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Community Biodiversity Action Plan for Omeath, Co. Louth

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Introduction

This Community Biodiversity Action Plan has been created with a grant from The Community Foundation for Ireland (CFI) Environment and Nature Biodiversity programme. In 2019 CFI awarded grants to 56 groups throughout Ireland to enhance biodiversity by combining the expertise of qualified ecologists with the skills, experience, knowledge and enthusiasm of local community groups.

Representatives from Omeath District Development CLG (ODD) were successful with their grant application to Community Foundation Ireland. ODD provides social, economic, employment, recreational and tourism services to the community. They partnered with Simon Barron, an Ecologist with BEC Consultants Ltd, for this project. Simon has been working with representatives ODD since late 2019 to bring together the plan, though there have been disruptions and delays brought about by the Covid 19 pandemic. The plan is probably different to the one which would have been written had there not been the pandemic with there being greater appreciation for nature and biodiversity at a local level, in addition to the greater acceptance of the health benefits of spending time in a natural setting.

The Community Biodiversity Action Plan (CBAP) for Omeath is intended to work towards the promotion and celebration of biodiversity within the town and the surrounding area and to provide a plan by which the biodiversity can be enhanced. It was therefore important that all of the Omeath area be covered by the CBAP. The study area was taken as being from the top of the mountains, down to the fields and the town, beyond the seashore and out into Carlingford Lough.

Omeath and Carlingford Lough

Omeath is nestled on the shore of Carlingford Lough with the peaks of Anglesey Mountain, Black Mountain, The Foxes Rock and The Eagles Rock forming the dramatic backdrop to the town's stunning location. The rugged uplands of heath and bog give way to farmland, fens and woodland in the lowland, cut through by a number of rivers and small streams. The flat-land of the shoreline of Carlingford Lough provided the location for the Greenore to Newry railway, now converted to the hugely successful Carlingford to Omeath Greenway. The mudflats and sandflats of the Lough shore provide feeding grounds for a range of seabirds and Otter at low tide. In addition to this wealth of semi-natural habitat, this plan focuses on the hedges, trees, parks, grass verges, playing pitches and the abundance of gardens that there are both within Omeath village and the surrounding area. Biodiversity occurs throughout the study area; as are the opportunities for enhancing it.

This Community Biodiversity Action Plan (CBAP) takes account of the habitats and biodiversity currently within the study area, together with any environmental issues and challenges that may be present. Measures are then proposed which are intended to enhance the local environment and address any pressures. Crucially with the CBAP approach adopted by Community Foundation Ireland there is a strong emphasis on community involvement in the development and implementation of the plan, with the intention that the community take ownership of the plan and responsibility for its implementation. The actions include encouraging participation in a range of Citizen Science initiatives, the development of local Pollinator Plans, actions for Swifts and bats, creation of a dispersed orchard and possibly most importantly, challenging the way we view areas of long grass, Dandelions and Brambles.

The Ryland River, near where it flows into Carlingford Lough

Main Concepts

Biodiversity

Biodiversity is the variety of living things in a particular place. It is short for 'biological diversity'. All plants and animals contribute to the biodiversity of an area. This therefore includes birds, insects, trees, mushrooms, mosses and algae – and everything else in between. Genetic diversity is also included within the term Biodiversity; this would include differences within species, so the differences from one Blackbird to the next.

Buff tailed Bumblebee on Mallow at the Greenway and a Crab on Bladderwrack seaweed, Carlingford Lough

Ecological communities with high biodiversity are generally more stable and healthy than others. Biological variety can buffer communities from environmental issues and challenges. It can allow ecological communities to recover more quickly from stresses or disturbances. This is why biodiversity is important, not only for wildlife but for us too. Humans are an important part of the biodiversity occurring on earth and our actions can affect biodiversity in both a positive and negative way.

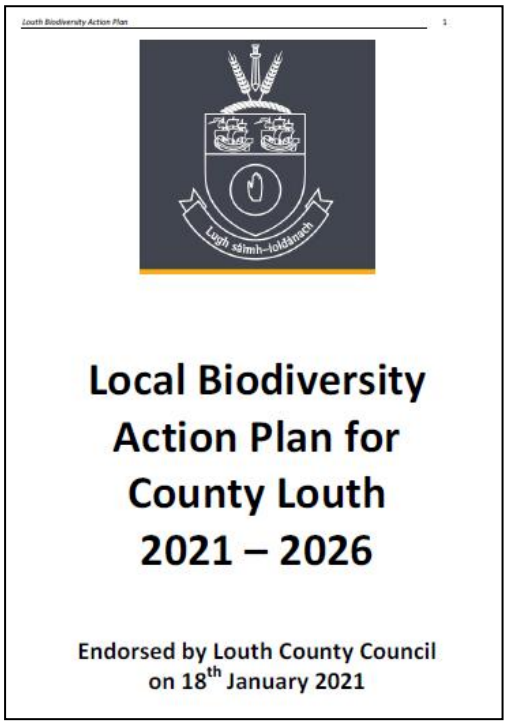
Sphagnum mosses and Bell Heather from upland areas of Omeath

In this plan habitats will be described and the value of them for wildlife will be assessed. A habitat is simply the home of an animal or a plant. Almost every place on Earth is a habitat for some kind of animal or plant. Most habitats are made up of animals and plants, together with water, oxygen, soil and rocks. Habitats within Omeath include grassland, hedges, blanket bog, woodland and the rivers.

Ecosystem is another term used in ecology to describe an area. It is also made up of all living and nonliving things in an area and might include a number of different habitats. The components of an ecosystem are interlinked through nutrient cycles and energy flows. The contribution which ecosystems make to the well-being of humans has been described in recent years as ecosystem services. Examples of ecosystems services would be the role pollinators like bees play in food production, the filtering and cleaning of water by natural vegetation, the shade and oxygen provided by trees and the pleasing areas provided by nature for walking, gardening, recreation and relaxation.

Coastal habitat, Carlingford Lough, Omeath

What is a Biodiversity Action Plan?



A Biodiversity Action Plan looks at what species and habitats are in an area and what issues there might be facing them. The Plan identifies what actions are needed to address these issues, who might carry them out, over what timeframe and where funding might be sought. It also looks to include community participation in nature projects through Citizen Science. It may be that not all actions identified can be addressed in a short timeframe so it is good to prioritise actions based on the resources that might be available. A local Biodiversity Action Plan should also ensure no harm comes from the plan through inappropriate management. A plan developed together with the local community allows people to learn more about the wildlife of their area, to appreciate what is there and to conserve and enhance this.

The *National Biodiversity Action Plan for Ireland* sets out its vision for Biodiversity as:

> *"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."*

There is also a *Local Biodiversity Action Plan for County Louth 2021-2026*. The purpose of the Louth County Council BAP is to 'protect, enhance and restore biodiversity within the county of Louth'. The recent Louth County Council BAP is a positive move towards these aims with recognition of the role Louth County Council has to play in protecting and enhancing biodiversity. Some of the Actions in the Louth County Council BAP which are directly relevant to the Omeath CBAP are:

- The protection and restoration of biodiversity features (Action 5),
- Implementing the All-Ireland Pollinator Plan (Action 22),
- Creation of a list of Local Biodiversity Areas in the County (Action 38),
- Support the surveying of bats and birds of various species and the manufacture and erection of bat roosting and bird nesting boxes (Action 39) and
- Support practical biodiversity conservation by local people in County Louth (Action 40).

As outlined in the county plan 'national and international biodiversity policies will only be achieved if lower tier biodiversity plans implement them locally'. The Omeath CBAP is a lower tier plan which takes on the objectives of the national and county level plans and implements them at a local level, by local people.

The Omeath Community Biodiversity Action Plan will act as a guide in the management of local areas of biodiversity value. The Plan contains a written report with maps identifying the areas of biodiversity importance within the area. It then describes a number of actions that can be practically achieved. Additional detail on these Actions is given in the Appendices together with the detail of the walkover survey.

A queen Red-tailed Bumblebee on a Dandelion

Local Context

The Omeath area is made up of the ten townlands of Ardaghy, Ballinteskin, Ballyonan, Bavan, Cornmucklagh, Corrakit, Drummullagh, Knocknagoran, Lislea and Tullaghomeath. The townland boundaries generally correspond with features on the ground such as the course of rivers and streams, field boundaries and in the mountains river catchment boundaries. As they often follow natural features this makes them a useful division when considering the biodiversity of an area. Within these townlands there is a huge range of biodiversity. Reaching from the heath and bog on the upper slopes of the mountains through the sheep grazed upland grasslands and the fields on the outskirts of the village, through to the coastal strip and into Carlingford Lough. The area has a wealth of different habitat types from the mountains to the sea and therefore there is a wide range of species supported.

The mountains behind Omeath are part of the Carlingford Mountains Special Area of Conservation (SAC). It is designated for ten different habitat types, including Blanket Bog, Dry Heath, Wet Heath, Alkaline Fens and Rocky Slopes. The upland area also supports two rare mosses Hooked Scorpion-moss and Alpine Haircap, the heath species Cowberry and the Alpine Clubmoss. This all contributes to making Carlingford Mountain SAC one of the most important upland sites in the eastern half of the country.

Drift line vegetation near Omeath Pier

The shore at Omeath has been designated as a Special Area of Conservation for 'Annual vegetation of drift lines' and 'Perennial vegetation of stony banks'. Examples can be seen near Omeath Pier. Here the tidal litter such as seaweed is able to accumulate and provide nutrients for plants such as Orache species which grow on this strip. These strips are often unstable and can be washed away in storms and then gradually built up again over time.

Other biodiversity highlights within the locality include the woodland at Ferry Hill which is recognised as a 'Long-Established Woodland (I)' on the Ancient and Long-Established Woodland database. This is due to there being map evidence of the woodland having been continuously wooded since the first edition maps of 1830-44. The woodland at Ferry Hill may be older but evidence of greater antiquity has not yet been found. Ancient and Long-Established Woodlands are, by their very nature, a finite resource in Ireland. There is just one other site in north Louth currently on the database this being at Tipping Hill, Bellurgan, with other recorded Ancient and Long-Established Woodland in Louth sites are all south of Dunleer. It appears the woodland at the Park Hotel, Drummullagh is also Long-Established Woodland though it has not been recognised in the database. Other sites in the Omeath area and on the Cooley Peninsula may also qualify and this would be worth investigating.

At Dumullagh there is an area of fen which was considered by the Louth Wetland Survey as being of National Importance.

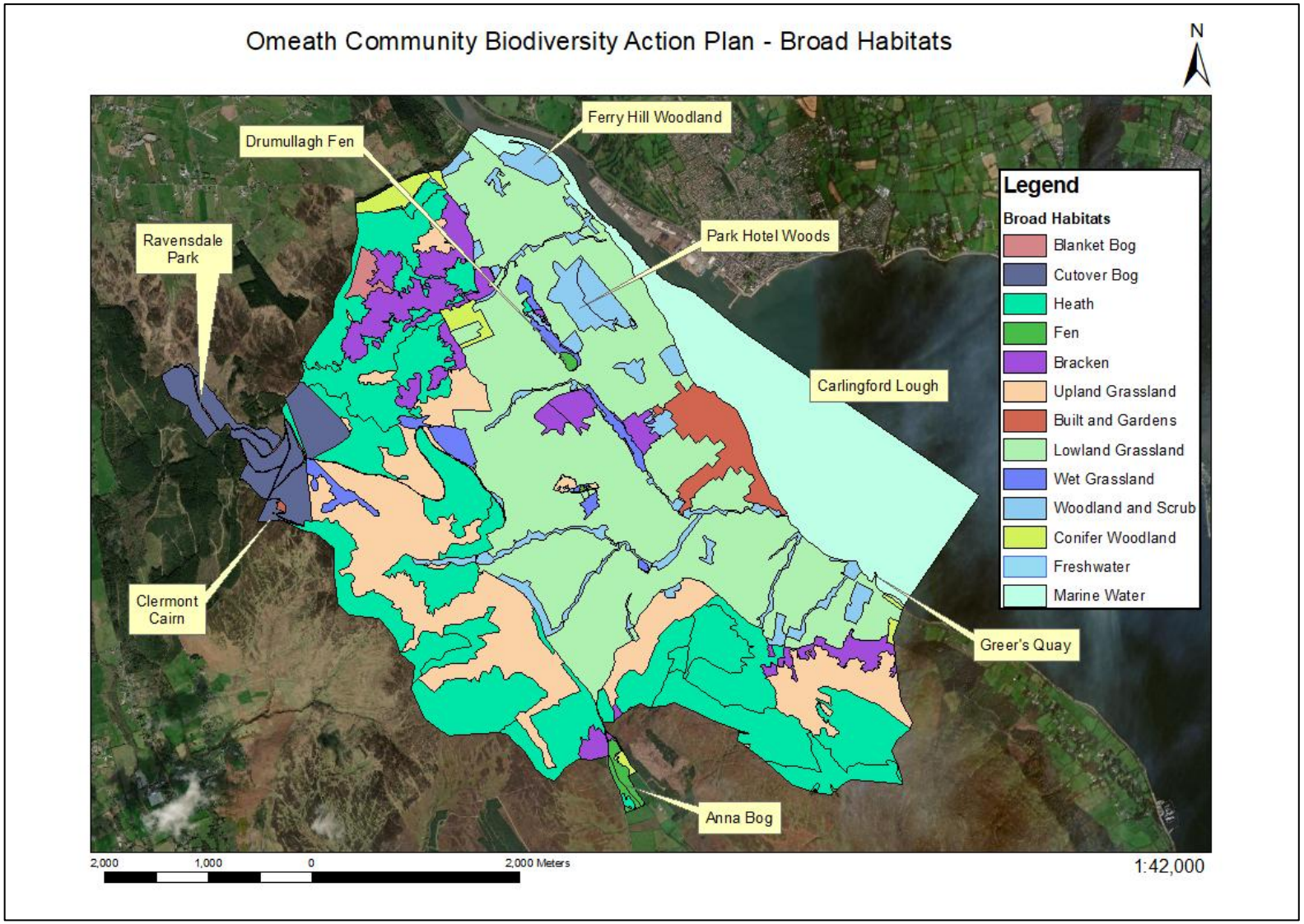
The Carlingford to Omeath Greenway is a fantastic regional resource giving a greater number of people the opportunity to experience the beauty of the Omeath area. This is set to be developed further with the route being extended from Omeath to Newry. As well as being a walking and cycling route for people to enjoy this has the opportunity for providing a corridor of habitats which can be used by birds, animals and insects, including pollinators.

The Omeath Village Regeneration Programme which was announced in May 2021 will be a significant development for the area and it would be hoped the opportunity for incorporating the principles of sustainability and providing for pollinators, as outlined in the Louth County Council BAP, will be incorporated into the Programme. A further planned development is the Narrow Water Bridge. This has been considered for a number of years and received a recent boost when funding to bring the proposal to tender stage was announced in June 2021. Again it would be hoped the principles of sustainability and pollinator friendly landscaping would be incorporated into the design.

The Habitat Map

A broad habitat map has been produced for Omeath, through compiling existing mapping data, review of aerial photographs and habitat survey work. The survey boundary was taken as the 10 townlands of Omeath. It then extends out into Carlingford Lough as far as the dredged channel within the Lough and two additional areas were added encompassing Anna Bog near the Windy Gap and cutover bog areas at Ravensdale Park. This is a large study area of almost 27 km^2. Working at a large-scale it has been necessary to merge some of the habitats from the original datasets into broader categories such that the maps are more straightforward to read. This does mask some of the detail of the landscape. For example the intricate network of trees and hedges are not shown, nor the variety of habitats that occur along the narrow strip along the coast of the Lough. Additionally the myriad gardens, lawns, hedges, trees and road verges found throughout the area are largely encompassed within the 'Built and Gardens' category. The role played by the course of the rivers and streams can however be clearly seen as can the upland areas and the coast. Some of the areas surveyed in more detail are noted on the map to assist with orientation. These are described in Appendix 2.

The coastal strip near Greer's Quay


Omeath Community Biodiversity Action Plan - Broad Habitats
N
Drumullagh Fen
Ferry Hill Woodland
Ravensdale Park
Park Hotel Woods
Carlingford Lough
Clermont Cairn
Greer's Quay
Anna Bog
Legend
Broad Habitats
Blanket Bog
Cutover Bog
Heath
Fen
Bracken
Upland Grassland
Built and Gardens
Lowland Grassland
Wet Grassland
Woodland and Scrub
Conifer Woodland
Freshwater
Marine Water
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1,000
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Actions for Biodiversity

In the table below is a summary of the recommended Actions for the Omeath Community to undertake for the benefit of biodiversity in and around the town. More detail on these is given in the Appendices. These Actions are intended to cover a range of Actions from those which are relatively easy to achieve through to more involved multi-year projects, which may have a range of facets to them. The overall objectives of the Actions are to enhance the biodiversity features of Omeath and to increase community engagement and connection with the local natural environment.

In Ireland our pollinators really are in trouble and the AIPP provides a way for us all to get involved in addressing this. There is therefore an emphasis on providing for pollinators within the Actions given and some overlap between these. Though there is a general Action for encouraging involvement in Citizen Science there are some initiatives that are considered so fundamental to the success of enhancing and measuring biodiversity that they have been highlighted as Actions in their own right.

Action no.	Action	Locations/Venue	Timeframe
1	Record and monitor the water quality of the rivers and streams	Rivers and streams throughout the Omeath area	Medium term onwards
2	Map invasive plant species	Throughout the Omeath area	Short-term onwards
3	Conduct a survey of swift nest sites and provide additional next boxes	Throughout Omeath	Short-term onwards
4	Continue the Omeath Biodiversity Facebook page	Online	Short-term onwards
5	Make Omeath more friendly to bees and other pollinators	Omeath	Short-term onwards
6	Change the grass-mowing regime for the benefit of pollinators	Any suitable grass verge, green area or lawn.	Every year
7	Plant more native trees	Gardens and suitable green spaces.	Once-off events
8	Dispersed urban orchard	Gardens and suitable green spaces.	Medium term
9	Plant biodiversity enhancing flowerbeds and pots	Any garden, green space, tub or container.	Medium term
10	Construct and erect bird and bat boxes	In peoples gardens. In public places where there are trees.	Medium term
11	Purchase Bat detectors	Throughout Omeath and beyond	Medium term
12	Map and assess hedgerows and treelines within Omeath	Omeath Village	Medium term
13	Enter actions for Pollinators on All-Ireland Pollinator Plan website.	Online	Short-term
14	Encourage participation in Citizen Science	Throughout Omeath and beyond	Short-term onwards
15	Increase understanding and awareness of the conservation designations areas	Dolmen Centre	Short-term onwards
16	Hedgehog highways and hibernation boxes	In peoples gardens. Online awareness campaign.	Short-term
17	Water pollution awareness	Online or at the Dolmen Centre	Short-term
18	Beach clean up	The Omeath coastline	Short term onwards
19	Marsh fritillary survey	Drumsallagh Fen	Medium term
20	Greenway verge management	The Greenway	Medium term
21	Restoration of cutover bog at Ravensdale Park	Ravensdale Park	Long term
22	Host the Omeath Bioblitz	Throughout the Omeath area	Medium term 2023 or 2024

Project Review

As with any project of this type it will be worth reviewing the plan after a given time to reflect on what has been achieved and to set new targets. A suitable timeframe is likely to be 5 or 6 years. At that time it will be worth considering which Actions have been achieved and those which have not, together with consideration of the reasons for this. This review process will help in setting realistic targets for the future or in identifying where additional assistance might be needed.

A queen Buff-Tailed Bumblebees feeding on the pollen of a crocus in early spring. They will even spend the night inside the flowers which close up around them. Plant some crocus bulbs this autumn, to provide springtime food, shelter and colour.

Appendix 1: Detailed Table of Actions

Action no.	Action	Reasons	Locations	Timeframe	Methods
1	Record and monitor the water quality of the rivers and streams	Unlike many communities in Ireland where rivers and streams pass through a community the rivers and streams of the townlands of Omeath occur entirely within the townlands. The people of Omeath therefore have responsibility for these watercourses. There are no EPA monitoring stations on these rivers and streams and like many coastal streams the water quality is generally thought to be 'Good' but it would be great to have available records to support this. Having data recorded by the local community would be even better, enhancing the sense of ownership of, and responsibility for, water quality in the catchments.	Rivers and streams throughout the Omeath area	Medium term onwards	Recording water quality data needs some knowledge and training but having familiarity with the approach will make it achievable. The insects that live in a stream provide an indication of the quality of the water and whether it is polluted. A simplified Citizen Science approach to this type of investigation is due to be launched across Ireland where just six species are looked at. Training can be provided to the community through LAWPRO or LCC and there is information on Louth.Waters-Project.com, but it is really a case of getting some recording equipment, ***getting out to the rivers and streams*** and getting familiar with the creatures that live there.
2	Map invasive plant species	Invasive species are an increasing problem for Ireland's native biodiversity and, unfortunately, an issue within and around Omeath. There are a number of records of Japanese Knotweed within the Village and Rhododendron is recorded from the woods at Ferry Hill. The first step to dealing with this issue is knowing where the invasive species are. Mapping invasive plants is an ***excellent introduction to Citizen Science*** recording.	Throughout the Omeath area	Short-term onwards	Invasive Species can be mapped by the local Community using the Invasive Species App. It is hosted by Limerick County Council but records from anywhere in Ireland can be added. Records are verified and then sent to the National Biodiversity Data Centre. These records are then forwarded to the County Councils. The app has photos of the four main invasive plants to help with identification.
3	Conduct a survey of swift nest sites and provide additional next boxes	Swifts in screaming groups is a common feature on summer evenings in many Irish towns and villages but they have experienced a 40% decline in numbers in recent years and need our help. Swifts are present in Ireland for just four months from the end of April to mid-August. The aim of	Throughout Omeath	Short-term onwards	Actions for Swifts are a ***real positive demonstration of what can be done within a community*** for a species that is in trouble. A survey of Swifts in Omeath would establish the current number of nesting sites and provide a baseline for installation of additional nest boxes. Raise awareness of the plight of Swifts through Omeath Biodiversity: have you seen a swift let us know, reporting the first swift in the town. LCC

		this action is to secure the future of Swifts in Omeath, to raise awareness of the plight of Swifts in Ireland, to identify and protect existing nest sites and to provide additional nest sites.			Community Grant application to provide funds for nest boxes.
4	Continue the Omeath Biodiversity Facebook page	The Omeath Biodiversity Facebook page has been initiated for and by the people of Omeath. Starting in April 2020 near the beginning of the Covid 19 pandemic the page became an important celebration of nature at a local level when we were all largely confined to our homes and gardens. The posts help people to explore, celebrate, appreciate, protect and enhance the natural habitats that surround Omeath. Posts include competitions, foraging wild foods, exploring local sites, and spotlight on different common species.	Online	Short-term onwards	Continue the ***excellent information provision*** through Omeath Biodiversity Facebook page. The intelligent posts encourage engagement with the local environment. Occasional additional articles in, for example, local newspapers may help reach a wider audience. Future posts might include features on Citizen Science apps like the plant ID LeafSnap, River Obstacles and See It? Say It! and Report Invasive Species. Sustainability issues such as installing water butts to reduce water use and how to report pollution incidents to LCC can be included. Timely reminders of when to mow the lawn if on a 6 week regime, or what species to look out for in particular months can also be included.
5	Make Omeath more friendly to bees and other pollinators	The All Ireland Pollinator Plan (AIPP) is a national pollinator strategy that has developed from the ground up with the aim of making Ireland a place where pollinators can survive and thrive. If we get conditions right for pollinators we will have it right for most other biodiversity that is likely to occur in and around Omeath.	Omeath	Short-term onwards	The AIPP emphasises that ***everyone can play a part*** in improving the situation for pollinators. There are guidelines for schools, businesses, farmers, sports clubs, gardeners, Tidy Towns organisations, county councils, faith groups. Advertise the 'Don't Mow Let it Grow' approach. Remind people to not cut their lawn until April. Work with Omeath Tidy Towns to develop a plan for the town based on the guidelines from AIPP.
6	Change the grass-mowing regime for the benefit of pollinators	This is one of the main proposals of the All-Ireland Pollinator Plan and is ***easy to implement***. It allows wildflowers to develop within areas of grass providing valuable food and shelter for pollinators such as bees. It also reduces the costs and carbon footprint of intensive mowing. It is a simple cost-effective measure that can be applied to any grassy area from parks, green areas in estates, landscaped areas around businesses and offices, roadside verges and front and back gardens of any size. There will still be plenty of areas for kicking a ball around.	Any suitable grass verge, green area or lawn.	Every year	There are various options for reducing mowing given in *Gardens: actions to help pollinators*. I) Delaying mowing until mid April after the Dandelions have flowered. II) Cutting some areas on a 6-week rotation. III) Allow portions or strips to grow long. The seeds of wildflowers can be collected from local fields and verges and scattered on your area.

7	Plant more native trees	Everybody loves trees and many people love planting trees. Native trees and shrubs make a beautiful addition to gardens, public green spaces and the broader landscape. They also have ***enormous benefits for wildlife*** and the environment including the storage of carbon. There is great scope for additional tree planting in many areas of Omeath, including in gardens, parks, school grounds and on roadside verges.	Gardens and suitable green spaces. This may include sections along the Greenway	Once-off events Planting to be done between November and March when the ground is not waterlogged and it is not frosty.	Groups of 3-5 trees are preferable to single trees. Semi-mature trees are more expensive but where there is a concern of smaller trees being vandalised this may be the best option. Do not use herbicides to keep down weeds; use biodegradable mulch, weed mat or pull weeds by hand. Trees need plenty of water in their first few years. LCC may be able to provide trees to community groups. Also treesontheland.com provide subsidised trees to schools and community groups
8	Record apple trees within the village, plant a community orchard or a dispersed urban orchard	Apple trees provide ***food for pollinators (blossom) and for people (apples!)*** A dispersed urban orchard is formed when people plant apple trees in their garden, a park or other open area. Pollinators will travel from tree to tree pollinating the fruits. It would also be good to identify any established orchards within Omeath and potentially any old Irish varieties of apple. Identify if there are apples or other fruit currently going to waste. A lot of space is not needed for apple trees and trees can be chosen to suit the space available. Smaller varieties can even be grown in containers.	Gardens and suitable green spaces. Including possibly at the Dolmen Centre.	Medium term	Identifying old orchards, the current distribution of apple trees in Omeath and any fruit going to waste can be done through the Omeath Biodiversity Facebook page. A community orchard could be planted if there is available space or a dispersed orchard with apple trees in gardens across the Omeath area. Apple trees or raspberries at points along the Greenway would be a welcome treat for those using the path in the autumn. The dispersed orchard would tie in with the one being developed nearby in Carlingford by the Tidy Towns group.
9	Plant biodiversity enhancing flowerbeds and pots	This will increase plant diversity and also the insect diversity that will feed on these plants. In turn the insects can provide a food source for birds and mammals such as bats. Over the long-term perennial plants will reduce the cost and the labour for planted areas as the need to buy new plants each summer will be reduced.	***Any garden, green space, tub or container***.	Medium term	The All-Ireland Pollinator Plan has lists of suitable planting mixes. A perennial planting mix can last 10 or 12 years and as plants get larger they can be split and planted elsewhere. The great work already done in the Dolmen Centre can be used as an example of how this can be done. Working with Omeath Tidy Towns.
10	Construct and erect bird and bat boxes	Providing artificial nest boxes for birds and summer roosts for bats can help increase the numbers of these animals. Making the boxes creates opportunity for community engagement with wildlife. Seeing boxes in	In peoples gardens. In public places where there are trees.	Medium term	There are plans available online for how to build and where to locate bird boxes for different species of birds and bat boxes. The Youth Community Garden Project in conjunction with Engage4Change Programme could assist in the construction of these boxes. Action 39 of the LCC BAP is to support the

		position ***raises awareness*** of the work being done for wildlife by the Omeath Community.			erection and manufacture of bat and bird boxes. To coincide with when bat boxes are in place there could be a launch with a community 'bat walk' or a dawn (or evening) chorus walk.
11	Purchase Bat detectors	Building on the proposal for bat boxes, a number of bat detectors could be purchased to increase ***awareness of and engagement*** with these animals that occur within the Omeath community.	Throughout Omeath and beyond	Medium term	Bat boxes could be stored at the Dolmen Centre and loaned to members of the community for them to record bats in their garden, woodland, section of the Greenway or along a quiet road. A proviso could be that records of bats that are identified are entered on the NBDC website.
12	Map and assess hedgerows and treelines within Omeath	'Trees and hedges of Special Amenity Value' are indicated on the Omeath Development Plan. A review of available aerial photographs suggests these may not represent the best examples of hedges and treelines within the locality. The aim of this would be to ensure the best hedges and treelines are recognised and the habitat ***maintained and improved***.	Omeath Village	Medium term	The trees and hedges indicated in the Omeath Development Plan could be reviewed on the ground with recommendations made for inclusion of additional features. This could include review of historical maps such that boundaries of historical significance are recognised. Hedges and treelines that act as wildlife corridors, allowing animals to move through the landscape could be included. The review could also develop management recommendations for hedges and treelines such as re-enforcement planting, specific cutting regimes or coppicing to ensure the continuation of these features into the future.
13	Enter actions for Pollinators on All-Ireland Pollinator Plan website.	Actions from the All-Ireland Pollinator Plan are being carried out across the country but lots are not being recorded on the 'Record Your Actions' section of the website. As of January 2020, there are no action areas recorded in Omeath with the closest being in Greenore. There are just 5 records across Louth.	Online	Short-term	Recording Actions for Pollinators is a way for the AIPP to track the build up of food, shelter and safety for pollinators. It is also a ***demonstration of the work being done*** in Omeath for pollinators within the community. This can be done by Community groups and also by individuals. Posts on the Facebook page can remind people to do this and entries made could be included in the Tidy Towns submissions Enter actions carried out for pollinators on www.pollinators.ie/record-your-actions/
14	Encourage participation in Citizen Science	Citizen Science is research carried out by members of the public who volunteer to collect scientific data. The widespread use of smartphones means data can be easily collected and shared. Participation increases public engagement with and understanding of important environmental issues and ***encourages people of all ages to get out into nature***. It can also contribute to an increased sense of community.	Throughout Omeath and beyond	Short-term onwards	Citizen Science actions have been detailed above for Invasive Species recording. Other projects can be highlighted at particular times of the year through social media. Examples are recording frogs through the Hop to It project, Coastwatch, Dragonfly Ireland 2019-2024, Butterfly surveys, Backyard Biodiversity (20 recognisable species to record). Explore Your Shore, and River Obstacles.

15	Increase understanding and awareness of the conservation designations areas in the locality	Omeath has two Special Areas of Conservation (SACs) on the doorstep with the Carlingford Shore SAC and Carlingford Mountain SAC. The Tidy Towns judges picked up on the designations not being mentioned in the submissions. Presentations on the ecology of these areas, the reasons for their designation and what the designations mean would enhance ***community engagement*** with these areas.	Dolmen Centre	Short-term onwards	Presentations on each of the SACs could be provided by an independent ecologist or a representative of NPWS. Presentations could be held in the Dolmen Centre or on site by guided walks through the areas. LCC, or possibly NPWS would likely assist with funding for these presentations.
16	Hedgehog highways and hibernation boxes	Hedgehogs roam an average of 2km per night. Gardens provide good habitat for hedgehogs, but they need lots of gardens and access to and from them. Hedgehog highways are a good measure for raising biodiversity awareness and participation of the community. These are simply holes cut into the bottom of fences to allow movement of Hedgehogs from one garden to the next. This is a project that requires ***neighbours to work together*** and the more neighbours who are involved the more effective the 'highway' will be.	In peoples gardens. Online awareness campaign.	Short-term	Hedgehog highways can be made simply by making a 13cm x 13cm hole at the bottom of a fence or wall to allow hedgehogs to move from one garden or green space to the next. Examples can be seen on www.hedgehogstreet.org/. They also have designs for hedgehog homes and where to position these. Hedgehogs are a feature of so many children's book so they are a good animal to focus on as we all feel we know about them. There are no records of Hedgehog on the NBDC website for the Omeath area (as of 15/6/21) but there are records from Carlingford and Drumalane Road in Newry so they are likely to be about. Enter any records of hedgehog on the NBDC website.
17	Water pollution awareness	Toilets, sinks and drains are tributaries of our rivers and what we put in them has a huge capacity to impact our local water and biodiversity. As do any herbicides and pesticides used in our gardens. Living on the edge of Carlingford Lough the local community can readily see where pollution will end up. An ***increased awareness of the impacts of pollution*** and how to prevent it at a local level would be of benefit to the local community and environment.	Online or at the Dolmen Centre	Short-term	The facebook pages of Omeath Biodiversity and Love Your Lough play a valuable role in raising awareness of water pollution issues as well as advertising beach clean ups and celebrating the beauty of Carlingford Lough; as does Omeath TT facebook page. To build on this awareness, specific training days on water pollution could be held. The Local Authority Waters Programme (LAWPRO) provides funding for community information training. Or the Loughs Agency could be approached in relation to this.
18	Beach clean up	Large amounts of rubbish can wash up in coastal areas and it is important to remove litter from these areas. It not only improves the look of these natural areas it removes harmful material like plastic from the marine	The Omeath coastline	Short term onwards	It is super that Scoil Naomh Lorcan Green School group are registered with An Taisce's Clean Coasts initiative and, with other community groups such as the Tidy Towns, conduct regular beach clean ups. It is important to ***keep these going***. A further move could be to Adopt a Beach where people commit

		environment. Equally important is the opportunity it gives local people to get involved with the nature. This may be an opportunity to get additional people involved rather than those who are always involved with Tidy Towns initiatives. Involving school groups may help to address the issue as children who have been involved in clean ups are less inclined to litter			to keeping a particular area clear of litter. Coordinating this is becoming easier with the increased availability of digital mapping. Another issue is dumping of garden waste in the Lough; it would be great if this were discouraged.
19	Marsh Fritillary survey	Marsh Fritillary is an endangered butterfly found on wet grassland, heaths and bogs. They feed on the Devil's-bit Scabious plant so these purple flowers are always nearby. A long-term target could be to ***make areas in Omeath more attractive*** to this rare butterfly. There are records of Marsh Fritillary in County Down. An initiative like this could be added to Omeath's Tidy Towns submission.	Drumsallagh Fen	Medium term	There are no records for Marsh Fritillary from the Cooley Peninsula on the NBDC website but suitable habitat is recorded at Drumsallagh Fen. Surveys are best conducted in August through September when, rather than looking for the butterfly, you survey for webs of caterpillars. These are relatively easy to identify. Details of the Marsh Fritillary Monitoring Scheme are at https://www.biodiversityireland.ie/projects/monitoring-scheme-initiatives/butterfly-monitoring-scheme/get-involved/mfritms/
20	Greenway verge management	The Greenway is a superb resource for walkers and cyclists and also for local biodiversity. The vegetation alongside contains many wildflowers for pollinators, areas of long grass for insects, hedgerows and trees. It also provides opportunity for people to interact with nature and biodiversity.	The Greenway	Medium term	Aim for the Greenway to be managed for biodiversity by implementing suitable aspects of the AIPP Actions for Transport Corridors. These would include reducing or eliminating the use of herbicides and pesticides, protecting existing sources of food and shelter. There is already a wealth of native wildflowers growing along the Greenway and it is a question of ***allowing them to flower and to set seed*** while maintaining safe and easy access by people using the Greenway, rather than planting seeds in. Flowers growing in the wild are generally pollinator friendly.
21	Restoration of cutover bog at Ravensdale Park	There are areas of cutover bog within the Coillte estate on the upper slopes of the catchment near Anglesey Mountain and just over the ridge into Ravensdale Park. The drains in these bogs allow the peat to further dry out and release dissolved carbon into the streams. Restoration of biodiversity features is a stated aim of the LCC BAP and should be the aim of Coillte under their	Ravensdale Park	Long term	There would be a number of strands to this Action with a fundamental part being the involvement of Coillte. There are low cost, low tech, ways of measuring the depth of peat and whether it is shrinking (losing carbon), and the height of the water beneath the surface which is crucial for a healthy bog. The West Cavan Bogs Community Action Group has established a similar monitoring project on a bog in their area following the Eyes on the Bog techniques. https://www.iucn-uk-peatlandprogramme.org/get-involved/eyes-bog.

		Biodiversity Areas. A restoration project here would ***turn these areas of bog from carbon emitters to carbon sinks***. The project provides opportunity for the Omeath community to work with specialists on an important restoration project.			Restoration is likely to involve specialist hydrologists who use LiDAR data, which measures distances with laser pulses, to identify drains, ditches and how water flows off the site. They then develop a system for blocking these drains to keep water up on the bog allowing the bog mosses to grow.
22	Host the Omeath Bioblitz	A Bioblitz is an event when as many plants and animals as possible within Omeath are recorded within a 24 hour period. Events are run through the day such as a dawn chorus walk, pond dipping, a bat walk, wildflower recording, moth trapping, etc	Throughout the Omeath area	Medium term 2023 or 2024	This event would encourage people to ***explore different areas*** within the Omeath area including Drumullagh Fen, Anna Bog, the coast, and hedgerows and fields. These events require significant organisation as different experts need to be involved and a base for collation of data is required. The NBDC will be able to advise on this and LCC and the Loughs Agency will also be able to assist.

Additional Actions

As well as the main actions listed in the table above, a number of additional actions which could be considered are listed here. They would all be for the benefit biodiversity in Omeath and the appreciation of our natural environment but have not been developed fully as Actions for the area at present. It should be noted that any measures carried out for the betterment of biodiversity, can be considered for inclusion in submissions to the Tidy Towns competition and, where relevant, be added to the Actions for Pollinators section of the All-Ireland Pollinator Plan website.

- Investigate if the local wooded areas in Omeath can be considered Long-Established or even Ancient. These are woodlands for which there is mapping evidence that they have been in existence for many years. By their very nature Ancient or Long-Established woodlands are a finite resource in Ireland. They can be identified by looking at historic maps some of which are now available online at www.geohive.ie and comparing them with the shape and extent of existing woodlands on aerial photographs. This project would lend itself to someone interested in looking at maps and aerial photographs, or who knew of old estate maps for the Omeath area. Additional information on the definition of the different woodland types and the maps that should be used can be found at https://www.npws.ie/sites/default/files/publications/pdf/IWM46.pdf.
- Spread of the native fern Bracken is likely to pose a more significant threat to the biodiversity of Omeath than introduced invasive plants. Bracken spreads onto grassland and heath, particularly when farming in an area is reduced or stops or after wildfires on heath. Though a significant issue it is a difficult one for a community to tackle. Ordnance Survey Ireland (OSI) and the EPA are currently preparing a Landcover Map of Ireland and the extent of Bracken is being successfully mapped through this. When this becomes available the extent of Bracken in the Omeath area will become apparent. Expansion of Bracken will be of concern to NPWS as it is likely important habitats within Carlingford Mountain SAC, such as Dry Heath are deteriorating due to the encroachment. Comparisons will be able to be made between the extent of Bracken given in the OSi/EPA map and that which was recorded by NPWS during the 2010 survey of Carlingford Mountain SAC. Potential routes for tackling the issue of Bracken are through dedicated LIFE –Funding, possibly covering a number of upland SACs on the east coast, or an EIP-AGRI scheme (European Innovation Partnership for Agriculture Productivity and Sustainability). Sustainable Uplands Agri-environment Scheme (SUAS) is an EIP covering the Wicklow Uplands with the aim of developing a commonage/upland handbook for a locally led outcome based Agri-Environment Scheme that can be adopted across all Irish

commonages and upland areas. The outcome from the SUAS project will likely be of value to the Cooley Peninsula if it can then be implemented here. Omeath District Development may have a role to play in this through providing a local office base, expertise in grant applications, appointment of suitable staff and project management.

Bracken on dry heath habitat, Carlingford Mountain

- The reasons for the designation of Carlingford Shore SAC are the two specific habitats of Annual Drift Lines and Perennial Vegetation of Stony Banks. Review of the available research carried out by NPWS on these habitats indicates they occur further along the coast beyond Greenore but that the sections of coast at Omeath may not have been surveyed for these habitats. It would be helpful if NPWS were able to determine whether these habitats do actually occur at Omeath or if there are alternative habitats which the SAC at Omeath should have listed.
- Local biodiversity themed photography competitions through the Omeath Biodiversity Facebook page could become a regular event.
- Push for the designation of the Carlingford Lough Marine Protection Area. Establishing Carlingford Lough as a transboundary Marine Protection Area would give a greater level of protection to the Lough and would be a tool to conserve and restore biodiversity and ecosystem services in the marine environment. It would additionally raise the profile of the Lough, promote tourism and be a source of pride for the communities that surround the Lough. The Omeath community can engage in the debate as to how Carlingford Lough should

be managed and in Ireland's failure to designate a sufficient percentage of Ireland's marine territory as marine protected areas.

- Posts on the Omeath Biodiversity Facebook page on ferns, Ivy-leaved Toadflax and other plants growing on walls would help develop the appreciation of this often neglected aspect of biodiversity.
- Seaweed has been used as a resource for enriching soil in gardens for generations in Ireland and after winter storms Carlingford Lough has an abundance of seaweed. Seaweed which is **not attached** and is lying on the beach can be collected by individuals for personnel use. Collection of any larger scale would need licensing from the Department of Agriculture, Food and the Marine and cutting of attached seaweed would also require consent. Collecting dry seaweed from high up the beach is easiest as lighter. Seaweed left in a bucket of water for a few weeks makes a high-concentrate (if rather smelly) plant feed.

Seaweed on the shore of Carlingford Lough, together with some dumping of garden waste

- Dumping of garden waste such as hedge trimmings and grass clippings within Carlingford Lough was noted on visits during 2020, but was far less visible in 2021. It is a practice which should be discouraged. In effect the biological impact of such dumping may be slight and would include an increase in nutrients and decaying matter in the water column. Additionally there would be a risk of materials from invasive plants being washed up onshore and taking root elsewhere. Dumping of garden waste in this way is unsightly and can encourage an attitude that it is OK to dump waste in the sea. We should endeavour to deal with the waste we generate, whether in our gardens or our homes, through more acceptable means.

- Map sources of pollution. Pollution can enter rivers and the Carlingford Lough though pipes, streams and drains. If these appear discoloured or cloudy, or if the water smells of sewage or detergent, they could indicate misconnections in the sewage system. These can be mapped and photographed via the EPAs 'See it? Say it!' App. This information can feed into work done by LCC in addressing water quality within the river systems.
- Dumping on the quiet roads in the upland areas of Omeath is, unfortunately, an issue. The 'See it? Say it!' App is the mechanism established by local Government for this to be dealt with. Increased use of the App, or direct contact with LCC in relation to dumping, may be a small step towards encouraging LCC to deal with the results of dumping and perhaps addressing the causes of the issue.
- Obstacles in rivers like dams, sluices and road culverts can cause problems such as restricting movement of fish and damaging river banks and beds. A map of obstacles will help determine the limits of fish movements and identify redundant artificial obstacles which could be removed. It is also an excellent introduction to Citizen Science. The River Obstacles App is a free to use mobile App used to enable people to send in photos and details of obstacles that they see. It is a UK App but as of February 2021 there were around 130 records of river obstacles recorded throughout Ireland.

These pipes together with the step drop downstream present a significant obstacle for fish and other aquatic species

Appendix 2 Field Survey Findings

Overview

Due to the scale of the Omeath survey area a number of locations were selected for more intensive survey, this was carried out over a series of visits between December 2019 and June 2021. These represent some of the better known natural areas within Omeath, such as the heath and bog of the uplands and the coast of Carlingford Lough, and also some of the lesser known locations and areas where the biodiversity value might be overlooked. The biodiversity features of these areas are given, together with a description of the habitats which includes as many of the species as were recorded. Some recommendations for enhancing the biodiversity of these areas are given, particularly in relation to the pollinators which might occur, or which might be encouraged to the area. It is hoped the recommendations given here can be adapted for other areas of Omeath where there is similar habitat.

Gardens of Omeath

Many of the front lawns that were seen from the road appear to have been left to grow long with an abundance of the two clovers White Clover and Lesser Trefoil. Both of which are a source of food for pollinators. It is great to see the message of “Don’t Mow, Let It Grow” has already been taken up by many residents in Omeath. Additionally pollinator-friendly planting was evident with Nasturtiums, Lavenders, flowering Chives, Rosemary and Catmint (*Nepeta* species) occurring in front gardens.

In the village there are clearly biodiversity areas managed for wildlife. The Rosemary and Lavender planted alongside the footpath between the Granvue Hotel and the old station are particularly welcome. The grass areas outside the Circle K / Mace show the level of species diversity that can be attained through a ‘low mow’ management regime. Flowering Creeping Buttercup, White Clover, Lesser Trefoil, Red Clover, Ribwort Plantain, Dandelions and Bird’s-foot Trefoil all provide food for pollinators and the tall grasses will provide a variety of habitat structure for a wealth of other insects. It is however important to maintain a neat appearance such that areas are more acceptable to people who might be used to more traditionally managed grass. A narrow strip of mown grass alongside the path, the width of a standard mower, is sufficient to give an area a managed appearance. A sign indicating the area is managed for wildlife also assists with raising awareness of the plight of our pollinators. There are other areas within the town where a reduced mowing regime might be considered. This can be as simple as leaving a strip of unmown grass alongside a wall or hedge. Suitable areas might include alongside the wall at Cloch Mór Cottages, along the back wall within the small park near the Pier, on the grassy verges on Main Street, alongside the hedge on the

right-hand-side when entering Bothar Bui, the grassy verges within Ard Cullen and Cul Na Rath. Certainly in these public areas a sign letting people know why they are being managed in this way would assist. This is a measure that could be carried out in any back garden and would be of benefit to pollinators, insects, birds and bats.

Species-rich grass verge within Omeath Village

Near the coast there is some dumping of grass clippings and garden waste into the Lough and this should be discouraged. Though the waste is biodegradable we should endeavour to manage our land generated waste without putting additional pressure on our coastal habitats by adding to the nutrients within the Lough.

There are a couple of locations in the town where bee hotels have been installed. These are welcome but they do need some maintenance to ensure they are of maximum benefit to wildlife and to keep people on board with such measures. In relation to bee hotels the advice has switched to providing many small hotels rather than a few large ones. This is to safeguard against the spread of disease. Another option is to create space bare soil areas for mining bees.

The colourful planters at the Dolmen Centre tick many boxes. Made from recycled materials, involving young people in the construction so engaging people with wildlife and practical skills, and providing a source of food for pollinators and shelter for a range of other insects. The low-mow management regime here is also very welcome.

Omeath Graveyard

The lower graveyard near the Dolmen Centre is well-maintained with some areas carefully left to support pollinators. Pockets of tall grasses provide nesting sites for bees, and flowers will provide food for bees and other pollinators. The central path coming into the graveyard has White Clover, Lesser Trefoil, Selfheal, Bird's-foot Trefoil, and Cat's-ear giving a splash of colour to the path. The wall of the graveyard has a fabulous display of the ferns with Maidenhair Spleenwort, Rusty-back Fern and Wall Rue all clinging to the mortar between the stones. There are also tufts of Ivy-leaved–Toadflax. Though it was introduced from Mediterranean countries in the seventeenth centaury it is not a plant of concern and can provide a pleasing spot of colour on the walls when in flower. None of these plants cause any damage to the walls and it is wonderful that space is being retained for them within the community. Towards the seafront the grass outside the graveyard is neatly mown which contrasts well with the tall grasses and flowers marking the coastal strip. A sign indicating the coastal strip is managed for wildlife may assist with understanding of this and raise awareness of the importance of such areas.

Species-rich grassland within the graveyard Omeath.

Knocknagoran Meadow

The field between the St Laurence's N.S. School and the upper graveyard is a surprisingly species-rich grassland. Grasses include Crested Dog's-tail, Sweet Vernal Grass, Yorkshire Fog and among these are Red Clover, Lesser Trefoil, Ox-eye Daisy, Bird's-foot Trefoil, Meadow Buttercup, Kidney Vetch,

Cat's-ear and Field Wood-rush and at least one flowering orchid (likely to be a Dactylorhiza). Of particular note is the presence of a great number of Yellow Rattle plants. This is a great plant to have in a wildflower meadow and is known as the 'meadow maker', or 'nature's lawnmower'. It is partially parasitic and its roots seek out the roots of grasses and feed on the nutrients in these roots. This in turn suppresses the growth of the grasses and allows more room for other flowers to grow. If it were possible, to collect some of the seeds from these plants, with permission of the landowner, they could be used to develop more wildflower meadows through Omeath. A 'meadow' may be as small as the corner of the front lawn or a strip alongside a wall or hedge. Any area of wild flowers would be of benefit to bees and other pollinators.

St Laurence's N.S School

The school grounds can be seen to be geared towards providing food and shelter for pollinators. The landscaped planting boxes beneath the school sign have, among the roses, fully grown White Clover, Bird's-foot Trefoil and Common Vetch. These are all super flowers for pollinators and it is great to see them pride-of-place beneath the school sign with bumblebees busy collecting nectar on a dull June day. Lavender and catmint are planted elsewhere. The school grounds also support a steep 'low-mow' area with Lesser Trefoil, Bird's-foot Trefoil, and Cat's-ear all in flower. The school grounds would benefit from some of the Yellow Rattle seeds being cast on the area to reduce further the need for mowing and to create additional niches for wildflowers to grow. Like the walls of the graveyard, the school wall supports a Maidenhair Spleenwort and Wall Rue.

White Clover, Bird's-foot Trefoil and Common Vetch beneath the school sign

Cutover Bog

There are areas of cutover bog at Gleann na bhFiach, Ravensdale Park. Some sections are slightly outside the townlands of Omeath, but Omeath is the closet settlement to the bog. The impact of turf-cutting in the area can be seen with turf-banks and drains giving an uneven surface. There is some small-scale turf-cutting on-going. Ling Heather and Bilberry grow together with other typical bog species such as Purple Moor-grass, Tormentil and Heath Bedstraw. There are bog mosses (*Sphagnum* spp.) and Common Haircap (*Polytrichum commune*) in the hollows. The area is within a Coillte Biodiversity Area and, as such should be being managed for conservation, but with the drains in place it is likely to be continuing to dry out and to release carbon into the atmosphere and the rivers, in addition to it being invaded by self-seeding Sitka Spruce trees and Rhododendron. The advantages this area has as a restoration area include a reasonable depth of peat currently remaining, there is good access for machinery that may be needed and most of it is within Carlingford Mountain SAC and as such we are obligated to improving the condition of the blanket bog within the SAC. The restoration project would not be without its challenges but improvement of the habitat and creation of a carbon store rather than a carbon emitter should be feasible.

Cutover blanket bog with self-seeding Sitka Spruce near Clermont Cairn and on-going turf-cutting at Ravensdale Park

The local Coillte representatives should be encouraged to manage the area in a proactive way with the removal of invasives and the blocking of drains to retain water within the bog. This allows the peat to grow and carbon to be stored within the peat. It may be possible to develop a partnership with Coillte where the community have input into the restoration through monitoring the bog, clearing some of the invasives or installing some dams. The restoration would create a point of interest for walkers with scope to tell the restoration story that is being undertaken. Possibly the addition of a boardwalk would bring people out onto the bog to see the habitat and the restoration work.

Coillte Nature are doing great work through the Dublin Mountains Makeover Project, transforming forestry plantations in the Dublin Mountains to native woodland, implementing continuous forest cover practices rather than clear-felling and improving the quality of the upland habitats there (https://www.coillte.ie/coillte-nature/ourprojects/dublinmountainsmakeover/). It would be great if some of those positive environmental practices could be brought to north Louth.

Park Hotel Woods

The woodland at the Park Hotel is a large area of woodland (around 17 ha) on a relatively steep northeast facing slope. It is set back from the road with the now closed hotel buildings in front. The wood was viewed from the road and appears to be a mixed woodland with Birch, Beech, various conifers and some Sweet Chestnut. The invasive shrubs Rhododendron and Cherry Laurel were also noted. The historic maps available on Geohive (http://map.geohive.ie/mapviewer.html) indicate the main area has been wooded since at least the 1840s and, therefore can be considered a Long-Established Woodland. It would be interesting to review additional historical documents for Omeath to assess if the woodland is Ancient, or Potentially Ancient Woodland. The woodland is likely to support a range of woodland birds and mammals including bats and possibly Red Squirrel. The area in front of the hotel building is currently developing into scrub with Birch trees colonising the area.

Hedges and walls

In many parts of Omeath, particularly in the hinterland of the village, the hedgerows and walls provide important strips of habitat that are of great value to wildlife. They support a range of flowers, ferns, mosses and grasses in addition to the trees and shrubs. The plants in turn provide food and shelter for insects, including pollinators, birds and animals. Birds will nest in the shelter of the hedgerows and feed on the insects there as well as the fruit and seeds that are provided. Bats fly along hedgerows and tree lines catching flies and can often be seen along quiet country roads in early summer against the evening sky. Stone walls within the town provide niches for ferns and the dry stone walls outside the town provide areas for hibernating bees and for Irish Stoat. Other small mammals like Wood Mice and Pygmy Shrew would also utilise these boundaries. Moving into the upland areas the roadsides support heath species such as Cross-leaved Heath, Bell Heather, Ling Heather, Bilberry, Tormentil and occasional orchids. There are also occasional wet patches with sphagnum mosses and the insect eating Common Butterwort. It really is difficult to over-emphasise the value of these areas for wildlife.

Species-rich hedgerow and Foxglove beside a stonewall

Maidenhair Spleenwort and Rustyback Fern on stonewalls within Omeath Village

A roadside stonewall, Omeath, supporting ferns, lichens, mosses and a host of other species

The Greenway

The section of the Greenway from Greer's Quay into the village was walked assessing the value of the resource for biodiversity along the way.

There are patches of saltmarsh habitat along the coast with the one at Greer's Quay being one of the largest. Species recorded include Red Fescue, Creeping Bent, Sea Plantain, Common Saltmarsh-grass, Common Scurvygrass and towards the land, Common Couch. A neat edge is maintained by the Greenway keeping it open for walkers and cyclists. The actual saltmarsh area does not really require management, just the occasional removal of litter and ensuring the plants are allowed to grow and flower. The grass cutting should not extend too far into the saltmarsh as it can become prone to erosion when the vegetation is kept short.

Saltmarsh habitat, Greer's Quay

There are some large oak and Beech trees alongside the activity centre with a great cover of flowering White Clover beneath some of the trees and patches of Bush Vetch and Creeping Buttercup. Beech and Ash seedlings occur beneath the trees. The large tree trunk which has been left alongside the path is a great feature. It provides an informal resting place for anyone passing who needs to catch their breath and it is good fun to climb on and jump off when you are small.

The hedge leading to St. Jude's Shrine is neatly trimmed with a rich verge of Foxglove, Oxeye Daisy, Bush Vetch, Germander Speedwell, Bramble and tall grasses. The Memory Garden is not overly manicured and has a mix of native plants with Bush Vetch, Ivy, Hawthorn, Dandelion and Red Clover providing food for pollinators.

Beyond St. Jude's shrine there is a treeline between the Greenway and the coast and this has a fine cover of flowering plants beneath with vetches, Bird's-foot Trefoil, Bramble and Nettle and there were numerous bees here. Flowering Dog-rose added to the display.

A species-rich verge beside the Greenway

Where the Greenway passes the Ryland River there are additional areas of saltmarsh and the river follows a natural course with a deep pool containing some brown trout, and riffles where the river is shallower and the surface is broken as it moves over the stony bottom. There was some filamentous algae in the water which indicates a level of pollution and this would be a cause for concern.

After the short section along the main road the Greenway has a stretch 32 meters in length which supports Kidney Vetch. The yellow flowers had largely gone-over by the time of survey but this is an important flower in Ireland as the sole food-plant of the Small Blue, an Endangered species of butterfly that relies on the Kidney Vetch for its survival and is mainly confined to the coasts. There are records of this butterfly from Whitestown Beach in 2013, but these are the only records along the coast from Newcastle Co. Down to Laytown, Co. Meath. Protecting the current cover of Kidney Vetch and encouraging it to grow elsewhere would be a step towards ensuring the survival of this species. The Large Carder Bee (*Bombus muscorum*) is another Endangered species which relies on Kidney Vetch for food and once again, is now largely confined to coastal areas. There are records of Large Carder Bee from Greenore and it would be a real triumph to generate additional habitat for this species along the coast into Omeath.

Kidney Vetch flowers, which have gone over, alongside the Greenway

Further west, also growing along the fence is the invasive plant Winter Heliotrope. This is a difficult plant to eradicate but allowing it to spread further should be avoided. It would be a particular shame if the Winter Heliotrope expanded into the areas of Kidney Vetch.

The side of the Greenway adjoining the coast is frequently left to grow tall and this allows the wildflowers there to flower and to set seed. The Common Mallow seemed particularly favoured by the local bumblebees. Low input management of these areas would be encouraged and the use of herbicides actively discouraged. It is important to retain the 'green' element to the Greenway. The tall vegetation provides a visual barrier at the edge of the cycle path. Some signs indicating the areas here are managed for wildlife may assist.

A well-developed verge alongside the Greenway

Anna Bog

South of Long-Woman's Grave is Anna Bog. This area is described in the Louth Wetland survey as a cutover valley bog. Water accumulates where the peat has been removed and fen vegetation is developing in these pools. The ridges that remain after the turf-cutting are dominated by Purple Moor-grass. By looking at the historic mapping available for view on http://map.geohive.ie/mapviewer.html it can be seen that the turf-cutting took place after the first edition map was drawn (1837-1842). A drain was mapped at that time running through the centre of the valley but the drain was the only open water recorded at that time. In the subsequent map (1888-1913) the drain has been expanded to a 'lake' indicating the turf-cutting was carried out between the two map editions. The extent of the lake as it appears now on the most recent aerial photography is very similar to the extent indicated on the 1888-1913 historic maps. In December 2019 samples of water from the lake were collected as part of this study to investigate if the cutover area was contributing to discolouration of the water. There was no water discoloration and it is likely the area has reached some level of stability.

Anna Bog in winter floods

Drumullagh Fen

Drumullagh Fen is noted in the Louth Wetland Survey as an area of uniform transition mire with the species Bogbean, Water Horsetail, Bottle Sedge and Marsh Cinquefoil being recorded. It is also noted that there is a natural transition between the fen and wet grassland to the east and the river to the west. This suggests it is an unmodified habitat area. A National Fen Survey is currently being conducted (2020-2024) on behalf of the National Parks and Wildlife Service and inclusion of Drumullagh Fen will ensure the habitat here is assessed and put in context of the national resource of fen habitat.

In 2014 a survey for the rare butterfly species Marsh Fritillary was conducted in County Louth on behalf of the National Parks and Wildlife Service. This surveyed Drumullagh Fen and though the species was not recorded here the habitat was considered to be suitable. There do not appear to be any recent records of Marsh Fritillary from County Louth though there are recent records (2007) from Co. Down. As a rare species, protected under the EU Habitats Directive, recording Marsh Fritillary from Drumullagh would be a significant finding.

Drumullagh Fen

Appendix 3 Water Quality in Our Rivers

Water Pollution

The idea of managing a river can be rather daunting. There are however a number of achievable measures that can be taken. An important first step to improving the water quality of our rivers is to increase our awareness: the importance of water as a resource to us and to wildlife, the impact we can have on water quality through pollution, using water unnecessarily, the linkages from our drains to our rivers and the link from water to wildlife.

It is relatively straight-forward to make the association between water pollution and large factories or some farming practices but everyone can play a part. Some suggestions would include avoiding using pesticides and herbicides in the garden which can end up being washed into rivers; doing less laundry as this can lead to small fragments of plastic and phosphorous entering the water system; returning old or unused medicines to the pharmacy rather than flushing them down the toilet or putting them in the bin; reducing the amount of water we use by using water butts to collect water for use in the garden or for washing the car. All of these measures will help reduce the pressure we are putting on our rivers.

Water Quality Monitoring

Water quality of rivers and streams is generally monitored as part of the EPA (Environmental Protection Agency) water quality monitoring programme. Q-Ratings (or quality ratings) are applied to rivers based on samples of the animals (mainly larval stages of insects, but also snails, worms and shrimps etc) that live in the rivers. Some animals are able to tolerate pollution and some even thrive in polluted waters, while others are more sensitive to pollution and would be unable to live in polluted waters. The Q-Rating is assigned based on what collection of animals is found and the level of pollution they indicate. A two minute kick sample is carried out in areas of stones and gravel, with the animals that are disturbed by this washed into a net, collected and identified. This scale has five categories ranging from High quality water (5), through Good (4), Moderate (3), Poor (2) and Bad (1). Often small coastal streams are not included in this monitoring programme and the assumption is made that the water quality within them is good. This is the case for the rivers and streams within the Omeath catchments.

Citizen Science Stream Index

Exploring what is living within our rivers is a great way of engaging with our local environment. All waterways can be dangerous and safety will always be the primary concern but sections of the rivers and streams in the Omeath area do lend themselves to people pulling on their boots, stepping in and finding out what is in there.

A simplified Citizen Science approach to recording water quality is about to be launched across Ireland where just six insect species are looked at. This is the Citizen Science Stream Index (CSSI). Training on CSSI this can be provided to the community through LAWPRO or LCC, but it is really a case of getting some recording equipment, getting out to the rivers and stream and getting familiar with the creatures that are there. This could be supported by the purchase of sample nets, sampling trays and species ID cards. These could then be loaned out to people interested in undertaking these surveys.

Additionally LCC, the Loughs Agency or LAWPRO can be approached with a view to providing training in CSSI as the approach roles out.

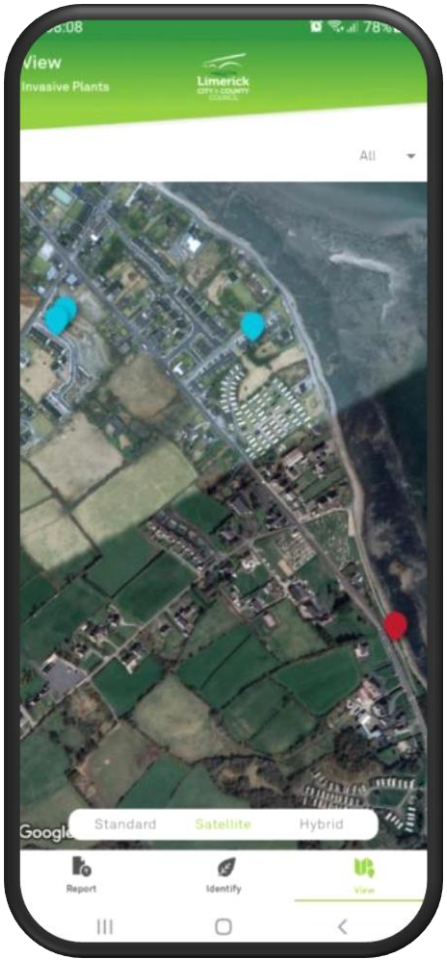
Suitable equipment is available on www.nhbs.com. There are options for starter kits at around €17.50 which give a mini net, sampling pots, bug magnifying pot, sample tray pipette and an identification chart. Though the chart is from the UK these ID guides would be suitable for introductory level identification in Ireland. The mini net does not seem the most robust and it would be worth purchasing a student net with a 1 mm mesh. The long handle on this can help with steadying yourself when wading along the river. It would therefore cost less than €100 to purchase and deliver one set of equipment that two people could use. This type of activity would be possible outside, in small groups and would therefore be suitable during some stages of Covid Restrictions. A small grant from the County Council or LAWPRO, or a corporate donation could help fund this equipment.

https://www.nhbs.com/pond-dipping-kit-mini-net?bkfno=246677

https://www.nhbs.com/student-hand-net-with-wooden-handle-200mm-wide

https://thewaterforum.ie/sfi-science-week-8th-to-15th-november/

Appendix 4 Invasive Plants



Recording the location of invasive species is the first step towards their effective management. Invasive species can be mapped by Community Group members using the App 'Report Invasive Plants'. This is run by Limerick County Council, who verifies the records, post them on the app and then send the information to the National Biodiversity Data Centre. The information is then sent to the County Councils. The app allows users to take/upload a photograph and embed GPS coordinates of the location. Records can be submitted from anywhere in Ireland.

https://www.limerick.ie/smart-limerick/programme-1-engagement-participation/invasive-species-app

The main invasive plant species of concern in Omeath are Japanese Knotweed (*Fallopia japonica*) and Rhododendron (*Rhododendron ponticum*). Japanese Knotweed reduces species diversity and alters habitats for wildlife. It is extremely persistent and difficult to remove and its management is subject to national and EU legislation. It is therefore necessary for specialist advice to be sought for managing this species but mapping of the extent of the species is of great value in the effort to deal with the plant.

Rhododendron

Rhododendron can have a significant impact on native woodland. It has large green waxy leaves throughout the year and these leaves shade out the native plants and mosses and prevents the natural regeneration of trees and shrubs. Rhododendron occurs in the woodland at Ferry Hill.

The management of Ferry Hill as being free of Rhododendron is achievable and this could be under taken through a Native Woodland Conservation Scheme. As the site is a Long-Established Woodland and is within the Carlingford Shore SAC it will qualify for this scheme. Further details can be found at:

https://www.teagasc.ie/crops/forestry/grants/management-grants/native-woodland-conservation/

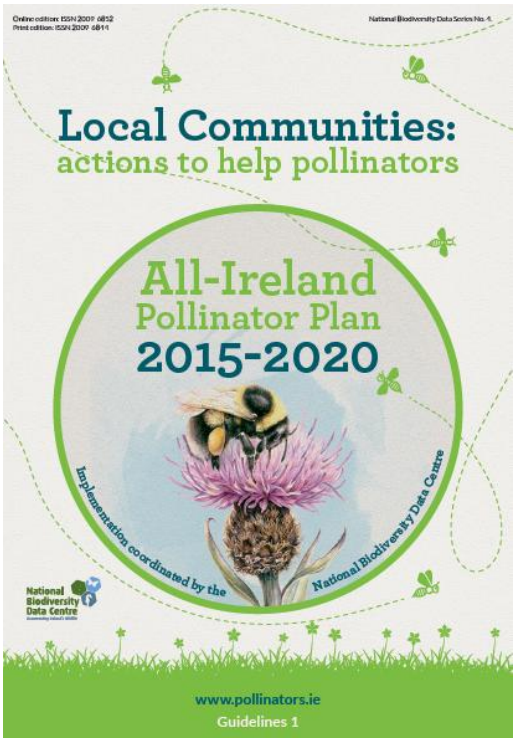
The woodland management could be undertaken, with the owner's permission, by an organised group of volunteers or committed Tús workers under the Environmental Services pillar. It would require commitment to the task over a number phases, spread over a number of years. It would be advisable to have someone with experience in Rhododendron management look at the site and draw up a plan but the likely phases of management would be:

- Phase 1: Cut down stems, remove the brash and dig up the stumps. This is the main phase of work and will be the most time consuming.
- Phase 2: After 3 years pull up the seedlings
- Phase 3: After a further 5 years, sweep through the site and pull up any additional plants.
- After a further 5 years repeat Phase 3.

This approach is based on that developed by Groundwork for removal of Rhododendron in Killarney and Glenveagh National Parks and can be conducted with hand tools and can involve those with minimal experience of such work.

Japanese Knotweed, Omeath

Appendix 5 The All-Ireland Pollinator Plan



The All Ireland Pollinator Plan (AIPP) was launched in 2015 and through this a national pollinator strategy has developed from the ground up. One of the main results of the AIPP is that we are all more aware that pollinators are in trouble. We have 98 different types of bee: the honeybee, 20 different bumblebees and 77 different solitary bees. Most pollination in Ireland is carried out by bees and they are in trouble due to lack of food (flowers), places to nest, pests and diseases and the impact of pesticides and herbicides. One third of our wild bee species are known to be threatened with extinction in Ireland. This is because we have drastically reduced the amount of food and safe nesting sites in our landscapes. We rely on pollinators for the part they play in the production of food by farmers and growers, for pollination of flowers and vegetables in our gardens and the pollination of wildflowers in the landscape which provide food and shelter for birds, mammals and insects.

Through the AIPP a range of guidelines have been prepared aimed at including farmers, community groups, councils, schools, gardeners and sports clubs. Across all these sectors an approach based on the same principles are applied. These principles are:

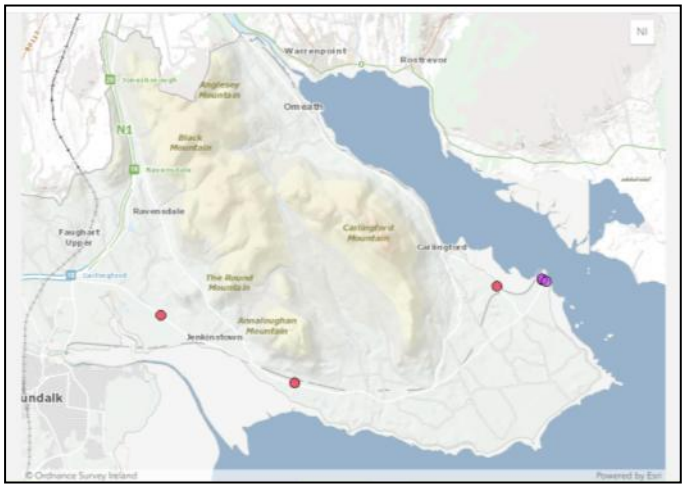
A Protecting existing sources of food and shelter for pollinators,
B Altering the frequency of mowing of grassy areas,
C Adding pollinator friendly planting,
D Providing nesting habitat,
E Reducing the use of pesticides
F Raising public awareness and
G Tracking progress

The guides prepared by AIPP are all available at https://pollinators.ie/ together with a wealth of additional information including guides on how to identify different bumblebees, how to create

wildlife meadows, where to record actions you have carried out for pollinators and templates for information signs that can be downloaded.

The first plan covers the period from 2015-2020 and the new version was launched in March 2021 covering 2021-2025. The overall aim of the AIPP is about all sectors of society coming together to create an Ireland where pollinators can survive and thrive.

Louth County Council became a signatory of the AIIP in 2021 and there are around seven areas on the Cooley Peninsula (as of May 2021) that have been added to the ***Record Your Actions*** page on https://pollinators.biodiversityireland.ie/. It is anticipated further awareness through the Omeath CBAP and the Omeath Biodiversity Facebook page will result in a far greater number of actions being listed over the lifespan of the new AIPP.



As noted above there are guidelines to suit different organisations, businesses and individuals and people can take from the various recommendations which suit their situation and implement those in their area. A 'plan' can be as simple as reducing the mowing on your own lawn and adding some pollinator friendly plants to the pots on the patio. A further example might be sections of the grounds around the edges of the playing field at Cuchulainn Gaels that could be mown less frequently. The slope beneath the hedge facing the road is an area which lends itself to reduced mowing.

The sloped edge of the playing field at Cuchulainn Gaels GAA pitch

Recognising the current value of this area and protecting it as an existing source of food and shelter for pollinators (Point A of the principles above) is the first step to having a pollinator plan for the club. Reducing the mowing here is the next step (Point B) together with putting up a sign saying the area is managed for pollinators (Point F). Finally recording this action on the AIPP Actions Page (Point G) would be the next step. It will then be a question of looking at other areas where some of these principles can be applied. Maybe a strip alongside the fence could be mown on a six week rotation, or maybe just once a year. Being pollinator friendly does not mean having long grass and flowers everywhere, nor does it need wildflower meadows to be planted. It primarily needs some space to be left unmown where the Dandelions, Clovers and Knapweeds are allowed to grow and for us all to become more accepting of areas with long grass and wildflowers.

Common Carder Bee on Common Bird's-foot Trefoil on the Greenway

Appendix 6 Bog Restoration and Eyes on the Bog

A long-term project at Omeath would be the restoration of bog at Gleann na bhFiach, Ravensdale Park. The area appears to be owned by Coillte and the ideal management for the site would be restoration to active blanket bog. A first step would be conversations with the Coillte area manager to find out what the current plan for the area is. It may be that some of the cutover areas are not suitable for restoration to blanket bog but certainly the habitats can be managed in a more sustainable fashion that they are currently.

Low tech, low cost methods to measure peat loss and water level height within bogs have been developed by the IUCN Peatland Programme. The methods are described in the Eyes on the Bog Manual which can be downloaded here: https://www.iucn-uk-peatlandprogramme.org/sites/default/files/header-images/Eyes%20on%20the%20Bog%20Manual.pdf

Cutover bog, Ravensdale Park

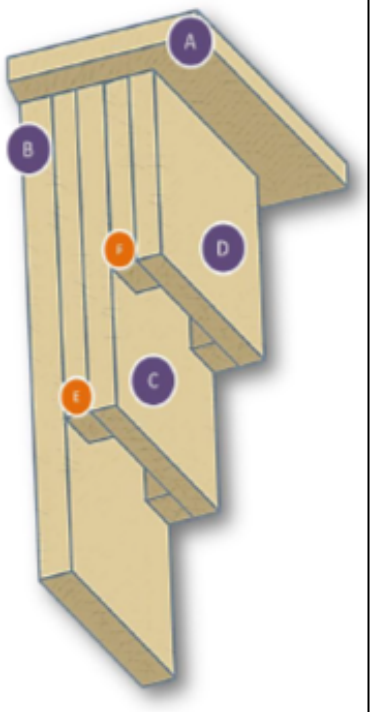
Appendix 7 Boxes for Bats and Birds

Bats

Bat boxes provide artificial roosting sites for bats where there are few roosts present. Different species of bat have different requirements as regards space so bat boxes come in different shapes and sizes. The design below is for the Kent Bat box and taken from https://cdn.bats.org.uk/pdf/Our%20Work/Bat-Box-Information-Pack-May-2018.pdf?mtime=20181101151335&focal=none.

Design and measurements

Simple to construct, self-cleaning and low maintenance, the Kent bat box (designed by the Kent Bat Group) is a great way to encourage bats in your garden or your green space. The box should be rainproof and draught-free.



The only critical measurement is the width of the crevices: between 15-25mm. Other measurements are approximate. Timber should be approximately 20mm thick.

Measurements for one Kent bat box kit would be as follows:

Part	Quantity	Size (mm)
Roof (A)	1	250 x 160 x 20
Back (B)	1	450 x 200 x 20
Centre (C)	1	330 x 200 x 20
Front (D)	1	210 x 200 x 20
Centre Rails (E)	2	330 x 20 x 20
Front Rails (F)	2	210 x 15 x 15
Stand-offs (optional)	2	200 x 20 x 20

Material and Tools

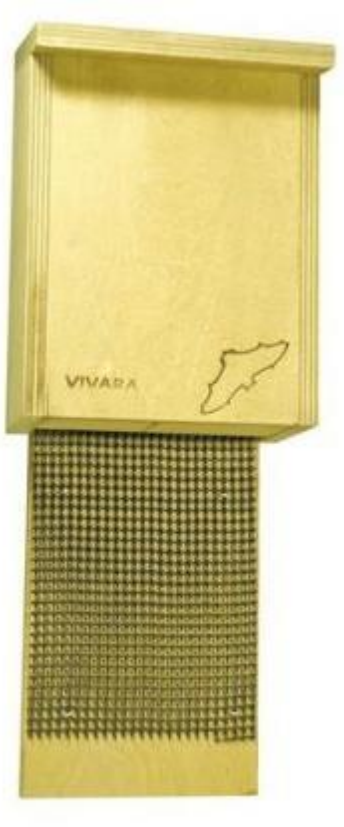
This kit requires approximately 1.6m of rough wood and 25 screws (8 x 1 ½ inches) to assemble. You can rough it up by scraping with a suitable tool – possibly a saw blade or even a screwdriver but make sure you use untreated wood as some preservative chemicals can kill bats.

Pre-drill the holes to prevent the wood splitting. Alternatively you can assemble your bat box kit with nails although they tend to be less robust than boxes made with screws.

The hanging screws may either be at the edges of the front panel or in the side centre block (not in the rails!). Fixing may be by use of brackets, durable nylon cord or wires.

When installing the box, assess the risks of working at height, use the appropriate fittings and assess where the box will be located, in relation to any public access. Regular checks should be made to ensure the box remains securely fitted, especially after high winds.

Alternatively bat boxes can be purchased from BirdWatch Ireland at https://birdwatchireland.ie/shop/ or from specialists such as https://www.greenwoodsecohabitats.co.uk/bats though note this last website is from a UK company and not all the bats catered for on the website would be present in Ireland.



Garden birds

Modern houses have few holes or crevices for nesting. Also in many instances trees with holes and splits are removed for fear of them becoming dangerous. Nest boxes provide a suitable alternative for nesting sites. The same standard design can be used for many birds though the size of the entrance hole will determine the bird that will use it. Entrance hole sizes for different birds are as follows: Blue Tit (25mm), Coal Tit (25mm), Great Tit (28mm), Tree Sparrow (28mm), House Sparrow (32mm), Starling (45mm). The same basic style of box but with the upper half of the front taken away will be suitable for a Robin, Pied Wagtail or Wren. Some other notes are as follows:

- Nest boxes should be in place before February and ideally set up in the winter as birds may use them for shelter over the winter.

- Unless the site is very sheltered the box should be fixed facing between north and south-east to avoid the hot sun and the wettest winds.
- Position nest boxes away from bird tables, otherwise birds may spend their time chasing away other birds attracted to the food.
- Resist the temptation to keep having a quick peep, as this could potentially result in the parents abandoning the nest.
- In October empty out old nest material and any unhatched eggs and clean the inside of the box with boiling water to kill any parasites.

Further details can be found at https://birdwatchireland.ie/app/uploads/2019/09/Nestboxes-factsheet.pdf

Swallows and House Martin

Nest boxes for Swallow and House Martin are available from Birdwatch Ireland. These boxes are quite different to traditional bird boxes and would provide a good visual indication of bird diversity so ideally would be positioned where they can be seen.

House Martin nest box on the right and the open cup for Swallows on the left

Appendix 8 Areas Designated for Conservation

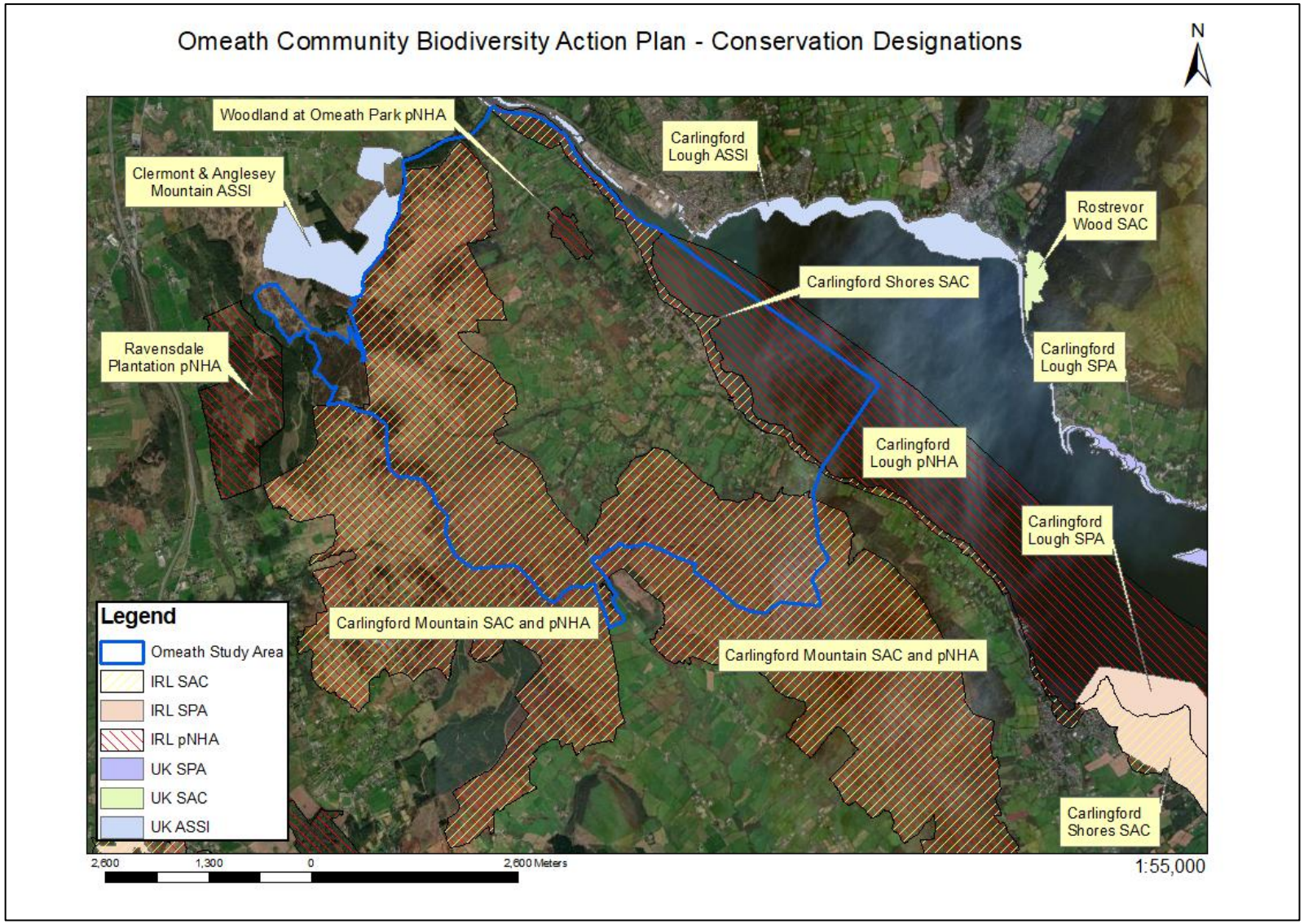
There are a number of areas in Omeath that have been designated for conservation. Details of the location of those which are in the Republic can be found at: https://www.npws.ie/maps-and-data. Information on what these designations mean and reports about the sites can also be found on the website. Information on designated areas in Northern Ireland can be found at https://www.daera-ni.gov.uk/landing-pages/protected-areas. Below is a map indicating the various conservation designations.

Special Areas of Conservation

Special Areas of Conservation are prime wildlife conservation areas. This is the most relevant conservation designation to areas in Omeath. These areas are considered to be important on a European as well as Irish level. The legal basis on which SACs are selected and designated is the EU Habitats Directive which has been transposed into Irish law.

Carlingford Mountain SAC

This large upland SAC extends from Anglesey Mountain on the border with Co. Armagh, through Black Mountain, Windy Gap, Carlingford Mountain as far south as Catletowncooley. It has been designated for a number of upland habitats including Wet Heath, Dry Heath, Blanket Bog and Rocky Slopes. The main management activity within the mountains is sheep farming and the majority of the designated area being in commonage. There are also issues with heath fires on the mountains, trampling by walkers, grazing horses and expanding areas of dense bracken. There are a number of rare plants found within the SAC including the rare and declining clubmoss *Diphasiastrum alpinum*. Lizards, Irish Hare, Peregrine and Snipe are also known to occur in the mountains. Carlingford Mountain is also designated as a proposed Natural Heritage Area (pNHA) and this is noted in the County Development Plan. This designation is largely superseded by the designation as an SAC and the boundaries for the two designations largely coincide. The NPWS page relating to Carlingford Mountain SAC is: https://www.npws.ie/protected-sites/sac/000453.


Omeath Community Biodiversity Action Plan - Conservation Designations
N
Woodland at Omeath Park pNHA
Clermont & Anglesey Mountain ASSI
Carlingford Lough ASSI
Rostrevor Wood SAC
Carlingford Shores SAC
Ravensdale Plantation pNHA
Carlingford Lough SPA
Carlingford Lough pNHA
Carlingford Lough SPA
Carlingford Mountain SAC and pNHA
Carlingford Mountain SAC and pNHA
Carlingford Shores SAC
Legend
Omeath Study Area
IRL SAC
IRL SPA
IRL pNHA
UK SPA
UK SAC
UK ASSI
2,600
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0
2,600 Meters
1:55,000

Carlingford Shores SAC

There are three separate sections to the Carlingford Shores SAC. These extend from Templetown in the south round to Greenore, then after a minor break from Greenore to the Carlingford Marina and finally from the marina to the border with Co. Armagh. The main interest of the SAC is the vegetation of the annual drift lines and the vegetated stony banks. There is however mud and sand flats, small patches of saltmarsh, dry grassland and the woodland at Ferry Hill. The coast supports a rich abundance of seaweeds, wading birds and otter. The NPWS page relating to Carlingford Shores SAC is https://www.npws.ie/protected-sites/sac/002306

Special Protection Areas

Special Protection Areas (SPAs) have been established to protect rare and vulnerable bird species. The Carlingford Lough SPA covers mudflats at Carlingford and Greenore but does not extend as far as Omeath. An additional area is designated as a SPA under UK legislation, also called Carlingford Lough SPA. This designated area covers the saltmarsh area near Greencastle. The NPWS page relating to Carlingford Lough SPA is https://www.npws.ie/protected-sites/spa/004078

Other designations

A lower, national tier of designation in Ireland is represented by the proposed Natural Heritage Areas (pNHAs). This designation is taken into account in the planning process as they are listed by County Development Plans, but there is limited protection of these sites.

The Woodland at Omeath Park has been designated as a pNHA. Carlingford Mountain is a pNHA in addition to being an SAC. Carlingford Lough is a pNHA, this is much larger extending into the Lough as far as the boundary with Northern Ireland. Ravensdale Plantation pNHA occurs to the west of the study area.

The northern shoreline of Carlingford Lough has been designated under UK legislation as Carlingford Lough Area of Special Scientific Interest (ASSI). This extends from the Newry River to Greencastle. Additionally the Clermont & Anglesey Mountain ASSI borders Carlingford Mountain SAC, and the Omeath study area, in the northwest. ASSIs are protected through the Environment Order (Northern Ireland) 2002.

Appendix 9 Dispersed Urban Orchard

Monaghan Tidy Towns created a Dispersed Urban Orchard (DUO) to help pollinators move through the town. A DUO is formed when people plant apple trees in their garden, a park or other open area. Pollinators are able to travel from tree to tree pollinating the fruits. A lot of space is not needed for apple trees and trees can be chosen to suit the space available. Smaller varieties can even be grown in containers. As well as providing food for bees and other pollinators, a DUO will provide 'low air miles' food for people, increase the number of trees within Omeath and act as a very visual reminder of the link between pollinators and people. It would be a great legacy to create the opportunity for children from Omeath to grow up where the pleasure of picking an apple from a tree and eating it immediately is common place.

When creating the Monaghan DUO apple trees were sourced from Seed Savers and included local heritage varieties. They advertised a *Fruit trees for a Fiver* initiative and asked people to tell them exactly where the trees were planted. They were then able to build up a map of the connectivity provided to the local pollinators by these apple trees.

This initiative can commence with the planting of just one tree, but it can be added to each winter during the planting season from November through to March. As occurred in Monaghan the locations of planting should be recorded. This can be complimented by locations of existing apple trees and orchards. The online Actions for Pollinators map can be used for this or a separate map record of trees could be kept by Omeath District Development or the Tidy Towns.

Appendix 10 Being Grant Ready

Part of the intention with the Community Biodiversity Action Plan is to have ideas ready such that when funding opportunities arise the ideas can be developed to suit the grant which is available. Potential sources of funding are advertised through the Public Participation Network and the environmental pillar within the PPN is developing with funds becoming available for biodiversity.

Many Community Groups are proficient in applying for grants but a few fundamental pointers would be:

- Keep language positive,
- Keep to the format given on the application form,
- Do your sums and check them,
- Keep a back-up of the text such that it can be adapted, copied and pasted into an additional application form,
- Make contact with the contact person to ensure you are on the right track with your application,
- Match funding is a feature of some applications (LAWPRO). Options for obtaining this include the Corporate Social Responsibility and fund raising,
- Hopefully not a consideration going into the future but, show how the plan has been adapted to Covid 19,
- Get someone to check over the proposal before submitting.

Appendix 11 Helpful Contacts, Organisations and Websites

- Information on river basin management and the Local Authorities Water Programme (LAWPRO). They also provide grants for water-based projects with grant calls generally being open from November to early February. There is also detail of a range of projects set up by community groups from around the Ireland. The officer for Louth is Ben Malone 085 802 1397 bmalone@lawaters.ie : http://watersandcommunities.ie/

- Geohive has an excellent mapviewer where historical maps and aerial photographs can be viewed http://map.geohive.ie/mapviewer.html

- A host of invaluable information on promoting pollinator-friendly practices for community groups, sports groups, gardeners, business owners and farmers is available at: http://pollinators.ie

- Details of the Louth Wetland Survey completed by Wetland Survey Ireland can be found at http://www.wetlandsurveysireland.com/downloads/louth-wetland-identificatio.html

- The Bat Conservation Ireland website includes information on bat projects they are undertaking and talks they hold. https://www.batconservationireland.org/

- The North Louth Branch of Birdwatch Ireland holds regular talks on birds of the area and can be found at http://birdslouth.blogspot.com/club

- NPWS District Conservation Officer for Louth can be contacted at 076 100 2593 https://www.npws.ie/

- Maps of biodiversity records across Ireland, from National Biodiversity Data Centre: https://maps.biodiversityireland.ie/Map

- Submitting biodiversity records to the National Biodiversity Data Centre: https://records.biodiversityireland.ie/

- Inland Fisheries Ireland, helpful advice for any inland aquatic issues: https://www.fisheriesireland.ie

- Details of swift boxes, where to locate them and how to attract swifts. Linda Huxley can be approached in relation to conducting a Swift Project: http://www.swiftconservation.ie/ and a recent talk by Linda on swifts can be viewed at: https://www.youtube.com/watch?v=T7I6vdzWk-o

- Providers of environmentally sensitive Swift Nest Boxes and sound systems: https://genesisnestboxes.ie/

- Report on Ancient or Long-Established woodlands in Ireland can be found at: https://www.npws.ie/sites/default/files/publications/pdf/IWM46.pdf .

- Data on water quality from rivers across Ireland can be found at: https://gis.epa.ie/EPAMaps/ .

- NHBS are a UK company that provide equipment and books on ecology and biodiversity. (Be sure to select payment in Euro, such that you do not have to pay import fees): https://www.nhbs.com/

- The IUCN Eyes on the Bog method is detailed in the manual available here: https://www.iucn-uk-peatlandprogramme.org/get-involved/eyes-bog

- A guide to growing Yellow Rattle and developing wildflower meadows is given in https://www.plantlife.org.uk/uk/discover-wild-plants-nature/how-to-grow-yellow-rattle-rhinanthus-minor Such a 'meadow' would work equally as well in the corner of a lawn or an unmown strip of grass beside a wall.

Appendix 12 Useful Apps and Tools

LeafSnap – Plant Identification can be used to help identify either leaves or flowers from photographs you have taken. Like many of these apps which are available it is not 100% reliable but should give an indication of which species to consider. There are many other plant identifier apps available.

iNaturalist can be helpful if you need help identifying something you have photographed. Your photograph is posted up and other users suggest what it is.

River Obstacles developed by Natural Apptitude, Bristol UK is for photographing and recording weirs dams and other obstacles on rivers that limit movement of fish and other aquatic life.

See It? Say It! is an App developed by the EPA for recording environmental complaints such as illegal dumping, water pollution, air/odour and noise. The app sends the details to the Local Authority.

Report Invasive Plants from Limerick City & County Council is a very simple App to use and is a good introduction to biodiversity recording. It has photographs to help with identifying the four main invasive plant species. Records are sent on to the Local Authority.

BirdNET App from Cornell University can be used for identifying bird songs and calls in the field. It is simple to use and gives a level of certainty with any ID. It will help point you in the right direction.

Biodiversity Data Capture is the recording App for the National Biodiversity Data Centre. It is useful if you are familiar with the species you are recording as location is recorded at the time of entering the record. Therefore if you have to check the sample in a book at home it is better to enter the record on the online facility.

All-Ireland Pollinator Plan Newsletter. Signing up to this is a great way to keep up-to-date with pollinator species to look out for in a particular month, seeing what other groups around the country are doing for pollinators, reminders to keep from mowing the grass during 'No Mow May' and keeping up-to-date with development in the All-Ireland Pollinator Plan.

Limerick European Green Leaf City YouTube Channel has a great collection of webinars and conferences including Reimagining Irish Rivers, Natural and Inclusive Playspaces, Invasive Species, Ideas for Tidy Towns, Climate Action and Gardening for Biodiversity.

QGIS is free mapping software (similar to ARCGIS or Mapinfo) for creating maps such as habitat maps, plans, records of invasive species management and submissions to Tidy Towns adjudicators. It takes some getting used to but may be something where webinar training specific to Tidy Towns could be provided.

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