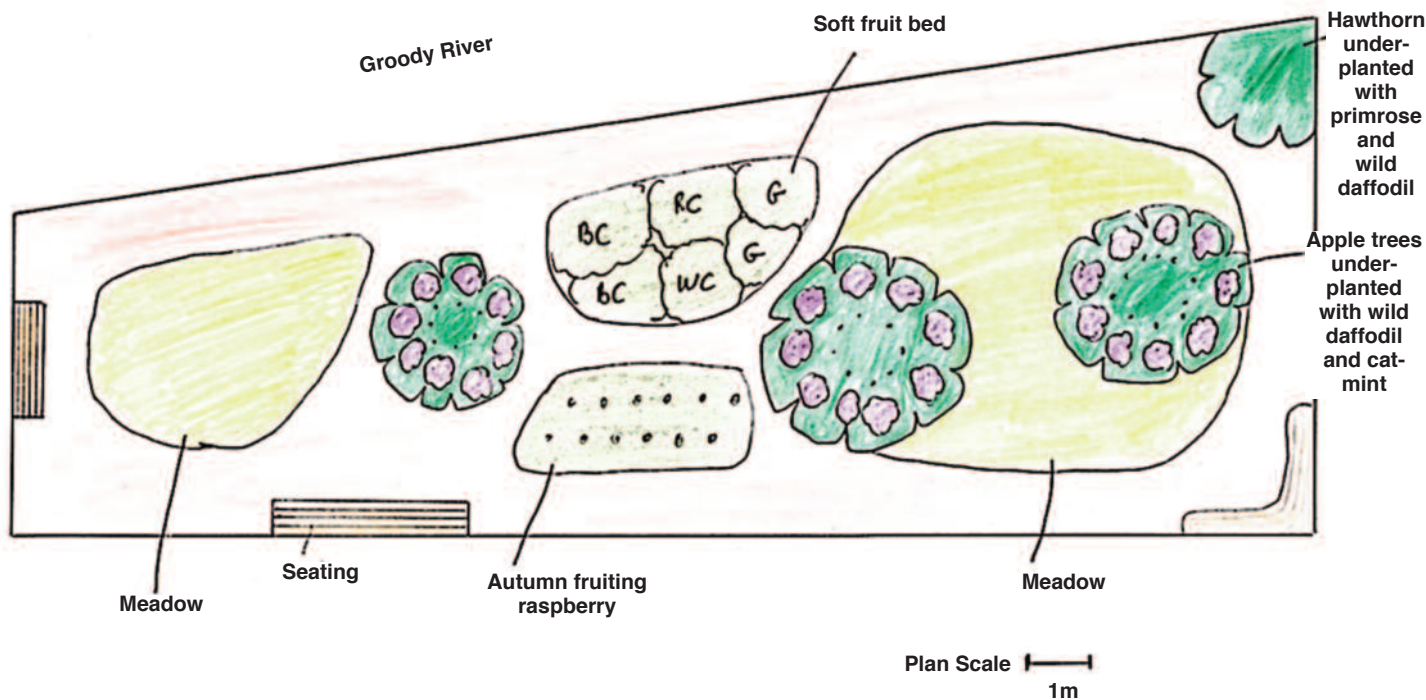


Figure 9: Plan for Franklin's Garden drawn by Wild Way Design and Fran Giaquinto in 2020 which occurs within the Groody River North Habitat Map, Caherconlish, Co. Limerick. Photo: © Wild Way Design

Action Number	Action	Notes
8.1.13	Herbicide and fertiliser use in the garden should be avoided	As the garden is small the use of hand tools for weeding is preferred to chemicals. Good compost will reduce the need for commercial fertilisers and a natural fertiliser can be made from comfrey.
8.1.14	Seating	In addition to seating placed inside the garden, seating should be placed outside to allow for community conversation.
8.1.15	Planting under trees	Wild garlic, allium, anemone, snowdrop, crocus, bluebell and celendine, the wild flowers of spring should also be planted under trees to encourage insects.
8.1.16	Herb bed	A herb bed would be a good addition to the planting scheme with marjoram, lavender, borage, comfrey (in pots), mint (in pots), rosemary and thyme. These plants can survive in poor well drained soils and are very attractive to insects.
8.1.17	Riparian zone	The River Groody bank of the garden should be enhanced as a riparian zone (see details in Table 3). to protect the waterway from run off of soil, bacteria and pollutants. This zone will also provide shelter, food and a safe passage for wildlife migrating through the town.
8.1.18	Garden Maintenance	A good maintenance programme is really important for the garden as it occurs in a public place and acts as a showcase for the community interest in biodiversity. A schedule of work needs to be drawn up and a team of volunteers put in place to carry out the tasks described.
8.1.19	Dispose of grass/shrub cuttings from the garden to a neat and unobtrusive composting area to be established	All brown and green waste should be picked up, chopped up and placed on a compost heap rather than being dumped in a habitat set aside for biodiversity. Compost produced can be used by the Tidy Towns in flower beds and planters in Franklin's Garden and elsewhere in the town
8.1.20	Removal of Cherry Laurel Invasive	Table 13 gives location details for cherry laurel planted in a neighbouring garden. In liaison with the home owner this species must be treated and removed by competent authorities. Please contact https://invasivespeciesireland.com/ for assistance
8.1.21	Erect Information Signage	Signage will be required to inform users and visitors to the garden about the Groody River and how it is managed for biodiversity
8.1.22	Community Training	Franklin's garden has great potential to be a focus for community training in the organic methods of growing food, composting and enhancing wildlife

Table 4: Specific Biodiversity Action Plan recommendations for Franklin's Garden designed by Wild Way Design in April 2020 for Caherconlish, Co. Limerick.

8.2 Boskill Hedgerow

Location: N52.592338, E-8.465152 (see Figure 10)
The Boskill Hedgerow occurs along a cul de sac located east of the town centre adjacent to the Equestrian Centre. The hedge forms the boundary between farmland and the minor road used for grazing animals and silage production.

Habitat Types

The hedge is well developed with tall ash trees, a maintained hedge and a grass bank and ditch (see Figure 11).

Hedge: the hedge was 2-3m tall and was well maintained. There was a good variety of trees including willow, black-thorn, hawthorn and elderberry

forming the maintained hedge. There were larger mature trees of sycamore and ash in part along the hedge. Companion woodland plants were also recorded including bramble, wild rose and ivy (see Plate 7).

Grassy verges and ditch: The grass bank at the base of the hedge was rich in wild flowers and ferns including lady's bed-straw, speedwell, vetch, ragged robin, cleavers, yorkshire fog grass, knapweed, meadowsweet, red and white clover, nettle, cow parsley, yarrow, horsetail and ferns. The variety of plants and ferns recorded was enhanced because of a "double-ditch" like structure at the bottom of the hedge which provided land for the development of a relatively large

wooded hedge zone.

Actions

The rich diversity of species in the Boskill Hedge and Grassy banks should be retained as typical habitats of the countryside of Caherconlish. The hedges are providing shelter, food and habitat for wildlife including birds, insects and mammals such as woodpigeon, house sparrow, swallow, jackdaw, blackbird. The variety of berries provided by the trees attract overwintering Redwing (see Plate 7).

The actions recommended in Table 5 are aimed at retaining the existing biodiversity.

Table 5: Biodiversity Action Plan for the Boskill Hedgerow, Caherconlish, Co. Limerick

Action Number	Action	Notes
8.2.1	Establish a Wildflower Meadow along the farmland boundaries with the hedgerow	Consult with farmers who work the fields adjacent to the hedge to leave a margin of grass to grow, flower and set seed to encourage wildlife and to provide a fertiliser and pesticide exclusion zone. For a width of at least 2m inside the existing hedge on either side of the road, the grass should be allowed to grow to encourage wild flowers for wildlife and pollinators. Edge habitats where a hedge meets grassland can be very valuable for wildlife. Letting the grass grow here will promote biodiversity. Allow the grass to grow for the season. Once a year mow the entire area and remove waste to the compost heap to help control vigorous grass growth. Scarify the ground with rakes to help wild flower seeds make contact with bare soil and germinate to increase the abundance of wild flowers in subsequent years.
8.2.2	Method and frequency of Hedge Management	Teagasc advise that hedges should be trimmed to an 'A' or triangular profile from a wide base to allow light at the base, leaving the peak at least 1.5m (5 feet) from ground level, or the top of the hedge bank. Occasional thorn saplings should be encouraged to grow into individual trees to continue the treeline along the Boskill hedge. This will create the ideal conditions for birds to nest, providing cover from predators above and below the nest, and providing flowers in summer for bees and other pollinators, and berries in autumn for birds and small mammals. The hedgerow maintenance period runs from September 1 to the end of February. Hedges should be cut every two to three years in rotation to maximize the wildlife benefits.
8.2.3	Facilitate Community Engagement on the management plan for the hedge	Liaise with landowners of the fields and hedge at Boskill to discuss management of this wildlife rich zone. Establish their requirements and work with them.



Figure 10: Boskill Hedgerow, Caherconlish, Co. Limerick Location. Source: © www.google.com

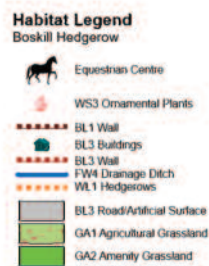
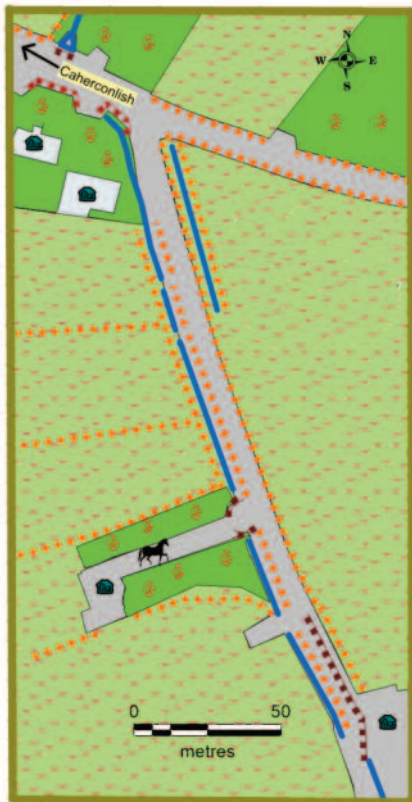


Plate 7: The Boskill Hedgerow is a species rich biodiversity area in Caherconlish, Co. Limerick. This is because of the well-developed structure of the hedge which includes mature ash trees, a maintained hedge, grass bank and ditch. Redwing birds were observed feeding on ivy berries in this hedge in February 2020 (see image inset). Redwings are small thrushes that breed in the far north of Europe and visit Ireland to over-winter. Photos: © C. O'Connell

Figure 11: Boskill Hedgerow Habitat Map, Caherconlish, Co. Limerick. Photo: © D. Lyons

8.3 Beechview Gardens

Location: N52.593173, E-8.467823 (see Figure 12).

Beechview Gardens Estate
This estate is 250m east of the town centre off the L5094. The site consists of two green areas at the entrance to the homes in the estate which are separated by garden walls from the adjacent houses. Caherconlish Tidy Towns have been involved in planting a line of trees in the green areas and erecting a name plate for the estate.

Habitat Types

The range of habitats present is low as the area is small. They consist of trees and parklands with amenity grassland (see

Figure 13).

Amenity Grassland:

dominates the entrance to the estate. Species diversity is very poor as the grass is subject to regular mowing.

Trees: Birch, rowan and alder trees have been planted in a line of 7 trees on the eastern entrance area (see Plate 8). On the western side there were two variegated poplar trees. These trees have vigorous and invasive root systems and they also grow very tall and are not appropriate in this location.

Walls: on the western garden wall an exotic creeper has been planted.

Actions

There was evidence of spraying along the wall lines to suppress weeds. As this area is an amenity for residents and children every care should be taken to ensure health and safety of all users. Avoiding chemicals will also work with biodiversity by allowing insects to live and allowing plants to grow, flower and set seed.

There are a few simple steps that can be taken to greatly enhance the entrance to Beechview gardens and provide quality wildlife habitat.

Please see suggested actions for biodiversity in Table 6.

Table 6: Biodiversity Action Plan for Beechview Gardens Estate, Caherconlish, Co. Limerick.

Action Number	Action	Notes
8.3.1	Herbicide and fertiliser use in the estate should be avoided.	As the estate entrance is used by children and adults every care should be taken to ensure health and safety of all users. Avoiding chemicals will also work with biodiversity .
8.3.2	Remove variegated poplar trees	The two exotic variegated poplar trees should be removed from the eastern green area. These trees have extensive travelling underground root systems the produce suckers which involves a new tree appearing unwanted in a distant place. Their roots also undermine walls.
8.3.3	Plant trees to create woodland habitat on each amenity grassland area at the estate entrance	To enhance biodiversity woodland habitat should be created by planting stands of fruit and nut bearing trees to encourage wildlife. 7-10 trees should be planted together to form a mini-woodland and the vegetation beneath them should be let grow, flower and set seed to encourage pollinators. Companion woodland species can be planted such as the bulbs of wood anemone, blue bell, wild daffodil and ramsons together with ferns. Such planting enhances estates visually and provides a more interesting area for citizens to enjoy. Bird boxes, log piles and insect hotels can be included in these habitats.
8.3.4	Scented screen planting on the wall boundaries.	The wall boundaries need to be enhanced for wildlife by planting native climbers such as wild rose, ivy, traveller's joy and honeysuckle. These woodland plants will provide year round interest for pollinators and wild birds. Tit and Robin bird boxes can be installed hidden by the climbers.
8.3.5	Create a wildflower bed around estate name plaque	The estate name plaque provides a visual focal point and should be planted up with a flower bed containing bulbs and ornamental grasses that will form a meadow habitat in time. This can be an initiative undertaken with local residents. Choose a limited colour palette of bulbs for this project as it looks more natural. Do not cut the bulbs until autumn. This allows the bulbs to ripen in the ground and ensures they divide and flower in subsequent years. Species ideal for naturalizing include: wild daffodil (<i>Narcissus pseudonarcissus</i>), snowdrop (<i>Galanthus elwesii/nivalis</i>), bluebell (<i>Hyacinthoides non-scripta</i>), wood anemone (<i>Anemone nemorosa</i>), Crocus species, squill (<i>Scilla bifolia</i>). The bulbs are tossed gently onto the ground. Plant them where they land at a depth of 3-4 times the size of the bulb.



Figure 12: Beechview Gardens Estate Location, Caherconlish, Co. Limerick. Source: © www.google.com

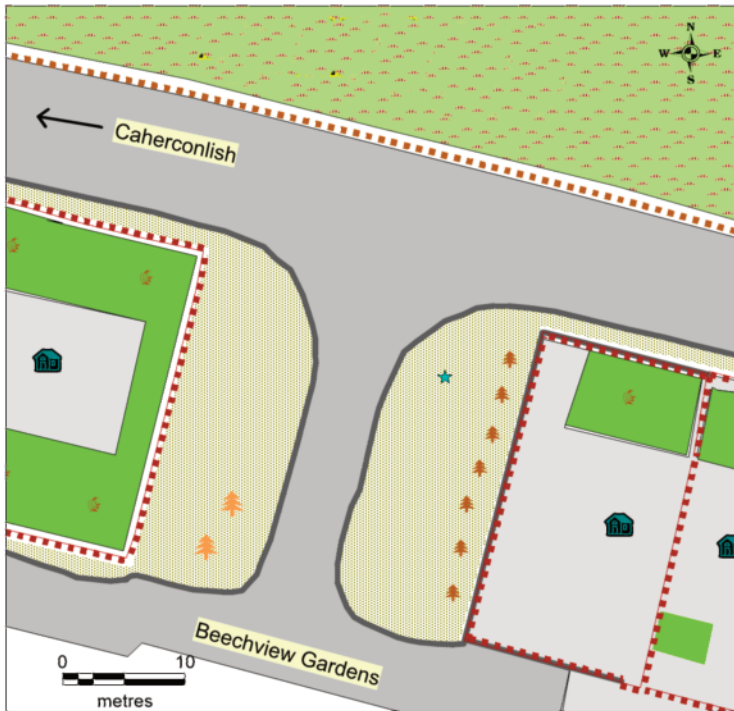


Plate 8: Beechview Gardens Estate Entrance showing trees planted and estate name plaque. To enhance biodiversity a wildflower bed could be planted around the plaque. Further action would include planting a second row of trees to create woodland habitat and leaving the grass beneath the trees to flower and set seed so as to encourage wildlife. Photo: © C. O'Connell

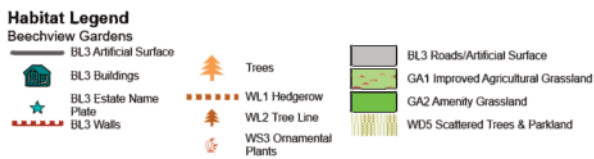


Figure 13: Beechview Gardens Estate Habitats, Caherconlish, Co. Limerick. Photo: © D. Lyons

8.4 Oakley Lawn Estate

Location: N52.589797, E-8.471909 (see Figure 14). This Estate is located less than 1km south of the town centre and west of the R513 off the L5089 road.

This housing estate has a substantial green area located beside the Caherconlish AFC sports ground. The two green areas are separated by a wooden rail and post fence and are maintained through regular mowing. There is a good mature hedge in combination with an unmanaged grassland edge area at the entrance to the estate that is rich in wildlife. The Caherconlish Tidy Towns have planted a line of trees at the estate entrance and in the green area. The trees are not thriving in the green area, some have been broken and others are bent over in the prevailing wind. In the south western corner there is an area of rough grassland that is changing to scrub woodland. A butterfly garden has been established against one of the garden walls at the back of a green area. The estate name plaque is located in the green area at the entrance.

Habitat Types

The range of habitats present hedgerow, treeline, amenity grassland and scrub (see Figure 15).

Hedgerow: There is a mature hedge of shrubs with tall trees running along the north eastern boundary of the estate. The species present included ash, hawthorn, privet, willow, alder, oak and white thorn. A strip of



Plate 9: The mature hedge and uncut wildflower grassland habitat provide a rich variety of habitats for wildlife at Oakley Lawn Estate in Caherconlish. Over 40 species of plant and wildlife were recorded here including the Bullfinch (see inset). Photo: © C. O'Connell

grassland 3-4m wide has been left unmanaged at the edge of the hedge. This is forming a wildflower verge with the hedge. Here the plants are being allowed to grow, flower and set seed and there was a rich variety of species present including speedwell, thistle, cow parsley, buttercup, hedge woundwort, bush vetch, horse-tail, nettle, nipplewort, herb robert, ivy, ragweed, hog weed and grasses such as perennial rye grass and Yorkshire fog (see Plate 9). This complex of habitats is used by birds year round including jackdaw, rook, swallow, bullfinch (see Plate 9), woodpigeon, redwing, starling and hooded crow.

Amenity Grassland: the maintained grasslands were species poor due to the intensity of management. Species included annual meadow grass (*Poa annua*), daisy, buttercup and dandelion.



Plate 10: The open grassland habitat at Oakley Lawn Estate in Caherconlish has the potential to become a wildlife hot spot with appropriate actions from Caherconlish Tidy Towns as outlined in Table 7. Photo: © C. O'Connell

Actions

Oakley Lawn Estate has a lot of land available with potential to create significant habitat for biodiversity (see Plate 10). Community engagement will be vital in the successful implementation of the recommendations in Table 7.

Table 7: Biodiversity Action Plan for Oakley Lawn Estate, Caherconlish, Co. Limerick.

Action Number	Action	Notes
8.4.1	Butterfly wall garden	The existing butterfly wall garden needs maintenance but a structure exists that can be enhanced. In front of the wall there is the opportunity for a flower bed. There is a second wall marked on Figure 20 that could also be developed as a butterfly garden. Butterfly friendly species such as perennial wallflower, Calendula, cornflower, lavender, marjoram, cosmos, butterfly bush (<i>Buddleia</i>), catmint and clover should be planted. A small sand bed should be provided to allow butterflies take the sun and warm their metabolism.
8.4.2	Remove litter from hedges	Litter was observed in the treeline, hedge and wild flower area along the eastern boundary of the estate. This needs to be removed to enhance the amenity value of the area and to protect wildlife and citizens.
8.4.3	Plant trees to create woodland habitat along the southern boundary of the estate	To enhance biodiversity woodland habitat should be created by planting stands of fruit and nut bearing trees to encourage wildlife. As there is a large area of land available tree planting should be scaled up to 20-30 trees planted together to form a mini-woodland and the vegetation beneath them should be let grow, flower and set seed to encourage pollinators similar to the way that the hedge at the entrance to Oakley Lawn is being managed. Companion woodland species can be planted such as the bulbs of wood anemone, blue bell, lesser celandine, wild daffodil and ramsons together with ferns. Such planting enhances estates visually and provides a more interesting area for citizens to enjoy. Bird boxes, log piles and insect hotels can be included in these habitats.
8.4.4	Plant trees to create a woodland corridor along eastern boundary of green area	A double row of trees should be planted around the eastern margin of the open green space to create a wildlife corridor. Species to plant rich in berries and fruit would be mountain ash, hawthorn, crab apple, wild cherry, guelder rose, alder, elderberry, spindle and blackthorn. The grassland between the trees should be allowed to grow, flower and set seed to provide food and nectar for insects and birds and a refuge for animals. This action will provide a visually appealing boundary as well as privacy, security and safety. It will also reduce wind sheltering the homes that front on to the green area. All trees planted in this area should be staked to the south west.
8.4.5	Create a wildflower bed around estate name plaque	The estate name plaque provides a visual focal point and should be planted up with a flower bed containing bulbs and ornamental grasses that will form a meadow habitat in time. This can be an initiative undertaken with local residents. Choose a limited colour palette of bulbs for this project as it looks more natural. Do not cut the bulbs until autumn. This allows the bulbs to ripen in the ground and ensures they divide and flower in subsequent years. Species ideal for naturalizing include: wild daffodil (<i>Narcissus pseudonarcissus</i>), snowdrop (<i>Galanthus elwesii/nivalis</i>), bluebell (<i>Hyacinthoides non-scripta</i>), wood anemone (<i>Anemone nemorosa</i>), wild garlic (<i>Allium ursinum</i>), <i>Crocus</i> species, squill (<i>Scilla bifolia</i>). The bulbs are tossed gently onto the ground. Plant them where they land at a depth of 3-4 times the size of the bulb.
8.4.6	Scented screen planting on the fence between the playing pitch (Caherconlish AFC) and the estate	The central post and rail fence needs to be enhanced for wildlife by planting native climbers such as wild rose, ivy, bramble, traveller's joy and honeysuckle. These woodland plants will provide year round interest for pollinators and wild birds.
8.4.7	Facilitate Community Engagement	Form a discussion group regarding the plans to create wildlife habitat in the estate and on how these should be managed. Involve Caherconlish AFC.



Figure 14: Oakley Lawn Estate location, Caherconlish, Co. Limerick. Source: © www.google.com



Figure 15: Oakley Lawn Estate Habitat Map, Caherconlish, Co. Limerick. Photo: © D. Lyons

8.5 Creamery Loop Walk

Location: N52.589770, E-8.477235 (see Figure 16). The Creamery Walk is a 2.7km walking loop around the town and countryside of Caherconlish. This amenity is very popular with the community and is regularly used. Sites to see along the walk include: the town square, the Our Lady Mother of the Church Catholic Church, Old Church of Ireland Ruins and Graveyard, Kenlyshe Castle Site Archaeological Monument, Creamery buildings and wetlands, Tennis Courts and the School Grounds. There are excellent views of the town skyline and distant countryside from the elevated part of Oakley Lawn Road.

The route begins at the Town Square, turns left at Franklin's Garden onto High Street, continues along Castle Park, turning left onto Oakley Lawn, left again onto the L5089 and finally turning left onto the R513 back to the Town Square.

At the junction of Castle Park and Oakley Lawn, and at the junction of High Street with the R513 Caherconlish Tidy Towns have created flower and shrub beds.

Habitats: the main habitats present on the creamery walk are amenity grassland, agricultural grassland, stone walls, hedgerow and wet grassland (see Figure 17). Within the matrix of fields and hedges there are housing estates, single houses, farms and other buildings.

Stone Walls Stone walls are prevalent along Castle park and these have a luxurious growth of ferns such as Harts Tongue fern and Polypody as well as wild rose and ivy.

Wet grassland was present beside the creamery buildings where there is a wetland associated with a river (see Plate 11). There was an abundance of wild flowers associated with marsh habitat including Angelica, meadowsweet, marsh thistle and grasses. The flowering plants provide habitat for birds and insects and a great tit was observed feeding here. The transition from wet grassland to the river had a well developed riparian woodland of ash and willow trees.

Unimproved agricultural grassland: a small field adjacent to the Creamery building grazed by horses had an abundance of grassland flowers ideal for pollinators. The profusion of flowers present is due to the lack of fertilising and other intense management actions. Typical species observed were clovers, thistle, dock, ragweed, self heal, plantain, mouse ear, meadow vetchling and buttercup. These species provide nectar for pollinators in summer and in winter their seed heads feed birds.

Hedgerow: the typical hedges of the Caherconlish countryside are of Hawthorn with ash trees. The embankments of the hedges contained brambles, gorse, horsetails and cow parsley.

Amenity Grassland: this habitat is present in gardens along

the route together with public spaces in the town such as the town square, the school grounds, the old Church of Ireland Graveyard and the Caherconlish AFC sports fields. Because of intense mowing the species diversity is poor favouring annual meadow grass and perennial rye grass.

Invasive species: of note on the walk particularly on Oakley Lawn and the L5089 was the abundance of winter heliotrope, an invasive plant in the ditches (see Table 13, Plate 12). This needs to be removed systematically and not trimmed back as is happening with general hedge and verge management. Assistance from <https://invasivespeciesireland.com/> will be required to correctly eliminate this species from the local environment.

Actions: The area around the disused creamery buildings represent a biodiversity hot spot for natural countryside habitat on the Creamery walk. This is due to the variety of wetland, woodland and grassland habitats present. This area should be retained although dumping of garden waste, tree prunings and rubbish including tyres needs to be avoided along the river.

Table 8 lists a series of actions for the creamery loop walk generally. More detailed maps and recommendations are being made for the old Church of Ireland Graveyard and the town Square in sections 8.6 and 8.7.



Figure 16: Creamery Loop Walk location, Caherconlish, Co. Limerick. Source: © www.google.com

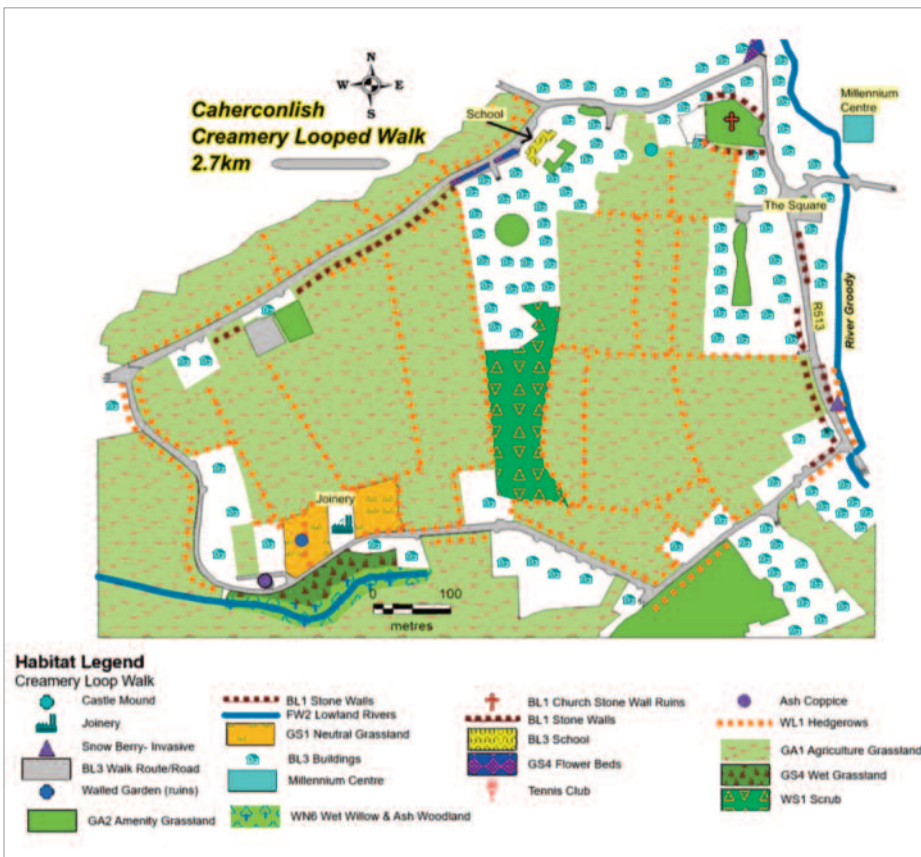


Figure 17: Creamery Loop Walk Habitat Map, Caherconlish, Co. Limerick. Photo: © D. Lyons



Plate 11: Wetland grassland habitat with thistle, grasses and meadowweet on the Creamery Loop Walk, Caherconlish, Co. Limerick. Such wild areas provide a natural resource for insects and birds. A countryside bird survey should be carried out for this area. Photo: © C. O'Connell



Plate 12: Winter heliotrope was abundant in the ditches on the creamery walk. This is an invasive species and needs to be removed as its vigorous growth smothers native flora. Photo: © C. O'Connell

Table 8: Biodiversity Action Plan for the Creamery Loop Walk, Caherconlish, Co. Limerick.

Action Number	Action	Notes
8.5.1	Invasive species removal	In the ditches of the L5089 and Oakley Lawn there are extensive patches of Winter Heliotrope (see Table 13) which need to be removed in liaison with https://invasivespeciesireland.com/ and Limerick County Council.
8.5.2	Enhance wildlife value of existing Flower Beds and install bee and insect hotels	Permanent flower beds at the junction of Castle Park and Oakley Lawn, and at the junction of High Street with the R513 should be improved for biodiversity and wildlife. Plants for wildlife include Lavender, Tutsan, Hebe, thyme Calendula, Aquilegia, Marjoram, Michaelmas daisy (Aster), iceberg plant (Sedum), Lungwort, Stocks, Eupatorium, Salvia and Echinops. Some thought should be given to planting bulbs for early spring interest such as Crocus, wild garlic, Anemome, Snowdrop, Bluebell and wild daffodil. Bee and insect hotels can be installed in flower beds to provide habitat for ladybirds, solitary bees, lacewings and butterflies.
8.5.3	Go peat-free in all flower beds, planters, window boxes and hanging baskets	All planting in flower beds, tubs, containers, window boxes and hanging baskets should be peat free. Use compost generated from heaps established at the tennis courts.
8.5.4	Dispose of grass cuttings and shrub prunings to a composting area	All brown and green waste should be picked up, chopped up and placed on compost heaps to be established in the town. The compost produced can be used to improve the soil in planting beds, tubs and containers around the walking route.
8.5.5	Dumping at Creamery Stream	The removal of tyres and green waste from the river bank near the creamery should be undertaken and further dumping avoided.
8.5.6	Countryside Bird Survey	The Creamery Loop Walk and its variety of habitats present an opportunity to undertake a countryside bird survey as there are both Red and Amber-listed species present including Grey Wagtail, Starling, House Sparrow, Swallow and House Martin in the area as well as winter migrants such as Redwing in addition to the more common birds. Liaise with Johnny O'Donnell or the local branch of Birdwatch Ireland (https://m.facebook.com/birdwatchlimerick/)
8.5.7	Habitat Retention and creation of wild flower meadow at the creamery buildings	Liaise with farmers and landowners around the creamery area regarding the maintenance of the existing management regime for this biodiversity hot spot of river, riparian wood, wet grassland and unimproved grassland. In addition speak to landowners about the creation of wild flower meadow on green mowed grassland patches in the area. Ideally plants in grassy areas should be allowed to grow, flower and set seed to ensure their continued survival. It takes most flowers 6-8 weeks from flowering to successfully set seed. Cutting plants down in full flower deprives invertebrates of nectar and pollen and stops plants reproducing from seed. The timing of the cutting of grass is crucial to management. To have year round flowering mowing needs to shift to autumn and winter. In a given calendar year the first cut should be undertaken before the end of February and the second cut after September when seeds have shed.
8.5.8	Tree planting and wildlife in School Grounds	Plant more trees in the green patch at the back of the school grounds to create a double row of trees which acts as a wildlife corridor. Species to plant rich in berries and fruit would be mountain ash, hawthorn, crab apple, wild cherry, guelder rose, alder, elderberry, spindle and blackthorn. The grassland between the trees should be allowed to grow, flower and set seed to provide food and nectar for insects and birds and a refuge for animals. Wildlife can be drawn into the area through the provision of bird feeders, a bird bath, bird nest boxes and the construction of a log pile and insect hotel. Further guidance on Creating a Biodiversity Action Plan for the school grounds is available from the following downloadable pdf: http://www.heritageinschools.ie/content/resourcespdfs/Biodiversity_Action_Plan_for_Schools.pdf .
8.5.9	Plant one or more Green Walls in the school grounds for wildlife	Choose a south facing wall on the school buildings. Purchase suitable wall planters and install. Plant with herbs able to withstand drying out such as mediterranean species and succulents such as Lavender, Curry Plant, Rosemary, Thyme, House Leak and <i>Sedum</i> . Organise a watering regime for the living wall and you could extend the range of plants to include tomatoes and strawberries. Living wall planters can be purchased from www.thegardenshop.ie at €13 for three cell planters.
8.5.10	Facilitate Community Engagement on the management plan for the walk	Form a discussion group regarding the management regime for the loop walk with the local community and landowners. Find out what is important to local people. Decide what can be changed now and what might take longer to achieve.
8.5.11	Maintain the School Garden as butterfly and vegetable allotment garden	The small school garden should be developed for vegetables and butterflies. Butterfly friendly species such as perennial wallflower, Calendula, cornflower, lavender, marjoram, cosmos, butterfly bush (<i>Buddleia</i>) and clover should be planted. A small sand bed should be provided to allow butterflies take the sun and warm their metabolism. Create allotment beds for vegetable growing. A compost heap if not already present should be established here to enrich the soil for vegetable growing including potato, cabbage, strawberries, chives, onions, leeks, maize, beans and peas. Download this guide for further information: https://butterfly-conservation.org/sites/default/files/1.bc_gardening_leaflet_v3.pdf
8.5.12	Biodiversity enhancement in the Town Square	See habitats map in Figure 19 and recommendations in Table 9
8.5.13	Biodiversity enhancement in the Old Ruined Church of Ireland Graveyard	See habitats map in Figure 21 and recommendations in Table 10
8.5.14	Erect Information Signage	Signage will be required to inform walkers of the biodiversity actions taking place on the walking route

8.6. Town Square

Location: N52.593511,
E-8.471601 (see Figure 18).

The Town Square is an open green space along the R513 surrounded by a low wall in the centre of Caherconlish. There is a memorial statue to Jesus in the centre of the green area with a small flower bed planted around it. There are 3 mature trees (1 sycamore and 2 chestnut) to one side. Directly across the R513 from the square is a busy fuel station.

Habitat Types

The main habitat present is amenity grassland which is maintained with regular mowing (see Figure 19 and Plate 13).

Caherconlish Tidy Towns Association are keen that the Town Square should be a destination and a place for the community to meet and enjoy.

A number of options are available for the Town Square including creating a wildlife pond, a meadow, and trees for woodland. All or one of these could be undertaken depending on resources and the needs of the community. Actions proposed to enhance biodiversity are presented in Table 9.



Figure 18: Town Square, Caherconlish, Co. Limerick Location. Source: © www.google.com

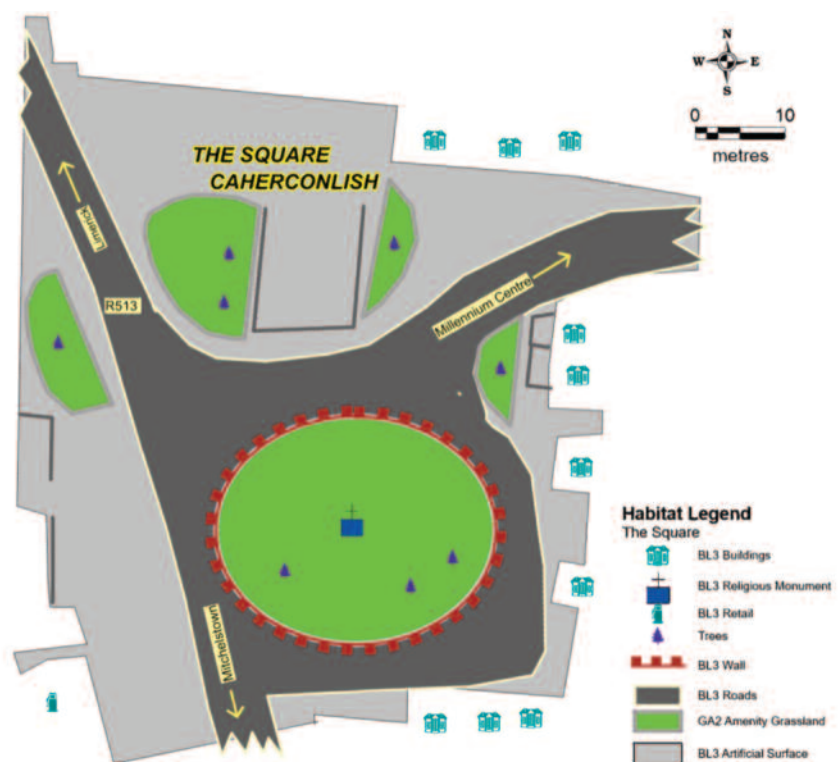


Figure 19: The Town Square Habitat Map, Caherconlish, Co. Limerick. Photo: © D. Lyons



Plate 13: The Town Square, Caherconlish, Co. Limerick. An opportunity exists to create a wildlife pond in this focal point of the village. Photo: © C. O'Connell

Table 9: Specific Biodiversity Action Plan recommendations for the Town Square in April 2020 for Caherconlish, Co. Limerick.

Action Number	Action	Notes
8.6.1	Create a wildlife pond	A wildlife pond will be a special feature added to the town square attraction wildlife and enhancing the town ambiance. A pond can be created using a pre-fabricated moulded liner or it can be created using butyl rubber lining. Directions on creating and planting a pond for wildlife can be found in this downloadable pdf: https://www.wildlifetrusts.org/sites/default/files/2019-08/Big%20or%20small%20ponds%20for%20all%20Wild%20About%20Gardens.pdf A safety mesh can be installed slightly below the water level to protect young visitors to the pond. A source of rainwater needs to be considered to keep the pond topped up in dry weather.
8.6.2	Seating	Provide seating in the Square to encourage the community to meet and enjoy the wildlife.
8.6.3	Planting under existing trees	Wild garlic, anemone, bluebell and celandine, the wild flowers of spring should be planted under the existing mature trees to encourage wildlife. The grass below the trees should not be mowed, but let grow, flower and set seed to encourage insects.
8.6.4	Establish a colourful Wildflower Meadow in the Square	A section of amenity grassland in the Square should be converted to a wildflower meadow. Here the grass should be allowed to grow into a meadow with wild flowers to encourage wildlife and pollinators. Allow the grass to grow for the season. Once a year mow the entire meadow area and remove waste to the compost heap to help control vigorous grass growth. Scarify the ground with rakes to help wild flower seeds make contact with bare soil and germinate to increase the abundance of wild flowers in subsequent years. This area could also be enhanced by planting bulbs to attract wildlife in spring. Plant the "big 3" - daffodil, hyacinth and tulip to provide spring nectar.
8.6.5	Enhance wildlife value of existing Flower Beds	The flower beds in front of the statue could be planted with pollinator friendly flowers between the structural elements of the permanent shrubs. These would include Lavender, Tutsan, Hebe, thyme and self seeding herbs such as Calendula, Aquilegia, Lungwort, Catmint, Marjoram, Michaelmas daisies (Aster), Sedum or iceberg plant, Eupatorium, Salvia, Echinops. Some thought should be given to planting bulbs for early spring interest such as Crocus, Anemome, Bluebell, Snowdrop and wild daffodil. An insect hotel can be installed in the bed to provide habitat for ladybirds, bees, lacewings and butterflies.
8.6.6	Tree planting for birds	Another section of the square should be planted with trees good for birds such as Hawthorn, Crab Apple and Rowan. These trees provide year round interest in terms of flowers, foliage and fruit and attract birds. The trees should be planted relatively close together to create a "woodland" effect. Bird feeders could also be erected and a bird bath provided.
8.6.7	Erect Information Signage	Signage will be required to inform users and visitors to the Square about the wildlife habitats created and how it is managed for biodiversity

8.7. Old Church of Ireland Graveyard

Location: N52.594401, E-8.472775 (see Figure 20).

The ruins and graveyard of the Old Church of Ireland built circa 1770 are located along the R513. The grounds of the cemetery are surrounded by walls. One of the walls fronts onto the R513. It is arched around a memorial cross adjacent to an access gate and stile.

The cemetery consists of the ruins of a Church and many headstones and tombs. The grass areas are regularly mowed and there is a grass path around the cemetery seen clearly in Figure 20.

Habitat Types

The main habitat present is amenity grassland which is maintained with regular mowing (see Figure 21). The old stone walls of the graveyard are habitats for ferns and insects requiring cool damp conditions. Large tree stumps on the southern margin of the graveyard are a focal point for wildlife and should be retained as insect hotels.

Invasive Species

Mile-a-Minute was observed on the north and western walls of the old graveyard. This needs to be removed with advice from local authority and Invasive Species Ireland (see Table 13).

Actions

This old Church and graveyard has a particular atmosphere. It



Figure 20: Old Church of Ireland Graveyard, Caherconlish, Co. Limerick Location. Source: © www.google.com

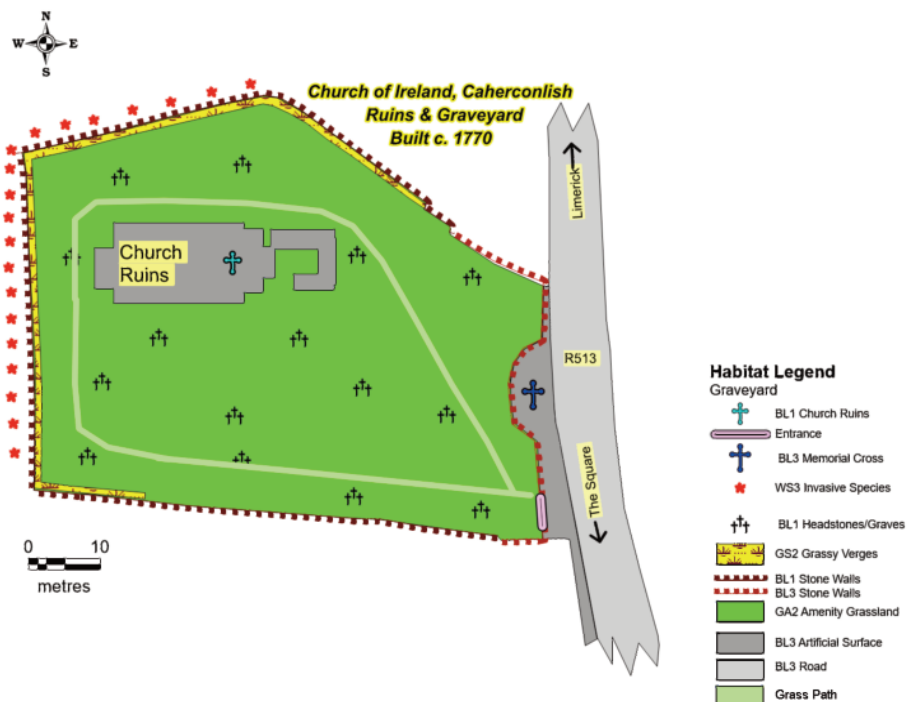


Figure 21: Old Church of Ireland Graveyard Habitat Map, Caherconlish, Co. Limerick. Photo: © D. Lyons

is peaceful and should be seen as a potential oasis of nature, a place where flora and fauna should be encouraged by undertaking an annual maintenance regime that welcomes nature into the graveyard. Please note the way the graveyard is cared for shows respect for the resting place of the dead, but also for life and living things.

Community engagement is vital in the successful implementation of the management actions proposed to enhance biodiversity presented in Table 10. Please also refer to the management of graveyards for guidance¹.

¹ Guidance for the Care, Conservation and Recording of Historic Graveyards by C. O'Brien, The Heritage Council, Kilkenny 2011, 2nd Edition

Table 10: Biodiversity Action Plan for the Old Church of Ireland and Graveyard, Caherconlish, Co. Limerick.

Action Number	Action	Notes
8.7.1	Herbicide use in the graveyard should be avoided.	As the graveyard is small more environmentally-friendly plant control methods such as hoeing or digging should be used.
8.7.2	Fertiliser application should be avoided	Fertilisers encourage enhanced growth of aggressive weeds such as dock and nettle.
8.7.3	Walls and Gravestones: unless vegetation is causing structural damage to the walls and headstones it is better to trim it back than to cut it down altogether. Leave moss and lichens on walls and gravestones	Pruning should be undertaken using hand tools.
8.7.4	Bat Survey: the Church ruin, walls and old crypts may be used by bats please undertake a bat survey before interfering with such features.	Please contact https://m.facebook.com/limerickbatgroup/ for assistance.
8.7.5	Maintain undulating Grass surface	The undulating surface of a graveyard should be maintained as this feature is part of the character of this historic graveyard. Strimmers can be used carefully to maintain grassy areas and pathways that are not being managed as wildflower meadows.
8.7.6	Dispose of grass cuttings from regularly maintained areas and shrub prunings to a neat and unobtrusive composting area in the graveyard.	All brown and green waste should be picked up, chopped up and placed on a compost heap. Leaving grass cuttings in place smothers plants and decreases the species range of flowering plants. Ideally two enclosures for compost should be constructed to allow turning. Compost produced can be used in planters and flower beds.
8.7.7	Maintain grass pathway	Maintain existing narrow grass trails through the graveyard. If the grass is allowed to grow, flower (see 8.7.10) and set seed in selected areas the mown grass path becomes a natural and visually attractive feature.
8.7.8	Invasive Species: Mile a Minute on the north and west walls of the graveyard must be treated and cleared.	Table 13 gives location details for Mile a Minute in the graveyard. This species must be treated and removed by competent authorities. Please contact https://invasivespeciesireland.com/ for assistance
8.7.9	Turn tree stumps into bee/insect hotels	A number of tree stumps along the southern wall of the graveyard are developing into focal points for wildlife. Enhance this insect hotel use by drilling holes in the stumps for solitary bees and leaf cutters. Do not remove existing wildlife but enhance the area around the insect hotels by developing a meadow (see 8.7.10).
8.7.10	Establish a Wildflower Meadow	Allow the grass to grow into a meadow in selected areas with wild flowers for bees and pollinators and mow a path through it to provide access to various parts of the old graveyard. One such area would be along the southern perimeter of the graveyard where there are decaying tree stumps (see 8.7.9). This management method will enhance the growth of wild flowers and will encourage pollinators and the nesting of wildlife within the graveyard. Once a year mow the entire meadow area and remove waste to the compost heap to help control vigorous grass growth. Scarify the ground with rakes to help wild flower seeds make contact with bare soil and germinate to increase the abundance of wild flowers in subsequent years.
8.7.11	Provide Seating for visitors to the old graveyard.	The graveyard is not just a nature refuge. It is a place of burial and remembrance. People want to be able to use the site, visit graves, read memorial inscriptions and feel that the management and use is appropriate and respectful.
8.7.12	Scented screen planting of the old graveyard wall along R513	The wall of the graveyard looking out to the R513 is ugly and should be screened with scented, wildlife attracting climbers including ivy, honeysuckle, clematis, brambles and wild rose. These plants will trail over the wall to the street and form a scented backdrop to the Cross memorial.
8.7.13	Facilitate Community Engagement on the management plan for the graveyard	Form a discussion group regarding the management regime for the graveyard with the local community. Find out what is important to local people. Decide what can be changed now and what might take longer to achieve.
8.7.14	Erect Information Signage	Signage will be required to inform users and visitors to the graveyard of the objectives of the management plan for the site.

8.8 Caherconlish Main Street and Town Entrances

The main street of Caherconlish is the R513 from Limerick to Mitchelstown. While the Town Square may be regarded as the centre of the town (see section 8.6) there is a busy cross roads at the junction of the R513 with the L5096 and High Street.

The town entrances on the Limerick side of Caherconlish has a flower bed area with amenity grassland and a good hedge maintained by Caherconlish Tidy Towns.

As one drives into the town there is a good verge area on the east side that begins where the Groody River runs behind a stone wall and where the pedestrian path begins. This verge is being managed by the Tidy Towns with planted birch trees and conifers, mowed grass and 5 flower beds.

Arriving at the junction with High Street and the L5096 there is a stone walled flower bed on the eastern corner and Franklins garden is on the western corner. However the eye is drawn to a gravel yard and bare wall at “The Tasty Bite” restaurant and another bare wall of Michael Lynch Off Licence (see Plate 15).

Between the High Street Junction and the Town Square there is a narrow streetscape where house front doors open onto the street. There is no natural aspect here. There is an abundance of window ledges which could be enhanced with



Plate 14: Caherconlish, Co. Limerick town entrance on the R513 from Limerick. A greater variety of insect-friendly planting needs to be incorporated into this area for greater impact and biodiversity value. Photo: © C. O’Connell



Plate 15: An opportunity exists to develop a green wall on this building to help enhance biodiversity in the town and to make a statement to visitors about the community’s commitment to protecting and enhancing wildlife. Photo: © C. O’Connell

the addition of window boxes (see Plate 16).

As the street opens up to the Old Church of Ireland Graveyard and the Cross memorial, there are planters on the walls of the graveyard and tubs beside the memorial.

The Town square is reached opening up the village. There is no evidence of on-street planting here at the fuel station.

On the other side of town Caherconlish GAA presents a large area of man-made gravel and a fence and post railing. There are some planters along the railings but they are out of proportion with the scale of the parking area.

The town entrance on the Mitchelstown side has only a narrow verge embankment in which a small flower bed has

been established around the town sign.

Caherconlish Tidy Towns have done a lot of work to enhance their town through the provision of planting beds filled with seasonal flowers and shrubs and containers.

There are some actions that Caherconlish Tidy Towns can take to improve the biodiversity of the village. These are presented in Table 11.



Plate 16: The provision of window boxes on ledges in the main streets of Caherconlish would help to create a beeline for wildlife through the town. Photo: © C. O’Connell

Table 11: Biodiversity Action Plan for Caherconlish Main Street and Town Entrances, Co. Limerick.

Action Number	Action	Notes
8.8.1	Plant trees in containers at the town cross roads, the fuel station and in GAA car park	For impact four very large containers each planted with a mature tree should be placed at the four corners of the town cross roads between the R513 and High Street, 2 more on either side of the fuel station and 6 additional large containers should be installed along the fence line of the GAA car park and the R513. Butterfly friendly plants such as perennial wallflower, calendula, cornflower, lavender, marjoram, cosmos and clover should be planted around the base of the tree. The larger the tubs the less watering and maintenance needed.
8.8.2	Plant Green Walls on buildings at cross roads	Plant green walls on the south facing walls of Michael Lynch Off Licence and the “The Tasty Bite” restaurant. Purchase suitable wall planters and install. Plant with herbs able to withstand drying out such as mediterranean species and succulents such as Lavender, Curry Plant, Rosemary, Thyme, House Leak and <i>Sedum</i> . Organise a watering regime for the living wall and you could extend the range of plants to include tomatoes and strawberries. Living wall planters can be purchased from www.thegardenshop.ie at €13 for three cell planters.
8.8.3	Create a beeline between flowering beds at the R513 town entrance Limerick side	The permanent flower beds at the R513 adjacent to the Groody River Limerick entrance to the town should be linked together by a bee line. This involves leaving a weaving strip of grassland between the beds to grow, flower and set seed. It should not be mowed until September and at that time the ground can be scarified to expose bare soil where seeds can make contact and germinate to produce more flowers in subsequent years.
8.8.4	Enhance wildlife value of existing Flower Beds and install bee/insect hotels	The permanent flower beds at the town entrances and along the main street should be improved for biodiversity and wildlife. Plants for wildlife include Lavender, Tutsan, Hebe, thyme Calendula, Aquilegia, Marjoram, Michaelmas daisy (Aster), iceberg plant (Sedum), Eupatorium, Salvia and Echinops. Some thought should be given to planting bulbs for early spring interest such as Crocus, Anemome, Snowdrop and wild daffodil. An solitary bee or insect hotel can be installed in a flower bed to provide habitat for ladybirds, bees, lacewings and butterflies.
8.8.5	Go peat-free in all planters and window boxes	All planting in tubs, containers, window boxes and hanging baskets should be peat free. Use compost generated from heaps established in an appropriate area in the town.
8.8.6	Provide Window boxes and hanging baskets	As far as is practical window boxes and baskets should be installed on suitable ledges throughout the town to enhance biodiversity and to add visual interest.
8.8.7	Plant trees to create a woodland corridor along R513 Limerick Side	The existing treeline adjacent to the Groody River and the R513 should be upgraded to a double row of trees. Species to plant rich in berries and fruit would be mountain ash, hawthorn, crab apple, wild cherry, guelder rose, alder, elderberry, spindle and blackthorn. The grassland between the trees should be allowed to grow into a bee line (see 8.8.3). More wildlife can be drawn into the area through the provision of bird feeders, a bird bath and the construction of a log pile.
8.8.8	Roadside verge management at town entrances on Limerick and Mitchelstown entrances	Ideally plants growing on roadside verges should be allowed to grow, flower and set seed to ensure their continued survival. It takes most flowers 6-8 weeks from flowering to successfully set seed. Cutting plants down in full flower deprives invertebrates of nectar and pollen and stops plants reproducing from seed. The timing of the cutting of verges is crucial to management. To have year round flowering in the town verges mowing needs to shift to autumn and winter. In a given calendar year the first cut should be undertaken before the end of February and the second cut after September when seeds have shed.

9. Species Diversity in Caherconlish

Flora, birds and fauna were identified and recorded for each of the biodiversity target sites studied in this plan. Table 12 presents a summary of the number of species recorded in each study area. Detailed species lists are presented in Appendix 7 for plants, Appendix 8 for birds and Appendix 9 for animals. The table shows that the Groody River, Boskill Hedge and Oakley Lawn Estate have the highest number of species and represent biodiversity hot spots. They all have a diversity of habitats present.

The lesson from this is that the greater the diversity of habitats that Caherconlish Tidy Towns can create the better it will be for wildlife.

However the numbers of animals including insects recorded on the two survey

days was very low due to poor weather.

Private gardens represent an important habitat for birds. Thanks to the regular recording undertaken by Johnny O'Donnell there is a good species list for this type of habitat. Further information on species in Caherconlish was provided by Michael Collins from casual observations in his garden.

Some birds are noteworthy because they are on the Birds of Conservation Concern listings for Ireland¹. The Grey Wagtail (*Motacilla cinerea*) is a widespread resident along fast flowing streams and rivers throughout Ireland. It feeds mainly on insects caught on the ground or in flight. It breeds mainly along streams and rivers, frequently building its

nest under a bridge. It occurs in the Groody River in Caherconlish and was observed near the bridge at Franklin's Garden. This bird is of high conservation priority, because it is declining rapidly in abundance. It requires quality river habitat for its survival. Four amber listed birds were recorded in Caherconlish - swallow, house martin, house sparrow and starling.



Plate 17: Grey Wagtail in River Groody near Franklin's Garden July 2020. Quality river habitat is needed for its survival. Photo: © C. O'Connell

Table 12: Numbers of species recorded in each of the biodiversity study areas of Caherconlish 2020. Further details in Appendices 7-9.

Species Group	Groody River at Millennium Centre	Groody River at Franklin's Garden	Beech View Estate	Boskill Hedge	Oakley Lawn Estate	Old Church of Ireland Graveyard	Old Tennis Club	Village Square	Caherconlish National School Grounds	Creamery Area	Kenlyshe Castle Site	Garden of Michael Collins	Garden of Johnny O'Donnell	Total Species
Plants	39	25	12	35	33	26	2		7	24				93
Birds	5	5	2	6	9	3	1	1	3	3		1	19	27
Animals	8					3					1	1		12
Total	52	30	14	41	42	32	3	1	10	27	1	1	19	131

¹ Colhoun, K & Cummins, S. (2013) Birds of Conservation Concern in Ireland 2014–2019. Irish Birds 9: 523-544









10. Invasive Species in Caherconlish

Table 13 presents information on the location of invasive species within the biodiversity study areas of Caherconlish. The invasive plants found included Winter Heliotrope, Mile a Minute and Cherry Laurel.

Caherconlish Tidy Towns need to liaise with competent authorities in the removal of these species from the habitats of the area. Please contact <https://invasivespeciesireland.com/> for assistance. In some instances

private individuals may have planted cherry laurel as a hedge. This practice should be discouraged and beech or Irish yew hedges be used instead.

Table 13: Invasive species recorded in biodiversity study areas of Caherconlish in 2020.

Caherconlish Biodiversity Plan	Invasive Species Records	Dr Catherine O'Connell, Ecologist						
Location	Species	Latitude	Longitude	Altitude m	Date	Image 14/7/2020	Image 6/2/2020	Notes
Millennium Centre Grounds	<i>Prunus laurocerasus</i> English Laurel/ Cherry Laurel Labhras síliní	52° 35' 37.842" N	8° 28' 14.04" W	55m	14 Jul 2020			Ornamental planting
Old Creamery area	<i>Prunus laurocerasus</i> English Laurel/ Cherry Laurel Labhras síliní	52° 35' 20.4" N	8° 28' 54.678" W	82.3m	14 Jul 2020			Hedge planting
Old Creamery area	<i>Petasites fragrans</i> Winter Heliotrope Plúr na gréine	52° 35' 20.922" N	8° 28' 52.302" W	82.1m	14 Jul 2020			In ditch, cut during hedge and ditch maintenance
Junction of Oakley Park and Gregane Court	<i>Petasites fragrans</i> Winter Heliotrope Plúr na gréine	52° 35' 20.868" N	8° 28' 28.386" W	81.9m	14 Jul 2020			In ditch, cut during hedge and ditch maintenance
Old Church of Ireland Graveyard Walls	<i>Fallopia baldschuanica</i> Russian vine/mile-a-minute weed	52° 35' 39.9" N	8° 28' 24.408" W	52.1m	14 Jul 2020			On two church grounds walls, encroaching from neighbouring garden
Franklin's Gardens House adjacent	<i>Prunus laurocerasus</i> English Laurel/ Cherry Laurel Labhras síliní	52° 35' 43.5" N	8° 28' 19.392" W	49.1m	14 Jul 2020			Hedge planting adjacent to Groody River and Franklin's gardens

11. Funding Biodiversity Enhancement

The following groups provide funding for different aspects of biodiversity enhancement.

Heritage Council Grants
Schemes for buildings and management works.

Waterways and Communities
Grant Schemes

Rural Development (LEADER)
(see wlr.ie and www.limerick.ie)

Community Foundation of
Ireland

Ballyhoura Fáilte

Community Grant Support
Scheme of Limerick City and
County Council (see limerick.ie)

Community Enhancement
Programme of Limerick City
and County Council
(see limerick.ie)

Limerick City and County
Council Heritage Grant Scheme
(see limerick.ie)

Appendix 1 - Caherconlish Architectural Heritage

Caherconlish Architectural Heritage (Source maps.archaeology.ie/historicenvironment/)

Registered Number	Date	Original Use	In Use as	Rating	Location	Photo	Co—ordinates
21805006	1800-1820	Bridge	Bridge	Local	High Street East. Double-arch limestone road bridge, built c. 1810, over the River Groody. This attractive road bridge, despite alterations, retains its simple, solidly built form.		168066, 149401
Michael Lynch - Reg. No. 21805007	1820-1840	House	Public House		End-of-terrace four-bay two-storey house, built c. 1830, having later shopfront to ground floor. Prominently sited at the junction of High Street and Barrack Street.		168053, 149378
21805005	1820-1840	House	Now in disuse		Semi-detached two-bay two-storey house, built c. 1830 on High Street.		167992, 149352
21805003	1810-1830	House	House	Local	Terraced two-bay single-storey house, built c. 1820 with vernacular features located on High Street.		167943, 149326
Caherconlish Church of Ireland Church - Reg. No. 21805004	1760-1780	Church/ Chapel; mausoleum	in use until 1871	Regional	Freestanding Board of First Fruits Church of Ireland church, built in 1770, incorporating fabric from earlier periods. Located on Main Street.		167986, 149306
Flannerys - Reg. No. 21805008	1810-1830	House	Public House	Local	Semi-detached three-bay two-storey building, built c. 1820, with shopfront to ground floor. Located on Main Street		168030, 149316
21805009	1790 -1810	House		Regional	Terraced pair of two-bay two-storey houses, built c. 1800, historically in use as a school. A notable example of early nineteenth-century urban domestic architecture. Located on Main Street		168050, 149296
A. Creagh - Reg. No. 21805010	1830-1850	Shop/retail outlet	Post Office	Local	Terraced two-bay two-storey house, built c. 1840, having render shopfront to ground floor. This modest building is notable in the streetscape for its unaltered form and ornate render shopfront. Shopfronts such as these are becoming increasingly rare in Ireland. Located on Main Street.		168053, 149288
Reg. No. 21805011	1790-1810	Shop/retail outlet	Shop/retail outlet		Semi-detached six-bay two-storey house, built c. 1800, having render shopfronts to west and south elevations. Located on Main Street.		168061, 149250

Registered Number	Date	Original Use	In Use as	Rating	Location	Photo	Co-ordinates
21805012	1810-1830	House	House	Local	Terraced three-bay two-storey house, built c. 1820, with pitched slate roof having cast-iron rainwater goods and rendered chimneystacks. Characteristic of urban domestic architecture of nineteenth-century. Located on Main Street.		168039, 149243
21805014	1790-1810	House	House		End-of-terrace three-bay two-storey house, built c. 1830, having lean-to and two-storey extension to rear (west) elevation. Characteristic of urban domestic architecture of nineteenth-century. Located on junction of the Square and Main Street.		168038, 149200
21805015	1800-1820	House	House		Detached four-bay two-storey house, built c. 1830, with decorative additions dating to the later nineteenth century.		168121, 149215
21805016	1920-1940	House	House	Local	End-of-terrace three-bay two-storey house, built c. 1930.		168174, 149234
21805018	1860-1880	Church/ Chapel called Caherconlish Church of Ireland	House	Regional	Detached single-cell Gothic Revival style former Church of Ireland church, begun in 1866, now in use as a private house. On the R513		168049, 149052
Brook Villa - Reg. No. 21805017	1860-1870	House			Detached three-bay two-storey house, built c. 1870, having recent porch to front (west) elevation. Hipped slate roof with rendered chimneystacks, overhanging eaves, timber brackets and cast-iron rainwater goods. On the R513		168125, 149063
21805019	1860-1870	RIC barracks	House	Regional	Detached five-bay two-storey former Royal Irish Constabulary barracks, built c. 1865, having two-bay single-storey lean-to to rear (south-west) elevation. On the R513		168118, 148900
21805001	1810-1830	Gate Lodge, Boskill House	House	Local	Detached three-bay single-storey L-plan former gate lodge, built c. 1820, comprising gabled projecting block to front (east) elevation with bay window and single-bay single-storey extension to north elevation. This former gate lodge once formed part of the demesne of Boskill House, which has since been demolished.		168762, 149089

Appendix 2 - National Monuments of Caherconlish

National Monuments of Caherconlish (Source maps.archaeology.ie/historicenvironment/)

Number	Class	Townland	Description
LI014-149	Excavation - miscellaneous	HUNDREDACRES EAST north of high street	no information
LI014-079007	Castle - unclassified	HUNDREDACRES EAST north of high street	Building annotated as 'Tower' on 1838 ed. OS 6-inch map may have been one of the four castles located in the medieval town of Caherconlish.
LI014-079006	Castle - unclassified	CAHERCONLISH (on high street)	Levelled building annotated on six-inch map as 'Chimney Site of' may have been one of the four castles located in the medieval town of Caherconlish.
LI014-079004	Castle - tower house	CAHERCONLISH south of high street	Caherconlish Castle depicted as a roofed tower house type structure standing to the SW of the church and graveyard in 1681 by Thomas Dineley
LI014-079002	Castle - ringwork	CAHERCONLISH south of high street	Irregular-shaped earthwork annotated as 'Caherconlish Castle (site of)' on current ed. OS 6-inch map
LI014-079009	Tomb - chest tomb	CAHERCONLISH (in church yard)	Broken ledger of a 17th century tomb belonging to Alpha Maunsell who lived at Ballyvorreen which is now in two pieces to the N and S of the medieval nave and chancel church of Caherconlish
LI014-079005	Church	CAHERCONLISH (in church yard)	1760 - 1780 church/chapel; mausoleum. Freestanding Board of First Fruits Church of Ireland church, built in 1770, incorporating fabric from earlier periods. Regionally important Reg. No. 21805004
LI014-079003	Graveyard	CAHERCONLISH (in church yard)	On S side of Caherconlish village with castle site (LI014-079004-) in field to SSW. Ruins of Caherconlish nave and chancel parish church (LI014-079005-) in centre. Polygonal shaped area (approx. dims. 55m N-S x 70m E-W) enclosed by post-1700 stone wall with entrance gate at S end of E wall. Numerous architectural fragments from medieval church reused as grave markers, including several stone corbels.
LI014-079012	Tomb - chest tomb	CAHERCONLISH (in church yard)	Chest-tomb dating from 1672 which marked the burial place of Mary Annabel Gould, daughter of James Gould of Ludden Castle and wife of Sir George Ingoldsby of Ballybricken Castle
LI014-079001	Historic town	CAHERCONLISH	Origins and history of caherconlish town dates to pre norman times but first documentary evidence with the Anglo Normans
LI014-080	Road - road/trackway	BOSKILL	no information
LI014-081002	Church	TEMPLEMICHAEL	Temple Michael Church located to the east of Caherconlish was described in the Urban Survey of Limerick (Bradley et. al. 1989, 92) as following; 'The site of this church is marked on the O.S. map to the east of the village but nothing survives there except a grassy knoll c.22m east-west by 20m north-south and c.2m high with wall footings in no coherent pattern.
LI014-081001	Burial ground	TEMPLEMICHAEL	Situated immediately NE of a road, an area of rough grass SE of the front garden of a newly-built house, on a gentle NW-facing slope with good views to W, N and E. Indicated on the 1923 OS 6-inch map as a sub-oval area (c. 30m E-W; 15m N-S) immediately N of a road. The monument is heavily obscured by grassy vegetation but is evident as a sub-oval area (1.7m E-W) defined by a scarped edge (With 5.5m; H 1.3m). Referred to in the Ordnance Survey Letters as the site of an old church called Teampall Mhichil; 'the inhabitants of the place say there was a grave yard here formerly; human bones and old coffins were found in 1819 whilst the ground was dug up when the field was under cultivation'
LI014-077	Castle - tower house	CAHERCONLISH	no information
LI014-078	Designed landscape feature	CAHERCONLISH	Situated on a ridge in rolling pasture with good views in all directions. Though depicted with hachures on the 1923 OS six-inch map, it appears from the 25-inch map that the pattern of hachures represent a terraced garden in front of Caherconlish House and not an ancient enclosure. The house and gardens are no longer evident.
LI014-082	Country House	TEMPLEMICHAEL	no information

Appendix 3 - Biodiversity Survey Sheet

Caherconlish Biodiversity Action Plan Survey Sheet

Location: Sample # Recorders:

Map Ref: GPS: ± Altitude (M):

Date: Photos:

Habitat Description:

Fossitt Classification: **Name:**

Land Use: **Water Table Depth (cm)**

Soil Type: **Threats:**

Invasive Species: ...Rhododendron ...Cherry Laurel ...Japanese Knotweed ...Winter Heliotrope

Details:

Biodiversity Enhancement Actions

Notes

Caherconlish Biodiversity Plan Plant Species List (Total =) **Sample #**

Acer pseudoplatanus	Fagus sylvatica	Polypodium vulgare
Achillea millefolium	Ficaria verna ssp verna	Potentilla anserina
Anthoxanthum odoratum	Filipendula ulmaria	Prunella vulgaris
Anthriscus sylvestris	Fraxinus excelsior	Prunus spinosa
Arabis hirsuta	Fumaria officinalis	Pseudoscleropodium purum
Arctium minus	Galium aparine	Quercus
Asplenium ceterach	Geranium robertianum	Ranunculus acris
Asplenium ruta muraria	Hedera helix	Ranunculus repens
Asplenium scolopendrium	Heracleum spondylium	Reynoutria japonica
Asplenium trichomanes	Holcus lanatus	Rosa arvensis
Bellis perennis	Hypericum pulchrum	Rubus fruticosus
Betula pubescens	Ilex aquifolium	Rubus idaeus
Buddleia davidii	Iris pseudacorus	Rumex acetosa
Calystegia sepium	Jacobaea vulgaris	Sambucus nigra
Centuarea nigra	Juncus effusus	Taraxacum officinale
Cirsium arvense	Lamium purpureum	Taraxacum officinale
Cirsium vulgare	Lathyrus pratensis	Thuidium tamariscinum
Crataegus monogyna	Lolium perenne	Trifolium pratense (red)
Cynosurus cristatus	Luzula multiflora	Trifolium repens (white)
Dactylus glomerata	Petasites hybridus	Umbilicus rupestris
Dryopteris dilatata	Phragmites	Urtica dioica
Equisetum arvense	Plantago lanceolata	Verbascum thapsus
Equisetum fluviatile	Plantago major	Xanthoria parietina

Animal, Insect and Bird Species List

Badger	Blackbird	Black Darter	Bloodworm	
Fox	Bullfinch	Green-veined White	Damselfly nymph	
Frog	Dunnock	Leaf Hopper	Dragonfly nymph	
Earthworm	Hooded Crow	Meadow Brown	Flatworm	
Otter	Jackdaw	Red Admiral	Hoglouse	
Shrew	Jackdaw	Ringlet	Pond Skater	
	Mallard	Speckled Wood	Pond Snail	
	Merlin	Spit bug	Water Beetle	
	Mistle Thrush		Water Scorpion	
	Pied Wagtail			
	Red Grouse			
	Robin			
	Rook			
	Rook			
	Skylark			
	Snipe			
	Starling			
	Swallow			
	Swift			
	Woodpigeon			
	Wren			
				Total =

Appendix 4 - Newsletter

CAHERCONLISH TIDY TOWNS ASSOCIATION

NEWSLETTER # 1 - FEBRUARY 2020

Biodiversity Community Plan Caherconlish Town & Environs



Lesser Celandine

- One of the first flowers to raise its head in early spring
- is out now in Caherconlish



Female Bullfinch

This wonderful bird can be spotted in the hedges of Oakley Lawn



Polypody Fern

The walls around Caherconlish have a luxuriant growth of ferns

Biodiversity is the spice of life

Caherconlish to record and enhance the variety of wildlife in the village for everyone to celebrate and enjoy

Take the **Creamery Walk** to discover winter wildlife such as visiting redwing birds from Scandinavia feeding on ivy berries, yellow celandines beneath the trees, bullfinches in the hedges and polypody ferns clinging to old stone walls.



HELLO FROM CATHERINE O'CONNELL, PROJECT ECOLOGIST

Like the redwing in the photo opposite I am delighted to be visiting your village to help you develop a Biodiversity Plan in 2020. Already I have found 50 different plants and birds in your hedges, the Groody river, on walls and ditches. I hope to help you enhance your village for wildlife. Thank you and Caherconlish Tidy Towns for inviting me to work with you.

This project is supported by Caherconlish Tidy Towns Association and The Community Foundation for Ireland

Appendix 5 - Biodiversity Enhancement Actions



Large Tree Planter



Jumbo Tree Planter



Tree Grove with long grass
(bags protect from grazing)



Pollinator-friendly wildflowers



Parkland with trees



Public Park pollinator-friendly wildflower area



Wildlife Pond (Image: www.gardenersworld.com)

All images © C. O'Connell unless otherwise stated.



Bat Box



Bird (Tit) Box



Insect Hotel Box



Pollinator-friendly planting with perennials



Mowed Amenity Grassland, Wildflower Meadow & Woodland



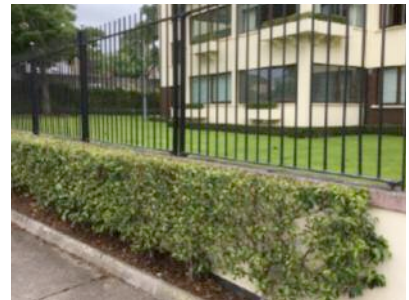
Tree Planting - Double Row



Meadow and Grass Path



Pollinator-friendly planting with perennials



Hedge screen planting



Mature roadside tree planting



Screen planting with fruit trees



Bee & Butterfly Bar Feeder



Playground seating inspired by wildlife



Sunflowers Bee friendly planting

All images © C. O'Connell unless otherwise stated.



Wildflower Meadow created with annuals



Wildflower Roadside Verge



Bird Feeder



Insect Hotel



Stone Walls



Bird Bath and Water



Green Wall



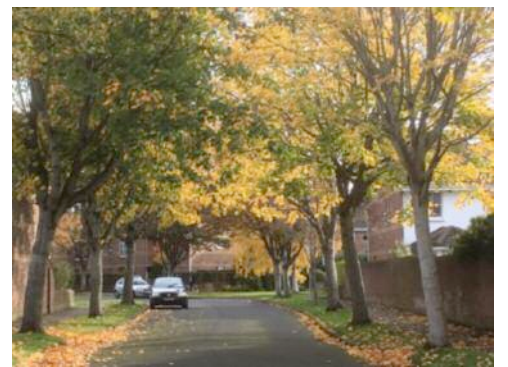
Insect hotel in a tree stump



Insect Hotel



Green Wall using Wonderwall system



Roadside tree planting system

All images © C. O'Connell unless otherwise stated.

Appendix 6 - Franklin's Garden Planting Plan

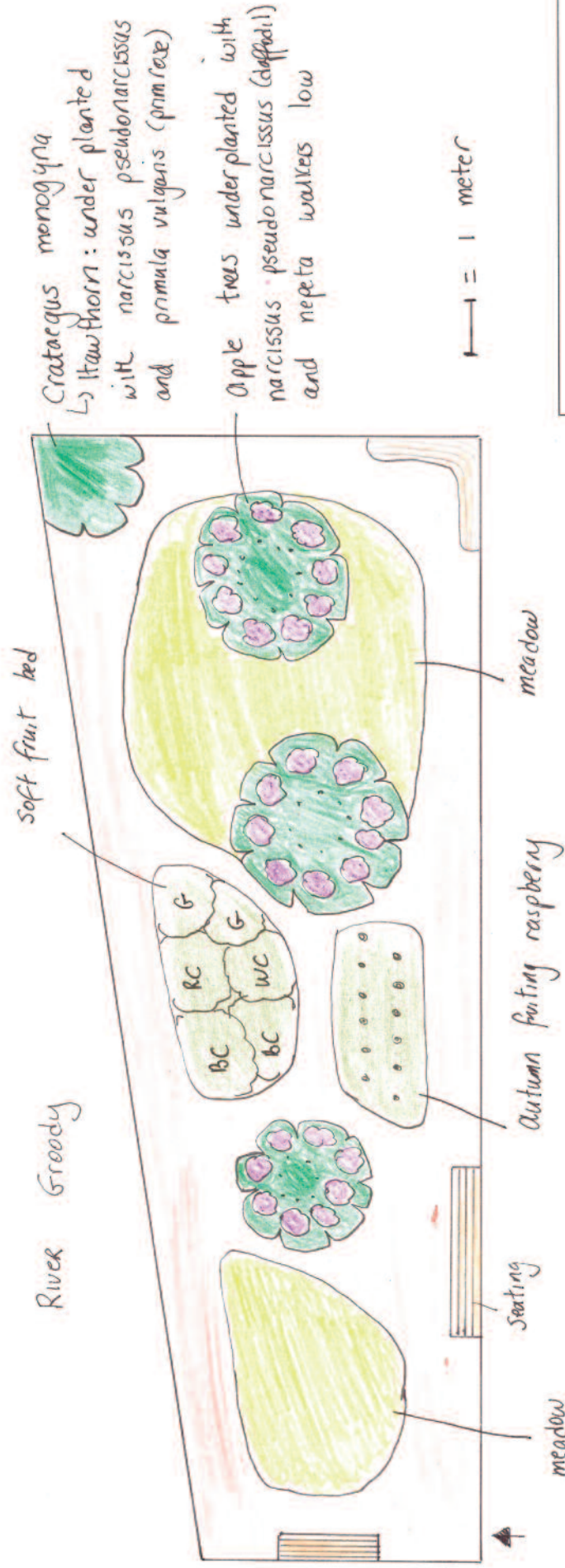
A number of recommendations had been made in relation to this proposed planting plan to further enhance biodiversity in the garden. Please refer to Table 4 on page 19.



WILD WAY

GARDEN DESIGN

wildwaydesign@gmail.com



Caherconlish
Franklin's Gardens
1:10 APR 2020

Mar 2020

Dear Caherconlish Tidy Town members,

Here is a suggested planting plan for Franklin's garden.

If you have any queries, please contact me by email: wildwaydesign@gmail.com and please copy Fran (f.giaquinto@outlook.com) into your message.

Best wishes,
Linda

Franklin Garden

This is a magical place for your community, a generous area on the banks of the river Groody and surrounded by a stone wall. The wall is low enough for people to peep over so any work here would be appreciated by many. It is also possible to link this area to another place just past the library that I understand has already been developed by the tidy town group.

It was mentioned that the local school children could visit. This garden has the potential to be a great centre of learning about biodiversity for everyone in the village. Perhaps more people may get involved and offer help with maintenance once they have spent some time in Franklin's garden. Good signage would greatly help with this.

I have designed the garden to be low maintenance after the initial work of setting it up and I have kept the planting plan very simple for this reason.

Main Components:

1. Apple tree beds
2. Soft fruit bed
3. Autumn fruiting raspberry bed
4. Meadow area
5. Hawthorn with primroses and blue bells

1. Apple trees

There are three existing apple trees and these are all to be retained and moved to different positions. They will need to be staked – quite low down and I suggest cutting the stake about 100mm above the tree tie as otherwise the branches will rub off the stake and cause damage to the trees and possibly disease (see the picture below which shows some trees staked quite low down). The tree ties WILL NEED to be checked once a year – it's amazing how quickly the trees grow and if the ties are not checked they could choke the tree. If you have details on the existing varieties it would be great to include this on some signage. If you find the trees are not thriving and need to be replaced I have made suggestions for replacement heritage apple varieties below. The apple trees will be under planted with wild daffodils (*Narcissus pseudonarcissus* or *Narcissus obvallaris*), to be planted .5 meter out from the trunk, so they are not competing too strongly with the trees. Just beyond this will be a circle of nepeta, walker's low which will flower after the daffodils and cover over the dying daffodil foliage to hide it. Nepeta is a perennial and will come back every year. Bees love it

The apple trees form the focal point for the garden, around which a series of paths meander.

The outer path is 1 meter in width, which is a generous path size allowing plenty of space. It has been noted that there is a problem with bindweed in the garden, especially along the wall. If this ground is covered with mypex and mulched over with bark chip it should kill off the bind weed after a couple of years. If you find that bind weed is present in other places where you are digging (e.g. under the apple trees) I would suggest that you sheet mulch with cardboard and grass clippings for a year or two as this will deprive the bind weed of light and kill it off. Once the bind weed is gone you could then plant up the daffodils and nepeta. You will know when you start to dig as you will find that brittle white root (I'm sure you know it only too well).

2. Soft fruit bed

This will contain black, red and white currants and two varieties of gooseberry. The flowers of these are loved by pollinators and they will provide fruit for those who visit the garden in early summer and any that is left will be taken by the birds (in fact the birds will take all the red currants before you get a chance to pick them). Again, signage here would be great, to let people know what is planted and why. The fruit bushes can be sheet mulched with cardboard and weighed down with grass clippings annually to reduce the need for weeding.

3. Autumn fruiting raspberry bed

These are a fantastic fruit. Plant them during the bare root season, leave them to grow on and every February cut ALL the canes down to ground level. These will then grow up to give a harvest from August until the first frosts every year (for 18 years). The bees love the flowers and birds love the fruit. They do not need to be staked. The number of canes can be reduced slightly in summer if overcrowded (though I have never done this) and during the summer remove any suckers growing away from their bed – this will need to be done or they will take over. In the future you can pass these suckering plants on to others who wish to have some fruit in their own gardens. They take a couple of years to establish, you will not have any harvest the first year after planting.

All soft fruit can be bought during the bare root planting season (Oct-Mar) to give good strong plants. The area where they are to be planted could be mulched right away with either cardboard or mypex so that you will have a patch of bare soil to plant come late autumn and this will make life much easier.

Plant Latin name	Common name	Height x width	Notes	Number of plants
Mrs Perry	Heritage apple tree replacement	root stock M26 3m x 3m	pollination group 3	1 (only if needed)
Kerry Pippin	Heritage apple tree replacement	root stock M26 3m x 3m	pollination group 2	1 (only if needed)
Irish Peach	Heritage apple tree replacement	root stock M26 3m x 3m	pollination group 2	1 (only if needed)
Malling Jet	Blackcurrant	1.2 x 1.2m	Very late flowering	1
Ben Connan	Blackcurrant	1.2 x 1.2m	Late flowering	1
Red lake	Red currant	1.2 x 1.2m	Mid-season	1
White versailles	White currant	1.5 x 1.5m	Mid-season	1
Hinnonmaki red	Gooseberry	1 x 1m	Mid-season	1
Black velvet	Gooseberry	1.2 x 1.2m	Mid-season	1

Autumn fruiting raspberries	Mix of varieties	1.5 m high	Autumn bliss, all gold.	12 canes, 50cm apart, two rows
Narcissus pseudonarcissus	Daffodil		Buy bulbs Sept-Nov	
Nepeta 'Walkers low'	Catmint	60cm x 60 cm	Blue	9 under each apple tree

4. Meadow area

There are two large areas of meadow grass in the design. These meadows are similar to the hay meadows that were once traditional in Ireland. This will greatly help biodiversity, would save time and money on mowing and would look beautiful. A 'managed for biodiversity sign' can be included, these can be accessed on <https://pollinators.ie/managed-for-wildlife-signage-templates-now-available/>. However, creating a meadow will work only if the existing grassland is unimproved or semi improved. If it's been reseeded with rye grass it will prove more difficult. Perhaps this year as growth starts someone could observe the grass and count the number of different shaped leaves in the grass in a 1 x 1 m square. If there's a good number the meadow will work well. There may already be interesting varieties growing and when the grass is left to grow up these may reveal themselves.

To manage the meadow all the grass is cut once in late March if it is looking raggedy, and then left to grow up over the summer months before being cut once more in September, with the grass being gathered and composted. This alone would benefit pollinators. From the photographs it looks as if there are areas of bare soil, these could be sown with wildflower seed and this would instantly add some more interesting plants to the meadow and speed up its creation. To buy seed that has been collected in Ireland please visit www.wildflowers.ie. If there was a group who was interested in learning about establishing a meadow they could also add grow and add plug plants like ox-eye daisy (*leucanthemum vulgare*) and meadow butter cup (*ranunculus acris*) and some yellow rattle seed could be sown fresh in August/September. The meadow will evolve over time and will look beautiful.

5. Native hawthorn under planted with bluebells and native primrose

In a corner of the garden close the river I have included a native hawthorn which can be under planted with our native primrose and native bluebell (not the Spanish one).

I have indicated some benches in the garden along the edge and this is a very important element to encourage people to linger and observe the diversity of insect life and bird life.

As well as the perimeter path there are smaller meandering paths, cutting through the garden. If bind weed is a problem I suggest using a smaller or doubled over strip of weed supressing fabric and again using bark chip. These paths will give a sense of a journey to the garden which children and adults alike will love. They are designed to be narrower than the perimeter path, almost accidental.

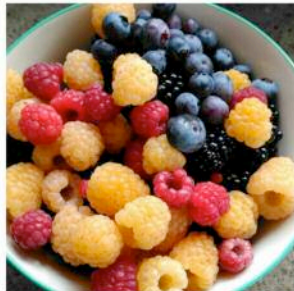
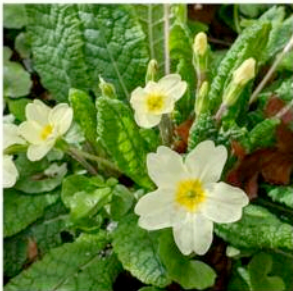
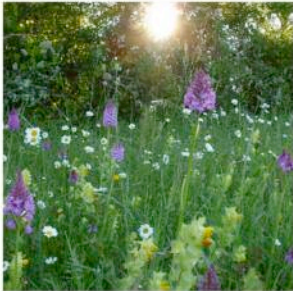
Other elements to include:

- Log pile – along the wall where the hawthorn tree is shown – to provide a habitat for beetles, frogs and possibly hedgehogs.
- Bat boxes – in addition to the bird boxes already in place. Bats would love the location close to the river.
- A patch of nettles with a sign letting people know of their importance for butterfly populations.
- Compost bins



Cardboard being laid out on top of grass in Spring. Make sure to overlap any joins well to prevent grass poking through. Smaller sheets can also be used e.g. the ones fruit and veg deliveries come in. This can be done on any tree/shrub.

The following February the cardboard and grass will have been composted into the soil. Sheet mulching stops weeds growing and also provides a slow release feed for the plants as the grass breaks down.



Elements for Caherconlish, Franklin's Garden

Where to purchase plants

CELT: Native trees. Scariff, Co. Clare. Tel: 061-640765. www.celt.net.org is a great supplier of native bareroot trees, grown from seed collected in Ireland. It is a small nursery.

Future Forests (www.futureforests.ie) is a good source of perennials and shrubs. When you place an order, please ask them to ensure that the plants they are selling are guaranteed to be free of New Zealand flatworm which is becoming a menace. They also supply many native plants.

Design by nature www.wildflowers.ie is the best source for wildflower seeds. Often the packets that people buy contain seed that has not been saved in Ireland. This company save only Irish seed which is much better adapted to our climate and growing conditions and is of a high quality.

Even better than Future Forests, ask your garden centre if they stock pollinator friendly plants and if you can purchase these species from them. Please don't forget to ask them to make sure plants they sell do not have New Zealand flatworm

Buy plants in small pots. They are cheaper this way and will grow quickly.

When you purchase snowdrops, daffodils and bluebells, please obtain the native varieties if at all possible. Snowdrops and bluebells are fairly easily purchased from garden centres, but you may need to order in advance because stocks get sold very quickly. Native daffodils (*Narcissus pseudonarcissus* or *Narcissus obvallaris*) can be purchased from **shiptonbulbs.co.uk**. This is a lovely family run farm and the only place I have found which sells high quality, healthy bulbs.

Appendix 7 - Species of Plant Recorded

Plants recorded on the 6th February 2020 and on the 14th July 2020.

Caherconlish Biodiversity Action Plan		Plants Recorded		6.2.20 by Dr Catherine O'Connell		Grid Reference		Boskill Hedge		Oakley Lawn Estate		Old Church of Ireland Graveyard		Old Tennis Club	
Area/Species Latin Name	Species Common Name	Species Irish Name	Grassy River and waste ground near Millennium Centre	Grassy River, Library & Franklin's Garden	Beechview Gardens Estate	N52.593173, E-8.467823	N52.592338, E-8.465152	N52.589797, E-8.471909	N52.594401, E-8.472775	N52.592306, E-8.481583					
<i>Acer pseudoplatanus</i>	Sycamore	Seiceamóir	X	X											
<i>Achillea millefolium</i>	Yarrow	Athair thalún		X											
<i>Anthriscus sylvestris</i>	Cow Parsley	Peirsil bhó	X		X										
<i>Arabis hirsuta</i>	Hairy Rock-cress	Gas caillí giobach		X											
<i>Arctium minus</i>	Lesser Burdock	Cnádán	X												
<i>Asplenium ceterach</i>	Rustyback	Raithneach rua													
<i>Asplenium scolopendrium</i>	Hart's-tongue Fern	Creamh na muice fia					X								
<i>Asplenium trichomanes</i>	Maidenhair Spleenwort	Lus na seilge	X												
<i>Buddleia davidii</i>	Butterfly Bush	Tor an fhéileacáin	X												
<i>Cirsium arvense</i>	Creeping Thistle	Fochadán reatha	X	X											
<i>Crataegus monogyna</i>	Hawthorn	Sceach gheal		X											
<i>Fagus sylvatica</i>	Beech	Feá	X												
<i>Ficaria verna ssp verna</i>	Lesser Celandine	Grán arcáin	X												
<i>Fraxinus excelsior</i>	Ash	Fuinseog	X	X											
<i>Galium aparine</i>	Cleavers	Garbhlius		X	X										
<i>Geranium robertianum</i>	Herb Robert	Ruithéal rí	X												
<i>Glyceria maxima</i>	Floating Sweet-grass	Milseán uisce		X											
<i>Hedera helix</i>	Ivy	Eidhneán	X					X							
<i>Ilex aquifolium</i>	Holly	Cuilleann		X											
<i>Jacobaea vulgaris</i>	Common Ragwort	Buachaíán buí	X												
<i>Lamium purpureum</i>	Red Dead-nettle	Caohneantóg dhearg		X											
<i>Petasites hybridus</i>	Butterbur	Gallán mór	X												
<i>Plantago lanceolata</i>	Ribwort Plantain	Slánlus	X												
<i>Polypodium vulgare</i>	Common Polypody	Scim chaol												X	
<i>Quercus petraea</i>	Oak	Dair	X												
<i>Ranunculus repens</i>	Creeping Buttercup	Fearbán (reatha)												X	
<i>Rosa arvensis</i>	Field Rose	Rós Léana						X							
<i>Rubus fruticosus agg</i>	Bramble	Dris	X												
<i>Rumex acetosa</i>	Sorrel/Dock	Samhadh bó	X	X											
<i>Sambucus nigra</i>	Elderberry	Trom	X												
<i>Umbilicus rupestris</i>	Wall Pennywort/Navelwort	Comán caisil													
<i>Urtica dioica</i>	Common Nettle	Neantóg	X												
<i>Verbascum thapsus</i>	Great Mullein	Coimhle Muire												X	
<i>Xanthoria parietina</i>	Yellow Lichen		X												
Total 33			20	11	3	2	1	8	2						

Caherconlish Biodiversity Action Plan											
Plants Recorded											
14.7.20 by Dr Catherine O'Connell											
Grid Reference	N52.593924, E-8.470919	N52.596378, E-8.472241	N52.593173, E-8.467823	N52.592338, E-8.465152	N52.589797, E-8.471909	N52.594401, E-8.472775	N52.592306, E-8.481583	N52.589169, E-8.480345	N52.594176, E-8.476084		
Area/Species Latin Name	Species Common Name	Species Irish Name	Groody River & waste ground at Millennium Centre	Groody River, Library & Franklin's Garden	Beechview Gardens Estate	Boskill Hedge	Oakley Lawn Estate	Old Church of Ireland Graveyard	Old Tennis Club	Creamery Loop Walk: buildings, hedges, fields & wetlands	Caherconlish National School Grounds & Hedge Opposite
<i>Acer pseudoplatanus</i>	Sycamore	Seiceamóir	X			X		X			X
<i>Achillea millefolium</i>	Yarrow	Athair thalún				X					
<i>Aegopodium podagraria</i>	Ground Elder	Lus an easpaig	X			X					
<i>Aesculus hippocastanum</i>	Horse Chestnut	Crann cnó capaill	X								
<i>Alnus glutinosa</i>	Alder	Fearnóg		X			X				
<i>Angelica sylvestris</i>	Wild Angelica	Gallfheabhán	X							X	
<i>Anthriscus sylvestris</i>	Cow Parsley	Peirsil bhó	X				X			X	
<i>Apium nodiflorum</i>	Fools Water Cress	Gunna uisce	X								
<i>Arabis hirsuta</i>	Hairy Rock-cress	Gas cailí giobach				X					
<i>Arctium minus</i>	Lesser Burdock	Cnádán	X								
<i>Asplenium ceterach</i>	Rustyback	Raithneach rua		X				X			
<i>Asplenium ruta-muraria</i>	Wall-rue	Luibh na seacht ngábh		X				X			
<i>Asplenium scolopendrium</i>	Hart's-tongue Fern	Creamh na muice fia				X		X			
<i>Asplenium trichomanes</i>	Maidenhair Spleenwort	Lus na seilge						X			
<i>Bellis perennis</i>	Daisy	Nóinín			X			X			
<i>Betula pubescens</i>	Downy Birch	Beith chíúmhach	X		X						X
<i>Brassica napus</i>	Rapeseed	Ráib		X			X				
<i>Buddleia davidii</i>	Butterfly Bush	Tor an fhéileacán	X								
<i>Calystegia sepium</i>	Bind Weed	Ialus fáil	X				X				
<i>Centaurea nigra</i>	Common Knapweed	Mínscoth									
<i>Cerastium fontanum</i>	Mouse-ear chickweed	Cluas luchóige mhara								X	
<i>Chamerion angustifolium</i>	Rosebay Willow Herb	Lus na tine	X				X				
<i>Cirsium arvense</i>	Creeping Thistle	Feochadán reatha	X				X		X		
<i>Cirsium vulgare</i>	Spear Thistle	Feochadán colgach	X				X				
<i>Cladonia pyxidata</i>	Cup Lichen							X			
<i>Cotoneaster horizontalis</i>	Wall Cotoneaster	Cainchín balla							X		
<i>Crataegus monogyna</i>	Hawthorn	Sceach gheal					X			X	
<i>Dactylis glomerata</i>	Cocksfoot	Garbhfhéar	X								
<i>Deschampsia cespitosa</i>	Tufted Hair Grass	Móinfhéar garbh	X							X	
<i>Dryopteris dilatata</i>	Broad Buckler-fern	Raithneach leathan	X								
<i>Epiobium hirsutum</i>	Great Willow Herb	Lus na Tríonóide		X							
<i>Equisetum arvense</i>	Field Horsetail	Scuab Eich Ghoirt	X				X			X	
<i>Eurhynchium praelongum</i>											
<i>Fagus sylvatica</i>	Beech	Feá									
<i>Fallopia baldschuanica</i>	Mile a minute								X		

Area/Species Latin Name	Species Common Name	Species Irish Name	Grwoody River & waste ground at Millennium Centre	Grwoody River, Library & Franklin's Garden	Beechview Gardens Estate	Boskill Hedge	Oakley Lawn Estate	Old Church of Ireland Graveyard	Old Tennis Club	Creamery Loop Walk: buildings, hedges, fields & wetlands	Caherconlish National School Grounds & Hedge Opposite
<i>Ficaria verna</i> ssp. <i>verna</i>	Lesser Celandine	Grán arcáin		X		X				X	
<i>Filipendula ulmaria</i>	Meadowsweet	Airgead luachra				X				X	
<i>Fraxinus excelsior</i>	Ash	Fuinseog	X			X	X			X	
<i>Galium aparine</i>	Cleavers	Garbhuis				X	X	X			
<i>Galium verum</i>	Lady's Bedstraw	Bolach cnis				X					
<i>Geranium robertianum</i>	Herb Robert	Ruithéal rí		X		X	X	X			
<i>Glyceria maxima</i>	Floating Sweet-grass	Miseán uisce	X	X							
<i>Hedera helix</i>	Ivy	Eidhneán		X		X	X	X		X	
<i>Heracleum spondylium</i>	Hogweed	Feabhán	X	X		X	X	X			
<i>Holcus lanatus</i>	Yorkshire Fog		X		X	X					
<i>Ilex aquifolium</i>	Holly	Cuilleann									
<i>Jacobaea vulgaris</i>	Common Ragwort	Buachalán buí	X	X			X	X		X	
<i>Lamium purpureum</i>	Red Dead-nettle	Caochneantóg dhearg									
<i>Lapsana communis</i>	Nipplewort	Duilleog Bhríde	X				X	X			
<i>Lathyrus pratensis</i>	Meadow Vetchling	Peasairín Buí		X						X	
<i>Ligustrum vulgare</i>	Wild Privet	Pribhead					X				
<i>Lolium perenne</i>	Rye Grass	Seagalach Buan					X				
<i>Parthenocissus quinquefolia</i>	Virginia creeper				X						
<i>Persicaria maculosa</i>	Red Shank	Giúineach Dhearg									
<i>Petasites hybridus</i>	Butterbur	Gallán mór	X	X							
<i>Petasites pyrenaicus</i>	Winter Heliotrope	Plúr na gréine								X	
<i>Plantago lanceolata</i>	Ribwort Plantain	Slánlus	X					X		X	
<i>Plantago major</i>	Greater Plantain	Cuach Phádraig	X			X					
<i>Poa annua</i>	Pleurocarpus feather moss							X			
<i>Polypodium vulgare</i>	Annual Meadow-grass	Cuise blantúil					X				
<i>Populus candidans aurora</i>	Common Polypody	Scim chaol						X			
<i>Prunella vulgaris</i>	Variegated Poplar				X						
<i>Prunus avium</i>	Self Heal	Duán ceannchosach			X					X	
<i>Prunus laurocerasus</i>	Wild Cherry	Crann sílín fiáin									X
<i>Prunus spinosa</i>	English/Cherry Laurel	Labhras sílíní		X						X	
<i>Quercus petraea</i>	Blackthorn/Sloe	Draighean				X	X				
<i>Ranunculus acris</i>	Sessile Oak	Dair					X				X
<i>Ranunculus repens</i>	Meadow Buttercup	Fearbán féir	X				X				
<i>Rosa arvensis</i>	Creeping Buttercup	Fearbán (reatha)	X		X	X	X	X		X	
<i>Rubus fruticosus agg</i>	Field Rose	Rós Léana				X					
<i>Rumex acetosa</i>	Bramble	Dris	X			X	X	X		X	X
<i>Rumex obtusifolius</i>	Sorrel/Dock	Samhadh bó									
<i>Salix species</i>	Broad-leaved Dock	Copóg shráide	X				X	X		X	
<i>Sambucus nigra</i>	Willow	Salleach	X	X		X	X				
	Elderberry	Trom		X		X	X				X

Area/Species Latin Name	Species Common Name	Species Irish Name	Groody River & waste ground at Millennium Centre	Groody River, Library & Franklin's Garden	Beechview Gardens Estate	Boskill Hedge	Oakley Lawn Estate	Old Church of Ireland Graveyard	Old Tennis Club	Creamery Loop Walk: buildings, hedges, fields & wetlands	Caherconlish National School Grounds & Hedge Opposite
<i>Scrophularia auriculata</i>	Water Figwort	DonnIus uisce	X	X							
<i>Sedum album</i>	White Stonecrop	Grafán bán na gCloch		X							
<i>Sonchus oleraceus</i>	Common Sowthistle	Bleachtán mín		X							
<i>Sorbus aucuparia</i>	Rowan/Mountain Ash	Caorthann	X		X		X				
<i>Sparganium erectum</i>	Branched Bur-reed	Rísheisc	X								
<i>Stachys sylvatica</i>	Hedge Woundwort	CréachtIus	X	X		X	X				
<i>Symphoricarpos albus</i>	Snowberry	Póirin sneachta				X					
<i>Taraxacum officinale</i>	Dandelion	Caisearbhán	X	X	X		X	X			
<i>Trifolium pratense</i>	Red Clover	Seamair dheatg	X			X				X	
<i>Trifolium repens</i>	White Clover	Seamair bhán	X	X		X		X		X	
<i>Ulex europaeus</i>	Gorse	Aiteann gallda								X	
<i>Umbilicus rupestris</i>	Wall Pennywort/Navelwort	Cornán cailsil								X	
<i>Urtica dioica</i>	Common Nettle	Neantóg	X	X		X	X	X			
<i>Verbascum thapsus</i>	Great Mullein	Coimle Muire									
<i>Veronica chamaedrys</i>	Germander Speedwell	Lus cré taltún				X	X	X			
<i>Vicia cracca</i>	Tufted Vetch	Peasair na Iuch									
<i>Vicia sepium</i>	Bush Vetch	Peasair fhiáin				X	X				
<i>Xanthoria parietina</i>	Common Orange Lichen					X	X				
Total 93			39	25	12	35	33	26	0	24	7

Appendix 8 - Species of Bird Recorded in Caherconlish

Caherconlish Biodiversity Action Plan		Records from 2020 recorded by Dr Catherine O'Connell, Michael Collins and Johnny O'Donnell																						
Area/Species Latin Name	Species Common Name	Species Irish Name	Conservation Status in Ireland	Grid Reference	Date Recorded	Area/Species Latin Name	Species Common Name	Species Irish Name	Conservation Status in Ireland	Grid Reference	Date Recorded	Area/Species Latin Name	Species Common Name	Species Irish Name	Conservation Status in Ireland	Grid Reference	Date Recorded	Area/Species Latin Name	Species Common Name	Species Irish Name	Conservation Status in Ireland	Grid Reference	Date Recorded	
<i>Columba palumbus</i>	Woodpigeon	Colm coille	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Corvus frugilegus</i>	Woodpigeon	Colm coille	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Prunella modularis</i>	Blackbird	Lon dubh	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Turdus viscivorus</i>	Mistle Thrush	Smólach Mór	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Turdus iliacus</i>	Redwing	Deargán Sneachta	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Pyrrhula pyrrhula</i>	Bullfinch	Corrán coille	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Corvus monedula</i>	Jackdaw	Cág	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Sturnus vulgaris</i>	Starling	Druid	Amber	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Pied Wagtail</i>	Pied Wagtail	Glasóg shráide	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Erithacus rubecula</i>	Robin	Spideog	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Turdus merula</i>	Blackbird	Lon dubh	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Corvus tristis</i>	Hooded Crow	Caróg liath	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Hirundo rustica</i>	Swallow	Féineog	Amber	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Parus caeruleus</i>	Blue Tit	Meantán Gorm	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Passer domesticus</i>	House Sparrow	Gealbhan binne	Amber	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Delichon urbicum</i>	House Martin	Gabhán Binne	Amber	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Motacilla cinerea</i>	Grey Wagtail	Glasóg liath	Red	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Parus major</i>	Great Tit	Meantán Mór	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Pica pica</i>	Magpie	Shag breac	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Parus ater</i>	Coal Tit	Meantán Dubh	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Carduelis carduelis</i>	Goldfinch	Lesair chaille	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Carduelis chloris</i>	Greenfinch	Glasán darach	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Fringilla coelebs</i>	Chaffinch	Rí Rua	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Troglodytes troglodytes</i>	Wren	Dreolín	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Regulus regulus</i>	Goldcrest	Clorbhú	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Turdus philomelos</i>	Song Thrush	Smólach Ceoil	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
<i>Ardea cinerea</i>	Grey Heron	Corr réisc	Green	N52.583924, E-8.470919	6.2.20	N52.583173, E-8.467823	Beechview Gardens Estate			N52.592388, E-8.465152	6.2.20	N52.589797, E-8.471909	Oakley Lawn Estate & Playing Fields			N52.594401, E-8.472775	6.2.20	N52.592288, E-8.471797	Church now a House			N52.585203, E-8.445094	6.2.20	
Total 27																								

Appendix 9 - Species of Animal Recorded in Caherconlish

Caherconlish Biodiversity Action Plan							
Animals Recorded							
Records from 2020 recorded by Dr Catherine O'Connell on 14.7.20 and Michael Collins							
Grid Reference			N52.593924, E-8.470919	N52.594401, E-8.472775	N52.594379, E-8.474682	N52.593585, E-8.470538	
Area/Species Latin Name	Species Common Name	Species Irish Name	Groody River & waste ground at Millennium Centre	Old Church of Ireland Graveyard	Kenlyshe Castle Site	Garden of Michael Collins	
<i>Lasius niger</i>	Black Ant			X			
<i>Tyria jacobaeae</i>	Cinnabar moth caterpillar		X	X			
<i>Bombus lucorum</i>	White-tailed Bumble Bee		X	X			
<i>Oryctolagus cuniculus</i>	Rabbit	Coinin			X		
<i>Rhagoxycha fulva</i>	Common Red Soldier Beetle		X				
Gammaeus species	Freshwater Shrimp		X				
Ephemeroptera	Mayfly Larva		X				
Chironomid	Red Worm		X				
Daphnia species	Water Flea		X				
Diptera Group	Black Fly with long antennae		X				
Diptera Group	Black fly with long tail			X			
<i>Rana temporaria</i>	Frog	Loscann				X	
Total 12			8	3	1	1	1