



Comhairle Contae Mhaigh Eo
Mayo County Council

An Chomhairle Oidhreachta
The Heritage Council



Draft Local Biodiversity Action Plan

Ballina

County Mayo



Prepared by Woodrow Sustainable Solutions Ltd.
for Mayo County Council
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An Action of the County Mayo Heritage Plan

The *Ballina Local Biodiversity Action Plan* is an initiative of the Mayo County Council Heritage Office and was developed in consultation with local community organisations.

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All Woodrow staff members are required to abide by a strict code of professional conduct in every aspect of their work.

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Executive Summary

This action plan for Ballina, Co. Mayo provides advice and guidance on practical and meaningful actions which can be taken by the local authority, community groups and individuals to protect and promote biodiversity in the Ballina area. The aims of the plan include providing information on habitats in the town and on protected and important biodiversity sites, as well as giving recommendations on habitat management and proposals for suitable biodiversity-focused projects for local groups. The plan outlines biodiversity-focused learning opportunities for locals and visitors, emphasises the importance of gardens and private land for local biodiversity, and provides guidance on how this land can be managed in a wildlife-friendly way.

Chapter 1 provides the background to the plan by explaining what biodiversity is and why it is important, why we need to provide space for wildlife within the built environment, how those wild spaces can benefit us as individuals and as a community, and the importance of educating people about biodiversity. Section 1.2. and Section 1.3 outline the National Biodiversity Action Plan and the All-Ireland Pollinator Plan respectively. These sections provide a national context for this action plan.

Chapter 2 outlines the methods used to prepare this plan. These include a desk study, the sources of information used, the field surveys carried out and the details of the various groups and organisations invited to participate in the development of the action plan.

Chapter 3 highlights the various protected areas in the vicinity of Ballina. Section 3.1 provides a context for the designation of European sites. The three European sites within the Ballina area are then described and their reasons for designation and conservation objectives are outlined. Section 3.2 highlights the national designated sites within the Ballina area. For both European and national sites, maps are provided to show the locations of the sites relative to Ballina.

Chapter 4 describes five everyday aspects of biodiversity that are worth celebrating and conserving, i.e ivy, hawthorn, the house sparrow, holly and bryophytes. Sections 4.1 to 4.5 discuss the importance of these species / groups and their sometimes-underappreciated value to other wildlife and to our surroundings.

Chapter 5 provides a breakdown of the habitat types in the vicinity of Ballina. Each of these habitat types is described in Sections 5.1 - 5.15. Each section provides a description of the habitat and species present and the location of the habitat, where relevant.

Chapter 6 provides a description of some areas of Ballina that are particularly important for biodiversity and which function as ecological stepping stones and biodiversity corridors within the urban areas of Ballina. The sites described are the Rivers Moy and Brosna (Section 6.1), Belleek Woods (Section 6.2), Belleek Cross Woodland (Section 6.3), Leigue Cemetery (Section 6.4), Ardnaree Woods (Section 6.5) and the Hollister Campus (Section 6.6).

Chapter 7 provides management recommendations on how public and private spaces can be managed for biodiversity. Recommendations include the introduction of wildflower meadows into green areas around Ballina, reducing illegal dumping and burning, elimination of weedkillers and introduction of other weed management methods, planting of native shrubberies around public buildings to enhance wildlife value, planting and management of

native hedging to disguise unattractive features such as bare walls and provide habitat and food for wildlife, introduction of groves or copses of trees around Ballina, the introduction of uncut margins and longer grass along river banks and the planting and maintenance of public planted areas with pollinator-friendly plants. Section 7.9 provides a list of recommendations and actions for private gardens to enhance biodiversity. Section 7.10 provides recommendations on how to improve the value of the Ballina area for birds. This includes recommendations on the introduction and improvement of bird habitats around Ballina, through the provision of more tree groves, suitable hedging, management of grasslands as meadows and semi-natural grasslands, the provision of public bird feeders and the avoidance of toxic slug pellets which can poison the birds which eat slugs and snails. Advice on nest boxes and the protection and preservation of the Ballina swift population is also provided in this section. Section 7.11 provides recommendations on the conservation of bats in Ballina. Section 7.12 covers invasive species and where to find further information about them.

Chapter 8 gives recommendations for the enhancement of eight specific sites for biodiversity within Ballina. These sites are Leigue Cemetery, Marian Crescent, Memorial Park (Killala Road), Crossmolina Road Neighbourhood Park, St. Patrick's Estate, woodlands at Belleek Cross, Morrison Terrace Riverside Park and Shanaghy / Rathkip.

Chapter 9 showcases some good examples of existing actions being taken in the Ballina area to promote biodiversity.

Overall, this plan aims to provide practical and useful guidance on the integration of wildlife and wild spaces into the urban fabric of Ballina. Such actions are intended to benefit both the local community and our wild neighbours, both now and into the future.

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Section 1

1. Introduction

1.1 Background

In the modern world, we often think of towns as places designed and managed for people, filled with streets, shops, homes, vehicles and pavements. Any wildlife that may be present, such as birds or urban foxes, are often seen as incidental and insignificant, or even as intruders that have wandered in from the surrounding countryside.

However, our towns are relatively recent developments. For most of Ireland's history since the last ice age, the country was made up of wild, natural habitats. For many long centuries, Mayo was covered by woodlands, bogs, lakes and wetlands, and was home to an extraordinary assortment of wildlife.

Places that are now occupied by cars and housing estates were once perhaps home to a family of badgers, a group of majestic cranes, or a nesting corncrake. In areas now covered by concrete, tall oak trees once grew, red squirrels scampered through the branches, hares reared their young in the clearings, owls soared overhead in the evening dusk, and the creatures of the woodland lived out their lives through uncounted generations. In a sense, we humans, with our towns, cities and roads, are the real intruders.

Plate 1: Examples of Mayo's natural biodiversity: clockwise – badger, blackbird, heather and oak acorns



This is one of the reasons why we should do our best to facilitate and encourage other species, and to help them to live and thrive in our towns. The good news is that biodiversity can add great interest and natural diversity to a town, making it a more pleasant and enjoyable environment for all of us.

'Biodiversity' means all of the living things in an area: trees, birds, mammals, insects, spiders, plants, the fish in our waters, even things we can't see, such as the bacteria in the soil or the microscopic creatures that live in a puddle of water – all of these are part of our local biodiversity.

One of the aims in town planning and urban management should be to foster a 'sense of place' – that distinctive character which makes a place feel special, unique or memorable. An excellent way to do this is to incorporate and emphasise the natural landscape features and biodiversity that are characteristic of the area. By celebrating and conserving natural habitats, species and landscapes, we can enhance our towns in ways that give them real distinction and style, rather than allowing them to become monotonous or dreary.

Plate 2: Mixed woodland habitat at Belleek Woods, Ballina



In addition to these benefits, biodiversity can provide interest and inspiration to all of us, as we go about our daily lives. The sound of birdsong gives a sense of relief from the hum of traffic. The scent of hawthorn blossom or a wild rose can lift the spirits and brighten our day. In urban areas, it is especially important to feel this connection with nature; more biodiversity is not only good for other species, but good for each of us too.

People find birdsong relaxing and reassuring because over thousands of years, they have learnt that when the birds sing, they are safe; it's when birds stop singing that people need to worry.

Julian Treasure

For those who are elderly or unwell, the presence of nature can provide a wonderful source of interest and enjoyment, or perhaps a chance to escape for a while from anxiety and disquiet. An accessible nature-filled park nearby can provide this. Private gardens can also be improved in ways that attract a range of wildlife. Many elderly people get a lot of pleasure from their gardens and the creatures that visit them.

For those who live in nursing homes or hospices, or who are spending time in hospital, it can be difficult to maintain a meaningful connection with nature. Unfortunately, the grounds of these buildings too often consist only of very short grass and a few non-native ornamental trees or shrubs. Imagine if this space were used to bring nature closer to those who need it most – hedgerows full of birdsong, meadows of beautiful native flowers, rich with bees and butterflies, or a scented garden with a pleasant seating area and sympathetic planting to provide shelter and privacy.

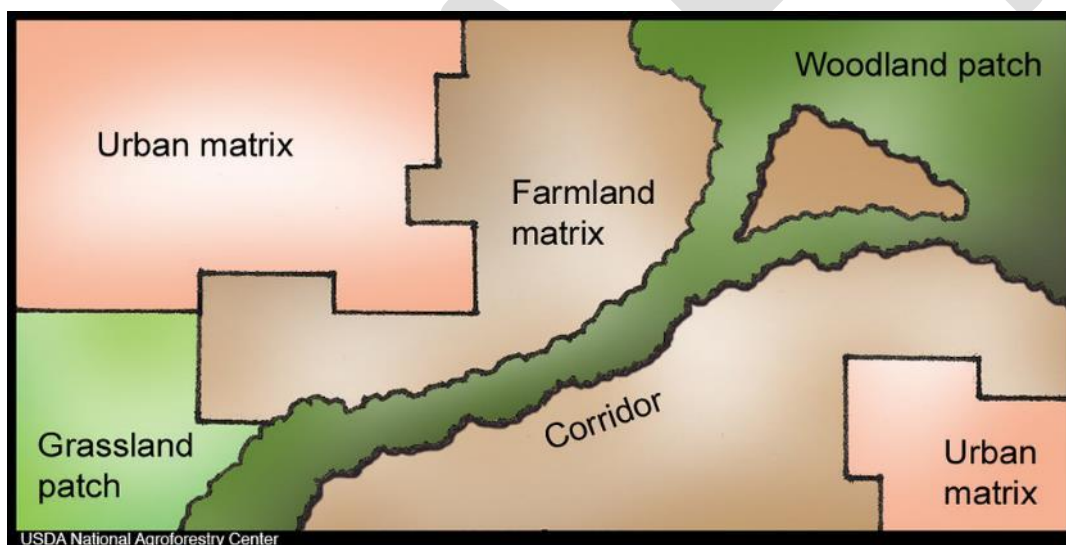
Plate 3: Wildflower meadows are wonderful for people, as well as other species



In planning for the long-term biodiversity needs of our towns, it is also worthwhile to educate children and young people in the delights and importance of biodiversity. This can be facilitated by having wildlife areas or gardens in the grounds of schools. While much of the area in schoolgrounds tends to be taken up by playing fields, hardcourts or car parks, it should always be possible to find some space to celebrate biodiversity. Swift boxes, sparrow boxes and general bird nesting boxes can all be installed around schools, and take up very little space.

These areas discussed above, such as schools, parks, and gardens can also perform an important function as 'biodiversity corridors' or 'stepping stones'. As more and more land is taken up by housing estates, urban development, roads, or intensive farming, populations of animals can get cut off from each other in shrinking patches of habitat. Biodiversity corridors and stepping stones are areas that help to connect up these remaining patches, and allow animals to travel from one to another. This is important because an animal population in an isolated patch of habitat can easily shrink to an unviable level, at which point that species becomes locally extinct. Indeed, corridors are also important to some plant species, which can also become isolated in shrinking patches of suitable habitat.

Plate 4: Biodiversity Corridors link habitats that would otherwise become cut off from each other



The term 'ecosystem services' is often used to describe benefits that are provided to people by nature. An ecosystem is a network of biodiversity and its interactions with the environment. For example, a wetland area with reed beds is an ecosystem that can help prevent flooding by slowing down the movement of water before it reaches rivers and lakes.

Ecosystems provide a variety of vital functions, from the large-scale regulation of climate, down to local issues such as flood prevention, recycling of nutrients and filtering of water. Woodlands and bogs lock up carbon, reducing the amount of carbon dioxide in the atmosphere, and so helping to reduce climate change. Communities of fungi and bacteria break down dead material, such as fallen leaves, and this then enriches the soil and allows nutrients to be recycled. Many of the plants we grow as crops have to be pollinated, and this

is done by a large variety of animals, mostly insects such as bees, and is a hugely important function to humanity.

However, in thinking about 'ecosystem services', it is important not to lose perspective. Other creatures are of enormous benefit to us, but they do not exist just to provide 'services' to us. Rather, they exist as creatures in their own right, with lives of their own and they should be respected as such. Humans have taken up so much of the earth that it can now be difficult for other species to find the resources they need in order to live. In planning and managing our towns, let us do all we can to help them; we should be kinder and more generous to the creatures with whom we share the world.

1.2 Ireland's National Biodiversity Action Plan

The *National Biodiversity Action Plan 2017-2021*, published by the Department of Culture, Heritage and the Gaeltacht, gives a national framework to local biodiversity town plans. The plan sets out Ireland's Vision for Biodiversity as follows:

"That biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally."

Plate 5: Ireland's National Biodiversity Action Plan



Seven objectives are to:

1. Mainstream biodiversity into decision-making across all sectors.
2. Strengthen the knowledge base for conservation, management and sustainable use of biodiversity.
3. Increase awareness and appreciation of biodiversity and ecosystems services.
4. Conserve and restore biodiversity and ecosystem services in the wider countryside.
5. Conserve and restore biodiversity and ecosystem services in the marine environment.
6. Expand and improve the management of protected areas and species.
7. Strengthen international governance for biodiversity and ecosystem services.

The plan notes that global biodiversity is declining and that, despite increased awareness and efforts to halt its loss, biodiversity remains threatened by human activities worldwide. The overexploitation of wild species, and the ongoing conversion of land to agricultural use are given as two of the major causes of biodiversity loss.

The *National Biodiversity Action Plan* contains the following warning:

“In recent decades, human impacts on biodiversity in Ireland and across the planet have accelerated and resulted in increased damage to habitats, loss of species, reduced abundance of wildlife and degradation of our environment (air, water and soils). If we, the current generation, continue to unsustainably exploit our nation’s and our planet’s natural resources, damage our natural habitats, drive species to extinction and pollute our seas, freshwater and soils, future generations will inherit a diminished and degraded environment unfit to support them and provide them with a wide range of benefits to society and the economy.”

Plate 6: Objectives of the Biodiversity Action Plan



1.3 The All-Ireland Pollinator Plan 2015-2020

The first *All-Ireland Pollinator Plan 2015-2020* was published by the National Biodiversity Data Centre, and is intended to be a plan of action to be carried out collectively by conservation organisations, national and local public bodies, farmers, gardeners, schools and colleges, businesses, and local community groups. Further details of the plan, along with several guides, are available to download at www.pollinators.ie and on the Mayo County Council website¹. Hard copies of these guides are available from Mayo Heritage Office.

The plan emphasises the importance of pollinators, and aims to bring about a landscape where pollinators can thrive and flourish into the future. A subsequent *All Ireland Pollinator Plan 2021 – 2025* is due to be launched on March 26, 2021.

¹ www.mayo.ie/heritage/pollinator-plans

Plate 7: Several useful guides are available as part of the All-Ireland Pollinator Plan



Further details of the plan, along with several useful downloadable guides, are available at <https://pollinators.ie/>.

1.4 Aims of the Ballina Biodiversity Town Plan

This local biodiversity action plan for Ballina sets out practical measures to help the wildlife and biodiversity of Ballina.

The aims are:

- To identify the available habitats in the town, and find ways to enhance these in order to facilitate and encourage the local biodiversity.
- To identify any sites that are particularly important, such as areas that have high numbers of species, areas where rare species are present, or areas that can function as biodiversity corridors.
- To take into consideration any nationally or internationally protected sites within the town and its environs, and to ensure that the biodiversity plan is compatible with their conservation objectives.

- To make recommendations for the management of habitats within the town and for future land-use planning.
- To make proposals and suggestions for practical projects that can be carried out by local community groups such as Tidy Towns.
- To set out opportunities for informing and educating both local people and visitors about the importance and intrinsic interest of local wildlife and biodiversity.
- To explain how gardens and other private lands are important to the local biodiversity, and how these can be managed or enhanced to encourage wildlife.

Plate 8: A ladybird at Leigue Cemetery, Ballina



2. Methods

This town biodiversity plan was prepared in the following stages:

2.1 Desk Study

A desk study was carried out to examine previously-recorded information on the biodiversity of the Ballina region, and to prepare for site visits. Information on all designated sites in the region was collated, and consideration given to the conservation needs and conservation objectives of these sites. Previously-published plans relating to Ireland's biodiversity needs were reviewed. Shapefiles showing the boundary of the relevant area for the town plan were imported into Q-GIS, and maps for use in the field were produced. Orthophotographs of the town and environs were examined. Areas that were clearly in agricultural use were delineated: these areas are not examined further in the plan. All remaining areas were given

initial categorisations, in preparation for field visits to the site. Literature was obtained relating to local sites of biodiversity interest, including Belleek, and other relevant documents, such as the *County Development Plan* and the *County Mayo Biodiversity Action Plan*, were reviewed.

2.2 Sources of Information

Various sources were consulted in the preparation of the plan. See **Appendix 1** for a list of source information used.

2.3 Field Surveys

Field surveys were carried out in Ballina on various occasions from July to October, 2020. Woodrow's in-house app, Ecolog, was used to ensure accurate recording of all locations, along with photographs and additional notes. Paper maps, resulting from the desk study, were also used in habitat mapping.

Habitats were identified in accordance with Fossitt, 2000, and representative species lists were compiled. Any cases of rare or notable species were recorded, as were the locations of any invasive species.

Consideration was given to how areas within the town could be improved to facilitate the needs of biodiversity, including projects that could be carried out by the local authorities or by local community groups.

2.4 Consultations

The following groups and organisations were contacted and invited to participate in the preparation of the plan:

- Ballina Golf Club
- Ballina Tidy Towns
- Bat Conservation Ireland
- Birdwatch Mayo
- Butterfly Conservation Ireland
- Coillte
- Mayo Bat Group
- Men's Sheds Association
- National Parks and Wildlife Service
- Swift Conservation Ireland
- The Irish Wildlife Trust
- The Lough Carra Catchment Association

The plan was prepared in collaboration with Deirdre Cunningham, Heritage Officer of Mayo County Council, and with the advice of Hazel Doyle of the National Parks and Wildlife Service. Suggestions, ideas and recommendations from the groups above were incorporated into the plan.

3. Protected Areas in Ballina

The following section will provide information regarding the protected sites within and surrounding Ballina, highlighting the Qualifying Interests and Conservation Objectives of each protected site.

3.1 European Sites

European sites are areas that are considered important for biodiversity conservation, and which have been designated under the European Habitats Directive and Birds Directive. Special Areas of Conservation (SACs) are designated under the Habitats Directive for the protection of important habitats and species, whereas Special Protection Areas (SPAs) are designated under the Birds Directive for the protection of birds.

Figure 1: Special Areas of Conservation (SACs) in Ballina

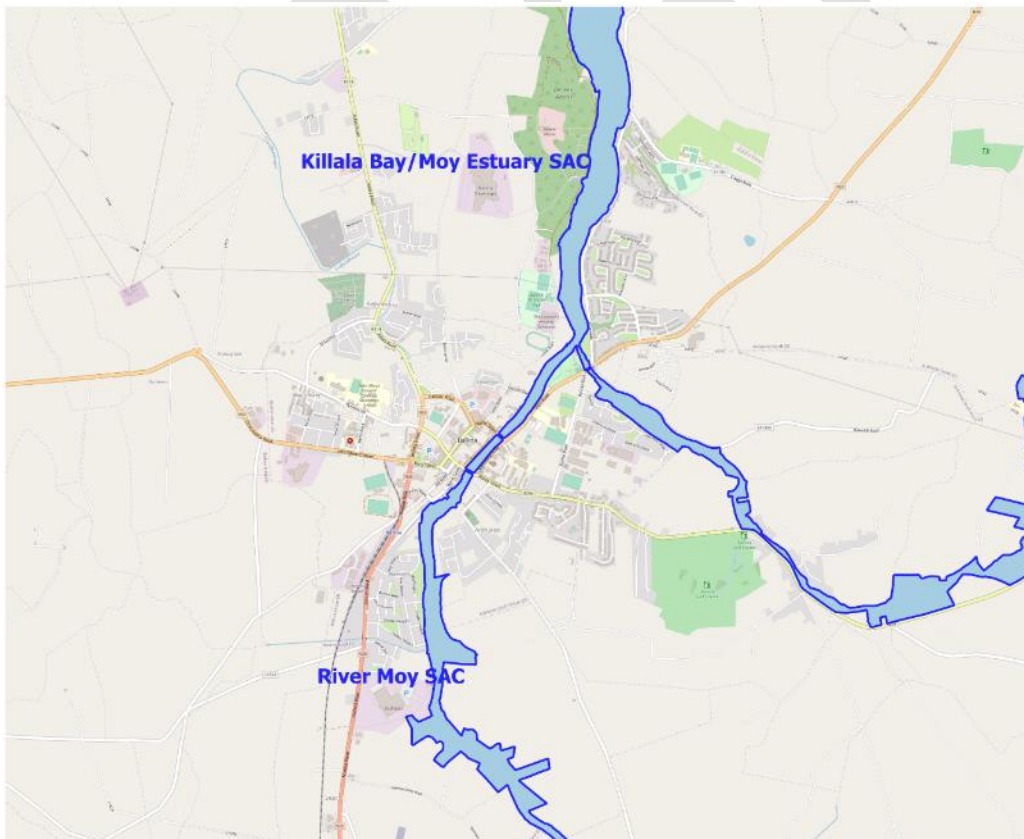
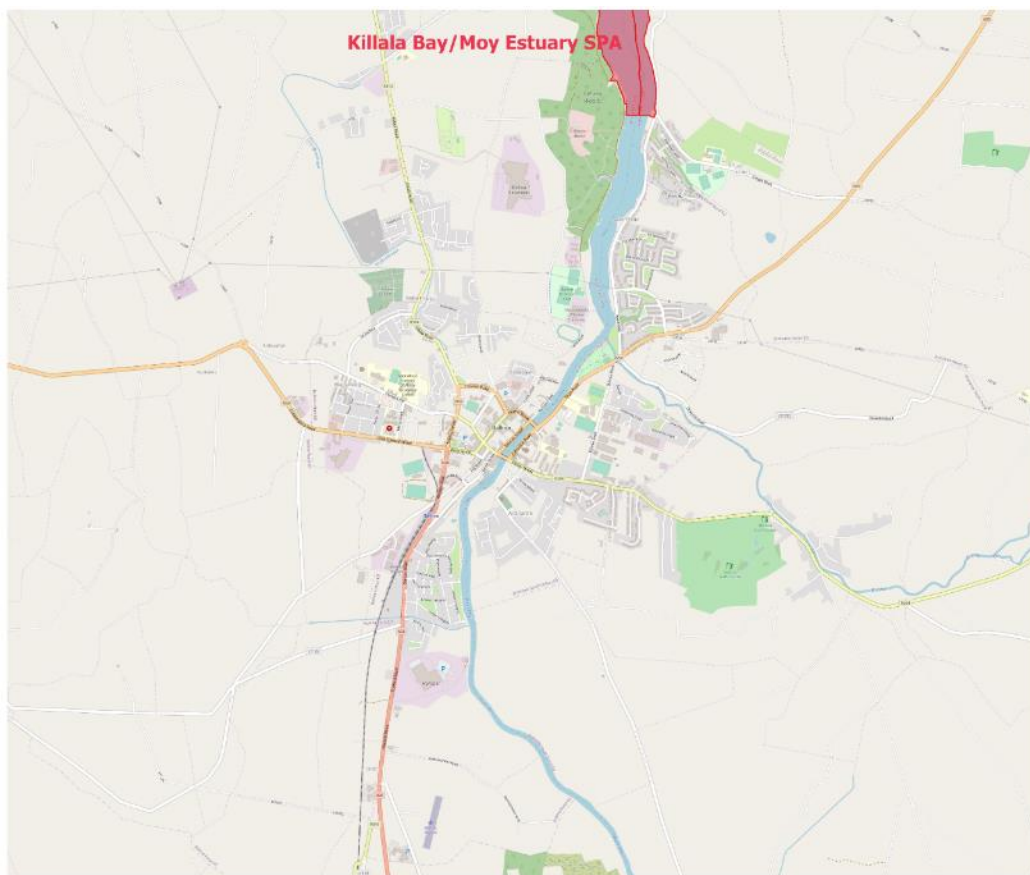


Figure 2: Special Protection Areas (SPAs) in Ballina



There are three European sites which come within the area of Ballina:

- River Moy SAC
- Killala Bay/Moy Estuary SAC
- Killala Bay/Moy Estuary SPA

These sites are shown in **Figure 1** and **Figure 2**.

Each of these sites has particular conservation objectives, as set out below, and it is important that these be considered in preparing and applying local biodiversity action plans.

3.1.1 River Moy SAC (Site Code 002298)

The River Moy SAC follows the course of the Moy, which flows north-eastward through the town of Ballina, until it comes to Lower Bridge. (The part of the river that runs between Lower Bridge and the sea is in the adjoining Killala Bay/Moy Estuary SAC.) The River Moy SAC also includes the section of the Brosna River east of the Sligo Road (N59).

The River Moy SAC is designated for the following important habitats and species:

- Raised bog (Active)

- Degraded raised bog
- Rhynchosporion vegetation
- Alkaline fens
- Old oak woodlands
- Alluvial forests
- White-clawed crayfish (*Austropotamobius pallipes*)
- Sea lamprey (*Petromyzon marinus*)
- Brook lamprey (*Lampetra planeri*)
- Atlantic salmon (*Salmo salar*)
- Otter (*Lutra lutra*)

The objectives are to maintain or restore the favourable conservation status of these habitats and species. Specific objectives for each qualifying interest are available in the Conservation Objectives².

Ballina is a noted fishing location. The following short extracts from the Site Synopsis³ describe the salmon population, and some of the other species that occur in the SAC.

*“The Moy system is one of Ireland’s premier salmon waters and it also encompasses two of Ireland’s best lake trout fisheries in Loughs Conn and Cullin. Although the Atlantic Salmon (*Salmo salar*) is still fished commercially in Ireland, it is considered to be endangered or locally threatened elsewhere in Europe and is listed on Annex II of the E.U. Habitats Directive. The Moy is a most productive catchment in salmon terms and this can be attributed to its being a fingered system with a multiplicity of 1st to 5th order tributaries which are large enough to support salmonids < 2 years of age while at the same time being too small to support significant adult trout numbers and are therefore highly productive in salmonid nursery terms.”*

“The site is also important for the presence of four other species listed on Annex II of the E.U. Habitats Directive, namely Sea Lamprey, Brook Lamprey, Otter and Whiteclawed Crayfish. The Sea Lamprey is regularly encountered in the lower stretches of the river around Ballina, while the Otter and White-clawed Crayfish are widespread throughout the system. In addition, the site also supports many of the mammal species occurring in Ireland. Those which are listed in the Irish Red Data Book include Pine Marten, Badger, Irish Hare and Daubenton’s Bat. Common Frog, another Red Data Book species, also occurs within the site.”

3.1.2 Killala Bay/Moy Estuary SAC (Site Code 000458)

The Killala Bay/Moy Estuary SAC begins at Lower Bridge within the town of Ballina, and follows the course of the River Moy, approximately northward, until it enters the sea at Killala

² NPWS - https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002298.pdf

³ NPWS - <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY002298.pdf>

Bay. This SAC also includes the short section of the Brosna River west of the Sligo Road (N59) until the point where the Brosna flows into the Moy.

This SAC is designated for the following important habitats and species:

- Estuaries
- Tidal mudflats and sandflats
- Annual vegetation of drift lines
- Vegetated sea cliffs of the Atlantic and Baltic Coasts
- Salicornia mud
- Atlantic salt meadows
- Embryonic shifting dunes
- Marram dunes (white dunes)
- Fixed dunes (grey dunes)
- Humid dune slacks
- Narrow-mouthed whorl snail (*Vertigo angustior*)
- Sea lamprey (*Petromyzon marinus*)
- Common (harbour) seal (*Phoca vitulina*)

Plate 9: A view northwards across the Moy Estuary



Most of these habitats and species are likely to be found north of Ballina town, within the Moy Estuary and Killala Bay, and the Site Synopsis⁴ focuses mainly on the areas along the estuary and coast. Nonetheless, since any problems affecting the river in Ballina have the potential to impact habitats and species further north along its course, care must be taken to consider the integrity of the whole SAC.

The objectives are to maintain or restore the favourable conservation status of the habitats and species listed above. Specific objectives for each qualifying interest are available in the Conservation Objectives⁵.

3.1.3 Killala Bay/Moy Estuary SPA (Site Code 004036)

The Killala Bay/Moy Estuary SPA is not located within the town of Ballina, but runs from Belleek Woods northwards to Killala Bay, following the course of the Moy (**Figure 2**).

This SPA is designated for the following species:

- Ringed plover (*Charadrius hiaticula*)
- Golden plover (*Pluvialis apricaria*)
- Grey pPlover (*Pluvialis squatarola*)
- Sanderling (*Calidris alba*)
- Dunlin (*Calidris alpina*)
- Bar-tailed godwit (*Limosa lapponica*)
- Curlew (*Numenius arquata*)
- Redshank (*Tringa totanus*)
- Wetland and waterbirds

The Site Synopsis⁶ for this SPA notes that:

“Killala Bay/Moy Estuary SPA is of high ornithological importance as it supports eight species that have populations of national importance, including a very substantial population of Grey Plover (3.4% of the all-Ireland total). The presence of Redthroated Diver, Golden Plover and Bar-tailed Godwit is of particular note as these species are listed on Annex I of the E.U. Birds Directive. Killala Bay/Moy Estuary is a Ramsar Convention site.”

Again, the objectives are to maintain or restore the favourable conservation status of the qualifying interests as listed above. Specific objectives for each qualifying interest are available in the Conservation Objectives⁷.

⁴ NPWS - <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000458.pdf>

⁵ NPWS - https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000458.pdf

⁶ NPWS - <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004036.pdf>

⁷ NPWS - https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004036.pdf

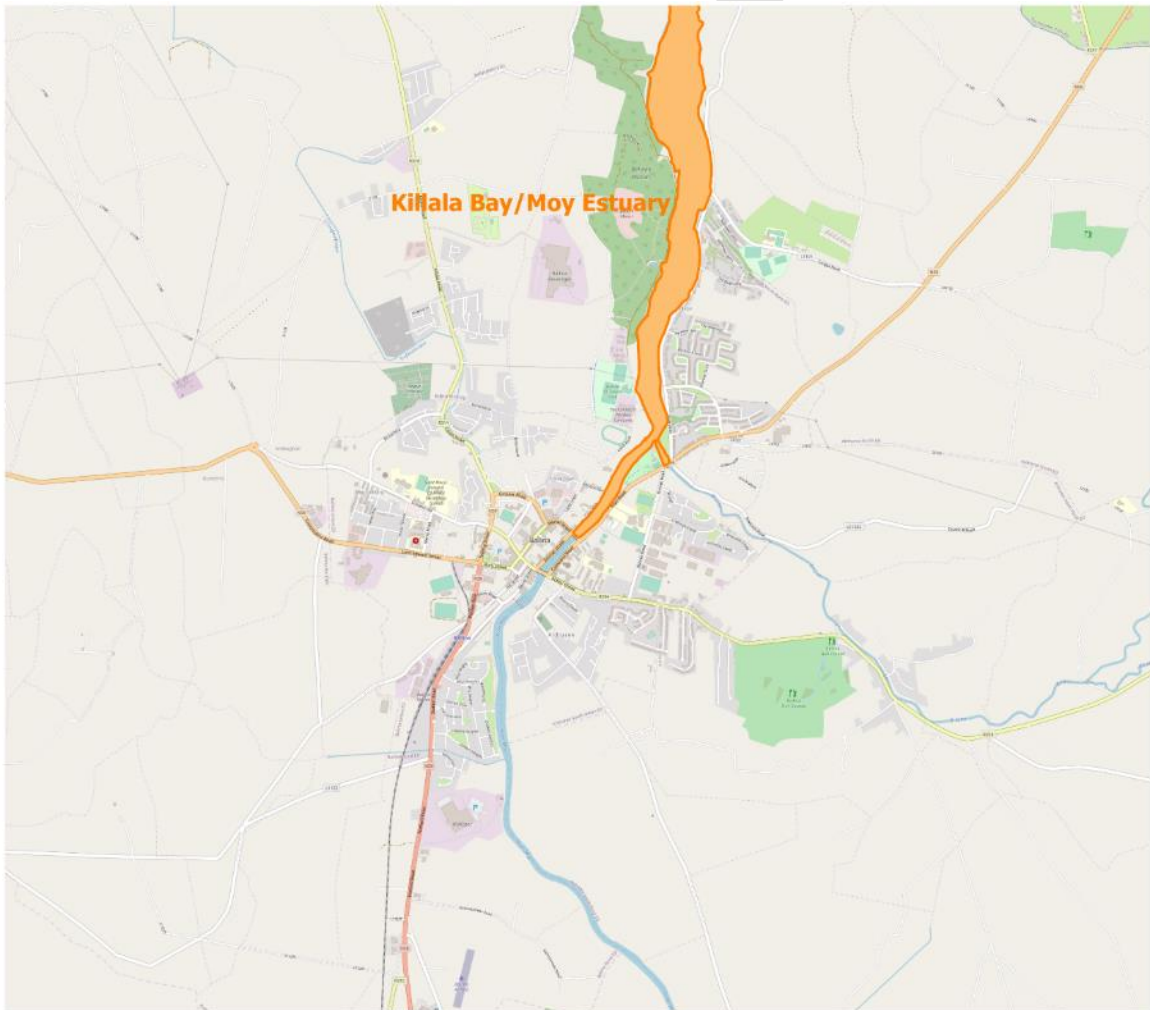
3.2 National Sites

National sites are areas that are considered nationally important for biodiversity. These are called Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs). There is one pNHA that comes within the area of Ballina:

- Killala Bay/Moy Estuary (Site Code 000458)

This is shown in **Figure 3**. The part of the pNHA that occurs within Ballina occupies the same area as that of the Killala Bay/Moy Estuary SAC.

Figure 3: Proposed Natural Heritage Areas (pNHAs) in Ballina



4. Five Everyday Things to Celebrate

It is easy to forget the importance of things we encounter every day, and too easy to take these things for granted. However, some of the most ordinary and everyday plants and animals can be important parts of the whole network that supports our local web of biodiversity. And in some cases, such as the familiar house sparrow, a species that only recently seemed so common can decline surprisingly quickly unless we are watchful.

To help remind us of the importance of ordinary things, here are five things that we should appreciate and celebrate more.

1. Ivy
2. Hawthorn
3. House sparrow
4. Holly
5. Bryophytes

4.1 Ivy — *Hedera helix*

The much-maligned common ivy is a plant that is often sprayed, cut, pulled down, criticised and condemned, as if it were some kind of invading presence in our gardens and public areas. Nothing could be further from the truth: ivy is a native plant that is of high value and importance to a range of wildlife and we should have more appreciation for it.

The idea that ivy damages and kills trees is a myth. As a plant that is native to much of Europe, ivy has evolved in the company of those trees, such as oak, ash and birch, which are native to Ireland. It is therefore normal and natural for ivy to grow on these trees.

Ivy is very important to small nesting birds, such as robins, wrens, and dunnocks. A bare tree trunk, garden wall, or earth bank provides little in the way of nesting sites; however, if these surfaces are covered with a luxuriant, evergreen layer of ivy, there are many hidden nooks and recesses where birds can build a nest. Ivy also provides important cover and places of refuge for small birds, where they can hide from predatory birds, cats or other disturbances. In addition to providing shelter for birds, ivy provides a habitat for a range of native insects, and is an important food for the caterpillars of some butterfly species.

Ivy flowers are great sources of nectar and pollen. They are particularly important to pollinating insects, as they are produced in autumn, when many other plants have stopped flowering. In early winter, clusters of black fruits are produced, and these are eaten by many birds, such as blackbirds and thrushes, and in some areas are also important winter food for pine martens.

Plate 10: The wonders of ivy



4.2 Hawthorn – *Crataegus monogyna*

A hawthorn hedge in full bloom is one of the glories of the Irish countryside, the branches covered in creamy-white flowers and the wonderful scent filling the air. Hawthorn flowers are important sources of food to many pollinating insects, and the glossy red berries, produced in autumn, are eaten with relish by many of our native birds. That nimble climbing mammal, the pine marten, is also known to make a meal of hawthorn berries.

Hawthorn hedges and bushes are used as nesting habitats by many of our native birds, including blackbirds, finches and tits. These hedgerows also provide foraging and commuting corridors for bats, and can act as wildlife corridors or stepping stones between areas of woodland for a range of animals. In addition, a hawthorn hedgerow will usually have other plants growing at its base, including wildflowers, ivy and brambles – these too enrich the area's biodiversity.

Plate 11: Hawthorn, in blossom and in fruit



Fortunately, these hawthorn hedges, traditionally a feature of the Irish countryside, can easily be introduced into our towns. There are many open locations in town parks, and other green areas, where a length of hawthorn would provide a fine resource for local wildlife, as well as giving shelter and interest to the human inhabitants. After all, a hedgerow full of life, with bees, butterflies and birds, is more inspiring and alluring than yet another expanse of short, trimmed grass. And even if there isn't space for a hedge, an individual hawthorn makes a fine small specimen tree.

4.3 House Sparrow – *Passer domesticus*

This cheerful and sociable little bird has a long history of living near humans, but sadly house sparrows are now in decline in Ireland. Sparrows nest in cavities, such as holes in trees or gaps or crevices in buildings. In the past, when houses and outbuildings were less sealed and impenetrable than they are now, sparrows would nest in the eaves of buildings, or in holes or cavities in stone walls. Nowadays, these nesting sites are not so easily found but, fortunately, sparrows adapt well to nesting in nest boxes. As these are sociable birds,

they like nest boxes that are positioned close together, or communal nesting boxes, which usually have three or more separate nesting compartments.

Plate 12: A female house sparrow



Sparrows are mainly seed-eaters, and can be encouraged by providing birdseed in gardens. Another way of helping them is to allow plants to flower and produce seed naturally in parks and public areas, rather than keeping everything tightly trimmed. When baby sparrows are being reared by their parents, they are fed insects or other invertebrates at first, before progressing to a mainly seed-based diet. This is another reason to encourage invertebrate life in our towns and gardens, and to avoid spraying pesticides as much as possible.

Plate 13: (a) A sparrow nesting box (photo from BirdWatch Ireland); (b) A male house sparrow at a garden feeder



Sparrows also like areas that have hedges and bushes, which give them cover and refuge from predators such as sparrowhawks. In one study in Glasgow, gardens with full hedges were 85% more likely to have sparrows than areas without such cover. This is another advantage to planting native hedges in our public spaces within town parks and other green areas.

4.4 Holly – *Ilex aquifolium*

Holly is one of our most familiar native evergreen plants, partly due to its cultural significance and its use in Christmas wreaths and decorations. In ancient Ireland, holly was regarded as a sacred and noble tree, a symbol of enduring life, and a protection against fire, lightning and evil spirits. In some of our remaining native Irish woodlands, holly forms an evergreen shrub layer under the large trees. It is valuable to many birds, providing shelter, roosting spaces and winter food.

Plate 14: Holly is a great source of food for birds



In our modern towns, there is a widespread tendency to plant laurel (*Prunus laurocerasus*) as an evergreen hedge. However, laurel is a non-native plant and has become a serious problem as an invasive species in many parts of the country. It also looks incongruous and out of place in Irish settings. Holly, on the other hand, makes an excellent evergreen hedge, is tough and easy to grow, and is also good for our native biodiversity. Holly flowers attract pollinators, especially bees, and the winter berries are valuable to birds such as thrushes and fieldfares.

4.5 Bryophytes

Bryophytes are small, unobtrusive and ancient plants, better known to us as mosses and liverworts. Many people wage a futile and completely unnecessary battle against mosses, wasting much time and money, and spraying large quantities of chemicals, in efforts to eradicate these harmless and beautiful little plants from lawns, driveways and roofs.

Plate 15: The miniature beauty of mosses



Let's take a step back to reconsider our mosses. Firstly, if you look at them close up, they have a truly beautiful variety of intricate shapes and varying colours. In Japan, there is a tradition of cultivating 'moss gardens'. In these gardens, mosses are celebrated for their colours, shapes and growth habits, and are usually grown in combination with trees or ferns. These gardens are wonderful places and have a tranquil, restful quality about them. Ireland has a large number and variety of native mosses, and a climate that is ideal for growing them. With a change in mindset, moss gardens could be incorporated into many of our public spaces, as well as in private grounds. In addition, mosses are easy to grow, resistant to most insect pests, need little care, and give year-round colour. Many birds use little tufts of moss in building their nests.

Plate 16: A Japanese moss garden



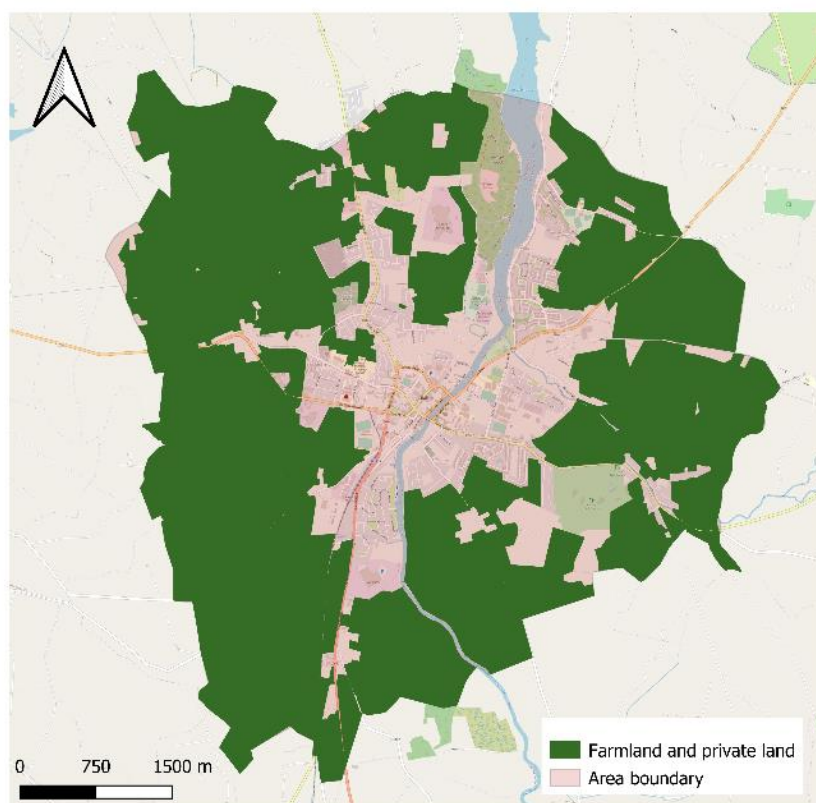
Much of the effort to eradicate moss is focused on lawns, due to the belief that lawns should consist only of very short grass and nothing else. And yet, there are few things in the world more useless and unnatural than one of these manicured lawns. Let us cultivate and promote a more natural approach, and welcome back the daisies, dandelions and buttercups; and of course, the mosses.

5. Habitats in Ballina

The following sections describe the various habitats identified in Ballina. There is a focus here on public areas, areas owned or managed by public authorities, and areas of particular biodiversity interest. Much of the rural area outside the town of Ballina is made up of farmland. While surveys of private farmland are beyond the scope of this report, such land is an important consideration in protecting biodiversity in the region. For this reason, advice and recommendations for farm management, in the interests of biodiversity, are given later in this plan. Private gardens are also of high importance to biodiversity in urban areas, and there is much that householders and gardeners can do to enrich the biodiversity and wildlife value of gardens. Hence, specific advice for gardeners is also included later in this action plan (Section 7.9).

The habitat categories and codes used below are in accordance with Fossitt (2000) – *A Guide to Habitats in Ireland*.⁸

Figure 4: Farmland and private lands in the vicinity of Ballina



⁸ Available at:
<https://www.npws.ie/sites/default/files/publications/pdf/A%20Guide%20to%20Habitats%20in%20Ireland%20-%20Fossitt.pdf>

Figure 5: Buildings, roads and private gardens in Ballina

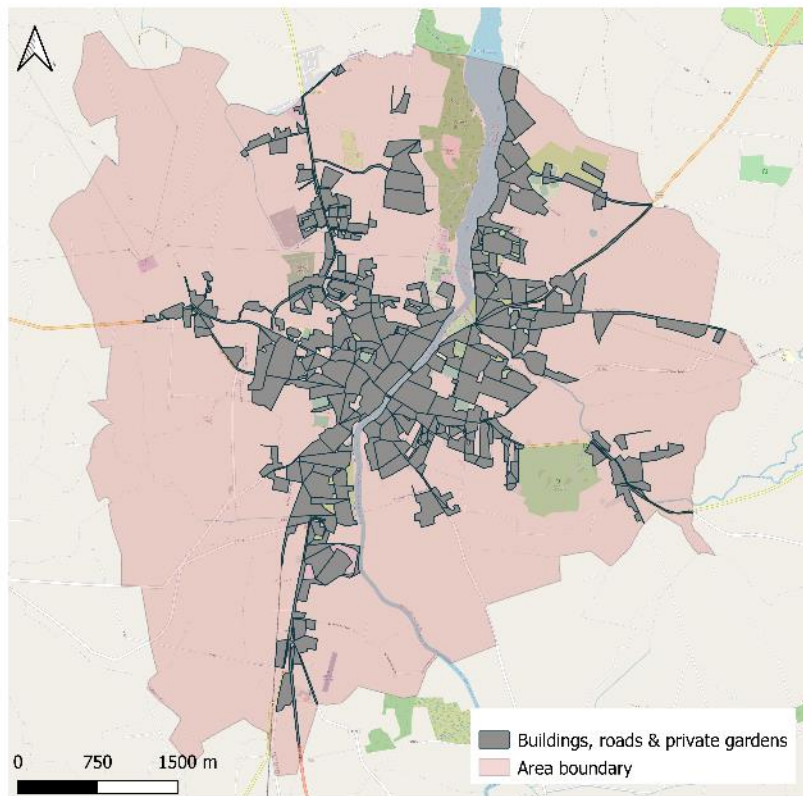


Figure 6: Grassland areas in Ballina

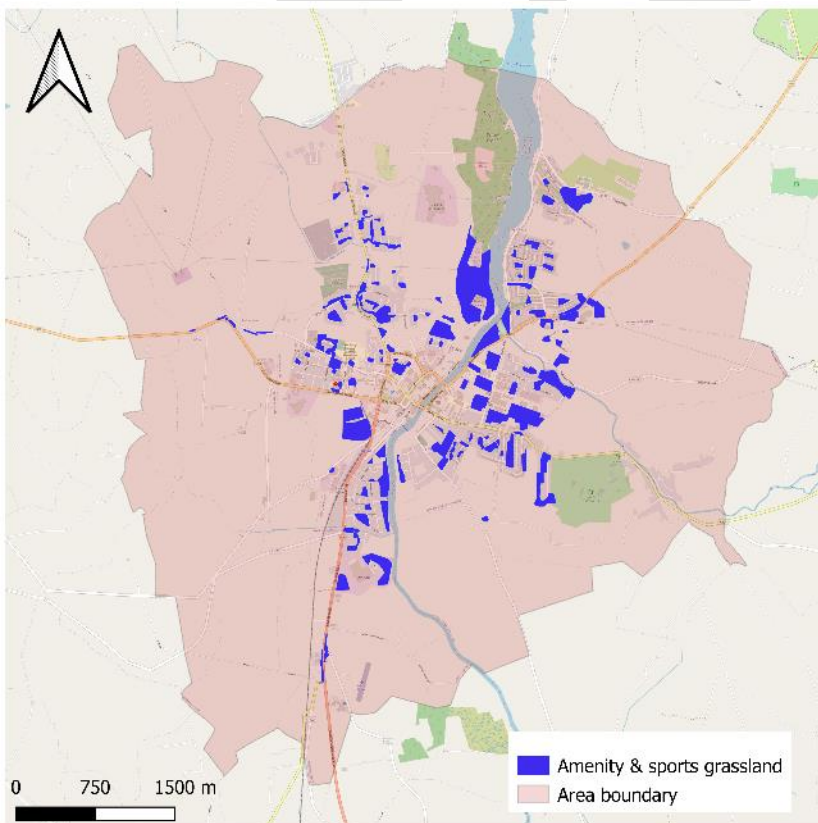
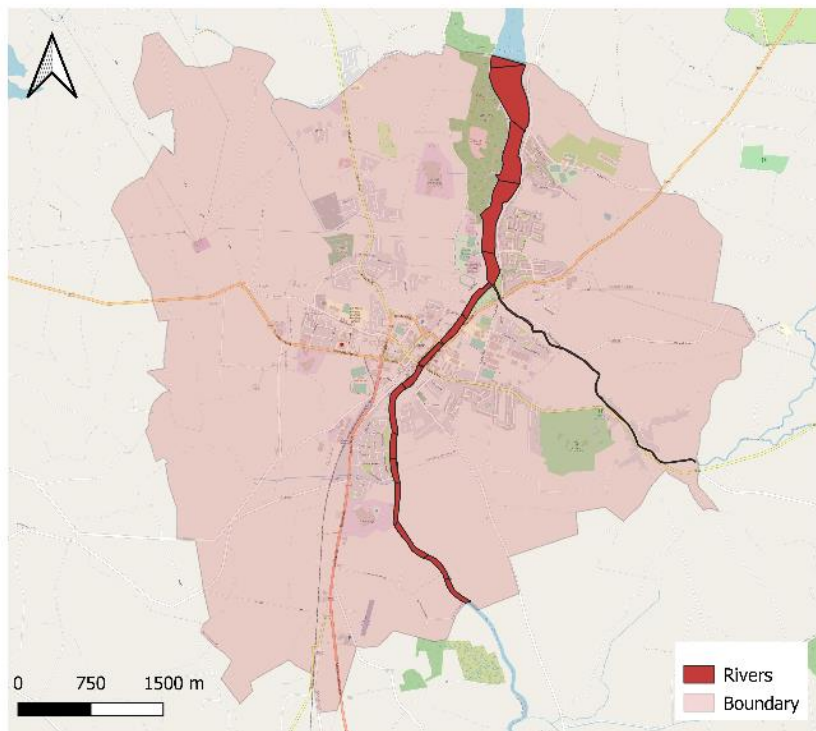


Figure 7: River habitat in the Ballina area



5.1 Dry Meadows and Grassy Verges (Habitat GS2)

These are areas of grass and herbaceous plants that are fertilised only rarely or not at all. They are not usually grazed, but may be mown infrequently. They are often roadside areas along hedges, walls or earth banks. In some cases, there is no particular management plan in place and these habitats result from benign neglect. In other places, such as the example shown in **Plate 17** at Rathkip/Shanaghy, there is a plan to maintain this habitat in good condition. Such areas are valuable to biodiversity and encourage pollinating insects. They can contain native orchids as shown below along the Foxford Road (N26) in the south of the town.

Plate 17: Dry meadow and grassy verge habitat with spotted orchid



Species in this habitat include:

- Yarrow (*Achillea millefolium*)
- Oxeye daisy (*Leucanthemum vulgare*)
- Self-heal (*Prunella vulgaris*)
- Shamrock (lesser trefoil) (*Trifolium dubium*)
- Red clover (*Trifolium pratense*)
- White clover (*Trifolium repens*)
- Figwort (*Scrophularia nodosa*)
- Ribwort plantain (*Plantago lanceolata*)
- Yorkshire fog (*Holcus lanatus*)
- Creeping Buttercup *Ranunculus repens*
- Cock's foot (*Dactylis glomerata*)
- Common spotted orchid (*Dactylorhiza fuchsia*)
- Bush vetch (*Vicia sepium*)

5.2 Amenity Grassland – Improved (Habitat GA2)

Ballina contains large expanses of this habitat, including green areas within housing estates, public parks and greens, sports fields and garden lawns. Such areas have usually been reseeded, may have fertilisers or selective weedkillers applied periodically and are frequently cut very short. This habitat has poor species diversity, and is of little value to wildlife in general. However, these areas have good potential, if managed differently.

Plate 18: Amenity grassland habitat with little biodiversity



Species in this habitat include:

- Daisy (*Bellis perennis*)
- Perennial ryegrass (*Lolium perenne*)
- Dandelion (*Taraxacum officinale*)
- Annual meadow grass (*Poa annua*)
- Ribwort plantain (*Plantago lanceolata*)
- White clover (*Trifolium repens*)
- Springy turf-moss (*Rhytidiadelphus squarrosus*)

5.3 Eroding/Upland Rivers (Habitat FW1)

The small river known as the Stream of the Shoes, or Sruthán na mBróg, which flows through the town of Ballina before entering the River Moy, is placed in this category. The river is a prominent surface feature in areas such as Marian Crescent, but is culverted in parts. Eroding conditions are also present along some of the steeper stretches of the Brosna River, shortly before it enters the River Moy.

Plate 19: Eroding/upland river habitat



This habitat supports few plants, due to its typically stony or rocky nature, and the lack of material in which plants can become rooted. However, water cress (*Nasturtium officinale*) is present along parts of the Stream of the Shoes, and greater water-moss (*Fontinalis antipyretica*) was noted along the Brosna River.

5.4 Depositing/Lowland Rivers (Habitat FW2)

This category refers to rivers, usually in lowland areas, where material is deposited to form a layer of sediment on the river bed, and includes the stretch of the River Moy where it passes through Ballina.

Plate 20: Depositing/lowland river habitat



An aquatic survey was not carried out, but it appears that few plants are present in the river itself. The areas of reedbeds and wet grassland along the river banks are of biodiversity interest, and these are discussed in the next sections.

5.5 Reed and Large Sedge Swamps (Habitat FS1)

This habitat is present along stretches of the River Moy, and includes areas of tall reeds and other herbaceous vegetation, which are quite dense in places, and are rooted in extremely wet conditions, with standing water at least at certain times of the year.

Plate 21: Reed/large sedge swamp habitat



Species in this habitat include:

- Bulrush (Reedmace) (*Typha latifolia*)
- Common reed (*Phragmites australis*)
- Purple-loosestrife (*Lythrum salicaria*)
- Reed canary-grass (*Phalaris arundinaceae*)
- Bog bean (*Menyanthes trifoliata*)
- Meadowsweet (*Filipendula ulmaria*)

5.6 Wet Grassland (Habitat GS4)

Again, this habitat is present along stretches of the River Moy within Ballina. It is quite species-diverse and provides a fine habitat for pollinators, such as bees, butterflies and other insects.

Plate 22: Wet grassland habitat



Species in this habitat include:

- Purple-loosestrife (*Lythrum salicaria*)
- Meadowsweet (*Filipendula ulmaria*)
- Silverweed (*Potentilla anserina*)
- Yorkshire fog (*Holcus lanatus*)
- Broad-leaved dock (*Rumex obtusifolius*)
- Creeping bent grass (*Agrostis stolonifera*)
- Water mint (*Mentha aquatica*)
- Dandelion (*Taraxacum officinale*)
- Marsh-bedstraw (*Galium palustre*)
- Cock's foot (*Dactylis glomerata*)
- Figwort (*Scrophularia nodosa*)
- Valerian (*Valeriana officinalis*)

5.7 Ornamental/Non-native Shrub (Habitat WS3)

This habitat is often created around public buildings, in public parks, and in private gardens, where ornamental shrubs, usually non-native, have been planted. These can have some wildlife value and some are useful to pollinators, or can provide nesting sites for birds, but the intention is usually to provide a visual feature rather than to cater for biodiversity.

Plate 23: Ornamental/non-native shrub habitat



Plants used to create this habitat can be very diverse, but often include:

- *Cotoneaster* – various species and varieties
- *Hypericum* – various species and varieties
- Box (*Buxus sempervirens*)
- *Hebe* – various species and varieties
- *Lonicera nitida*
- Butterfly bush (*Buddleia davidii*) – several varieties
- *Spiraea japonica* – several varieties
- *Fuchsia* – several varieties
- Roses – many different hybrids and varieties
- *Potentilla fruticosa* – several varieties
- *Escallonia macrantha*
- Various dwarf conifers

5.8 Flower Beds and Borders (Habitat BC4)

Again, this is a habitat that is created in gardens and some public areas, usually by planting non-native plants. These can include annuals, herbaceous perennials and low-growing shrubs. They can have very significant biodiversity value (particularly for pollinators) or, in some cases, can have little biodiversity value, depending on the choice of plants.

Maintenance is also significant, as plants that are allowed to go to seed are of more value to seed-eating birds than those that are dead-headed or cut back after flowering.

Plate 24: Flower beds and borders habitat



A very wide range of plants are used, including:

- Herbaceous perennials e.g. *Astilbe*, *Phormium*, *Dahlia*, *Agapanthus*, *Aquilegia*
- Low shrubs e.g. lavender, *Euonymus fortunei*, ground-cover roses
- Annual bedding plants e.g. Lobelia, busy lizzies, marigolds, begonias
- Bulbs e.g. daffodils, tulips, hyacinths, gladioli, crocus

5.9 Mixed Broadleaved Woodland (Habitat WD1)

This is an important habitat for biodiversity, as it provides some of the conditions that were present throughout much of Ireland before land was converted for intensive farming, roads, buildings, and urban areas. In Ballina, examples are found at Belleek Woods, managed by Coillte, and at Farronoo. Both of these areas are discussed individually in more detail later in the action plan. This habitat is important for a range of birds, invertebrates, mammals and plants. Unfortunately, this habitat can become degraded by invasive species, especially *Rhododendron ponticum* and laurel (*Prunus laurocerasus*).

Plate 25: Mixed broadleaved woodland habitat



Species in this habitat include:

- Ash (*Fraxinus excelsior*)
- Birch (*Betula pendula* and *Betula pubescens*)
- Oak (*Quercus robur*)
- Hawthorn (*Crataegus monogyna*)
- Beech (*Fagus sylvatica*)
- Holly (*Ilex aquifolium*)
- Ivy (*Hedera helix*)
- Brambles (*Rubus fruticosus*)
- Ferns, e.g., *Dryopteris filix-mas*, *Polystichum setiferum*, *Asplenium scolopendrium*, *Athyrium filix-femina*

5.10 Scattered Trees and Parkland (Habitat WD5)

This category is used for parks where trees are a prominent feature, but cover less than 30%. In Ballina, this habitat is found in Tom Ruane Park, where various tree species have been planted, with the surrounding area being used for recreation, with short grass and a playground, along with a tennis court and basketball court. This habitat has some biodiversity value, and common birds, such as blackbirds, dunnocks and jackdaws are usually present.

Plate 26: Scattered trees and parkland habitat



A broad range of trees are planted in such areas, including:

- Beech (*Fagus sylvatica*)
- Ash (*Fraxinus excelsior*)
- Birch (*Betula pendula*)
- Rowan (*Sorbus aucuparia*) – including various cultivars
- Norway maple (*Acer platanoides*) – including various cultivars
- Ornamental cherry (*Prunus*) – many varieties

5.11 Stone Walls and Other Stonework (Habitat BL1)

This category includes built stonework, including walls and derelict stone buildings. Old walls can have significant biodiversity value, and in some cases are home to a variety of small plants, including various ferns. In other cases, notably at Leigue Cemetery in Ballina, old stone walls can be thickly covered in ivy, providing nesting places for birds, ivy flowers for pollinators, and ivy fruits for a range of animals.

Plate 27: Stone wall habitat



Species in this habitat include:

- Ivy (*Hedera helix*)
- *Asplenium ruta-muraria*
- *Asplenium trichomanes*
- *Asplenium ceterach*
- *Asplenium scolopendrium*
- Various mosses and lichens

Buddleia davidii can also become naturalised on stone walls. While it does attract butterflies, it can also become somewhat invasive.

5.12 Recolonising Bare Ground (Habitat ED3)

Most towns have at least a few areas of this habitat, which includes bare or disturbed ground that is being colonised by (usually herbaceous) plants. Such areas can be derelict sites, abandoned areas of concrete or tarmac, and areas of hardcore, sand or gravel that have become disused.

Plate 28: Recolonising bare ground habitat



Species in this habitat include:

- Coltsfoot (*Tussilago farfara*)
- Rosebay willowherb (*Epilobium angustifolium*)
- Nettles (*Urtica dioica*)
- Pineapple weed (*Matricaria discoidea*)
- Ragwort (*Senecio jacobaea*)
- Groundsel (*Senecio vulgaris*)
- Various grasses and rushes, depending on soil conditions

Somewhat invasive species such as butterfly bush (*Buddleia davidii*) and montbretia (*Crocsmia x crocosmiiflora*) can also easily become established in such areas.

5.13 Hedgerows (Habitat WL1)

Hedges are often planted as boundary features, for fields, farms and gardens. As such, many of these are found on private property. Hedgerows very often contain trees such as ash or birch. In urban areas, many hedges tend to consist of non-native plants such as laurel (*Prunus laurocerasus*), whereas rural hedges are more likely to consist of hawthorn and other native plants. Hedgerows containing native plants have a higher biodiversity value.

Plate 29: Hedgerow habitat



Species in this habitat include:

- Hawthorn (*Crataegus monogyna*)
- Blackthorn (*Prunus spinosa*)
- Gorse (*Ulex europaeus*)
- Ash (*Fraxinus excelsior*)
- Elder (*Sambucus nigra*)
- Hazel (*Corylus avellana*)
- Birch (*Betula pendula* and *Betula pubescens*)
- Holly (*Ilex aquifolium*)
- Ivy (*Hedera helix*)
- Brambles (*Rubus fruticosus*)
- Honeysuckle (*Lonicera periclymenum*)
- Male fern (*Dryopteris filix-mas*)
- Hart's tongue fern (*Asplenium scolopendrium*)
- Lady fern (*Athyrium filix-femina*)
- Bush vetch (*Vicia sepium*)

5.14 Scrub (Habitat WS1)

Often a transitional habitat between open ground and woodland, scrub can develop over time on land where regular grazing or mowing is not carried out, including disused sites in urban areas. Scrub can have a high biodiversity value, especially if it consists mainly of native plants, and can be home to various birds, mammals, invertebrates and plants.

Plate 30: Scrub habitat



Species in this habitat include:

- Brambles (*Rubus fruticosus*)
- Ivy (*Hedera helix*)
- Gorse (*Ulex europaeus*)
- Blackthorn (*Prunus spinosa*)
- Honeysuckle (*Lonicera periclymenum*)

5.15 Buildings and Artificial Surfaces (Habitat BL3)

This category includes all buildings except stone ruins and derelict buildings, as well as all non-vegetated artificial surfaces such as concrete, tarmac, artificial sportsgrounds and roads.

Plate 31: Buildings/artificial surfaces habitat



While each site tends to have its own characteristics, preventing too much generalisation, **Table 1** gives an estimated value for these habitat types.

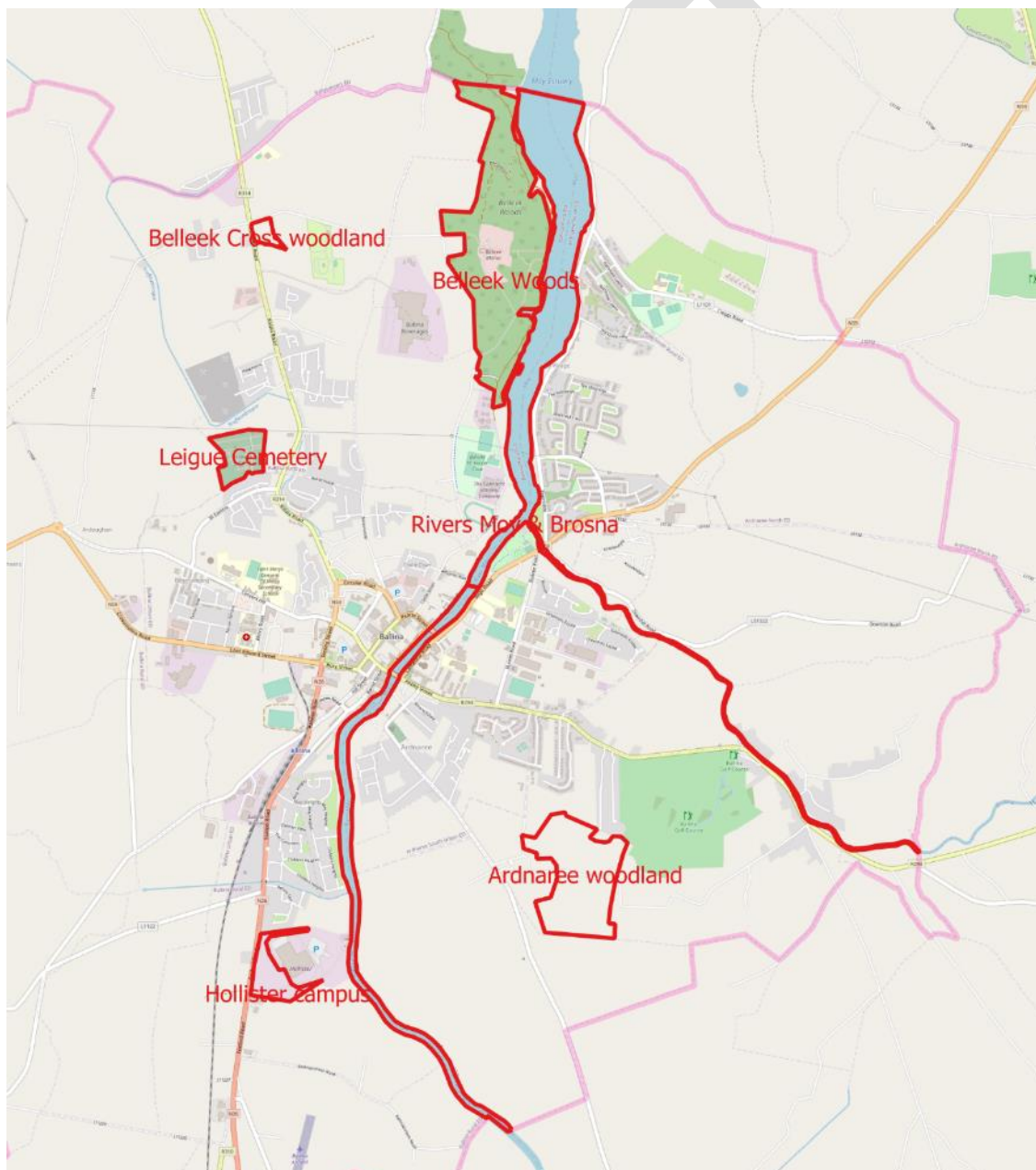
Table 1: Biodiversity value of habitat types

Habitat type and code (Fossitt, 2000)	Biodiversity Value
Dry meadows and grassy verges (Habitat GS2)	High
Amenity grassland – improved (Habitat GA2)	Low
Eroding/upland rivers (Habitat FW1)	High
Depositing/lowland rivers (Habitat FW2)	Medium – high
Reed and large sedge swamps (Habitat FS1)	High
Wet grassland (Habitat GS4)	High
Ornamental/non-native shrub (Habitat WS3)	Low – medium
Flower beds and borders (Habitat BC4)	Medium
Mixed broadleaved woodland (Habitat WD1)	High
Scattered trees and parkland (Habitat WD5)	Medium
Stone walls and other stonework (Habitat BL1)	High
Recolonising bare ground (Habitat ED3)	Low – medium
Hedgerows (Habitat WL1)	High
Scrub (Habitat WS1)	High
Buildings and artificial surfaces (Habitat BL3)	Low – Medium

6. Ecological Corridors, Stepping Stones and Green Infrastructure

While many parts of a town, even a small garden, can be useful for biodiversity, some areas are notable for the variety or extent of the habitats they provide. In an urban setting, these can function as important ecological corridors or stepping stones. They are also part of the area's 'green infrastructure', a range of measures to use natural systems strategically to benefit society, for example by providing 'ecosystem services'. The following map (**Figure 8**) shows some areas of particular biodiversity interest in Ballina.

Figure 8: Notable biodiversity areas in Ballina



6.1 Rivers Moy and Brosna

As Ballina is a town built along the banks of these rivers, the Moy and Brosna are important biodiversity corridors within the town and are given SAC (Special Area of Conservation) status. In linking Ballina with the countryside and habitats upstream and downstream, these rivers are important not only for their aquatic habitats, but also for riverside areas, such as reed beds along the Moy and woodland along the Brosna.

Plate 32: Brosna River



6.2 Belleek Woods

This is a large area of mixed woodland to the north of Ballina, adjoining the River Moy. The woods contain both deciduous trees, such as beech, oak and ash and conifers, such as pine and Norway spruce. This woodland is managed by Coillte, and features a heritage trail and visitor facilities. Coillte's primary aim for Belleek woodland is recreation for the town of Ballina and for the wider community, and preserving the biodiversity of the woods. The site is a habitat for badgers, foxes, red squirrels, otters, herons and kingfishers.

Plate 33: Trees and undergrowth in Belleek Woods



6.3 Belleek Cross Woodland

This area of woodland, adjacent to Belleek Cross, consists mainly of deciduous trees, with small numbers of conifers also present. This site, on the outskirts of Ballina, has potential as an important biodiversity stepping stone. However, in its present condition, it also has significant problems to be addressed, including invasive species and littering, as discussed later in this action plan (Section 8.6).

Plate 34: Woodland at Belleek Cross



6.4 Leigue Cemetery

Leigue Cemetery contains old stone buildings, partly covered with ivy, which provide nesting sites for birds and roosting opportunities for bats. There are also old stone walls in the cemetery, some of which are nicely covered with ivy. There are good opportunities to develop the potential to help pollinators in the area, as discussed in the recommendations later in this document. The Lindsay family vault (**Plate 35**) has good potential as a roosting site for bats. The location of Leigue Cemetery, on the north-western outskirts of Ballina, provides a stepping stone for biodiversity, linking to the wider countryside.

Plate 35: The Lindsay family vault at Leigue Cemetery



6.5 Ardnaree Woods

These woodlands at Ardnaree, to the south-east of Ballina, have a good mixture of habitats and vegetation types. While much of the site has been planted with conifers such as spruce, with associated drainage channels, there are remnants of habitat that resemble bog woodland with *Sphagnum* spp., which is a rare habitat type. There are also clearings and open spaces with wet heath vegetation, including devil's bit scabious (*Succisa pratensis*), which is the food plant for the protected marsh fritillary butterfly. However, invasive *Rhododendron* is also present and is colonising parts of the woodland. A dedicated survey of this site, to more comprehensively establish its importance and to form tailored management recommendations, would certainly be worthwhile.

Plate 36: Woodland at Ardnaree



Plate 37: Heath vegetation, with devil's bit scabious, at Ardnaree



6.6 Hollister Campus

The grounds of Hollister ULC, a company that manufactures medical and healthcare devices, provides an important biodiversity stepping stone to the south of Ballina. The site contains woodland with both conifers and deciduous trees, a pond, and areas of grassland. Impressive efforts have been made to manage the site with biodiversity considerations in mind, including the development of pollinator-friendly areas of grassland, the preservation of woodland habitats, and the provision of bird nesting boxes and insect 'hotels'.

Plate 38: Bird boxes in the woodland at the Hollister campus



Plate 39: Parts of the grassland at the Hollister campus are managed for pollinators



Section 2: Action Plan

7. Management Recommendations

This section contains some recommendations on ways in which public spaces and gardens in Ballina can be managed for biodiversity.

1. Introduce wildflower meadows to green areas within Ballina.
2. Reduce illegal dumping and burning.
3. Reduce weedkiller use and educate the public on reducing/abolishing the use of weedkillers within their own gardens.
4. Enhance shrubberies throughout the town and around public buildings.
5. Add new native hedgerows and enhance hedgerows already present.
6. Introduce groves and copses of trees to green areas in Ballina.
7. Encourage wet grassland and other habitats along riverside areas.
8. Maintain and improve current public planting areas.
9. Educate and encourage the public to enhance wildlife and biodiversity within their own gardens.
10. Encourage bird activity and enhance bird habitats within urban areas.
11. Provide information to the public about bat species within the community

7.1 Green Areas in Ballina

There are many large areas of very short grass in Ballina, which are of little use in promoting biodiversity, as well as being aesthetically uninspiring and monotonous. The introduction of wildflower meadows, groves of trees, and native hedges would improve these areas for both the native biodiversity and for local residents. Specific recommendations for particular areas are also provided later in this plan.

Plate 40: Open green areas with short grass are of little value to wildlife or biodiversity



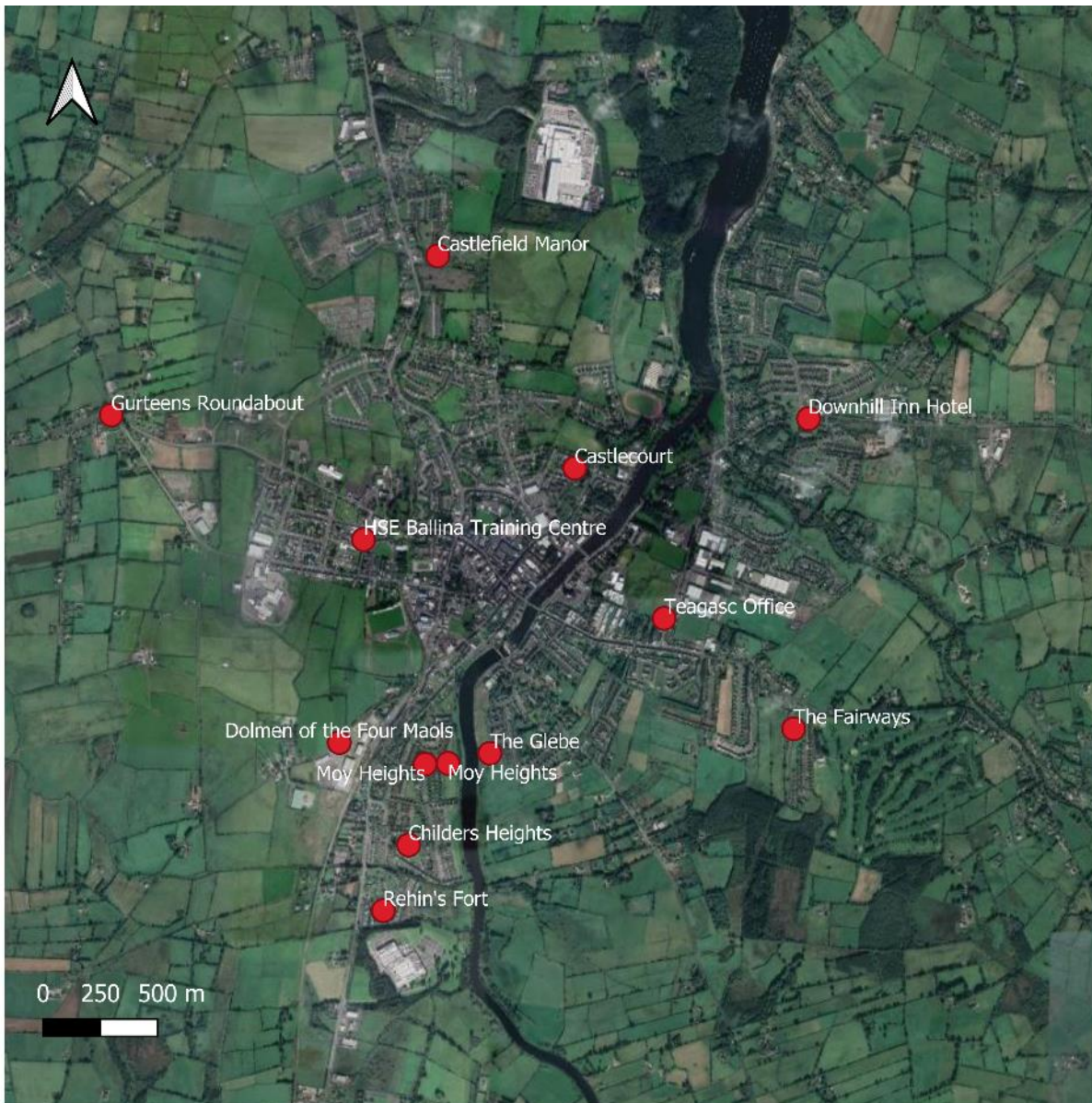
Plate 41: Some of the green areas are cut so short that the soil becomes bare and muddy. In addition to minimising the biodiversity value, this also destabilises the soil and causes soil erosion



The following areas in Ballina (shown in **Figure 9**) have good potential for establishing wildflower meadows:

- The Glebe
- Rehin's Fort
- The Dolmen of the Four Maols
- Childers Heights
- Gurteens roundabout and adjacent roadside strips
- HSE Ballina training centre
- Teagasc Ballina office, Bunree Road
- Riverside Grove
- Green area in front of the Downhill Inn, Knocknalyre
- The Fairways housing estate
- Moy Heights
- Castlecourt
- Castlefield Manor

Figure 9: Locations for proposed wildflower meadows in Ballina



7.2 Illegal Dumping and Burning

Not many cases of dumping or burning were observed in Ballina, but there is a low level of this activity, which can impact on wildlife as well as visually degrading public areas.

Plate 42: Dumping and burning of rubbish degrades areas both for wildlife and for human life.



7.3 Weedkillers

Many areas within the town have had weedkiller applied, even where it is clearly not necessary, as in the example shown (Plate 43). Most of these areas do not need any treatment with weedkiller at all, once it is accepted that not everything needs to be 'tidy'. Indeed, most people would probably agree that a brown, bare area of dead vegetation is unsightly in itself. Other alternatives are available: areas such as this can be trimmed manually or with a strimmer, or hot foam weed treatment can be used.

Mayo County Council, when maintaining public areas, should use alternatives to weedkillers and should inform the community that there is no need for weedkillers. For example, county council maintenance vehicles could have a sign stating that only chemical-free methods of weed control are being used in public areas and signs could also be erected in parks to convey this message. This should help the public to realise that they too can look after their own gardens without using chemicals.

Plate 43: Here, weedkiller has been used unnecessarily along the edge of the road



The graveyard shown in **Plate 44**, beside St. Michael's Church, has a sign claiming that the site is 'managed for wildlife', and yet it is clear that several areas have been sprayed with weedkiller. Signs like these should not be used to miscommunicate how an area is being managed. However, this graveyard has excellent potential to be managed for wildlife, with some areas left semi-wild, some ivy on the walls, several trees and old tombs that are likely to be used by nesting birds, and a belfry which appears suitable for roosting bats.

Plate 44: Weedkiller has been sprayed liberally in this graveyard



The Dolmen of the Four Maols, at Mullauns, in the south-west of Ballina, is another area where weedkillers appear to be used excessively, including along considerable stretches of fencing. It would be preferable to stop this practice, and instead encourage more patches of meadow and hedgerow on this site.

7.4 Shrubberies Around Public Buildings

Shrubberies around public buildings in the town provide opportunities to enhance conditions for birds and insects. At present, they mostly contain non-native plants; this in itself is not a problem, but better planning and plant choice could enhance these shrubberies, both visually and for biodiversity, as shown in the photos that follow.

Plate 45 shows shrubberies that have a lot of bare ground between the plants. There is an opportunity here to enhance these areas, both visually and for biodiversity. One option is to plant native ferns to fill the gaps; these will provide attractive ground cover, thrive even in the shade and provide cover for small ground birds, such as dunnocks. Ivy could be planted to perform the same role.

Beautiful native shrubs such as guelder rose (*Viburnum opulus*) or shrubby cinquefoil (*Potentilla fruticosa*) could be used in shrubberies to enhance their wildlife value.

If a low evergreen shrub is required, Christmas box (*Sarcococa hookeriana*), while not native, produces beautifully fragrant flowers in the middle of winter, followed by black fruits. In many cases, these shrubberies could be replaced with a good mixed native hedge with hawthorn, blackthorn, hazel, wild roses and elder. However, existing shrubberies and hedges should not be disturbed during the bird nesting season (March-September inclusive), and large areas of shrubbery should not all be removed at once, as birds may be left without adequate nesting sites.

Plate 45: Shrubberies that could be improved for biodiversity



7.5 Hedges

As discussed earlier in this plan (Section 5.13), native hedges are very important to wildlife and biodiversity, especially since so much of the land is now taken up by towns, roads and farms. Hedges can also greatly improve the appearance of public areas; **Plate 46** shows examples of unattractive walls that would be much improved visually if they were clothed with a fine native hedge.

Plate 46: Unattractive walls like these can be hidden by a hedgerow, which will enhance the area both visually and ecologically, or by climbers such as ivy



Evergreen hedges are very commonly planted in gardens and parks. Unfortunately, Leyland cypress is still often used. **Plate 47** shows why this is not a good idea. Being non-native, Leyland cypress is also not great for biodiversity. Another plant very commonly planted for evergreen hedging is laurel (*Prunus laurocerasus*), shown in **Plate 48**. Again, being non-native, this is not optimal for biodiversity, and is also an aggressive invasive species that invades woodlands, including at Belleek Woods. Holly is a very good alternative.

Plate 47: Leyland cypress is not suitable as a hedge. This picture shows where such a hedge has been cut back, exposing unattractive bare branches. This plant grows very fast, needs regular maintenance, and is less useful to biodiversity than native hedging plants such as hawthorn or holly



Plate 48: Laurel (*Prunus laurocerasus*) hedges are very common in Ballina, especially in gardens. They also continue to be planted in housing estates, as seen in the second photograph. Laurel is non-native and invasive, and offers few benefits to biodiversity



Hedges in urban areas are often cut very short in the name of ‘tidiness’ (**Plate 49** and **Plate 50**). However, these would be far more useful for birds if allowed to grow to provide nesting sites and cover for foraging, and would be much better for pollinators if allowed to flower. This does not mean they should never be pruned; the National Biodiversity Data Centre has produced a useful guide for managing hedges sensibly⁹. Good plant choices for native hedges include hawthorn, holly, honeysuckle, blackthorn, rowan, spindle, Guelder rose, elder and wild roses.

Plate 49: This hedge, near Ballina livestock mart, is cut too low to be of optimal use to wildlife. Cutting no more than every second year is preferable



⁹ <https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-How-to-Guide-3-FINAL.pdf>

Plate 50: This beech hedge has been cut very low. Allowing it to grow higher and broader could provide extra nesting and roosting space for birds



7.6 Trees

Trees are very important in towns for a number of reasons:

- They provide visual structure and interest in public spaces
- They provide shade and shelter
- When planted along streets, they not only beautify the area, but help to delineate routes and emphasise boundaries
- They provide nesting sites and roosting sites for birds, and cover for birds when they need to hide from birds of prey or cats
- Some trees provide pollen and nectar for pollinating insects

The following trees are good choices:

- Birch (*Betula pendula*)
- Fastigate oak (*Quercus robur* 'Fastigiata')
- Field maple (*Acer campestre*)
- Upright hornbeam (*Carpinus betulus* 'Fastigiata')
- Crab-apple (*Malus sylvestris*)
- Rowan (*Sorbus aucuparia*)
- Wild cherry (*Prunus avium*)

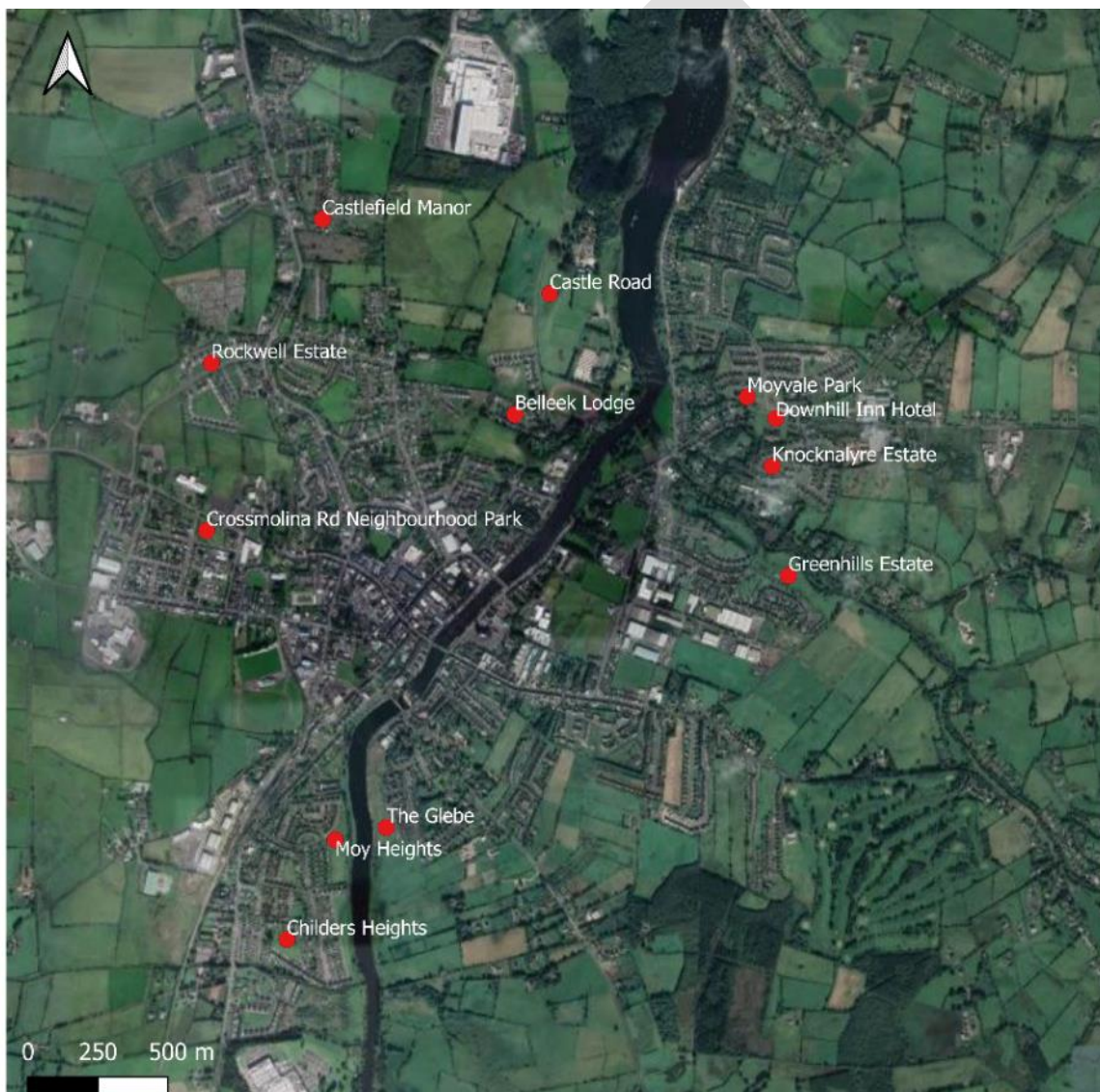
A grove is small group of trees, usually with little natural undergrowth. A copse is a group of trees or bushes forming a thicket, often with dense vegetation underneath that can provide cover for birds and mammals. Groves and copses of trees are more useful to wildlife than individual trees and are also attractive features that have a natural appearance. They can also be useful in providing shelter and for screening off unsightly views or busy roads.

The following areas (shown in **Figure 10**) in Ballina would be nice locations for groves or copses:

- Greenhills Estate
- Rockwell Estate
- The Glebe

- Belleek Lodge
- Moy Heights
- Childers Heights
- Castle Road (green area west of Ballina FC Soccer Club)
- Castlefield Manor
- Moyvale Park
- Green area at the Downhill Hotel, Behy Road
- Knocknalyre Estate
- Crossmolina Road Neighbourhood Park

Figure 10: Locations of proposed groves and copses of trees in Ballina



The following pictures show some issues in Ballina that could be improved.

Plate 51: When trees are planted in lines or groups, using one species gives a more coherent aesthetic than five different species, as seen here. If native trees are used, such as birch or fastigiata oak, this is of particular value to local biodiversity



Plate 52: Planted trees need to be securely staked until they become well established



Plate 53: While individual trees are all of value, a group of trees can give much more visual impact, as well as better enhancing the area for biodiversity



Plate 54: Groves and thickets are more useful to wildlife than isolated individual trees



Plate 55: Ash dieback disease is now widespread throughout Ireland. Unfortunately, this means many ash trees will have to be replaced with other species



7.7 Riverside Areas

Natural vegetation, such as wet grassland, woodland or reed beds should be encouraged along rivers. The following pictures show a riverside area of the Moy where the grass has been cut short all the way down to the river bank. This area has been cut so short that even the grass has been removed in spots, leaving bare soil; this can contribute to soil erosion and nutrient pollution of the river. An uncut margin of at least 25 metres is recommended, and even outside this margin, the grass and vegetation should be allowed to grow longer, to prevent soil erosion and to encourage pollinators.

Plate 56: Natural vegetation should be allowed to grow along rivers, rather than having only short, mown grass, as seen here along the Moy



Plate 57: This area, on the bank of the Moy, has been mown so short that even the grass cover has been removed, allowing for soil erosion and nutrient pollution of the river



7.8 Public Planting Areas

Where flower beds or planters are provided in public areas, these should be maintained in nice condition, whether by local authorities, community groups or local residents. In addition to enhancing the area visually and making it a pleasant place to live in, there is an opportunity here to help biodiversity, especially pollinating insects. Comprehensive lists of suitable plants are given in the Pollinator Friendly Planting Code¹⁰. These can provide attractive colour through the seasons as well as helping the bees and other insects.

Plate 58: Raised beds like this could be planted with colourful and bee-friendly flowers



¹⁰ <https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-friendly-planting-code-temporary-draft.pdf>

Plate 59: A sparse border is of low value to biodiversity, and not especially attractive. A selection of flowering shrubs or perennials would enhance areas like this



7.9 Recommendations for Private Gardens

All gardens can attract wildlife and help to enhance local biodiversity. The following is a list of recommendations to help achieve this. The All-Ireland Pollinator Plan also includes a guide to enhancing gardens for pollinators, with lists of good species to use.¹¹

- ✓ Set up bird nesting boxes on trees or walls
- ✓ Set up bird feeders or a bird table in a place that is not accessible to cats.
- ✓ Plant biodiversity-friendly and pollinator-friendly flower beds and pots.
- ✓ Plant native shrubs that produce flowers and fruits, such as spindle or holly.
- ✓ If you have a lawn, transform it into a wildflower area. This will be cheaper and easier to maintain, more attractive, and much better for the local biodiversity.
- ✓ Let dandelions flower in spring before cutting the grass.
- ✓ Let moss grow. It does not harm trees and is useful to nest-building birds
- ✓ If you have space, plant native trees such as birch, or a native hedge of hawthorn, holly, Guelder rose and elder.
- ✓ Encourage your friends to see the benefits of wildlife gardening. Share good biodiversity-friendly plants by exchanging cuttings and growing new plants for free.
- ✓ Leave native ferns and ivy to grow on stone walls, where possible.

¹¹ https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Gardens_actions-to-help-pollinators-2018-WEB.pdf

- X** Do not use traditional slug pellets, which can result in the death of garden birds; use a non-toxic alternative product, or spread grit, sharp sand or crushed eggshells around sensitive plants to deter slugs and snails.
- X** Do not burn leaves or other garden debris; leave this material in a quiet corner where it may attract hedgehogs and invertebrates.
- X** Do not cut hedges and shrubs too tightly, and do not cut back these during the bird nesting season (March-September).
- X** Avoid using toxic products to control pests. For greenfly and other aphids, just mix a squirt of liquid eucalyptus soap with water and spray on – safe, effective and fragrant!
- X** Avoid buying plants that may be invasive – refer to the Royal Horticultural Society guide on this subject*.
- X** Do not use lawn products containing selective weedkillers or moss-killers,

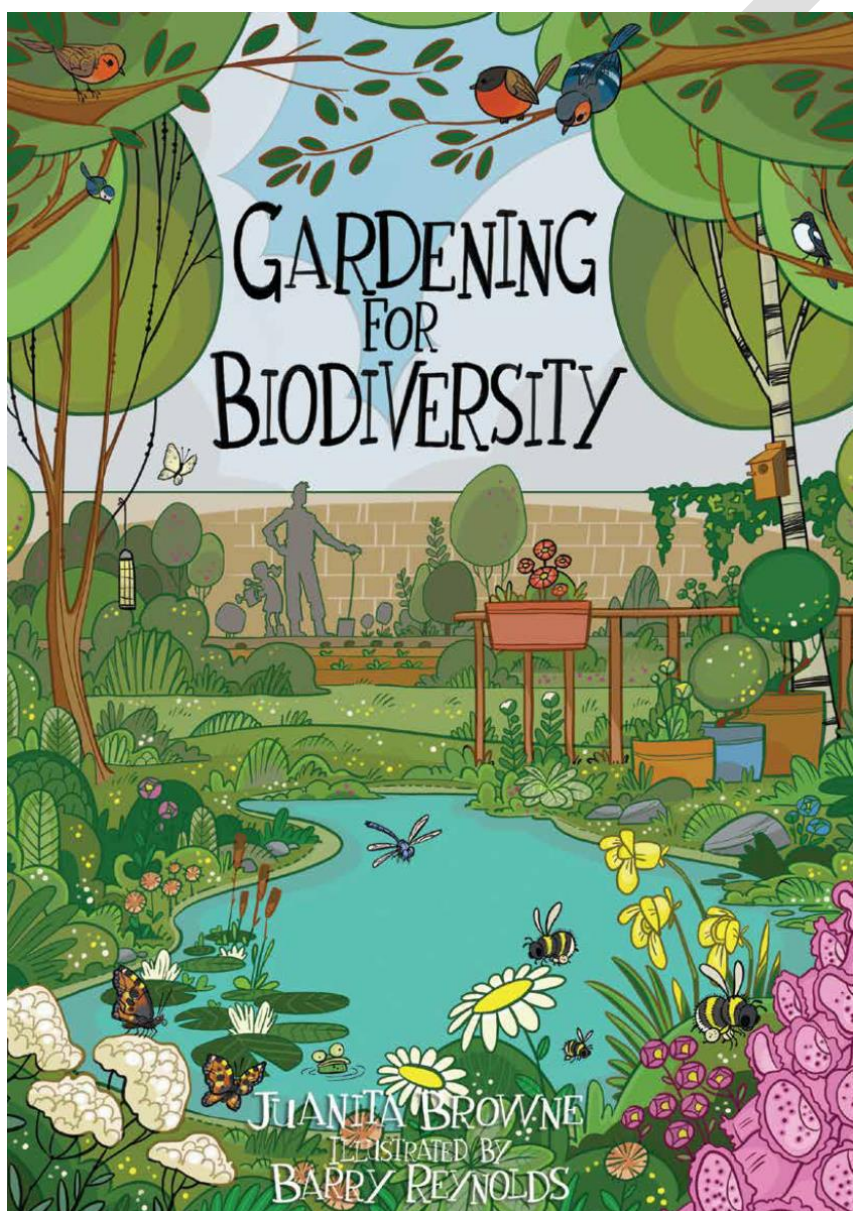
* https://invasivespeciesireland.com/wp-content/uploads/2017/10/GARDENING_BOOK2.pdf

Plate 60: This useful guide, available on the pollinators.ie website, is helpful for wildlife gardeners



In addition to the guide shown on the previous page, a new booklet to help everyone facilitate wildlife in their gardens, no matter how big or small, has been launched. Written by Juanita Browne, of the National Biodiversity Data Centre, the booklet was produced by Local Authority Heritage Officers across Ireland, with help from the National Parks and Wildlife Service and the Heritage Council.

Plate 61: The new *Gardening for Biodiversity* booklet produced by the Local Authority Heritage Officer Network. For more details, see the Mayo County Council website¹²



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¹² www.mayo.ie/heritage/biodiversity-natural-heritage/things-you-can-do

7.10 Birds

The following sections provide information on enhancing conditions for birds in the Ballina area.

Birds Habitats

The loss of suitable habitats is one of the major pressures on birds in urban areas. While a few species such as pigeons and jackdaws can adapt quite well to urban conditions, many of our native birds are unable to do so. In order to feed, nest, breed and raise their chicks, they need habitats that are traditionally associated with the countryside, such as woodlands, hedgerows, or meadows. The loss of such habitats in urban areas, and also in many parts of the countryside, has caused a decline in many of our native bird species. Many birds that were once common are now under threat, and have been assigned 'red' or 'amber' status in the *Birds of Conservation Concern in Ireland* assessment¹⁴. These include house sparrows, linnets, mistle thrushes, robins, swallows and curlews.

However, there is a lot that can be done in towns such as Ballina to provide more habitats for birds, and it is encouraging to remember that some birds can do well in towns when consideration is given to their needs. The following points describe some of the ways in which bird habitats could be improved in Ballina.

- Ballina needs more groves of trees to be planted in many of the public green areas throughout the town, as listed in **Section 7.6** of this plan. This measure alone would be a significant improvement in conditions for birds in the town, especially if natural woodland vegetation is allowed to develop underneath or around the trees.
- As described in **Section 7.5**, there are many places in Ballina where native mixed hedges would do much to enhance both the biodiversity and aesthetics. New hedges should be planted in such areas, and the local authorities should also encourage gardeners and farmers to plant native hedges, and maintain them as described in the *All-Ireland Pollinator Plan*¹⁵. Where existing hedges or shrubberies in parks or gardens are being replaced or replanted, native species (listed in **Section 7**) should be used, where possible.
- Meadows and semi-natural grasslands are much more useful to birds (and to many other species) than areas of short, mown grass which are so ubiquitous in Ballina. **Section 7.1** discusses how wildflower meadows can be established in these areas. This can be done quickly and easily and should be facilitated by the local authority.
- Gardeners should avoid using toxic slug pellets, as these can also poison birds that eat slugs and snails, such as thrushes. Many alternatives are available, as detailed by the Royal Society for the Protection of Birds (RSPB)¹⁶.
- Putting up bird feeders in public areas, parks, and gardens can help birds by providing supplemental food and are also useful to encourage interest in birds from locals, as many people enjoy watching birds at feeders. BirdWatch Ireland provides

¹⁴ <https://birdwatchireland.ie/birds-of-conservation-concern-in-ireland-2014-2019/>

¹⁵ https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Farmland_actions-to-help-pollinators-2018-WEB.pdf

¹⁶ <https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/animal-deterrents/organic-pest-control/non-toxic-slug-control/>

useful information¹⁷ on the different sorts of foods that can be provided for wild birds at different types of year. It is important that bird feeders are maintained and cleaned occasionally, and they should be kept topped up regularly, as birds may come to depend on them in times when other food is scarce. Ideally, they should also be sited in a place with natural cover (such as a hedge or shrubs), where small birds can take refuge from predators such as sparrowhawks. Care should also be taken to position feeders out of the reach of cats. Where feeders are provided in public areas, an information stand or sign, showing how to identify some bird species, could also help to encourage interest and enthusiasm from the public.

Nesting Boxes

While hedges and trees take a little time to become established, bird nesting boxes can be put up quickly and can encourage birds to start nesting in public spaces and gardens around the town.

- It is good to provide a variety of nest boxes, including both the traditional boxes with a round hole in the front, as well as open-fronted nest boxes. The latter are preferred by some birds, such as robins and blackbirds.
- With traditional boxes, the size of the entrance hole will determine which species can use the box. Boxes with very small (25 mm) entrances can be used by blue tits or coal tits, whereas boxes with larger openings can be used by a range of species, including sparrows and great tits.
- Many birds are territorial, so nest boxes shouldn't all be placed together, or very close to each other, but instead spaced out within the space available. However, house sparrows are exceptions to this, as they like to live in groups. Terrace nesting boxes are suitable for sparrows.
- Birds are more likely to use nesting boxes that are positioned among some sort of cover, such as a tree, rather than a box on a bare wall, as these are less vulnerable to predators.
- Special boxes for particular species, including treecreepers, owls and swallows are also available. BirdWatch Ireland provides further information on different types of nest boxes¹⁸. Swifts also use specialised boxes, and good work is being done in County Mayo to protect swifts, as described in the following section.

Swifts

The swift (*Apus apus*) is a small migratory bird that travels from southern Africa to Ireland in the month of May each year, spending the summer here before returning to Africa by late August. In Ireland, urban areas are especially important to swifts, as they nest in crevices or gaps in buildings, and in the eaves of houses. Sometimes they also nest in natural cavities such as rock crevices or holes in trees. Swifts pair for life, and each pair returns to the same nesting site each year. Swift numbers have seriously declined in recent years, probably due in part to lack of nesting sites, as old buildings are demolished or renovated, and new

¹⁷ <https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/garden-birds/feeding-your-garden-birds/>

¹⁸ <https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/garden-birds/nestboxes/>

buildings have few suitable cavities or entrances. A decline in insect numbers is also likely to be partly responsible, as swifts eat flies, midges, and other airborne invertebrates.

Ballina currently has a good swift population, with several traditional nesting sites. The Jackie Clarke Collection, and the former Garda houses on Walsh Street, are home to the biggest colonies of swifts in the town. It is important, therefore, that any repair work or refurbishment of these buildings in the future should take careful account of the presence of nest sites, and should not block access to the swifts. The Ballina Arts Centre on Barrett Street has integrated nest boxes and it is recommended that these are upgraded with a swift call system, in order to attract birds to these new nesting sites. The call system helps the swifts find the nest site by playing attraction calls. The Mary Robinson Centre, along the Moy, which is currently in development, will also have built-in nest boxes for swifts. For these, and for all renovation projects where swift nest sites are known or thought to be present, it is important that the designers and builders would work with Swift Conservation Ireland in order to protect these birds and their nest sites.

Swift Conservation Ireland gives the following guidelines for helping swifts:

- Try to identify the places where swifts nest locally.
- Leave any known nesting sites undisturbed.
- When repairing fascias, soffits or gutters, do not block up access holes that may be used by swifts.
- Do not carry out this kind of maintenance during the swift breeding season (May-August).
- Try to prevent access to the nest site being blocked by bushes etc.
- Erect swift nest boxes or built-in swift blocks (**Plate 62**) to provide additional nest sites.
- Inform the National Biodiversity Data Centre (NBDC) or BirdWatch Ireland about known swift nesting sites.
- Protect nest sites from cats, by removing items that might help them to get access.

Local authorities, public bodies, schools and colleges can help swifts in several ways by:

- Incorporating swift nest boxes in new buildings, or retro-fit existing buildings.
- Encouraging swift conservation projects through funding or other supports.
- Including swift conservation measures in county development plans.
- Mitigating for any nest sites that are inevitably lost, by providing alternatives.
- Providing training for staff who work with and maintain these buildings.

Saving Swifts, a booklet published by BirdWatch Ireland, provides further guidance, including advice on choosing, making and installing swift boxes. Swift Conservation Ireland has produced a detailed guide to installing swift boxes in concrete block walls¹⁹.

¹⁹ <http://www.swiftconservation.ie/wp-content/uploads/2019/02/BUILDING-in-SWIFT-NEST-BOXES-1.pdf>

Plate 62: Swift nesting boxes can be easily incorporated into concrete block walls of buildings (images courtesy of Swift Conservation Ireland)



7.11 Bats

Ireland has nine species of bats, all of which are legally protected. Lesser noctules, pipistrelles and soprano pipistrelles have been recorded in Ballina. It is an offence to intentionally disturb, kill or injure a bat or its resting place. Any work that might affect bats must be carried out with advice and under licence from the National Parks and Wildlife Service. Local authorities should see that bat roosts are protected and that they are not negatively affected in the planning process.

Recommendations for bat conservation

The Mayo Bat Group has provided the following recommendations for this plan, in the interests of conserving bats and protecting their habitats:

- Leave hedges higher when cutting and trimming, all wildlife use these as corridors which provide shelter for them when foraging for the insects that live in and around them. Bats eat the insects that make their homes in hedges, and birds and wild mammals use them for shelter and for nest building sites.
- Plant wild flowers to provide pollinators and other insects with the means to survive and increase their numbers. This also saves money on mowing all the verges and grassy areas, not to mention the smaller carbon imprint by not mowing.

- Ensure that there is a dedicated wildlife and animal abuse officer to help protect animals within County Mayo.
- Provide a dedicated page on the Mayo County Council website for contacting animal rescue services and rehabilitation specialists when injured animals and wildlife are found by the general public. The Mayo Bat Group can be contacted through the Facebook page of Mayo Bat Group or by email at mayobatgroup@gmail.com.
- Provide a page on the Mayo County Council website that gives brief instructions on how to contain animals needing assistance until they can be collected by the relevant people.
- Provide an education package to ensure that students of all ages are given information on how important species diversity is to the whole planet, with a focus on wildlife in their own locality.
- Give more educational talks in schools, on how to protect and enhance the locality for wildlife, including how to feed the birds over winter and how to observe them.
- Bat Conservation Ireland provide leaflets, including e-leaflets, which can be downloaded from batconservationireland.org, and which refer to bat species, their habitats, how to look for and detect them and how to deal with various problems that people may have concerning these protected species.
- Start a bat box project, which might prove to be beneficial to bats in the area.

Bat Conservation Ireland has produced a guide to choosing, making, and installing bat boxes²⁰.

Belleek Lodge (**Plate 63**), Leigue Cemetery (**Plate 64**), and St. Michael's Church (**Plate 65**) have good potential for roosting bats.

Plate 63: Belleek Lodge



²⁰ https://www.batconservationireland.org/wp-content/uploads/2013/09/Leaflet_3_batboxes.pdf

Plate 64: The Lindsay family vault in Leigue Cemetery



Plate 65: St. Michael's Church



7.12 Invasive Species in Ballina

Invasive species are species that are not native to Ireland and which tend to displace native species as a result of their competitiveness and persistence.

Appendix 2 gives further information about the invasive species recorded in Ballina.

Significant invasive species that cause problems in Ireland, including the degradation of habitats and biodiversity, include laurel (*Prunus laurocerasus*), rhododendron (*Rhododendron ponticum*), Japanese knotweed (*Fallopia japonica*), and various aquatic species. The Invasive Species Ireland website²¹ gives comprehensive accounts of problem invasive species, and how these can be identified.

Sightings of invasive species in the Ballina area can be reported to Ballina Municipal District, Mayo County Council.²²

8. Recommendations for Specific Sites in Ballina

This section proposes suggestions and ideas for improvements and biodiversity-enhancement projects in specific areas in Ballina. These are summarised in the following table and more detail is provided in the following sections

1. *Leigue Cemetery*

- Protect the Lindsay family vault for roosting bats
- Commission an acoustic bat survey
- Develop wildflower areas
- Retain ivy and ferns on the stone walls

2. *Marian Crescent*

- Allow longer growth of grass area beneath trees
- Plant native shrubs within the narrow area between the stream and road, thus removing the need for regular grass cutting
- Install nest boxes for birds
- Plant ferns around some of the existing trees

3. *Memorial Park (Killala Road)*

- Introduce a variety of bird boxes
- Create a bog garden

4. *Crossmolina Road Neighbourhood Park*

- Allow longer time for grass growth between cuts
- Allow existing hedges to increase in height and width
- Introduce some birch trees to areas that offer sufficient space, with bird boxes attached.

²¹ <http://invasivespeciesireland.com/>

²² <https://www.mayo.ie/en-ie/your-council/governance-and-democracy/municipal-districts/ballina-md>

- Introduce lavender plants to attract pollinators such as bees
- Create an alpine plant garden feature

5. St. Patrick's Estate

- Promote community planting in existing planters and raised beds
- Utilise an existing empty space for a community garden
- Plant a new hedgerow with native plants
- Plant borders along existing paths with pollinator-friendly plants

6. Woodlands at Belleek Cross

- Remove invasive *Rhododendron* by cutting, and treating the stumps to prevent regrowth. Any new seedlings should also be removed.
- The local authority should enforce the cleaning up of litter in this area, with monitoring to prevent further littering becoming an issue.
- The local authority and Coillte should investigate the brown gelatinous layer on the stream that flows through this area, and take steps to improve the water quality.
- Replace or repair broken bridges and wooden handrails.

7. Morrison Terrace Riverside Park

- Commission and implement a design for a therapeutic resident and visitor garden adjacent to the Sonas nursing home.

8. Shanaghy/Rathkip

- Establish an additional wildflower meadow area with paths mown through it to facilitate walkers.
- Add fruiting shrubs and trees, with bird feeders and nesting boxes, to encourage birds and other wildlife.
- Create a looped walk along the Brosna River, with nesting boxes for birds and roost boxes for bats.

8.1 Leigue Cemetery

This is a large cemetery in the north-west of Ballina. Kilmoremoy Church is a ruined building in an old section of the cemetery and is adjoined by the Lindsay family vault. There is another old burial area (Old League Cemetery) at the top of the hill at this site. As this is a large site toward the outskirts of the town, and has a variety of habitats, it can be seen as a biodiversity stepping stone, linking other areas within the town to the surrounding countryside westward of Ballina.

Plate 66: Leigue Cemetery



Plate 67: A ladybird and butterfly photographed in Leigue Cemetery



The old sections of this cemetery have stone walls with considerable growth of ivy, and the ruined Kilmoremoy Church has a luxuriant coat of ivy, all of which are useful to birds and pollinators. Leaving this ivy in place on the various stone walls is worthwhile for this reason. Some areas, especially in the older sections, have been allowed to become semi-wild (**Plate 68**), again helping to provide habitats for plants and animals. Some hawthorns and ash trees have been allowed to grow naturally. During a site visit in September 2020, the sound of birdsong was very evident, and the area is clearly important for bird species.

Several sections of these old walls have been colonised by native ferns (**Plate 69**), such as *Asplenium ceterach*, *Asplenium scolopendrium*, *Asplenium ruta-muraria*, and *Asplenium trichomanes*. These walls are an important habitat, as well as being an interesting botanical feature, and it is important that these plants are left in place.

Plate 68: Semi-wild areas in Leigue Cemetery



The old Lindsay family vault, which adjoins Kilmoremoyle Church in the old section of the cemetery, has a strong potential for roosting bats, especially considering the presence of hedges and trees in the vicinity. The floor of the stone vault is at a lower level than the surrounding ground, but the vault is accessible by an external opening (**Plate 70**). Although the inside has only low levels of light, several ferns (*Asplenium scolopendrium*) are growing inside. Various pieces of debris are present on the floor of the vault. In the interests of protecting the structure for roosting bats, and to prevent any disturbance or possible vandalism, it would be worthwhile erecting a barrier, such as an iron gate or bars, at the entrance. It is important of course that bats can still easily enter and exit through any bars. Consideration might be given to carrying out a bat survey using acoustic recorders, to see if bats are using this area and, if so, which species are present.

Plate 69: Ferns and ivy on a stone wall at Leigue Cemetery



Plate 70: The Lindsay vault at Leigue Cemetery



The grass in this old section of the cemetery appears to be cut at least occasionally and was quite short during the site visit. It is recommended that at least some sections of this be allowed to grow for the summer as a wildflower meadow, and cut after any flowers have seeded. In spring, when dandelions are in flower, grass-cutting in general within the cemetery should be postponed until after the flowers go over, as they are important to pollinating insects. No signs of weedkiller-use were seen, which is a very positive sign and it is clear that the cemetery can be managed well without such treatments.

The newer sections of the cemetery, to the north and west of the old section, are currently much less amenable to biodiversity than the old section. This is because many of the graves in this newer part have gravel or hard surfaces and the paths are mostly concrete or gravel. Neither are there many trees or bushes and consequently few opportunities for birds or other wildlife. However, at the north end of the cemetery, there is a large strip of land which is currently maintained as amenity grassland (**Plate 71**). While this may be used for new grave plots in the future, in the meantime it would make an excellent wildflower meadow, which would also enhance this site as a biodiversity stepping stone, providing links between the town and the surrounding countryside. The *All-Ireland Pollinator Plan Guide for Local Communities*²³ provides useful step-by-step guidelines for managing areas like this as a wildflower area.

²³ https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Local-Communities_actions-to-help-pollinators-2018-WEB.pdf

Plate 71: A strip of amenity grassland at the north end of Leigue Cemetery that could be enhanced for biodiversity by being managed as a wildflower meadow



8.2 Marian Crescent

This is a pleasant and restful green area with trees, with Sruthán na mBróg (the Stream of the Shoes) flowing through it. While some of this area is too shaded to be very suitable for wildflowers, the grass could nevertheless be allowed to grow somewhat longer between cuts, as it is particularly short in places, with some yellowing and bareness of the surface.

Plate 72: Marian Crescent



A nice option to help local wildlife, especially birds, would be to plant the narrow area between the stream and the road with native shrubs, such as Guelder rose, holly, and spindle, rather than maintaining this area as a lawn. There are already some trees along this

strip (**Plate 73**) and it must be awkward to cut the grass here, especially in the narrow and steep areas. Changing this to an area of native shrubs would remove the need for regular grass cutting, as well as helping to block out noise and the sight of traffic on the busy road, making Marian Crescent more restful.

Plate 73: This area of Marian Crescent, between the road and river, could be planted with native shrubs



Bird nesting boxes and sparrow terrace boxes could also be set up around the area, as there are several large trees which would be suitable locations for these. Finally, the semi-circular spaces around some of the trees (**Plate 74**) could be planted with native ferns such as *Polystichum setiferum* and *Dryopteris affinis*.

Plate 74: These semi-circular areas around the trees could be planted with native ferns



8.3 Memorial Park (Killala Road)

This memorial park on the Killala Road is a pleasant space. The Stream of the Shoes (Sruthán na mBróg) flows along the back of the park, giving a relaxing sound of flowing water. Behind this is a raised area (**Plate 77**) with a stone table on a dais. There are also grassy areas with occasional trees.

Plate 75: Memorial Park, Killala Road, Ballina



Plate 76: The Stream of the Shoes flows through the park



The raised area at the back would be a great site to provide nesting boxes for birds. The river flows in front of this raised area, cutting it off from the rest of the park, and so it is undisturbed by visitors or dogs, but it would provide a fine area for visitors to watch birds. Behind are some large trees and holly bushes that would provide cover and feeding sites for nesting birds. A variety of nest boxes, in different sizes and designs, could be provided to suit a range of different birds, including open-fronted nest boxes for robins, blackbirds or

wrens, as well as standard boxes with various sizes of openings and terraced boxes for sparrows. Detailed information on choosing or making nest boxes is available from BirdWatch Ireland²⁴. Local groups such as the Ballina Men's Shed or Ballina Tidy Towns could get involved in this.

Plate 77: A stone table on a dais at the back of the park



There is also a long, curved sunken area in this park (**Plate 78**), approximately 60 – 70 cm in depth. This is surrounded by gravel, and may have originally been intended as a pond, but is now empty. A bog garden would be a nice new feature here. Bog gardens are suitable for damp areas, and sunken areas in particular, and can give great displays of colour, as well as providing suitable flowers for bees, butterflies and other pollinators. This would also be safer than a pond in a public area such as this. Despite the name, a bog garden does not need to be acidic; it just needs to be damp, with a nice suitable selection of plants.

As this sunken area has a drainage channel to the nearby stream, it should be lined with a pond liner, such as a butyl rubber liner, to prevent soil being washed into the stream and to cut down on drainage and keep the soil damp. However, it must not be fully watertight either, to prevent the garden from flooding, so small perforations should be made in the liner to allow slow drainage of water (see guidance cited below). Since there is a link to the stream, care must be taken not to apply excessive fertiliser, as it is important to avoid nutrient pollution in the stream.

²⁴ <https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/garden-birds/nestboxes/>

Plate 78: The large sunken area within this park would make a nice bog garden



Either native or non-native plants, or a combination of both, can be used in bog gardens, as either type can provide benefits for pollinators, as well as being colourful and attractive.

Plate 79 shows some suitable non-native options, while **Plate 80** shows some great native plant options. Ferns are also useful and provide a range of beautiful foliage, as shown in **Plate 81**.

Plate 79: Suitable (non-native) plants for a bog garden: *Ligularia przewalskii* (golden ray), *Astilbe* (false goat's beard), *Primula viallii* (Vial's primrose)



Plate 80: Suitable native plants for bog gardens: *Lythrum salicaria* (purple loosestrife), *Valeriana officinalis* (valerian), *Caltha palustris* (marsh marigold)



More information on planting and constructing bog gardens is available from The Wildlife Trusts²⁵ and from the RHS²⁶. The RHS has also produced a useful guide to choosing plants that are not invasive or problematic.²⁷ This applies not only to bog gardens, but to gardens and public parks in general.

Plate 81: Ferns are attractive in all gardens and some are suitable for damp areas: *Polystichum setiferum* (soft shield fern), *Matteucia struthiopteris* (shuttlecock fern), *Blechnum spicant* (hard fern)



Finally, the gravel around the sunken area and along the stream is underlain by weed fabric. While most of this looks fine, there are a few spots (**Plate 82**) where this fabric has become

²⁵ <https://www.wildlifetrusts.org/actions/how-make-bog-garden>

²⁶ <https://www.rhs.org.uk/advice/profile?PID=356>

²⁷ https://invasivespeciesireland.com/wp-content/uploads/2017/10/GARDENING_BOOK2.pdf

exposed. It is recommended that these areas are topped up with gravel. The fabric can also be pinned down at the edges if necessary, to help prevent the edges lifting and becoming exposed.

Plate 82: Some weed fabric has become exposed in the gravel area



8.4 Crossmolina Road Neighbourhood Park

This is a nice park with a children's playground, a basketball court and several benches. The cross in the centre (**Plate 83**) commemorates those who suffered and died in workhouses during the famine, with the inscription:

From 1843 onwards, the Ballina Union Workhouse complex located on this site housed thousands of destitute poor – men, women and children suffering starvation and fever. Fever sheds were erected during the late 1840s and countless victims are buried here.

The park is formal in layout and has several trees, planted in small groups. Part of the perimeter is bounded by a beech hedge. This has great potential as a nesting and refuge area for several small bird species. However, at the moment, the hedge is cut extremely short, about 50–60 cm, and so gives little in the way of habitat for birds. If this hedge is allowed to grow to 1.2–1.5 m in height, and allowed to thicken to 1 metre in width, it would really enhance the biodiversity value, and could still be kept trimmed in a manner that suits the formal appearance of the park. Trimming should not be done within the bird nesting season (March-August).

Plate 83: This Celtic cross in the Crossmolina Road Neighbourhood Park commemorates victims of the Famine



The grass in the park is cut very short and has very little plant diversity. Again, as this is a formal park, it may be felt that areas of long grass, managed for pollinators, would be out of place. Nevertheless, the grass could be allowed to grow slightly longer, with longer gaps between cuts, and spring flowers such as dandelions could be allowed to flower to provide for pollinators.

While there are trees already present in the park, there is ample space for one or two small groves of silver birch (see **Section 9.6**). These would improve the area for biodiversity and would look great. Bird nesting boxes could also be attached to the existing trees.

There is a long grassy space along the middle of one of the paved paths (**Plate 84**). This would be ideal for a lavender hedge, which would provide summer colour and fragrance, and would be very attractive to bees and other insects. English lavender is preferable to French lavender, as it is tougher and hardier for Irish conditions. Horticultural grit and slow-release fertiliser should be incorporated into the soil before planting and the lavender plants should be cut back each year after flowering.

Plate 84: A good place to plant lavender in Crossmolina Road Neighbourhood Park



Finally, at one corner of the park there are several rocks between two flights of steps. This could easily be turned into a very attractive alpine garden feature, as shown in **(Plate 85)**. To do this, a mixture of soil, compost and horticultural grit should be placed in the spaces between the rocks, but not up to the top of the rocks, as the rocks should not be covered. Alpine plants should then be planted into this mixture. These will then spread to fill the spaces and will cascade over the rocks in places.

Plate 85: These rocks (left) in the Crossmolina Road Neighbourhood Park could be interplanted with alpines as shown in the example (right)



Suitable plants include creeping bellflower (*Campanula muralis*), thyme (*Thymus vulgaris*), sea thrift (*Armeria maritima*), Corsican mint (*Mentha requienii*), *Aubrieta* and saxifrages. These are all perennials, would look great in spring and summer, and would also enhance the area for biodiversity.

8.5 St. Patrick's Estate

St. Patrick's Estate, on the west side of Ballina, is an area with several good opportunities for enhancement. Several raised planters have been provided in public green areas within the estate (**Plate 86**). These just need some regular care and maintenance to keep them looking good and also to provide nice pollinator habitats. This could include:

- Planting perennial flowering plants, such as coneflower, asters, salvias, *Nepeta* (catmint) or campanulas.
- Using each planter as a miniature herb garden, with plants such as lavender, rosemary, thyme, borage and sage.
- Sowing pollinator-friendly annual flowers, such as cornflowers, flowering tobacco (*Nicotiana*) or poppies.

Plate 86: Planters in St. Patrick's Estate



The largely disused area along Fenian Row, shown in **Plate 87**, could be improved by planting a native mixed hedge both along the road also along the back wall. A few trees are already present but a few small copses of birch could also be planted.

Some of the green areas within the estate have curving pathways (**Plate 88**) that would look good with matching borders of lavender, cranebills (e.g. *Geranium* 'Rozanne') or *Agapanthus*.

Plate 87: This area in St. Patrick's Estate would benefit from flowering hedges and more trees



Plate 88: Paths in St. Patrick's Estate



There is an area within the estate, surrounded by a low wall and metal railings (**Plate 89**), which may have been intended as a playground, but which is now empty. This would be a very nice site for a community garden. The existing hard surface could remain place, and a series of raised beds or large planters could be installed, along with seats and benches. Local residents could then use the space to grow flowers, herbs, or other plants, and the garden could also function as a social area.

Plate 89: This area in St. Patrick's Estate could be developed as a community garden



8.6 Woodlands at Belleek Cross

This is an area of mixed woodland, approximately 1.5 hectares in area, on the north-west side of Ballina, designated by Coillte as a biodiversity project area (**Plate 90**). It contains birch, ash, sycamore and Lawson cypress, as well as brambles, ivy and herbaceous species, including ferns, violets, wild strawberry and enchanter's nightshade

Plate 90: The Coillte woodland at Belleek Cross



While this is a significant area for wildlife in the town, and has good potential as a biodiversity stepping stone, it has the following significant problems in its current state:

- Invasive species – *Rhododendron* has colonised significant areas and is a threat to the native plants of this woodland. *Montbretia* (*Crocsmia*) is also present but is not

currently a major issue. The *Rhododendron* should be removed by cutting, and treating the stumps to prevent regrowth. Any new seedlings should also be removed.

- There is quite a high level of littering and debris in the area, as well as burnt patches, where fires have been lit. The local authority should enforce the cleaning up of this area, with monitoring to prevent further littering becoming an issue.
- A stream that runs through the woodland has a thick brown layer of a gelatinous material, of uncertain origin. This stream is not included in the EPA mapping system for rivers and streams, but it is likely that it flows into the Stream of the Shoes, which in turn flows into the Moy. The local authority and Coillte should investigate this and take steps to improve the water quality.
- There is a public safety issue, whereby the bridges across this stream are partly rotted and have loose and broken handrails. These should be replaced or repaired.

Plate 91: The woodland at Belleek Cross has potential as a good wildlife area, but currently has significant problems



8.7 Morrison Terrace Riverside Park

This small park is located directly in front of the Sonas Nursing Home. The park presently has a playground and basketball court and occasional semi-mature trees, including a line of

maples. Otherwise, the area has only the usual closely-mown grass and, at present, there are no paths through the grass area.

Plate 92: This small park is located in front of the Sonas Nursing Home, Morrison Terrace



As this park is beside the nursing home, it is a good opportunity to provide a nice, interesting and peaceful area for any residents who might be able to come out for a walk, and for visitors. As discussed in the introduction to this plan, it can be difficult for residents of nursing homes and hospitals to maintain a meaningful connection with nature.

The following recommendations would enhance the area, in part by bringing in more wildlife and biodiversity:

- Commission a design for a therapeutic resident and visitor garden within the park, adjacent to the nursing home.
- This should be designed so as to attract wildlife and increase biodiversity, especially birds and invertebrates such as butterflies. This can be done by providing habitats for birds, such as hedgerows and trees and lots of flowers to attract pollinators.
- The design should include wide, level paths and paved areas, to be accessible to people who are frail or those who use wheelchairs. It should also include a few pleasant seating areas with suitable planting to provide shelter and some degree of privacy. Seating should be comfortable as well as weather-resistant.
- Sensory areas should be incorporated into the design, to cater for people whose eyesight is not the best. This could include fragrant plants, perhaps a small rill of running water to provide pleasant sounds, and plants whose leaves have soft and pleasant textures. Birdsong will also add to the sensory experience.
- Hedgerows would be important in order to provide shelter, as well as nesting places for birds and flowers for pollinators. Native plants such as hawthorn, elder and honeysuckle should be included. Low internal hedges of lavender could bring

structure and definition to the design and would give great colour and fragrance, as well as attracting bees and butterflies.

- Raised flower beds should be part of the design, in order to bring colour and fragrance close to people who use wheelchairs. There should also be wheelchair-accessible tables, for picnics or tea with family and friends.
- Bird nesting boxes should be put up in the existing trees to attract songbirds. Bird feeders could also be used to attract birds to an area where they can be easily viewed.
- Arbours, trellises, and trelliswork arches can provide extra space to grow scented climbing plants, as well as providing shelter, shade and structure.

Plate 93: The park has potential both for biodiversity enhancement and as a pleasant space for patients and visitors of the nursing home



Plate 94: Sheltered arbours and bowers can provide a relaxing outdoor space, as in this example



8.8 Shanaghy/Rathkip

The Mayo Branch of BirdWatch Ireland has provided the following information and recommendations for this plan, focusing on management of an area at Shanaghy and Rathkip for birds and other biodiversity.

This area is along the banks of the fast-flowing River Brosna, which joins the River Moy in northern Ballina (**Figure 11**). Shanaghy and Rathkip are located along the R294 road on the outskirts of the town.

Figure 11: The area along the Brosna River at Shanaghy and Rathkip (marked in red) which is discussed in this section



On the east side of the river there is a residential estate, with a road running between the river and the housing. Part of this area (approximately 150 m) is overgrown and partly fenced off. On the west of the river there is a strip of grassland approximately 420 m in length, between the river and the R294 road. Part of this is owned by a local resident who maintains it for wildlife by sowing and encouraging wildflowers, planting small trees and bushes to provide berries for birds, maintaining bird feeders and nest boxes, and placing

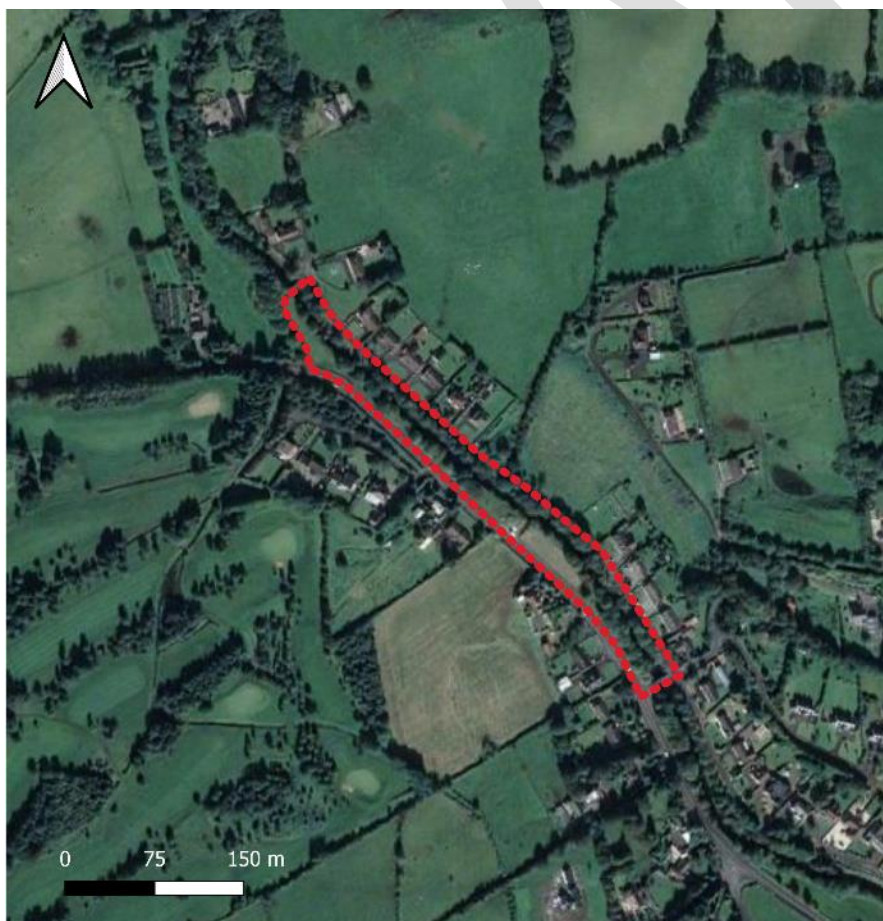
logs close to the river for invertebrates. There is a narrow strip mown through it to allow a safe walkway so that the wildflowers and wildlife can be appreciated.

Since the benefits of these actions are apparent from the diversity of pollinating insects and birds using this section, it is envisaged that these measures be extended to the rest of the stretch of riverside (indicated in **Figure 11**). Thus, the current areas of regularly-mown amenity grassland would instead be developed as wildflower meadows, and left unmown from the emergence of the first wildflowers in spring until after the flowers have gone to seed (approximately March – October inclusive). Where wildflower seed is sown, the ground should be raked in advance to expose some bare ground on which the seeds can germinate. The species used should be native species, sourced from Irish stock.

Planting of wildlife-friendly bushes and trees, and the placement of bird feeders and nest boxes, should be encouraged. It is also recommended that a narrow (1 m maximum) strip be mown in a 'snaking' route through the area, so that people can observe and appreciate the flora and fauna without causing undue disturbance. A 2-metre strip along the R294 road could also be mown to provide a path for walkers along the road. No spraying of weedkillers should be carried out in the area.

The Mayo Branch of BirdWatch Ireland has also proposed a looped walk at Shanaghy and Rathkip. The proposed route is shown in **Figure 12**. This would run along both sides of the River Brosna, and would provide good views of the river from the two existing bridges.

Figure 12: A proposed looped walk along the Brosna River at Shanaghy and Rathkip



To complete this proposed loop, a short section (approximately 150 m) north of the river would need to be made fully accessible for visitors of all ages and abilities, to encourage wildlife appreciation and education. There is also an opportunity to provide nest boxes for dippers and grey wagtails along the river, as well as bat roosting boxes.

9. Caring for Biodiversity – Some Good Examples

At this stage, it is worth noting and appreciating some of the good work that is already being done in Ballina to help biodiversity. The following photographs show some good examples from the town.

Plate 95: Stone walls with ferns, ivy and mosses at Leigue Cemetery. Old stone walls provide useful habitats for a range of plant species, as seen here, and these should not be removed for the sake of ‘tidiness’



Plate 96: This little house provides feeding and nesting space for small birds. Watching the birds that visit a feature like this is a useful way to teach children about wildlife



Plate 97: A nicely-designed 'bug hotel' attracts a range of insects and other invertebrates



Plate 98: Here, an area within a housing estate has been allowed to develop into a wildflower meadow, providing a semi-natural area for wildlife within the town



Plate 99: A willow sculpture of a deer raises our consciousness about the creatures with which we share our landscape and our natural resources



Plate 100: This concrete wall top is being colonised by mosses. Allowing mosses to grow on walls gives these features a more natural and pleasant look and also provides a habitat not only for the mosses, but for the tiny creatures that live among them



Plate 101: Here, a scrub thicket of brambles and gorse has been allowed to develop adjacent to a housing estate within the town. Such a feature is vastly more useful to wildlife than yet another area of short grass and also looks less boring and monotonous



Plate 102: This corner of a park in the town has been allowed to revert to a semi-natural state. It is good to resist the temptation to have everything clipped, mown and 'tidy'.



Plate 103: Non-native plants can also appeal to wildlife. Here, an attractive border has been planted along a wall in a housing estate, with bright, single-headed flowers as recommended in the All Ireland Pollinator Plan



Plate 104: A roadside area where orchids, clover and daisies have been allowed to grow and flower



Plate 105: A nice example of biodiversity along the River Moy, where a range of wetland and meadow plants provide a fine display of flowers



Plate 106: This interesting sculpture celebrates the intricate beauty of seeds. Such a feature raises our consciousness about the beauty to be seen in nature all around us



Plate 107: A simple step such as labelling natural features with their traditional names helps to highlight the natural heritage of the area



Plate 108: Allowing natural streamside vegetation to develop within the town is an invitation to wildlife, as well as being a pleasant visual feature



Plate 109: Rathkip – Shanaghy: again, this highlighting and preservation of natural heritage, and encouragement of community involvement, is a positive development both for local biodiversity and for local people



Plate 110: A wildflower area at Rathkip – Shanaghy



Plate 111: Allowing space for wildflowers around public buildings and private businesses is a good way to encourage pollinators



Plate 112: Informative signage and a mapped walking trail with explanatory leaflets at Belleek Woods help to highlight the local biodiversity for both visitors and local people

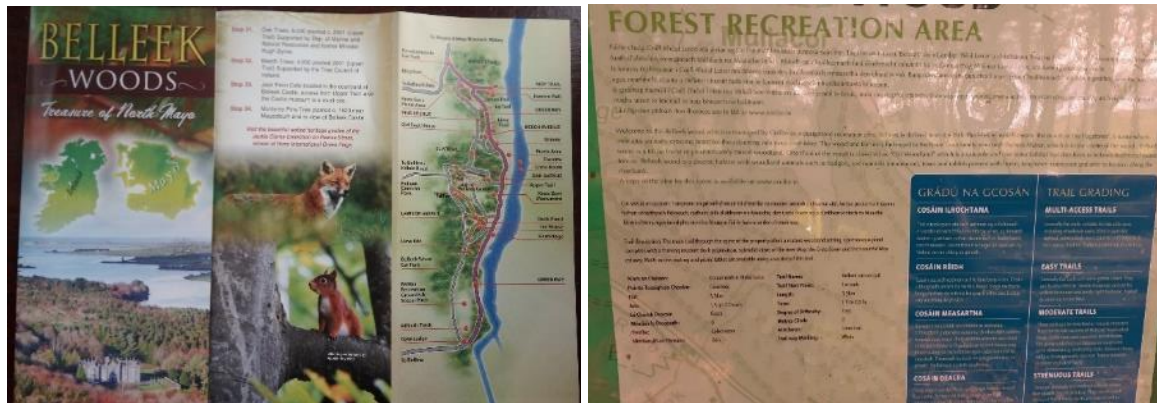


Plate 113: A nature trail for children within a housing estate is a useful way to foster a love of biodiversity and wildlife



Appendix 1: Bibliography / Sources

The following sources of information were used in the preparation of this plan:

- A Guide to Habitats in Ireland (2000) by Julie Fossitt, published by The Heritage Council
- All-Ireland Pollinator Plan 2015-2020, published by the National Biodiversity Data Centre
- Ballina Town Swift Survey 2019, produced by Swift Conservation Ireland.
- Bats & Bat Boxes Guidance Notes for Agri-environmental Schemes, produced by Bat Conservation Ireland
- Belleek Long Term Forest Management Plan 2009-2040 – produced by Coillte
- County Mayo Biodiversity Action Plan 2010-2015, published by Mayo County Council
- County Mayo Heritage Plan 2011-2016, published by Mayo County Council
- EPA (Environmental Protection Agency) maps, available at <https://gis.epa.ie/EPAMaps/>
- Gardening Without Harmful Invasive Plants, produced by the Royal Horticultural Society
- How to build swift nest boxes into cement block walls, by Lynda Huxley, Swift Conservation Ireland
- How-to-guide - Hedgerows for Pollinators, published by the National Biodiversity Data Centre
- Mayo County Development Plan 2014-2020, published by Mayo County Council
- Mayo's Hedgerows (2012), a book by Janice Fuller, published by Mayo County Council
- National Biodiversity Action Plan 2017-2021, published by the Department of Culture, Heritage & the Gaeltacht
- NBDC (National Biodiversity Data Centre) records, available at <https://www.biodiversityireland.ie/>
- NPWS (National Parks & Wildlife Service) data and documentation on protected areas, available at www.npws.ie/protected-sites
- Saving Swifts – published by BirdWatch Ireland
- The Heritage Council (2011) Guidance for the Care, Conservation and Recording of Historic Graveyards
- We Are Swifts - We Are in Trouble, booklet produced by Carra Books and Swift Conservation Ireland
- Wild Mayo (2009), a book by Michael Viney, published by Mayo County Council

Appendix 2: Invasive Species

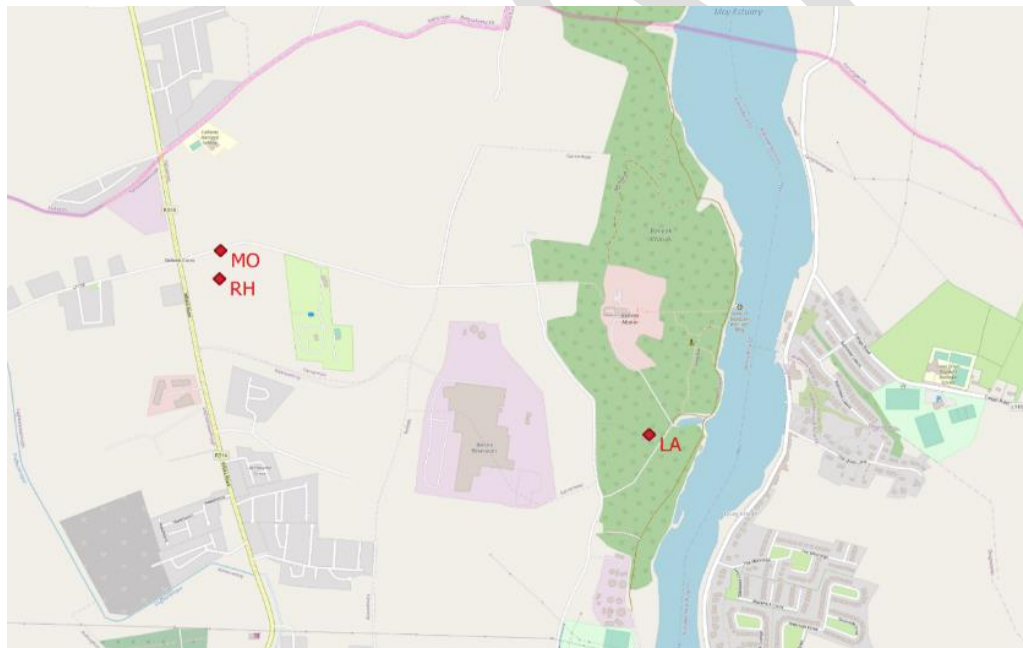
Invasive species are non-native species that can damage habitats by outcompeting our native species or by changing the nature of a habitat. Many non-native plants are grown in gardens or on farms, and most of these do not cause significant problems. **Table 2, Figure**

11, **Figure 12** and **Figure 13** show locations where invasive species were noted in Ballina, and are followed by short descriptions of these. Invasive Species Ireland has provided guidelines for the management of invasive plants²⁸ and a field guide to help with identification.²⁹

Table 2: Locations of invasive species noted in Ballina

Species	X (ITM)	Y (ITM)	Abbreviation used in maps
Rhododendron	-9.163302323	54.13426682	RH
Rhododendron	-9.166857926	54.12214852	RH
Rhododendron	-9.137410372	54.10231874	RH
Rhododendron	-9.137816224	54.10246106	RH
Laurel	-9.143748013	54.12991926	LA
Laurel	-9.167030929	54.1223457	LA
Montbretia	-9.163253792	54.13505573	MO
Montbretia	-9.170535	54.1195	MO
Buddleia	-9.170534313	54.11963407	BU

Figure 13: Invasive species locations - Ballina North (See Table 2 for key)



²⁸ <https://invasivespeciesireland.com/invasive-plant-management/>

²⁹ http://invasivespeciesireland.com/wp-content/uploads/2018/06/field_guide_to_invasive_species_in_ireland_booklet_2ndedition_updated_May_2018-3.pdf

Figure 14: Invasive species locations – Ballina West (see Table 2 for key)

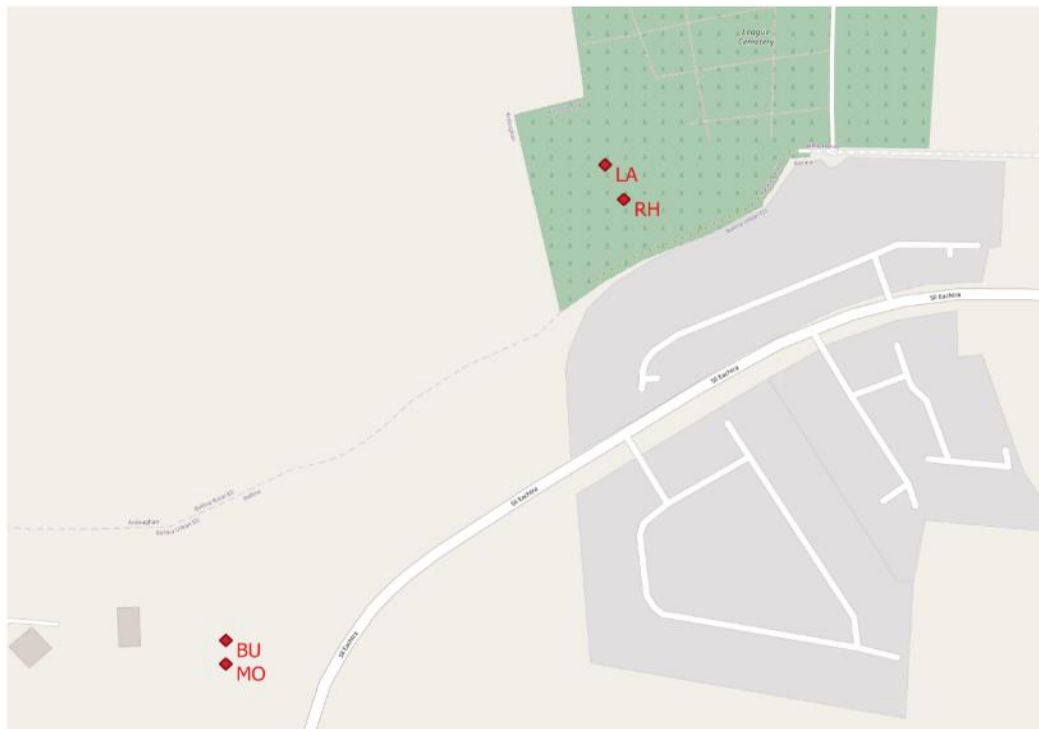


Figure 15: Invasive species locations – Ballina South-east (see Table 2 for key)



Rhododendron ponticum

This is one of the most aggressive and damaging of invasive species, which can cause widespread degradation of natural habitats by colonising the area, suppressing native

species and forming a layer of toxic leaf litter. The Department of Agriculture, Food and the Marine has produced an information note on managing *Rhododendron*.³⁰

Plate 114: *Rhododendron* is a troublesome and aggressive invasive species that can seriously damage natural habitats



Laurel (*Prunus laurocerasus*)

This plant is familiar to many people, due to its popularity as a garden hedging plant (although holly is a better choice for garden hedges to enhance biodiversity). If laurel gets into native or mixed woodland habitats, as at Belleek Woods, it can be a troublesome and damaging invasive species.

Plate 115: Laurel at Leigue Cemetery



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<https://www.agriculture.gov.ie/media/migration/farmingschemesandpayments/glastraining/RhododendronFinalDraft230616.pdf>

Butterfly Bush (*Buddleia davidii*)

This plant, as its name suggests, is very popular with pollinating insects, and is also a colourful garden plant. While it can be slightly invasive, and often pops up on disused ground or abandoned sites, it is not one of the more troublesome invasive species.

Montbretia (*Crocasmia x crocosmiiflora*)

This very attractive plant has escaped from gardens in many parts of the country and tends to spread into large swathes, potentially damaging the natural habitat by outcompeting native species. Invasive Species Ireland provides information on managing montbretia ³¹.

Plate 116: Two potentially invasive species, butterfly bush (left) and montbretia (right)



Ivy-leaved toadflax (*Cymbalaria muralis*)

This little plant can often be seen growing on stone walls or buildings, notably along the banks of the Moy, where it flows through Ballina, and at Leigue Cemetery. Although not a native plant, and sometimes listed as an invasive species for this reason, it is quite inoffensive and probably does little or no harm. It can often be seen co-existing with native ferns on stone walls.

³¹ <https://invasivespeciesireland.com/species-accounts/established/terrestrial/montbretia>

Plate 117: Ivy-leaf toadflax on a stone wall in Ballina



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