



County Leitrim Biodiversity Action Plan

2022-2027



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Thank you to all those that contributed to the public consultation and stakeholder engagement process. Special thanks to Sarah Malone, Heritage Officer Leitrim County Council and Bernard Green, Senior Planner Leitrim County Council for their valuable input. The plan was developed by Ecologists Seán Meehan and Deborah D'Arcy.

We do hope that this Biodiversity Plan will be beneficial in guiding local actions on biodiversity in County Leitrim.

All photographs in this plan were taken by Ashling Cartwright, Leitrim Development Company.



Introduction

In Autumn 2019, ecologists Deborah D'Arcy and Seán Meehan were appointed to compile and deliver a Biodiversity Action Plan for County Leitrim on behalf of Leitrim Development Company in collaboration with Leitrim County Council, with funding from the Rural Development LEADER programme 2014–2022 and Leitrim County Council.

The project team met with representatives from the County Leitrim Heritage Forum and relevant stakeholders. This gave the project team and the stakeholders an opportunity to identify potential general and specific actions that would benefit biodiversity in the county.

As part of the compilation of this Biodiversity Action Plan, an online public consultation was also launched to enable the general public to give their views and opinions on biodiversity related topics and issues in County Leitrim. Initially, public drop-in sessions were planned, however, due to the outbreak of the COVID-19 pandemic, the public consultation was moved online. The online consultation was open for a five week period from August–September 2020 and was promoted via social media, through the Heritage Office of Leitrim County Council and other bodies such as Leitrim Public Participation Network (Leitrim PPN). Responses and feedback received from this consultation have helped to shape many of the actions that are provided in this biodiversity plan.

This Biodiversity Action Plan (BAP) also takes cognisance of the Leitrim Heritage Plan and other relevant ecological surveys undertaken and plans adopted in Co. Leitrim, aiming to build upon objectives and actions in these plans and reports. Additionally, many of the actions in this biodiversity action plan are in line with strategic actions for biodiversity at a national level in the National Biodiversity Plan 2017 – 2021.

This plan adopts a cross-sectoral approach to promote actions for biodiversity at an individual, community and county level to ensure that the benefits of biodiversity for our local environment and society are experienced by as many people as possible. It is hoped that this plan will not only form a cornerstone for future LEADER funded biodiversity related projects but will be adopted as a cross-sectoral policy to ensure that biodiversity is given consideration in all projects.



What is Biodiversity?



Biodiversity is the shortened form of two words "biological" and "diversity". It refers to all the variety of life that can be found on Earth (plants, animals, fungi and micro-organisms) as well as to the communities that they form and the habitats in which they live.

Basically, Biodiversity is Nature.

The biological diversity on earth today is the result of millions of years of evolution and over this time, species have evolved to adapt to changing habitats and climatic conditions. This evolution and response to changing surroundings is a natural process and has resulted in an extraordinary number of organisms occurring today. Scientists estimate that there are anywhere between 10 and 100 million species on earth, many of which have yet to be described by science.

Why is Biodiversity Important?

As the chief users of the earth's resources, we often overlook the importance of conserving biodiversity and take for granted the vital ecosystem services it provides. We rely on biodiversity for the provision of clean air and water, food and medicines, natural landscapes, flood control, noise pollution control and much more. When we engage with a healthy environment, there are many benefits for our physical and mental wellbeing. Research has elucidated that spending time in nature benefits health and wellbeing, with the greatest benefit gained with at least 120 minutes of nature contact per week.

As an integral component of biodiversity, human beings have evolved to become the chief influencers, capable of impacting both positively and negatively. Unfortunately, many human activities are detrimental to biodiversity due to the negative impacts arising from them. These activities have caused species extinction and decline, habitat loss and the collapse of ecosystems. The earth is now entering into a biodiversity crisis with urgent and radical actions required today, to prevent a disaster for our wildlife and human societies.

We do have the knowledge and the means to tackle and turn around this imminent and grim outlook. By empowering individuals and communities to take actions to conserve and enhance biodiversity in their localities, we can all start to make a difference. The actions in this Biodiversity Action Plan will empower and enable individuals and groups in County Leitrim to undertake conservation projects and initiatives to the benefit of their communities. Each one of us has a duty and responsibility to ensure that we live in a clean and healthy environment and that generations to come will inherit this legacy.

Biodiversity in County Leitrim

County Leitrim is situated in the northwest of Ireland and occupies an area of 1,590 square kilometres. With a population of 32,044, the lowest of all counties in Ireland, and a population density of 20.1 persons per square kilometre (CSO, 2016), the county contains significant areas with sparse human habitation and marginal farming practices, resulting in a landscape of diverse habitat types, supporting some of Ireland's rarest species.

The county is almost landlocked, with the exception of a 2.4 km stretch of coastline at Tullaghan in the very north. The topography of the county can be divided into two sections, north and south of Lough Allen, which almost divides the county into two halves. The county contains a diversity of habitat types including peatland, wetland, woodland, grassland and coastal habitats. The northern section of the county is hilly and dominated by the Dartry Mountain range which was formed from a glaciated limestone plateau. The county's highest point is on the southeast slope of Truskmore (631 metres above sea level). The southern section of the county is flatter with drumlins, and the River Shannon being a dominant landscape feature with its associated floodplains being important habitats for many species of flora and fauna. Prominent lakes in the county include Lough Allen, Lough Melvin and Lough Rynn.

Designated Sites:

Natura Sites (European Designation)

County Leitrim has eight Special Areas of Conservation (SACs), designated under the EU Habitats Directive (92/43/EEC) as transposed into Irish law through the European Communities (Natural Habitats) Regulations 2011. SACs are a network of sites designated to protect a range of internationally important habitats and species. Below are the SACs in County Leitrim

- Benbulbin, Gleniff and Glenade Complex
- Bunduff Lough and Machair/Trawalua/Mullaghmore
- Glenade Lough
- Aroo Mountain
- Lough Melvin
- Lough Gill
- Cuilcagh- Anierin Uplands
- Boleybrack Mountain



Biodiversity in County Leitrim

Additionally, County Leitrim has one Special Protection Area (SPA), designated under the EU Birds Directive (2009/147/EC). SPAs are designated specifically for the protection of bird species listed on Annex I of the Directive. The SPA in County Leitrim is the Sligo/Leitrim Uplands which straddles the Sligo-Leitrim border and is located in the mountain ranges of Ben Bulbin, Arroo and Cope's Mountain/Crockauns. The site is an SPA for the protection of important populations of Peregrine Falcon and Chough. The cliffs and scree slopes are important nest sites for these species and the extensive upland plateau provide excellent foraging habitat for Peregrine while Chough feed on the grasslands below the cliffs. (DAHG, 2015).]

Collectively these EU designated sites (SACs and SPAs), known as Natura 2000 sites, cover an area of 185.01 square kilometres, equivalent to approximately 11.6% of the county's land area.

Natural Heritage Areas (NHAs) (National Designation)

There are nine Natural Heritage Areas (NHAs) in County Leitrim, adding an additional 53.11 square kilometres of land designated for nature conservation. These are areas considered important for the habitats present or which holds species of plants and animals whose habitat needs protection.

- Aghavoghil Bog NHA
- Aghnamona Bog NHA
- Cashel Bog NHA
- Cloonageeher Bog NHA
- Corracramph Bog NHA
- Corry Mountain Bog NHA
- Crockauns/Keelogyboy Bogs NHA
- Dough/Thur Mountains NHA
- Rinn River NHA



There are also 28 proposed Natural Heritage Areas (pNHA) in the County. These sites are of significance for wildlife and habitats. In Leitrim there are several lake and woodland habitats proposed as Natural Heritage Areas. Cloonroe Wood and Lough pNHA is one site with good habitats for invertebrates. Glasshouse Lake pNHA supports an unusual lake shore with a diverse flora and typical wetland birds such as redshank and ringed plover. Qwenegar Wood pNHA is a wet woodland site notable for its excellent diversity of moss and lichen species which form carpets in the woodland. Garadice Lough Wood pNHA is situated on the north-eastern shore of Garadice Lough. The main habitat is an old oak woodland and has been identified as a potential ancient woodland site.

Biodiversity in County Leitrim



Biodiversity and important habitats and species are not confined to designated sites and protected areas and there is a wealth of wildlife across the county of Leitrim. Wetland sites of which Leitrim is so richly endowed support a rich biodiversity - including many rare flora species, invertebrates, bird life and otter. Woodlands and hedgerows support iconic species such as Badger, Pine Marten, Hedgehog and Birds of Prey.

Rivers, streams and hedgerows are important ecological corridors that traverse the landscape. They provide habitats locally and are crucial to maintaining links between larger areas of habitats and wildlife populations reducing the impact of habitat loss and fragmentation. The value of woodlands in general is increased where they are connected by good hedgerow networks across the landscape which allow movement of species between sites.

Small wetland sites, woodlands, semi-natural grasslands and even wildlife friendly parks and gardens provide important stepping stone habitats facilitating movement of species across the landscape.

Rare and Protected Flora and Fauna

County Leitrim's mosaic of habitat types supports many floral and faunal species that are considered to be rare and threatened both nationally and internationally. In addition to this availability of suitable habitats, the low population density in the county and abundance of land classified as 'marginal' means that County Leitrim still contains suitable habitat for many species that have declined or become extinct in other parts of Ireland.

The north of the county is dominated by mountains and uplands which provide habitat for a number of rare floral species, such as those that belong to the arctic alpine assemblages. These are plants that are restricted in range in Ireland, being found on exposed north east facing mountain slopes for example in the Glenade area. Species such as Alpine Saxifrage *Saxifraga nivalis*, Chickweed Willowherb *Epilobium alsinifolium* and Mountain Rock Cress *Cardaminopsis petraea* occur in this area with few outposts anywhere else in Ireland. These three species are protected under the Flora Protection Order 2015, due to their rarity and limited range. In addition, many rare and threatened bryophyte species (mosses and liverworts) also occur on the uplands in the Glenade complex.

Biodiversity in County Leitrim

Other areas of botanical interest in the county include the shores around Lough Melvin in the north of the county, where Globeflower *Trollius europaeus* has its only known station in the Republic. The shores of Lough Rinn, Lough Allen and along the River Shannon also provide suitable habitats, such as reed swamp and wet woodland, supporting diverse botanical communities. The northern extremity of the county that is coastal and partially within the Bunduff Lough and Machair/Trawalua/Mullaghmore SAC (NPWS site code 000625), is noted for the occurrence of coastal heath with Crowberry *Empetrum nigrum* dominating. Boglands in the county also provide valuable habitat for botanical species adapted to survive in wet acidic conditions.

Lough Melvin is home to two species of Trout, proven to be genetically distinct from Brown Trout. The Gillaroo *Salmo stomachicus* and Sonaghan Trout *Salmo nigripinnis* are believed to be endemic to the lough. Such unique species occurring in the county highlight both the importance of biodiversity conservation and the requirement for both species to be recognised by the authorities to ensure their survival.

Rare and threatened bird species occurring in the county include Curlew *Numenius arquata*, a species that has seen its breeding population in Ireland decline by almost 96% since the 1980s due to habitat changes and loss. Since 2017, mid-Leitrim is part of the National Parks & Wildlife Service (NPWS) Curlew Conservation Programme, which works and supports landowners to provide suitable habitat for nesting Curlew. Hen harrier *Circus cyaneus*, Chough *Pyrrhocorax pyrrhocorax* and Peregrine Falcon *Falco peregrinus* also occur in the county, particularly in the uplands in the north of the county.



Threats to Biodiversity



Globally, biodiversity is under threat with habitat destruction, degradation and fragmentation fueling an alarming increase in species reduction and extinction. The World Conservation Unit (IUCN) estimates that there are 35,000 plus species threatened with extinction and it is accepted that the current rates of species extinction are greater than at any time in the past. With additional pressures on biodiversity, such as those arising from climate change, expected to pose greater threats in the future, this species extinction rate is expected to increase.

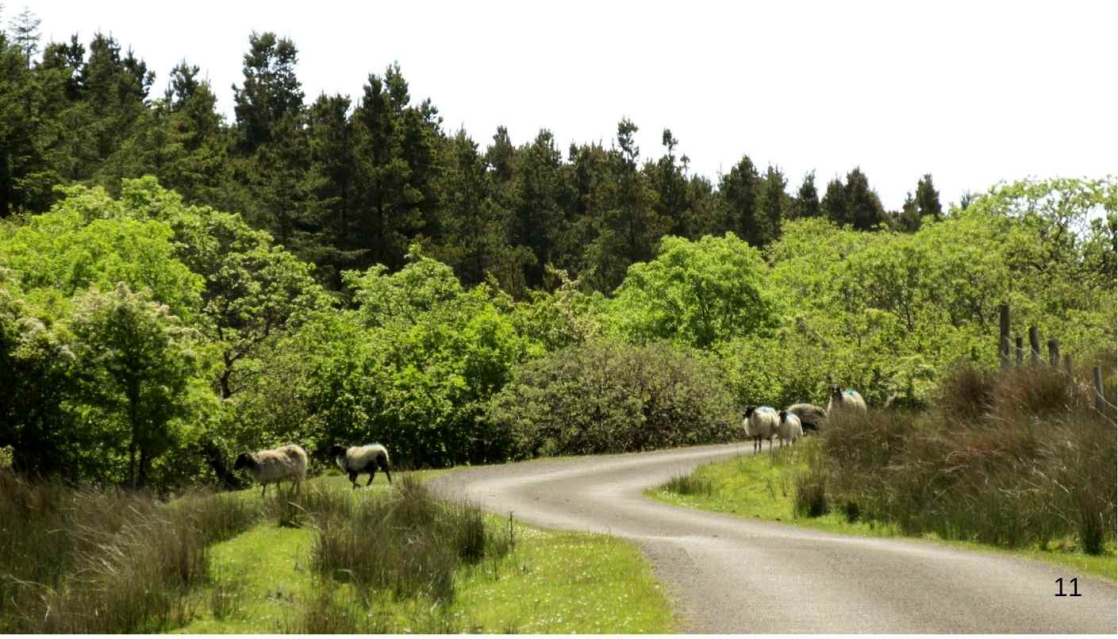
Under the EU Habitats Directive, Ireland along with all other member states, is obliged to compile a report every six years on the conservation status of protected (annexed) habitats and species. This report is referred to as an 'Article 17' report with the most recent being published in 2019. Ireland's Article 17 report for 2019 assessed the conservation status of 59 habitat types and 60 species. The assessment found that 50 habitats (85%) and 18 species (30%) were of an 'unfavourable' status, indicating no improvement on the 2013 assessments or a continuing decline in condition, extent and numbers. The main pressures and threats identified are ecologically unsuitable grazing levels – which can be under grazing (or even abandonment) as well as overgrazing; pollution of freshwaters and coastal marine waters; drainage and/or cutting of peatlands; invasive species; and recreational pressures. When habitats become degraded, there is a negative knock-on effect on the species that these habitats support. Considering that all habitats and species assessed in the Article 17 reports are afforded EU legal protection, with SAC (Special Area of Conservation) designation for many of these habitats and species, the high level of unfavourable assessments is of concern and highlights the plight of biodiversity for habitats and species not specifically protected under EU Directives. Over the coming years, the government has committed to investing more resources through National Parks and Wildlife Service (NPWS) to reversing the decline in the habitat quality and reductions in the species associated with them.

Habitat loss, through degradation and fragmentation, is perhaps the greatest driver of biodiversity loss today. Degradation of habitats arises when habitat quality is reduced such that it no longer supports the characteristic plants and animals that are associated with that habitat and can arise due to pollution, agriculture intensification, land drainage, invasive species spread and other environmental changes.

Threats to Biodiversity

Habitat fragmentation is the breaking up or splitting of areas of habitat into smaller disconnected parcels, resulting in species isolation and restrictions on wildlife movement across the landscape. Habitat fragmentation can result from changes in land use such as conversion of semi-natural areas to intensively farmed land, loss of hedgerows, infrastructure development such as roads and inappropriate afforestation.

Whilst County Leitrim has a rich and diverse natural heritage, the county is not immune to biodiversity loss, with habitats and the species that they support being under threat. Pressures on the county's biodiversity resources include coniferous afforestation, intensive farming practices, waterbody degradation, the spread of invasive species and climate change.



What we can do for Biodiversity

Habitat Creation & Management

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

Tree and Hedgerow Planting

Planting native hedgerows, trees and woodlands provide food, shelter and niche habitats for an array of plant and animal life and is one of the easiest ways of increasing the biodiversity value of an area. Native trees and shrubs are best for wildlife. These species colonised Ireland naturally and have adapted to the environmental conditions here and other plant and animal life have adapted to co-exist with them.

Meadow Grasslands & Wildflower Lawns

The traditional hay meadows once widespread in Ireland are now very scarce due to changes in farming practices. Meadows are a haven for wildlife in summer, being rich in wildflowers and the insects, birds and bats that depend on them. Allowing little used grassland areas to grow long and managing these grasslands as a meadow is one way to increase the resources available

value such as amenity grassland. Introducing a habitat uncommon in an area such as a pond may be of more benefit than planting more trees in an area that already has good tree cover. Creating a small complex of habitats such as a small woodland or grove of trees along with some meadow grassland around the edges to create a collection of semi-natural habitats will be of more benefit to biodiversity as it will provide resources for a greater number of species.



to wildlife. This allows the growth of wildflowers which provide essential pollen for our pollinating insects. Long grass also hosts a variety of other insects and invertebrates and produce seed, both important food sources for birds. Bat species will forage over a meadow grassland rich in insect life. Long grass also provides cover and nesting habitat for birds and small mammals.

What we can do for Biodiversity

Making Meadows: Where and How to Encourage Wildflowers Naturally

Meadow grassland can be allowed to grow in parkland areas or along grass verges. In general areas of meadow grassland or long grassy verges should be cut once a year in autumn and the cuttings removed. Removing the cuttings is important to prevent the build-up of nutrients in the soil. Wildflowers flourish in a nutrient poor soil where they can compete successfully with the more competitive grasses. Gradually over the years the number and diversity of wildflowers within the meadow will increase. It may take several years before you see an increase in the number of wildflowers but patience will be rewarded.



Pollinator Friendly Planting

Much is spoken about the importance of pollinators these days, and rightly so. These are hugely important species not only for wildflowers and trees but also for many of the crops which we depend for food. Any biodiversity plan should have a strong focus on plants for pollinators. While native plants are best for wildlife and only native plants should be planted in wild areas, there are a wide range of both native and non-native garden plants which provide food for pollinating insects which can be used in gardens and formal plantings.

It is strongly advised to avoid sowing commercially available wildflower mixes to enhance your meadow. These mixes often contain species that are not native to Ireland or are not native to your region or locality and are really only suitable for container gardening and not for creating natural habitats such as meadows or grassy verges. In addition, some species in these mixes are plants of disturbed ground or arable fields and are unlikely to thrive in a meadow grassland. Promoting the growth of wildflowers over the long term in an existing grassland by management is much more likely to be successful with the number and diversity of wildflowers indigenous to the locality increasing over the years as the nutrient levels in the soil are depleted.



However, some garden plants are not suitable for pollinators. Planting a range of pollinator friendly plants which flower at different times throughout the year will provide an important source of pollen and nectar for pollinating insects throughout the spring, summer and autumn.



What we can do for Biodiversity

Composting

Compost your garden and food waste in a designated composting area. Composting reduces the amount of waste going to landfill and provides a source of nutrient rich compost for gardening. This reduces the need to purchase garden compost often sourced from peat bogs contributing to the loss of these treasured habitats. Your compost heap also becomes a habitat! Worms, beetles, slugs and even hedgehogs will make themselves at home in a well-managed composting area.

Bee nesting habitats

Honeybees live in hives and are looked after by beekeepers. Our wild bees do not enjoy such protection and must find a suitable place to nest. Bumblebee colonies make their nest in the ground often amongst long grass or other vegetation. Cut such long grassy verges between September and March and not during the summer months so as to avoid disturbing bumble bee nests. Solitary mining bees make their nest in tiny burrows in south/east facing banks of bare soil, sand, or peat. Keep vegetation sparse on some earth banks or stony banks to provide nest sites for solitary bees.

Avoid tipping garden waste into waysides or wild areas. Grass cuttings disposed of in waysides and other wild places smothers wildflowers. In addition garden plants which are disposed of outside garden areas can take root and spread. Some garden plants can become very invasive and spread to wild areas outcompeting our native plants and can lead to damage of our natural habitats. Japanese knotweed, *Fallopia japonica*, is one such plant, and the dumping of garden cuttings along roadsides has aided its spread throughout Ireland.

Scrape back patches of the vegetation to bare soil annually during October to February to create patches of bare ground for solitary bees to burrow into. Cavity nesting bees make their nests in south/east facing stonewalls, masonry, cavities in wood or dead plant stems. Visit such areas on a sunny evening from May -September. If bees are seen, protect these areas from disturbance and, in particular, ensure that there is no herbicides or pesticides used near these areas. Additional nest sites for cavity nesting bees can be provided by drilling holes in fence posts (10 cm deep and 4-8mm in diameter).



What we can do for Biodiversity

Herbicides and pesticides

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

Raising Awareness

Raising awareness of biodiversity and encouraging or facilitating people to engage with and appreciate wildlife is an important tool in biodiversity conservation. Community groups such as Tidy Towns groups and Residents' Associations play a really important role in raising awareness of biodiversity. Providing opportunities for people to experience biodiversity is useful to draw people's attention. Even more effective, however, is increasing the amount of time people spend outdoors connecting with nature. Furthermore, the health benefits of spending time with nature is widely recognised with known benefit for both physical and mental wellbeing.

Citizen Science

Citizen Science enlists the public to collect scientific data and has been successful in advancing knowledge about what species occur and where. Public participation in scientific research, or 'citizen science' has become a well established branch of



Raising awareness of biodiversity can be facilitated by organising wildlife-themed walks, bat walks, wildflower walks and bird watching or competitions, such as best wildlife-friendly estate, best garden for wildlife or a wildlife photography competition. Better still is providing opportunities for people to volunteer on a project, such as invasive plant species removal, tree planting or encouraging people to get involved in citizen science projects. It is often the social benefits of such events that will attract people to get involved.

biodiversity monitoring, having been used for multiple conservation science purposes. Citizen Science projects also offer opportunities for participants to learn more about the natural world around them and the process of scientific study and therefore has a huge educational benefit also.

Aim, Objective & Themes

Aim

The aim of the County Leitrim Biodiversity Action Plan is to raise awareness of biodiversity amongst individuals and communities in County Leitrim by providing support, guidance and encouragement to engage with biodiversity through education and practical conservation participation.

Objective

The objective of this County Biodiversity Plan is to derive a locally based plan of actions to conserve, enhance and raise awareness of biodiversity in County Leitrim over the next five years and to connect the people of Leitrim with their natural heritage. The Plan contains actions that have been designed to address biodiversity concerns and increase awareness of and knowledge about biodiversity in the county.

Themes

The five themes of the Leitrim Biodiversity Plan are:

Theme 1. Improving our Knowledge of the Biodiversity Resource

Theme 2. Protection of Wildlife Corridors and Biodiversity Hotspots

Theme 3. Biodiversity Awareness, Education and Training

Theme 4. Tackling Invasive Species

Theme 5. Biodiversity and Climate Change



Theme 1: Improving our Knowledge of the Biodiversity Resource

County Leitrim supports a diverse range of habitats and species. Increasing our knowledge of where these habitats and species are (their extent and distribution), their conservation status and pressures impacting on them is a vital goal in biodiversity conservation. The more extensive our knowledge of habitats and species is, the more effective our conservation measures will be.

Theme 1 focuses on actions to increase our knowledge of our landscape through surveying, mapping and recording of habitats and species in the county.

Theme 1: Improving our Knowledge of the Biodiversity Resource

Actions

Potential sources of support, information, knowledge and/or funding

1A Biodiversity Officer	Seek resources to enable the appointment of a Biodiversity Officer/Project Worker for County Leitrim.	LCC, HC, DEPT, LDC/LEADER
1B Biodiversity Toolkit	Development of a community biodiversity toolkit to act as best practice guidance for community groups/individuals/businesses in County Leitrim to help promote and protect biodiversity in and around our villages/towns/communities.	LDC/LEADER, LCC, LAWPRO, HC
1C Community Habitat Mapping	Encourage and support local community groups and recreation groups to undertake habitat mapping of their local town / village / townland or defined area and thereby encourage biodiversity initiatives.	LDC/LEADER, LCC, HC, TT
1D Community Biodiversity Plans	Work with Tidy Towns Group and other town and village groups to undertake community biodiversity action plans for their area	LDC/LEADER, TT, HC, LCC, LAWPRO
1E *Green Infrastructure	Identify and map Green Infrastructure in County Leitrim	LDC/LEADER, RRO, LRF, LT, LCC, WI
1F Bird Surveys	Undertake surveys of threatened bird species in the County.	LCC, LDC/LEADER, BWI



Theme 1: Improving our Knowledge of the Biodiversity Resource

Theme 1: Improving our Knowledge of the Biodiversity Resource

Actions

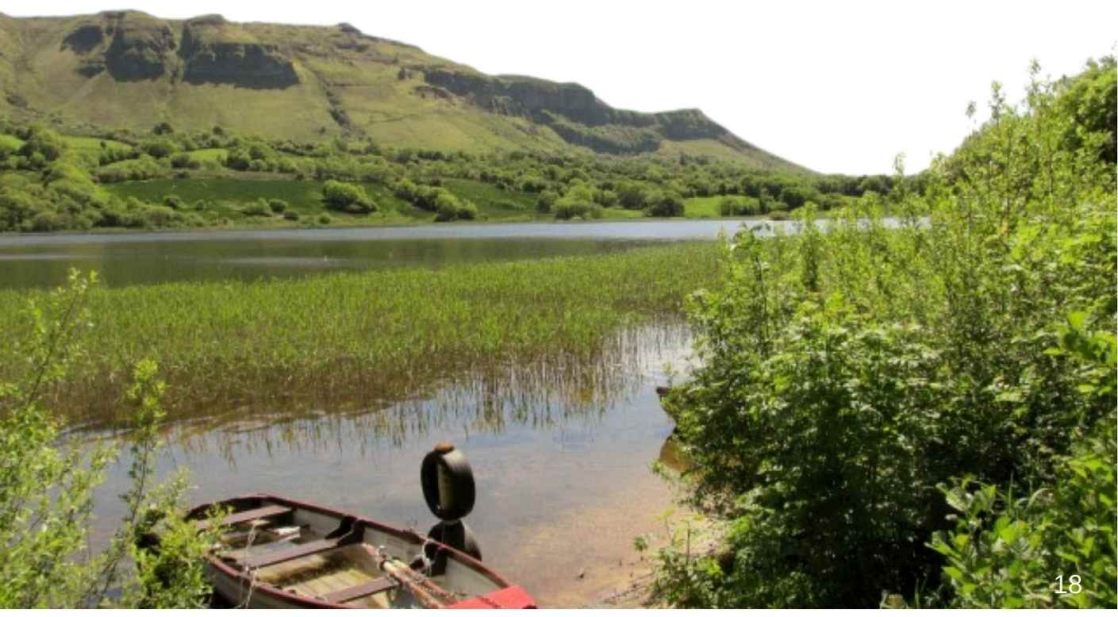
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|----------------|--|
| 1G Wetlands | Undertake a wetland survey of the County and identify possible restoration sites. |
| 1H Pollinators | Support the implementation the All-Ireland Pollinator Plan through raising awareness of the AIPP amongst residents, communities, businesses and encourage actions for pollinators. |

Potential sources of support, information, knowledge and/or funding

- | |
|--|
| LCC, LDC/LEADER, NPWS, LAWPRO, WI, IFI |
| LCC LDC/LEADER, NBDC |

IFI: Inland Fisheries Ireland, LAWPRO: Local Authority Waters Programme, LCC: Leitrim County Council, LDC/LEADER: Leitrim Development Company LEADER Programme, NBDC: National Biodiversity Data Centre, NPWS: National Parks & Wildlife Service, WI: Waterways Ireland

***Green Infrastructure:** Green infrastructure is a strategically planned network of semi-natural and natural habitat features including wetlands, watercourses, woodlands and hedgerows. The purpose of green infrastructure is to use these landscape features to help mitigate the impacts of climate change and biodiversity loss and to improve the flow of ecosystem services from nature to us, improving our quality of life.



Theme 2: Protection of Wildlife Corridors and Biodiversity Hotspots

County Leitrim has a diverse range of habitats however due to human activities, habitats are increasingly at risk of fragmentation. To allow wildlife populations to move unimpeded across the landscape, the conservation and creation of wildlife corridors are essential. A wildlife corridor can be defined as a feature on the landscape that connects habitats. Examples are hedgerows, riparian strips, roadside verges and treelines. Biodiversity hotspots are areas where numbers of wildlife species are both high and diverse. Although many of these areas have been designated under National or European legislation, hotspots occur in areas not designated and so are at risk of degradation and loss due to human activities.

By identifying and ‘taking ownership’ (through stewardship) of these hotspots, communities can ensure that biodiversity can continue to thrive, whilst increasing our knowledge of species and ensuring their long-term survival. Farmers and groups such as Tidy Town Groups, Community Councils, Recreation Amenity Groups are important in terms of protection of wildlife corridors and biodiversity hotspots in the county.

Theme 2 focuses on raising awareness of the importance of both designated and undesignated areas for wildlife and the vulnerability of habitats and species within them to help achieve sustainable use.

Theme 2: Protection of Wildlife Corridors & Biodiversity Hotspots

Actions

Potential sources of support, information, knowledge and/or funding

2A Watercourse Protection Encourage projects to promote local community stewardship (protection, enhancement) of rivers and other waterbodies and raise awareness of the importance of the riparian zone as a biodiversity corridor.

LCC, LAWPRO, NFGWS
Farmers, IFI, Angling Clubs

2B Recreation Projects Consideration of biodiversity to be mainstreamed into proposals for development of recreational infrastructure in the county

LDC/LEADER, RRO, LRF LCC,
NPWS, WI, IFI



Theme 2: Protection of Wildlife Corridors and Biodiversity Hotspots

Theme 2: Protection of Wildlife Corridors & Biodiversity Hotspots

Actions

Potential sources of support, information, knowledge and/or funding

2C Incorporate Biodiversity into public trails	Encourage the creation of wildlife corridors and biodiversity enhancement along existing and new recreational trails in the county	LDC/LEADER, RRO, LAWPRO, LRF, LCC Farmers, IFI, NPWS
2D Hedgerows	Support local community groups to map and assess condition of local hedgerows and treelines and protect and/or restore hedgerows to good condition or plant new hedgerows/trees in community biodiversity plans	LDC/LEADER, HLA
2E Woodlands	Encourage and support expansion of native woodland through woodland planting and conservation management of existing woodland sites where appropriate in community biodiversity action plans.	LDC/LEADER, FS, Coillte

Coillte, Farmers, FS: Forestry Service, HLA: Hedge Laying Association, IFI: Inland Fisheries Ireland, LAWPRO: Local Authority Waters Programme, LCC: Leitrim County Council, LDC/LEADER: Leitrim Development Company LEADER Programme, LRF: Leitrim Recreation Forum, NPWS: National Parks & Wildlife Service, RRO: Rural Recreation Officer, WI: Waterways Ireland



Theme 3: Promote and Encourage Biodiversity Awareness, Education and Training

Raising awareness and providing access to biodiversity training helps people to gain knowledge, motivation and confidence to undertake actions for biodiversity. People today are increasingly aware of the issues facing biodiversity but often feel that they are unable to actively engage in conservation works due to lack of training, knowledge and community support. The following actions are designed to encourage and support individuals, communities, employment scheme workers and local authority staff to equip themselves with the skills for biodiversity conservation.

Theme 3: Promote and Encourage Biodiversity Awareness, Education and Training

Actions

Potential sources of support, information, knowledge and/or funding

3A Practical Training

Provide practical training workshops for local communities, outdoor recreational users, local employment scheme workers, local authority operatives and farmers. Training could include:

- Hedgerow management training
- Semi-natural grassland management
- Herbicide usage reduction, correct use and alternatives
- Gardening for Biodiversity (at home and in your community)
- Wildlife appreciation-Identifying native plant species, bird watching, pollinator identification training
- Training in biodiversity awareness and biodiversity project planning, Training in stonewall restoration and conservation

LDC/LEADER, LCC, HLA, Teagasc, BWI, BSBI, NBDC, Leave no Trace



3B Farming Initiatives

Raise awareness of HNV farmland in Leitrim. Promote and support applications for the upcoming EU LIFE Funds, Department of Agriculture DAFM European Innovation Partnership (EIP) applications and NPWS Farm Plan Scheme applications. Promote 'Farming for Nature'25 initiative in County Leitrim

Teagasc , NPWS, DAFM

Theme 3: Promote and Encourage Biodiversity Awareness, Education and Training

Theme 3: Promote and Encourage Biodiversity Awareness, Education and Training

Actions

Potential sources of support, information, knowledge and/or funding

3C Public Engagement Promote biodiversity awareness and engagement with wildlife. Raise awareness of the importance and wonder of Leitrim's biodiversity and natural heritage amongst the wider community through community events, newspaper and magazine articles, booklets etc.

LDC/LEADER, LCC, IFI
LAWPRO, BWI

3D Healthy & Vibrant Outdoor Environment for Community Based Projects Work with community groups and individuals to encourage biodiversity and Leave No Trace principles in their community-based projects

LDC/LEADER, RRO, LRF
Leave no Trace, LCC

BWI: Bird Watch Ireland, IFI: Inland Fisheries Ireland, LCC: Leitrim County Council, LDC/LEADER: Leitrim Development Company LEADER Programme, Leave No Trace, LRF: Leitrim Recreation Forum, RRO: Rural Recreation Officer



Theme 4: Tackling Invasive Species

Examples of invasive plant species that have a high impact are Japanese knotweed and Himalayan balsam. Both have had a negative impact on our local wildlife and watercourses. By being able to recognise invasive species and implement regulated removal and containment strategies, communities and agencies can successfully protect local biodiversity from this threat.

Himalayan balsam (*Impatiens glandulifera*) is one invasive plant species where local community action can be very effective in controlling the spread of this species along watercourses. Himalayan balsam has been recorded in County Leitrim from north to south (<https://maps.biodiversityireland.ie/>). The best approach is a coordinated catchment scale management plan starting at the top of the catchment and working down so that control and eradication efforts downstream are not hampered by the spread of seeds from upstream. Local communities in Leitrim could network to target this invasive species.

Aquatic invasive faunal species recorded in County Leitrim include the Zebra mussel (*Dreissena polymorpha*). This species impacts on nutrient cycles in rivers, native mussels and fish populations and can block water intake pipes and attach to the hulls of boats and block boat engines. Biosecurity is critical to the control of the spread of this species

Theme 4: Tackling Invasive Species

Actions

Potential sources of support, information, knowledge and/or funding

- 4A Invasive Species Training

Provide training in land and water based invasive plant species identification and recording/mapping for community groups and relevant individuals, . (e.g. Contractors, Rural Social Scheme, TUS, Community Employment Workers, Local Authority Staff, Recreation Forum Members, Trail Management Groups, landowners, angling groups, etc.)
- 4B Biosecurity

Promote and raise awareness of biosecurity measures amongst communities, water-based recreationists and angling community through focused training

LDC/LEADER, LCC, IFI, LAWPRO, RRO, LRF

LDC/LEADER, LAWPRO, RRO, LRF, IFI LCC, WI, Canoeing Ireland, Rowing Ireland, Sailing Ireland



Theme 5: Biodiversity & Climate Change

Climate change is considered the most urgent environmental issue facing the world today. The biggest driver of climate change is the release of carbon dioxide into the atmosphere where along with other so called ‘greenhouse gases’, it traps infrared radiation, resulting in a warmer earth. This additional atmospheric heat interferes with weather patterns, impacting negatively on biodiversity and human societies. County Leitrim has extensive peatland and wetland habitats which are ideal to sequester (store) carbon in the ground. By promoting and conserving these habitats, we are benefiting biodiversity and also helping to combat climate change.

Each one of us can play our part in reducing our carbon emissions. Reduce, reuse and recycle on a daily basis, use public transport / walk or cycle where possible, plant native broadleaf trees, implement sustainable soil management on farms, retain hedgerows and incorporate green energy into homes and businesses. These are some of the ways that we as individuals and communities can make a difference.

Theme 5: Biodiversity & Climate Change

Actions	Potential sources of support, information, knowledge and/or funding
<p>5A Waste Reduction/ Water Conservation</p> <p>Promote/organise waste reduction initiatives/water conservation management and training (e.g. how to reuse & upcycle, etc.)</p>	<p>LDC/LEADER, LCC</p>
<p>5B Sustainable Energy Buildings</p> <p>Continue to promote renewable energy projects/water conservation projections and opportunities for green infrastructure for community, public and new buildings through micro-generation, such as solar panels.</p>	<p>LDC/LEADER, SEAI, LCC, LAWPRO</p>
<p>5C Green Business</p> <p>Promote & encourage new green enterprise / biodiversity, energy efficiency and renewable energy measures for existing businesses, which assist businesses to reduce their cost base or exploit new market opportunities. E.g. projects could include but are not limited to; Installation of Solar PV system, Installation of Rainwater harvesting systems, Technologies that deliver sustainable energy alternatives, etc.</p>	<p>LDC/LEADER, SEAI, LCC</p>



Theme 5: Biodiversity & Climate Change

Theme 5: Biodiversity & Climate Change

Actions

- 5D Sustainable Agriculture
- Promote sustainable environmentally friendly farming practices in Leitrim.
- Explore funding opportunities for development of on-farm biodiversity actions in Leitrim.

Potential sources of support, information, knowledge and/or funding

Leitrim Sustainable Agriculture Group, LCC, LDC/LEADER, Teagasc, LAWPRO, SFI

LAWPRO: Local Authority Waters Programme, LCC: Leitrim County Council, Leitrim Sustainable Agriculture Group, LDC/LEADER: Leitrim Development Company LEADER Programme, SFI: Social Farming Ireland, Teagasc



Implementation & Monitoring

This plan aims to guide local communities and stakeholders in their efforts to protect, enhance, promote and learn about our biodiversity (natural heritage) and maximise the benefits of nature for the people of County Leitrim. The plan is not intended to be a static document but rather to be reviewed and updated over its lifetime. While some actions are more complex than others, the input of communities, agencies and organisations is key to its delivery and implementation.

Leitrim Development Company will facilitate and lead the implementation and review of the plan. This will involve other relevant community groups/organisations and agencies (where relevant) to coordinate and facilitate the implementation of actions. The Natural Heritage Working Group of the Heritage Forum will also be important in guiding the actions in the plan. Working Groups may be formed to work on particular priorities that have been identified within the plan. At times community members/organisations and agencies may be interested in working on one priority that they are passionate about only, rather than working on the whole plan, this will be facilitated for similar types of actions based on priorities.

It is hoped that this biodiversity action plan will be beneficial in guiding and supporting action primarily at a community and local level in Leitrim. Actions are focused on being achievable and realistic within the timeframe of the plan.

If your group would like to apply for LEADER funding towards implementing some actions in the plan, please email the LEADER team on leader@dco.ie.

There are evaluation and performance indicators outlined for each action which will be used to critically evaluate the success of the Biodiversity Action Plan for Leitrim at the end of the 5-year term and to inform the development of future strategic action for cross sectoral engagement in mainstreaming actions for the conservation of biodiversity in County Leitrim.



Appendix A: Biodiversity Resources Online

National Parks and Wildlife Service (NPWS)

The National Parks and Wildlife Service is part of the Heritage Division of the Department of Housing, Local Government & Heritage. The NPWS website contains a huge amount of information about the conservation of biodiversity and hosts all the information in relation to the designated sites for nature conservation in Ireland. www.npws.ie

The National Biodiversity Data Centre (NBDC)

Organisation for the collection, collation, management, analysis and dissemination of data on Ireland's biological diversity. Access the centre's biodiversity mapping system to submit records and view sightings for County Leitrim. www.biodiversityireland.ie

The Heritage Council

A public body with an integrated approach to promoting and protecting natural and built heritage for the vital contribution that it makes to our social, environmental & economic well-being. www.heritagecouncil.ie

All Ireland Pollinator Plan Resources for Community Groups

Resources for Community Groups on the All Ireland Pollinator Plan www.pollinators.ie/communities/resources-for-community-groups/

Citizen Science

Biodiversity Recording: [Recording System :: Start recording_\(biodiversityireland.ie\)](http://Recording_System::Start_recording_(biodiversityireland.ie))
Botanical Society of Britain and Ireland (BSBI)
www.bsbi.org

Inland Fisheries Ireland (IFI)

State agency responsible for the conservation, protection, management, marketing, development and improvement of our inland fisheries and sea angling resources
www.fisheriesireland.ie

Bat Conservation Ireland (BCI)

An all-Ireland charity that promotes the conservation of bats and their habitats
www.batconservationireland.org

Birdwatch Ireland (BWI)

BirdWatch Ireland is a charity dedicated to the protection of wild birds and their habitats in Ireland. www.birdwatchireland.ie



Appendix A: Biodiversity Resources Online

Royal Society for the Protection of Birds (RSPB)

UK organisation that promotes the conservation of birds and their habitats– operates in Northern Ireland. www.rspb.org.uk

Irish Wildlife Trust (IWT)

Charity dedicated to conserving Ireland's habitats. www.iwt.ie

Local Authorities Water Programme

The Local Authority Waters Programme (LAWPRO) is working to identify the issues affecting water quality in Ireland www.lawaters.ie

Catchments.ie

An online resource that shares science and stories about Ireland's water catchments and peoples connection to their water www.catchments.ie

LEADER - Working with water and biodiversity: a guide for community groups

www.catchments.ie/leader-working-with-water-and-biodiversity-a-guide-for-community-groups/

ENNIS Tidy Towns toolkit

Easy-to-follow guidelines for organisations, community groups, and residents' associations to manage and enhance the biodiversity of their local communal green spaces. www.ennistidytowns.com/community-biodiversity-toolkit/

The Vincent Wildlife Trust

Charity dedicated to the conservation of Irish mammals, particularly bats. www.vincentwildlife.ie

Rivers Trust

A Trust that works across Ireland and the UK to drive positive changes for rivers www.theriverstrust.org

CIEEM Membership Directory

The Chartered Institute of Ecology and Environmental Management's directory of professionals engaged in ecological consultancy and research www.cieem.net

Biodiversity Handbook for Business

www.bitc.ie/wp-content/uploads/2019/02/BITCI-Biodiversity-Booklet-14.2.19.pdf

Gardening for Biodiversity

<https://www.heritagecouncil.ie/content/files/Gardening-For-Biodiversity.pdf>



Appendix A: Biodiversity Resources Online

Conserving Hedgerows

www.heritagecouncil.ie/content/files/conserving_hedgerows_2mb.pdf

EPA Maps

View environmental data <https://gis.epa.ie/EPAMaps/>

Heritage Maps

The Heritage Maps viewer is a web-based spatial data viewer which focuses on the built, cultural and natural heritage around Ireland and off shore. www.heritagemaps.ie

GeoHive

GeoHive is an initiative by Ordnance Survey Ireland to provide easy access to publicly available spatial data www.geohive.ie

Birds, Bats, Buildings and You

A leaflet explaining the importance of our buildings for bats and birds
https://www.heritagecouncil.ie/content/files/bats_birds_buildings_you_2009_3mb.pdf

A Guide to Habitats in Ireland

Download free copy of A Guide to Habitats in Ireland here:
https://www.heritagecouncil.ie/content/files/guide_to_habitats_2007_5mb.pdf

Farming for Nature

Farming for Nature seeks to acknowledge and support farmers who farm, or wish to farm, in a way that will improve the natural values of the countryside.
www.farmingfornature.ie

Farmland Habitats

https://www.heritagecouncil.ie/content/files/farmland_habitats_series_01_2007_1mb.pdf

County Leitrim Heritage Plan 2020-2025

www.leitrimcoco.ie

