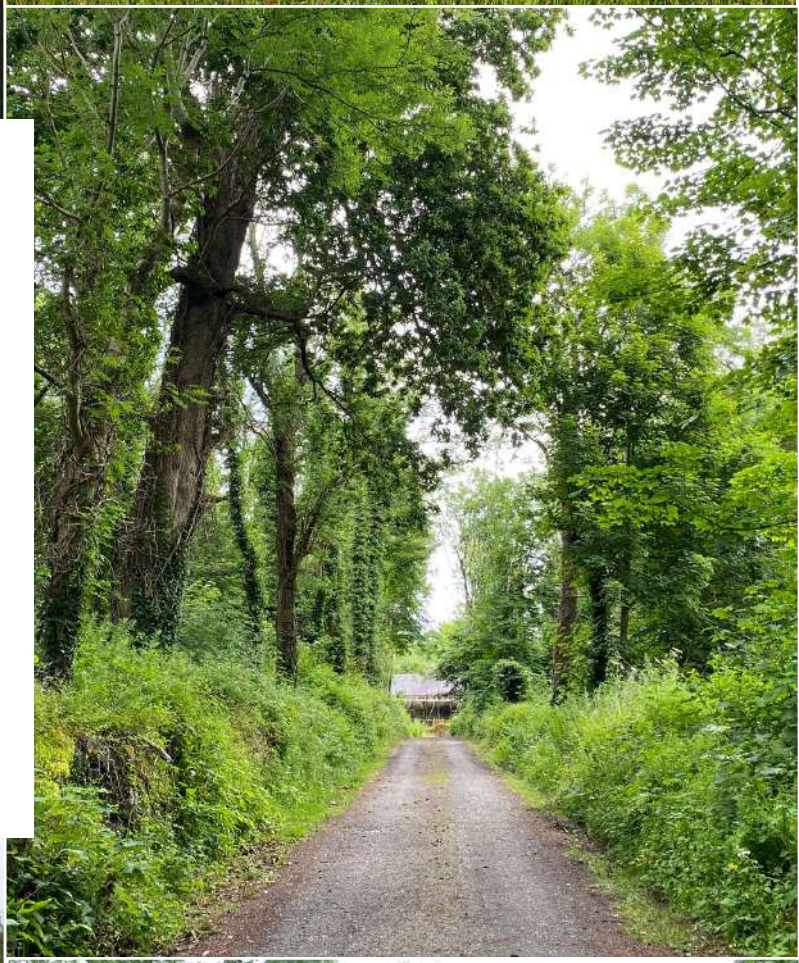
# Mayo and Sligo Farms Biodiversity Action Plan 2024-2028



# Mayo and Sligo Farms
# Biodiversity Action Plan 2024-2028

## *Contents*

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A copy of this Biodiversity Action Plan is available to download on https://actionforbiodiversity.ie/


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***Cover Photos:*** *Clockwise from top left: Killanley Stream, Co. Sligo; Kinnagrelly Wet Meadow, Co. Sligo; entrance avenue Killedan House and Farm, Co. Mayo; water feature Crossmolina Community Sensory Gardens, Co. Mayo and Netley Farm, Co. Mayo.*
*Photos: © J. FitzGerald and C. O'Connell*

## *Acknowledgements*


Thanks to The Community Foundation for Ireland for funding provided under the Environment and Nature Fund 2023 to allow the development of this Biodiversity Action Plan for five sites and farms in Mayo and Sligo.

I am grateful to River Moy Search and Rescue Ballina for the invitation to work with them over the past year. I also wish to thank all of the members of the community who met with me on field survey days and for providing information about the history and management of their sites. These are Siobhan Loftus, William and Shelagh Delphyne, Dermot Kenny, Sue and Liam O'Halloran, Kathleen and Vincent Lang and Shane Loftus.

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# *1. Executive Summary*

The Mayo and Sligo Farms Biodiversity Action Plan 2024-2028 is supported by the Community Foundation for Ireland and is an initiative of River Moy Search and Rescue Ballina.

Five sites were targeted to survey in this plan as follows: 1. Killedan House and Farm, Co. Mayo; 2. Killanley Farm, Co. Sligo; 3. Kinnagrelly Farm, Co. Sligo; Crossmolina Community Sensory Gardens, Co. Mayo and Netley (Lauvlyer) Farm, Co. Mayo (see locations in Figure 1).

This plan documents the species and habitat richness of the five sites. 143 plants, 26 birds, 1 mammal, 2 fungi and 23 invertebrate animals were identified in the biodiversity survey carried out between the 17th and 19th June 2024.

Habitat maps are presented for the four farms and one garden visited.

20 habitats were described across the five biodiversity study sites visited. These habitats were classified according to the national code system developed by Fossitt (see https://heritagemaps.ie/documents/fossittclassification_heritagemaps.pdf). The habitats identified and the number of sites in which they were recorded are presented in the information box below.

| Number | Habitat | Number of Sites Recorded out of 5 |
|---|---|---|
| 1 | Artificial Pond FL8 | 2 |
| 2 | Depositing Lowland River FW2 | 1 |
| 3 | Reed Swamp FS1 | 1 |
| 4 | Horticultural Land BC2 | 2 |
| 5 | Flower Beds and Borders BC4 | 1 |
| 6 | Stone Walls & Other Stonework BL1 | 5 |
| 7 | Buildings BL3 | 2 |
| 8 | Amenity Grassland GA2 | 1 |
| 9 | Dry Meadow GS2 | 2 |
| 10 | Wet Grassland GS2 | 1 |
| 11 | Neutral Grassland GS1 | 2 |
| 12 | Oak Ash Hazel Woodland WN2 | 1 |
| 13 | Wet Pedunculate Oak-Ash Woodland WN4 | 1 |
| 14 | Riparian Woodland WN5 | 1 |
| 15 | Scrub WS1 | 3 |
| 16 | Immature Woodland WS2 | 1 |
| 17 | Ornamental Non-native Shrub WS3 | 2 |
| 18 | Hedgerow WL1 | 4 |
| 19 | Treeline WL2 | 3 |
| 20 | Dense Bracken HD1 | 2 |

64 biodiversity enhancement actions are proposed in Chapter 6 of this plan. Grouped in themes the top seven biodiversity actions that need to be undertaken over the 5 year span of this plan are:

1. Removal of invasive species particularly cherry laurel at Killedan House and Farm and Japanese knot weed at Kinnagrelly Farm. Taking these biodiversity actions can be stand alone projects for which funding can be raised.

2. Creating wild flower meadow is a recommendation across four of the sites surveyed. At the Crossmolina Community Sensory Garden particularly in the growing area and in the grassland area to the front of Killdedan House this will involve reducing the mowing of grassland to once a year and removing the clippings to a compost heap. Fencing off grassland strips 2m wide

adjacent to hedges to reduce grazing in these areas is recommended for Netley Farm. Managing entire fields with low input fertiliser and low intensity grazing is recommended for Killanley Farm. Wild flower meadows are one of the best ways to help pollinators.

3. Replacing missing hedges or planting new hedges is a biodiversity project proposed for Netley Farm and Kinnagrelly Farm. The management of hedges for maximum wildlife benefits is a recommendation for Killanley Farm and Crossmolina Community Sensory Gardens.

4. Woodland edge habitat creation is recommended at the junction between woodland habitat or treeline habitat and farmland particularly at Killanley Farm.

5. In addition to undertaking new actions, retaining existing wildlife rich areas and designated areas for nature conservation is equally important such as at Kinnagrelly and Killanley Farms.

6. Sustainability is a theme that can be developed into a number of projects particulary at Crossmolina Community Sensory Gardens in the growing areas of this site and at Killedan House and Farm. Installing rainwater collecting devices, phasing out the use of purchased moss peat and pesticides and installing composting systems are recommended.

7. Two sites surveyed included orchards. These were at Killedan House and Farm and the Crossmolina Community Sensory Gardens. Recommendations are made for managing these areas for pollinators and fruit. These could be stand alone projects suitable for funding.

At all of the sites visited recommendations to enhance pollinators have been made. Once any change is made in favour of pollinators, the site should be should be pledged for pollinators with the National Biodiversity Data Centre. See https://pollinators.ie/pledge-your-garden-for-pollinators/.

At two farms visited - Killedan House and Farm and Kinnagrelly Farm - champion oak trees were recorded. Investigations should be undertaken to determine whether these trees should be included on the Tree Register of Ireland (see https://www.treecouncil.ie/tree-register-of-ireland). Seeds should be collected and propagated from these trees for the next generation of oak woods.

The biodiversity actions proposed in this plan can be achieved if River Moy Search and Rescue Ballina package them in themes and seek funding for a suite of actions across a different range of sites as suggested in the top seven projects above. Funding sources for biodiversity work are provided in Chapter 7 of this plan.

To achieve the biodiversity enhancement actions in this plan, landowner and community engagement will be essential.

It is also important to engage landowners in monitoring the difference their actions make through a variety of citizen science initiatives such as FIT surveys, pond dipping and butterfly and meadow monitoring. Records for frogs can also be submitted to the Hop To It Frog Survey. Further information in Chapter 4. Training for community may be needed for monitoring actions and for composting. Funding should be sought to provide courses in the locality.

The complete biodiversity survey and recommendations for each site is presented in Chapter 6 of this plan. Each section can be outputted and provided to the different land owners involved.

Species data recorded on this survey have been lodged with the National Biodiversity Data Centre (see Appendix 2). information on the location and habitats for 391 species are included in the data set for the Mayo and Sligo Farms. These will be available in due course in the public domain at https://biodiversityireland.ie/.

A copy of this Biodiversity Action Plan is available to download on https://actionforbiodiversity.ie/.

# 2. Introduction

This Biodiversity Action Plan 2024-2028 for five sites in Mayo and Sligo has been created as an initiative of River Moy Search and Rescue Ballina. The project is funded by The Community Foundation for Ireland. This funding allowed the River Moy Search and Rescue Ballina to employ Dr Catherine O'Connell as an ecologist to develop the Biodiversity Action Plan, devise actions to maintain and enhance local biodiversity and to help the community to gain a better understanding of the biodiversity importance of the varied sites studied.

**River Moy Search and Rescue Ballina**

River Moy Search and Rescue is a non-profit voluntary organisation. The search and rescue service they provide was established on 5th May 2011. It is based at The Old Quay School in Ballina. The group is also a search and recovery organisation. The objectives of the group are:

- to perform search and recovery work on the River Moy in Ballina
- to combat the problem of marine litter and to improve the marine environment
- to promote all of the skills used in searches as sport.

Members regularly participate in recreational sport together, particularly diving and kayaking. They are also involved in a number of high profile environmental projects. They have signed up to the Ballina Green Town Charter and in this regard in addition to their work combating marine litter they are also focused on Belleek Woods, the Ballina to Killala Greenway and the River Moy Estuary. They have a number of on-going and completed projects taking place. These include:

- A project to combat the annual summer algal blooms in the Belleek Woods Duck Pond - on-going
- A study to map petryfying springs in the woods and assess their conservation status 2021. See: https://rivermoysearchandrescue.files.wordpress.com/2021/12/conservation-assessment-of-petrifying-springs-in-the-moy-estuary-2021.pdf.
- A project to develop an amenity wildflower meadow on the banks of the River Moy - on-going
- Monitoring of Red Squirrels in the woods - on-going
- Restoration feasibility studies on listed buildings - on-going
- Developing a Biodiversity Action Plan for Belleek Woods 2022-2026 and the Moy Estuary and Ballina to Killala Greenway, Co. Mayo Biodiversity Action Plan 2023-2027.
- Attracting a funding award from the Community Foundation for Ireland 2023 to develop this plan for Mayo and Sligo Farms.

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# *3. Methods*

**Meetings and Project Management**
Regular email and phone calls were conducted throughout the project with River Moy Search and Rescue and with the landowners of the various sites visited.

**Study Sites**
Following discussions over the phone and after receiving a printed work brief, 5 sites were chosen for study. At these sites the ecologist would determine the biodiversity present and make recommendations on its enhancement or maintenance. A map was drawn up of the location of the sites and approved by the River Moy Search and Rescue.

**Biodiversity Field Visits**
Field visits were undertaken to document the habitats and species present in the study sites with a view to mapping the information and making recommendations on biodiversity enhancement and maintenance. These took place between 17th and 20th June 2024.

**Desk Top Studies**
A desk top study was undertaken to establish information in the public domain about each biodiversity study site, its history, archaeology, habitats and biodiversity. Information was searched on the websites of the following groups, all of which have map viewer facilities: National Biodiversity Data Centre website (biodiversityireland.ie), the National Parks and Wildlife Service (npws.ie), Tailte Éireann (https://tailte.ie/en/), Archaeology Ireland (archaeology.ie) and Wetland Surveys Ireland (https://www.wetlandsurveys.ie). Contact was made with the Heritage Officer of Mayo County Council to obtain information on biodiversity plans available for Crossmolina.

**Biodiversity Survey Work Sheet**
A field recording sheet for biodiversity was developed for the project and is presented in Appendix 1. The information collected at each study site was as follows: plants, animals and birds present, invasive species, threats, land management, habitat description and classification, biodiversity enhancement recommendations, soil type and location co-ordinates.

**Community Engagement**
Personal contact was made with all landowners, managers or their representatives and volunteers involved in the 5 sites surveyed. The project background was explained and landowners were very helpful in providing information on how the lands were used and managed. In the field some landowners or their representatives accompanied the ecologist and discussed problems and successes in relation to wildlife and pollinators at the sites. Regular contact was maintained with River Moy Search and Rescue to outline findings and recommendations throughout the project.

**National Biodiversity Data Centre**
Species data recorded on this survey have been lodged with the National Biodiversity Data Centre in the format recommended (see Appendix 2). A total of 391 species entries are included in the data set for the five sites in this biodiversity action plan. Contact was made directly to the NBDC and Moths Ireland in relation to species identification issues.

# *4. What is Biodiversity?*

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

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

**The Value of Biodiversity**

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

**Table 1: The Values of Biodiversity**

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

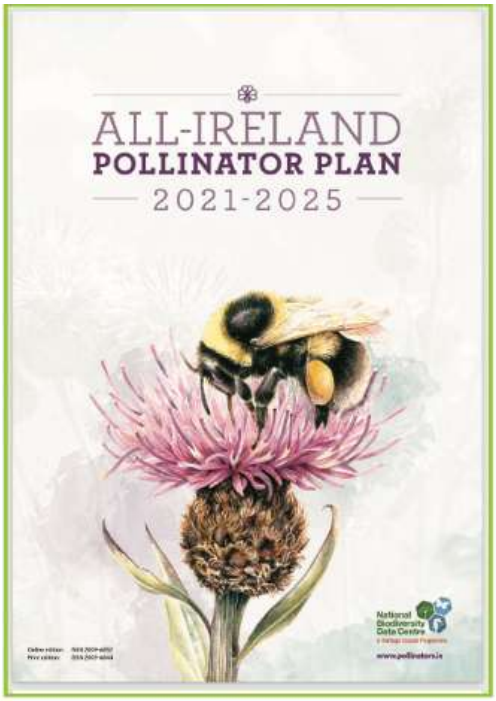
**Where Can We Find Biodiversity?**

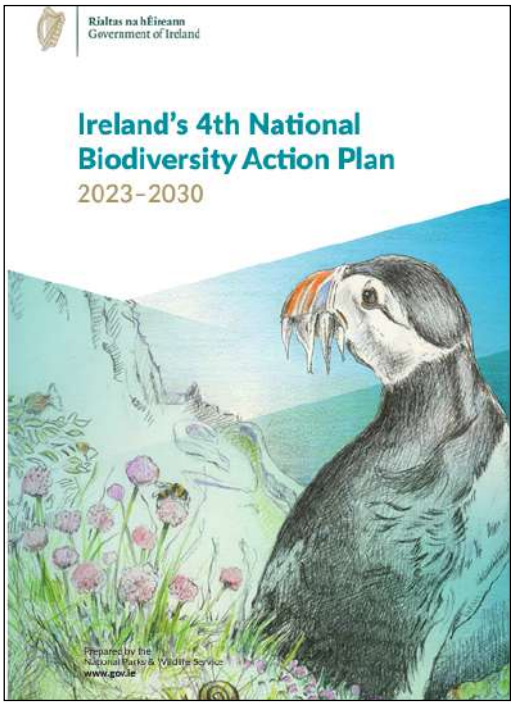
When people think of places to encourage wildlife, it is often the wilder, more out-of-the-way parts of the village or the woodland and hedges at the edge of the village. Actually everywhere has the potential for biodiversity (see Table 2). In order to enhance the opportunities for biodiversity, groups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

| Table 2: Settings for Biodiversity |
|---|
| **Biodiversity Locations in Your Area** |
| Parks and public/private gardens |
| Natural and semi-natural spaces (including wastelands and derelict open land) |
| Green corridors |
| Rivers, streams and wetlands |
| Roadside verges |
| Cemeteries, churchyards and other burial grounds |
| Civic spaces, including market squares and other hard-surfaced areas designed for pedestrians |
| Accessible countryside in urban fringe areas |
| Urban planting schemes |
| Amenity green spaces |
| Playgrounds for children and young people |
| Allotments, community gardens and city farms |
| Outdoor sport pitches |
| Running tracks |
| Walkways |
| Farmland: most commonly hedges, field margins and watercourses but less commonly native woodland, bogs and species rich grassland |

**Why is a Biodiversity Action Plan Needed?**

Global biodiversity is under threat. Action is required at local, national and global levels to protect our natural heritage. Habitat loss from exploitation of resources, agricultural conversion and urbanization are the main factors contributing to the loss of biodiversity. The consequent fragmentation of habitat creates small isolated patches of land that cannot maintain populations of species into the future.




Ireland's 4th National Biodiversity Plan 2023-2030 (see https://www.npws.ie/sites/default/files/files/4th_National_Biodiversity_Action_Plan.pdf) highlights the role that Communities can play in enhancing and protecting the biodiversity in their locality. A key action area arising from the National Biodiversity Plan is the need to take steps to protect pollinators. The All Ireland Pollinator Plan 2021-2025 (see https://pollinators.ie/aipp-2021-2025/) aims to help local communities to enhance habitat for pollinators through planting or enhancing native species that provide food and shelter year round (see the Pollinator-friendly Planting Code at https://pollinators.ie/wp-content/uploads/2022/12/Pollinator-Planting-Code-Guide-2022-WEB.pdf).

**The Basics of Biodiversity Management**

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

1. **You don't know what you've got until it's gone.** Make the most of what is already there. Very often the value of this may not be recognised. For example, regularly-mown amenity grassland may in places contain a good number of wildflowers but these never flower because of the frequent mowing. Dandelion and clover, two of the top valuable plants for pollinators are found in grassland (see Table 3). Always make sure you know what you already have before you try to change it.

2. **Challenge the myths.** It is important to seek expert advice to ensure that myths about wildlife do not infiltrate management decisions. For example, not all birds nest in trees; many nest on the ground. Many shrubs promoted as good for butterflies are suitable only for the adults,

which drink nectar, and if the food plants of their larvae are not present as well, they will not serve their purpose.

**Table 3: Top 5 Plants for Biodiversity**
(Source: https://www.fingal.ie/sites/default/files/2020-04/gardening-for-biodiversity-booklet.pdf)

| Plant Name | Importance for Biodiversity |
|---|---|
| Dandelion | • Flowers in early spring providing vital food early in the season.<br>• Seed heads are bird food for greenfinch and goldfinch.<br>• Leaves are food for Garden Tiger Moth Caterpillars. |
| Willow | • Flowers in spring providing vital food (pollen and nectar) early in the season. |
| Bramble | • Flowers provide vital food for pollinating insects in late summer.<br>• Berries are loved by birds, mammals and people.<br>• Bramble provides secure nesting sites for birds.<br>• In spring moth larvae feed on its leaves. |
| Red Clover | • Flowers are a rich nectar and are a pollen source for bees including the common carder bee, honeybee and red-tailed bumblebee. |
| Ivy | • Ivy flowers in late autumn providing pollen and nectar when food is running low for insects such as bees, wasps, hoverflies and butterflies including Red Admiral, Painted Lady, Small Tortoiseshell and Speckled Wood.<br>• Holly blue butterfly caterpillars feed on ivy flower buds in autumn and then the caterpillars pupate hidden in the ivy until spring when they emerge.<br>• 16 species of moth use ivy as caterpillar food.<br>• Black ivy berries are a very important source of food for birds such as blackbirds, thrushes and pigeons in late winter.<br>• Ivy provides cover for nesting birds and hibernating butterflies. |

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

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

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

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

biodiversity beyond the bounds of the nature garden and integrating it into the wider management of parks, green spaces, gardens and farms.

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

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

9. **More structure means more diversity.** The key to providing enhanced habitats for biodiversity is generally increasing the structural diversity of the habitats. For example, long grass meadows provide more opportunities than short swards. A woodland with ground flora, dead wood and a small tree layer provides significantly more habitat than one stripped of everything except its trees.

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

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

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

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

**Biodiversity Enhancement Actions**

Practical ways in which to enhance biodiversity are recommended in the biodiversity action tables presented in Chapter 6 of this plan.

**Citizen Science**

This plan outlines a series of actions that a farmer, an individual or the community can take to enhance biodiversity in a number of areas in a farm or village. Before, during and after the recommendations in the plan have been achieved it is important to take part in citizen science activities (THAT ARE SIMPLE) to monitor the increases in biodiversity being seen as a result of biodiversity action work.

**Flower Insect Timed Count (FIT counts)**

The flower insect timed count is probably the simplest thing to do – it can be a once off activity but it is preferable for it to be undertaken over a number of weeks at the same site if possible. You watch a 50x50cm square patch of ground containing a specific target flower such as buttercup, dandelion, hogweed, butterfly bush, thistle, heather or ivy (depending on the time of year). Count the number of insects that land on the flower over a 10 minute period. This activity, repeated over a number of weeks and years helps farmers, individuals and community groups to measure change in local biodiversity. The information you collect is submitted to the National Biodiversity Data Centre either using their APP or by uploading the information from a data sheet you use during the observation period (which can be downloaded from biodiversityireland.ie, see sample copy below). Carrying out FIT Counts throughout the year and across future years will help track the impact of your actions on insect numbers and diversity and provides a valuable long term record for your area. See https://biodiversityireland.ie/surveys/fit-counts/ and https://biodiversityireland.ie/app/uploads/2022/05/FIT-Count-survey-guidance_Ireland-2022.pdf for details. FIT counts are a citizen science activity related to the All Ireland Pollinator Plan.

Once you are ready to start, check your timer so that you can record for exactly ten minutes. Please count **EVERY** insect that you see that **LANDS** on one of your target **FLOWERS** (if you're not sure what type it is just add it to the "Other insects" category). Please try to count each individual insect just once and try not to lean over the flowers you are watching, as this can cast shadows and prevent insects approaching.

Time of count start: *3pm*

| Insect group | Tally of number seen: 𝍸 \|\| =7, etc. |
|---|---|
| Bumblebees | *III* |
| Honeybees | *I* |
| Solitary bees | |
| Wasps (including ichneumon wasps) | |
| Hoverflies (including 'non-typical' hoverflies) | |
| Other flies | |
| Butterflies and moths | *II* |
| Beetles (larger than 3mm) | |
| Small insects (such as pollen beetles) less than 3mm long | |
| Other insects | *I* |

***Plate 1: Buttercup flower with four visiting pollinator insects on the left and sample FIT count recording sheet on the right. FIT counts (flower insect timed counts) are a handy way to measure improvements in biodiversity in a habitat following intervention. Photos: © J. FitzGerald and biodiversityireland.ie.***

**Butterfly Monitoring**

In this biodiversity action plan the different habitats are described in the various biodiversity sites studied. A butterfly transect or walk can be developed around a farm or village incorporating these habitats if the farmer, individual or the community would like to monitor butterflies for the National Biodiversity Data Centre. Butterflies only come out on sunny days after 11am in the morning.

Participating in the butterfly monitoring scheme involves establishing a fixed walking route (transect) of between 1km and 2km in length that is monitored once a week from April to September. The route should be established close to where you live or work to make it convenient for you to complete the counts when the weather is suitable. The transect should be divided into 5-15 smaller sections to form sample units, and the number of butterflies seen within 2.5m either side of yourself and 5m in front (a 5 metre cubed recording 'box', see Plate 2) are counted for each section. Counts should be completed between 11:00 and 17:00hrs, when the temperature is at least 13°C and during good weather conditions. Participation in this scheme involves a considerable time commitment but it generates very high quality data on Irish butterflies. If you would like to get involved please contact butterflies@biodiversityireland.ie and support will be provided to get your transect established. See https://biodiversityireland.ie/surveys/butterfly-monitoring-scheme/#:~:text=The%20transect%20should%20be%20divided,are%20counted%20for%20each%20section. There is a great video by Jesmond Harding you can watch about this although there's a lot of wind noise on it. There are butterfly identification charts and all sorts of resources you can draw on at this site.

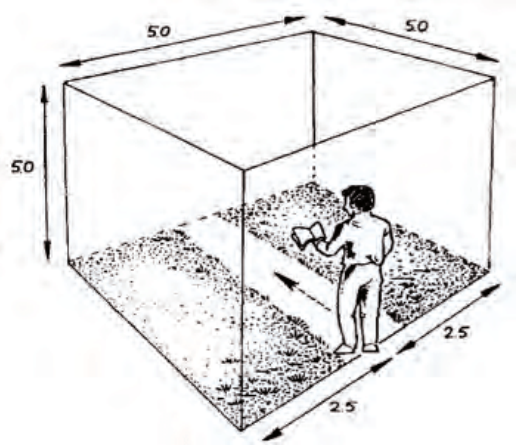



***Plate 2: The counting cube area used when conducting a 'Pollard walk' line transect for butterfly monitoring. © Dutch Butterfly Conservation.***

**Pond Dipping**

The National Biodiversity Data Centre have a ponds for biodiversity project being launched fully in 2024. If there is a suitable pond in your area this could be signed up to - the adopt a pond network. Pond biodiversity is monitored through pond dipping with nets and white trays. Information about this project is available here: https://biodiversityireland.ie/projects/ponds-for-biodiversity/ and there is a section on how to pond dip (https://freshwaterhabitats.org.uk/get-involved-2/big-pond-dip/dip/) and resources here too. Pond dipping is carried out for a specific length of time and all the different varieties of bug and the numbers that are caught are counted. The informaton is submitted to the National Biodiversity Data Centre. This might only need to be done once per season but if you start it, ideally you should do it each year in the same pond to see how its biodiversity changes.

***Plate 3: Small lake or pond at the Bog of Allen Nature Centre, Co. Kildare. The wildlife in the pond can be monitored by pond dipping and the information collected can be used to assess how well the pond is doing for biodiversity. Photo: © C. O'Connell.***

**Biodiversity on Your Farm**

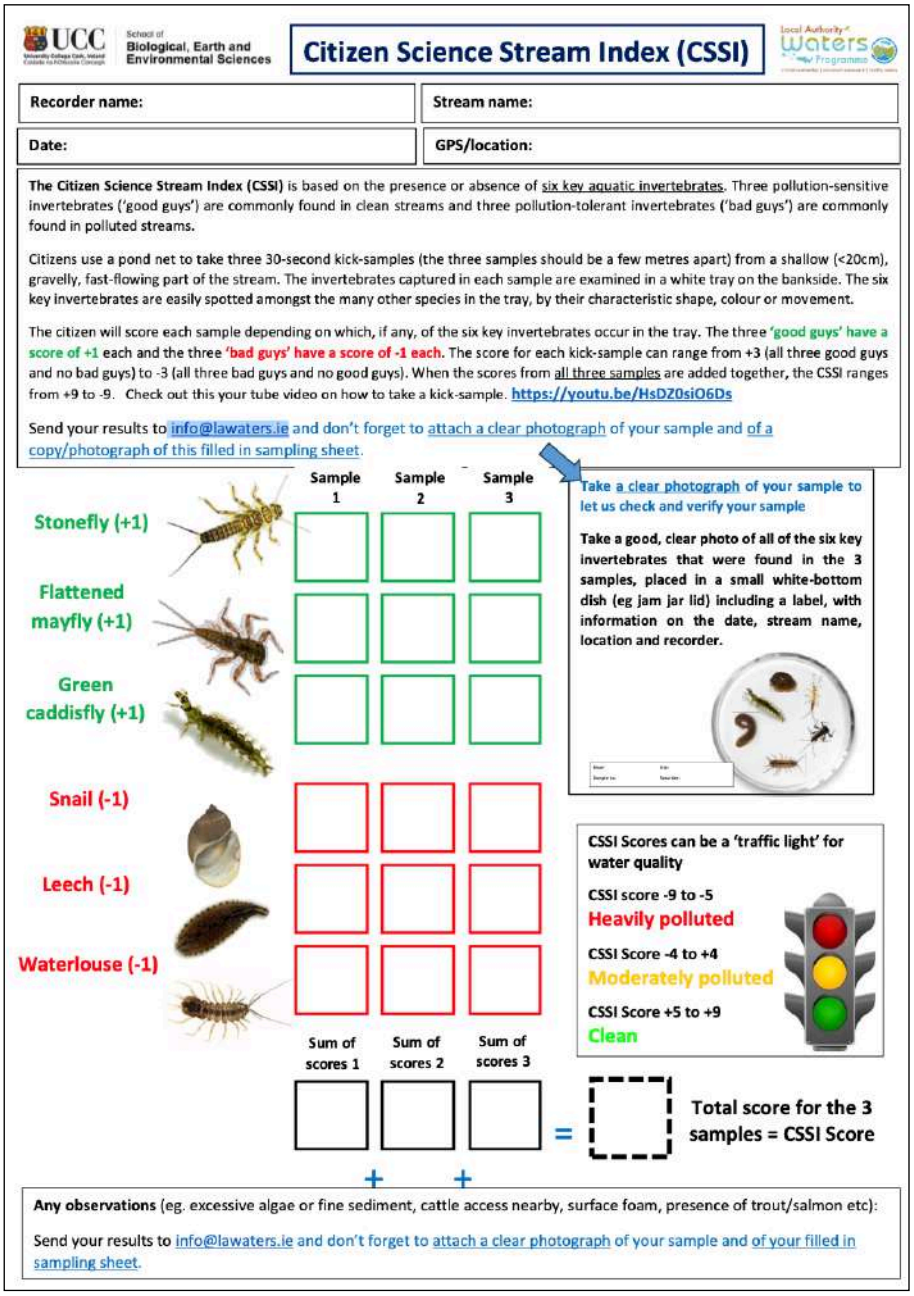
This is a biodiversity recording initiative of the National Biodiversity Data Centre in collaboration with the Department of Agriculture, Food and the Marine (see https://biodiversityireland.ie/surveys/biodiversity-on-your-farm/). The project focuses on 40 different species likely to occur on a farm. Join up for further information, training courses and tips on how to manage farm biodiversity.

**Pledging your Garden, Farm or School for Pollinators - All- Ireland Pollinator Plan**

The All-Ireland Pollinator Plan is a framework bringing together different sectors across the island of Ireland to create a landscape where pollinators can survive and thrive. Implementation is coordinated by the National Biodiversity Data Centre.


One third of our wild bee species are threatened with extinction. This is mainly because we have drastically reduced the amount of food and safe nesting sites that support them. The All-Ireland Pollinator Plan is a shared plan of action: together, we can take steps to restore pollinator populations to healthy levels. Individuals are invited to pledge their garden, farm or school for pollinators. You can sign up a site here and pledge to take action: https://pollinators.biodiversityireland.ie and you can read more about the scheme, sign up to a newsletter and read useful resources here: https://pollinators.ie.

## Citizen Science in Freshwater Rivers - The Citizen Science Stream Index (CSSI)



UCC School of Biological, Earth and Environmental Sciences

**Citizen Science Stream Index (CSSI)**

Local Authority Waters Programme

| Recorder name: | Stream name: |
|---|---|
| Date: | GPS/location: |

**The Citizen Science Stream Index (CSSI)** is based on the presence or absence of six key aquatic invertebrates. Three pollution-sensitive invertebrates ('good guys') are commonly found in clean streams and three pollution-tolerant invertebrates ('bad guys') are commonly found in polluted streams.

Citizens use a pond net to take three 30-second kick-samples (the three samples should be a few metres apart) from a shallow (<20cm), gravelly, fast-flowing part of the stream. The invertebrates captured in each sample are examined in a white tray on the bankside. The six key invertebrates are easily spotted amongst the many other species in the tray, by their characteristic shape, colour or movement.

The citizen will score each sample depending on which, if any, of the six key invertebrates occur in the tray. The three **'good guys' have a score of +1** each and the three **'bad guys' have a score of -1 each.** The score for each kick-sample can range from +3 (all three good guys and no bad guys) to -3 (all three bad guys and no good guys). When the scores from all three samples are added together, the CSSI ranges from +9 to -9. Check out this your tube video on how to take a kick-sample. **https://youtu.be/HsDZ0siO6Ds**

Send your results to info@lawaters.ie and don't forget to attach a clear photograph of your sample and of a copy/photograph of this filled in sampling sheet.

| | Sample 1 | Sample 2 | Sample 3 |
|---|---|---|---|
| Stonefly (+1) | | | |
| Flattened mayfly (+1) | | | |
| Green caddisfly (+1) | | | |
| Snail (-1) | | | |
| Leech (-1) | | | |
| Waterlouse (-1) | | | |
| Sum of scores | | | |

Take a clear photograph of your sample to let us check and verify your sample

Take a good, clear photo of all of the six key invertebrates that were found in the 3 samples, placed in a small white-bottom dish (eg jam jar lid) including a label, with information on the date, stream name, location and recorder.

CSSI Scores can be a 'traffic light' for water quality

CSSI score -9 to -5 **Heavily polluted**

CSSI Score -4 to +4 **Moderately polluted**

CSSI Score +5 to +9 **Clean**

Sum of scores 1 + Sum of scores 2 + Sum of scores 3 = Total score for the 3 samples = CSSI Score

**Any observations** (eg. excessive algae or fine sediment, cattle access nearby, surface foam, presence of trout/salmon etc):

Send your results to info@lawaters.ie and don't forget to attach a clear photograph of your sample and of your filled in sampling sheet.

A simple method to allow citzens to monitor freshwater streams in their area has been developed by the Local Authority Water Programme (LAWPRO). The Citizen Science Stream Index (CSSI) is suitable for beginners. The recording instructions and form can be downloaded from https://lawaters.ie/app/uploads/2023/11/Citizen-Science-Stream-Index-field-recording-sheet.pdf. The results of the survey are sent to info@lawaters.ie together with a photograph of the indicator species found and a copy of the recording form. This action helps to monitor a wide range of freshwater streams and can signal when any change is occurring in water quality that can be investigated by professional scientists. There is a video on the site to help citizen scientists undertake the sampling.

## Hop to It National Frog Survey

If you find adult frogs or any stage in the life cycle of the frog on your site, please send your observations to the Irish Peatland Conservation Council who monitor frog populations in Ireland through the Hop to It Frog Survey. A recording form is available at http://www.ipcc.ie/help-ipcc/hop-to-it-national-frog-survey-irelandcard/. This citizen science initiative has been running for nearly 30 years.

**Meadow Biodiversity Monitoring**

If you have areas where you have changed management to encourage a wildflower meadow to develop naturally you can perform a simple monitoring activity to measure progress and the increasing diversity of wildflowers in your meadow. Long-flowering meadows are cut once each year in September, and the cuttings are removed. Meadows managed in this way will allow wildflowers to bloom throughout the pollinator season and will also provide undisturbed areas for nesting wildlife. To assess the species richness of your meadow, you should randomly select a few areas of your meadow and mark out a 1m square plot (see image opposite). You should then count the number of different plant species in that square including grasses and flowering plants and/or the total number of flower heads. This will give you an indication of how much floral resource is being provided by your management action and repeating it in future years will allow you to track progress in quality over time. The results are interpreted in the information box below.

**Species-poor:** 1-5 plant species/$m^2$ (including grasses and sedges). Meadow is very grassy.

**Species-sparse:** 5-10 plant species/$m^2$. Plants like Ox-eye Daisy and Buttercup are likely to be dominant.

**Moderate species-richness:** 10-15 species/$m^2$. Species richness gradually increases, and plants like Red Clover, Bird's-foot-trefoil, Selfheal, Vetches and Knapweed will appear.

**Species-rich:** 15+ species/$m^2$. Meadow resembles what is commonly called a 'wildflower meadow'. This may take 7 or more years to achieve.

# *5. Biodiversity Study Site Locations*

Five study areas are the focus of this Biodiversity Action Plan in Mayo and Sligo (see Figure 1). The details are as follows:

5.1 Killedan House and Farm, Co. Mayo
5.2 Killanley Farm, Co. Sligo
5.3 Kinnagrelly Farm, Co. Sligo
5.4 Crossmolina Sensory Garden, Co. Mayo
5.5 Netley (Lauvyler) Farm, Co. Mayo

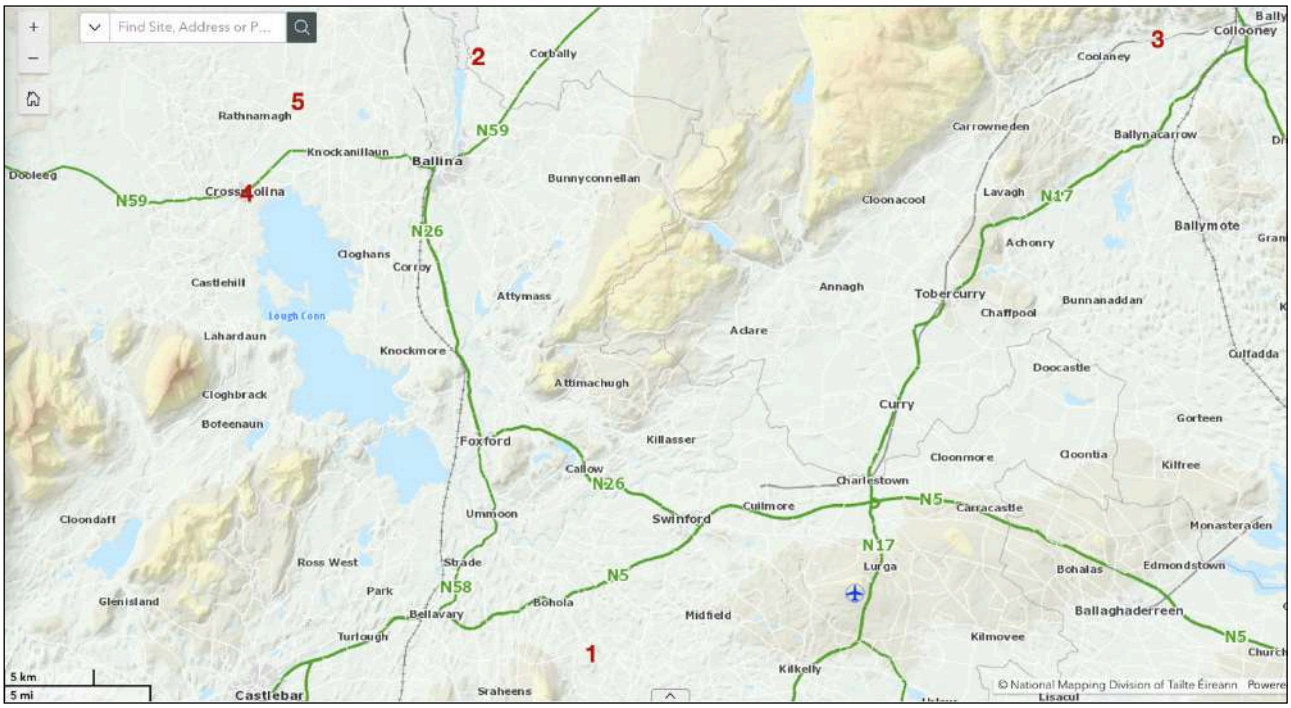



***Figure 1: overview map showing the locations of the study areas targeted by this Biodiversity Plan. The codes used are as follows:***
***1. Killedan House and Farm, Co. Mayo;***
***2. Killanley Farm, Co. Sligo;***
***3. Kinnagrelly Farm, Co. Sligo;***
***4. Crossmolina Sensory Garden, Co. Mayo and***
***5. Netley (Lauvyler) Farm, Co. Mayo. © Source: Tailte Éireann https://www.tailte.ie.***

# *6. Study Site Descriptions, Screening, Biodiversity Survey and Enhancement Recommendations*

Each of the biodiversity study sites is described in the five sections following (see 6.1-6.5). Each site was screened to determne the existing knowledge about its biodiversity, habitats and history. Subsequently each site was visited in the field and a biodiversity survey was conducted which involved describing the habitats and species present and the management being undertaken. On the basis of this information biodiversity retention and enhancement recommendations were formulated.

## 6.1 Killedan House and Farm, Co. Mayo

### 6.1.1 Killedan House and Farm, Co. Mayo - Location 53.877623, -9.014141

Killedan House and Farm lies 4km north of Kiltimagh in Co. Mayo. Access to the site is from the R321 on the south western boundary which links the towns of Kiltimagh and Bohola. There are minor roads within half a kilometre to the south eastern and northern boundaries of the site. The Pollagh River, a tributary of the Gweestion River which in turn is a tributary of River Moy occurs within 1km of the north eastern boundary of the site. The house and farm area is 75,041 square metres or 7.5 ha. The location of Killedan is shown in Figure 2 and the boundary of the biodiversity study site at this location is shown in Figure 3.


***Figure 2: Discovery map showing the location of Killedan House and Farm in Co. Mayo marked with an asterick. The site occurs on the R321 between Kiltimagh and Bohola villages. © Source: Tailte Éireann https://www.tailte.ie***


***Figure 3: Satellite image map for Killedan House and Farm showing the extent of the biodiversity study area outlined in red. © Source: Tailte Éireann https://www.tailte.ie, modified by C. O'Connell***

### 6.1.2 Killedan House and Farm - Results of Screening for Biodiversity and History

The Killedan House and Farm biodiversity study area was screened against the National Parks and Wildlife Service data base of designated sites at https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba. Within 300m of the study area is the River Moy Special Area of Conservation (SAC code # 002298). Information about this river and all of the important habitats occuring in its catchment including hay meadows, bog, fen, alluvial forest and old oak woodlands is available at https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY002298.pdf. The location of the SAC in relation to the Biodiversity Study Site is shown in Figure 4.

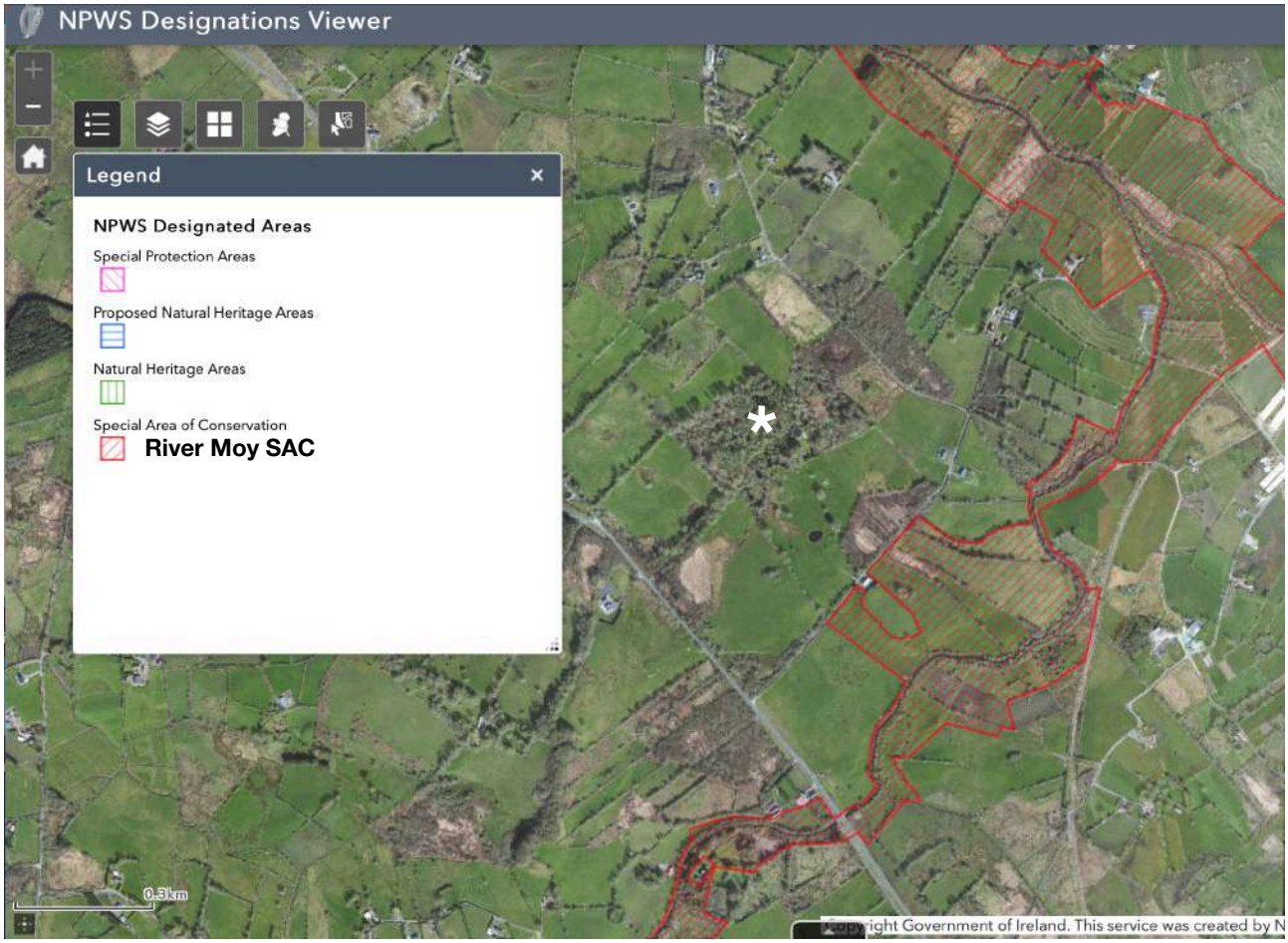



***Figure 4: Map showing the location of the Killedan House and Farm, Co. Mayo in relation to the River Moy SAC #002298. The biodiversity study site is shown with an asterisk. Source: https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba © Government of Ireland National Parks and Wildlife Service.***

The Wetland Surveys Ireland on line map (see https://www.wetlandsurveysireland.com) was checked for sites adjacent to Killedan House and Farm and no sites were found.

Information on the species diversity present at Killedan House and Farm is available from the National Biodiversity Data Centre (NBDC). Species records can be found for areas of the country based on a system of 1km square grids (see https://maps.biodiversityireland.ie/Map). The grid number screened for Killedan was M3392 and there was 1 record in this square for the Badger, a protected species under Irish Wildlife Law.

Killedan House and Farm biodiversity study site was screened against the inventory of historic sites and buildings at https://maps.archaeology.ie/HistoricEnvironment/). The results are shown in Figure 5. Killedan Farm House #31307118 is located on site and is a structure of regional historic importance of architectural, artistic, historical and social interest (see https://www.buildingsofireland.ie/buildings-search/building/31307118/killedan-house-killedan-mayo). In the fields to the north west of the site there are four ring forts as follows: Killedan Ringfort/Rath #MA071-158, Killedan Ringfort/Rath #MA071-156, Killedan Ringfort/Rath #MA071-157 and Killedan/Shanaghy Ringfort/Rath #MA071-155.

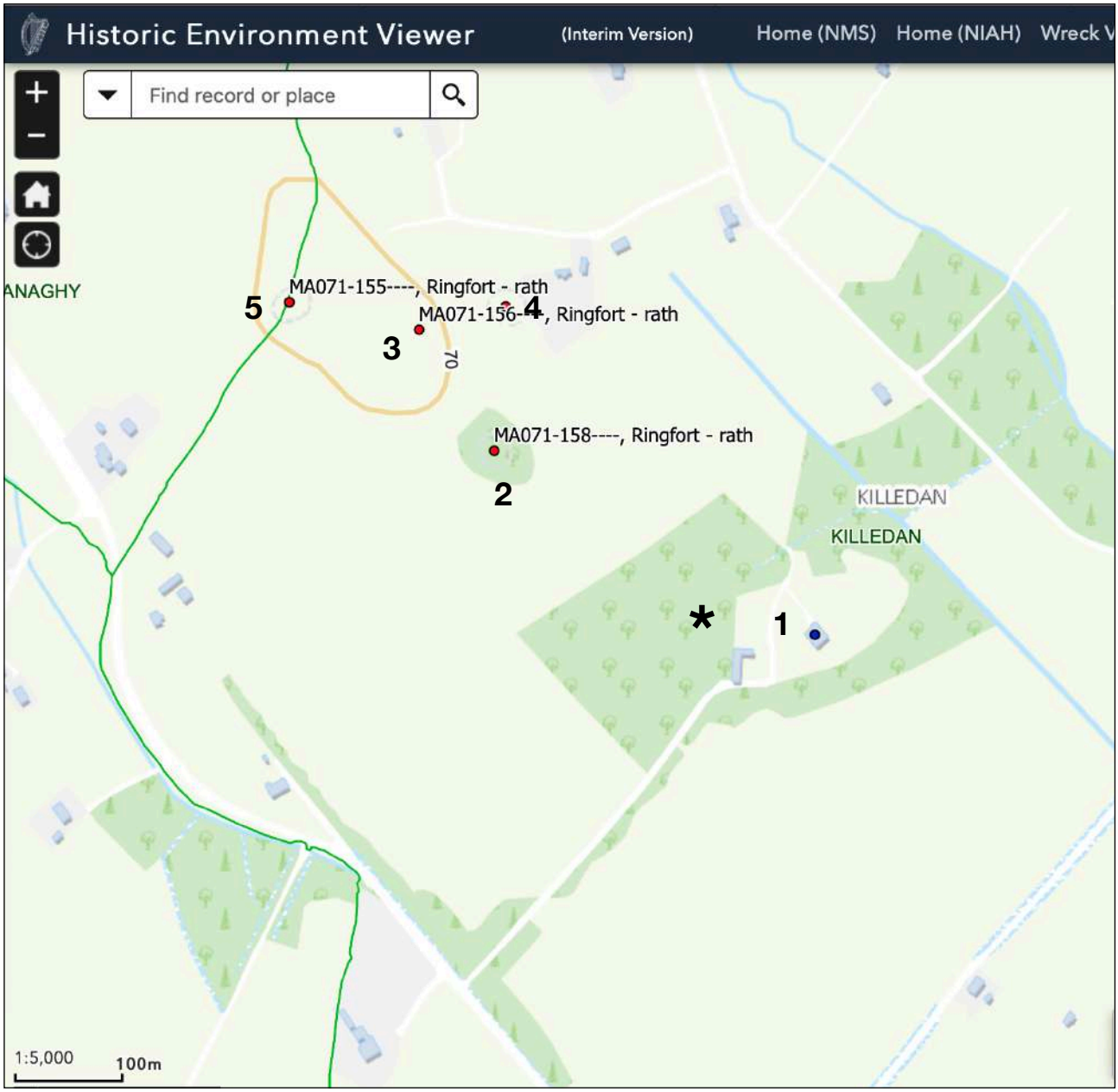



***Figure 5: Sites of historic importance located in the vicinity of the Killedan House and Farm biodiversity study area. The sites are as follows: 1. Killedan Farm House #31307118, 2. Killedan Ringfort/Rath #MA071-158, 3. Killedan Ringfort/Rath #MA071-156, 4. Killedan Ringfort/Rath #MA071-157 and 5. Killedan/Shanaghy Ringfort/Rath #MA071-155. Source: https://maps.archaeology.ie/HistoricEnvironment/. The biodiversity study site at Killedan House and Farm is shown with an asterisk. © Source: Tailte Éireann https://www.tailte.ie.***

### 6.1.3 Killedan House and Farm - Biodiversity Field Survey

Killedan House and Farm are in private ownership. Major works are underway to restore the built heritage of this site including a tower house (formerly the gardener's residence), Killedan Farm House and stables. The built structures are all located within woodland habitat which has developed from the 19th century when trees were planted and through neglect over the past 30 years before the present owners took over. A 650m long driveway leads to the house and stables from the R321. Walking tracks have been created which allow access to all of the wildlife habitats within the site. On all of its boundaries Killedan House and Farm is surrounded by farmland which is fenced off. On the north eastern boundary there is a ditch. The site was surveyed on the 18th June 2024. The various habitats identified at Killedan House and Farm are shown in Figure 6 and are described in Section 6.1.5.


***Figure 6: Habitat map for Killedan House and Farm, Co. Mayo. Red stars represent the location of invasive species. The large star in the centre of the woodland represents the zone most severely invaded with cherry laurel. Map © Source: Tailte Éireann https:// www.tailte.ie, amended C. O'Connell.***

### 6.1.4 Killedan House and Farm - Site Management

The owners of Killedan House and Farm have undertaken a variety of habitat management actions within the past three years including: creating walking paths through woodland habitats, erecting bird and bat nest boxes, constructing a rainwater fed pond, removing invasive Japanese Knotweed from the orchard, the stables and the pond area, removing snowberry from the hedges of the entrance drive, planting a hedge between the house and the stables, creating log piles in the orchard and at the tower house and creating flower beds. Electricity power lines run through the site along an area cleared of trees.

### 6.1.5 Killedan House and Farm - Habitats and Species Present

**Species Diversity**
The species recorded in Killedan House and Farm were as follows: 79 plants, 2 fungi, 9 animals and 15 birds with a total of 105 species for the site (see Appendix 2).

**Habitats**
Nine habitats present in Killedan House and Farm are shown on Figure 6 and are described below.

**Stone Walls and Other Stonework BL1**
Stone walls occurred along part of the entrance driveway, around the orchard and along part of the mass road. These were constructed of local stone and were covered with a dense layer of pleurocarpous mosses including common tamarisk-moss (*Thuidium tamariscinum*) and big shaggy moss (*Rhytidiadelphus triquetrus).* Hart's tongue fern was growing profusely among the mosses together with a wide variety of woodland plants including maidenhair spleenwort, lady fern, ivy, polypody fern and broad buckler fern (see Plates 4 and 5).

***Plate 4 (left): wall habitat on the entrance driveway to Killedan House and Farm. Note the luxurious growth of moss and ferns. Stone walls are a valuable habitat for birds, frogs and invertebrates. Action 6.1.1 in Table 4 recommends maintaining the wall habitats and their vegetation cover as a feature of this site and not allowing them to become overgrown with invasive cherry laurel, bramble or nettle. Photo: © C. O'Connell.***

***Plate 5: Gravelled track alongside the orchard at Killedan House. The wall habitats can be seen covered with moss, ivy and fern. This route was known as the "Mass Road" in the past. It is thought that people took this route to church. Action 6.1.1 in Table 4 recommends maintaining the wall habitats and their vegetation cover as a feature of this site and not allowing them to become overgrown with invasive cherry laurel, bramble or nettle. Photo: © C. O'Connell.***

**Buildings and Artificial Surfaces BL3**
The main house, tower house and stables have been restored and have little plant cover (see Plate 6). The stable building had a swallow nest and two adults were observed entering and leaving the building.

***Plate 6: Killedan House is undergoing extensive restoration as is the Tower House (inset) near the entrance gates to the site. The stone walls are devoid of plants at this time. Photos: © C. O'Connell and J. FitzGerald***

**Oak-Ash Woodland WN4**

The dominant habitat at Killedan House and Farm is semi-natural woodland. Ash is frequent with oak, hazel, hawthorn, holly, elderberry, sycamore and willow (Plate 7). Mature beech trees were noted along the perimeter of the site and on drier ground and together with Scot's pine and horse chestnut were likely planted in the 19th century (Plate 8). Cherry laurel has invaded this habitat extensively particularly in the centre of the site adjacent to the house and stable buildings (Plate 9). As a result there were few seedlings of the canopy trees noted and the understorey was poorly developed or absent in this area. On the woodland floor, foxglove, horsetail, enchanter's nightshade, hogweed, wood avens, herb robert, pendulous sedge, ivy, bramble, hedge wound wort, ground elder, golden saxifrage and a variety of ferns were present where cherry laurel was absent. Climbing honeysuckle was also present. The epiphytic lichen *Parmelia caperata* (greenshield lichen) was noted on the tree branches. The woodlands were rich in bird life. The following species were seen or heard: blackcap, wren, chaffinch, coal tit, siskin, grey wagtail, robin, blue tit, buzzard and song thrush. Ash die back was observed in the woods at Killedan. Mature trees need to be monitored for the disease in the interest of health and safety (see Action 6.1.14 in Table 4).

***Plate 7: Deciduous woodland adjacent to the Tower House at Killedan, Co. Mayo. Ash dominates the woodland with a well developed ground flora of ferns, bramble and ivy. Honeysuckle (photo inset left) was climbing through the trees. Lichens from the Graphidion community were present on the bark of the ash trees (photo inset right).***
***Photos: © C. O'Connell.***

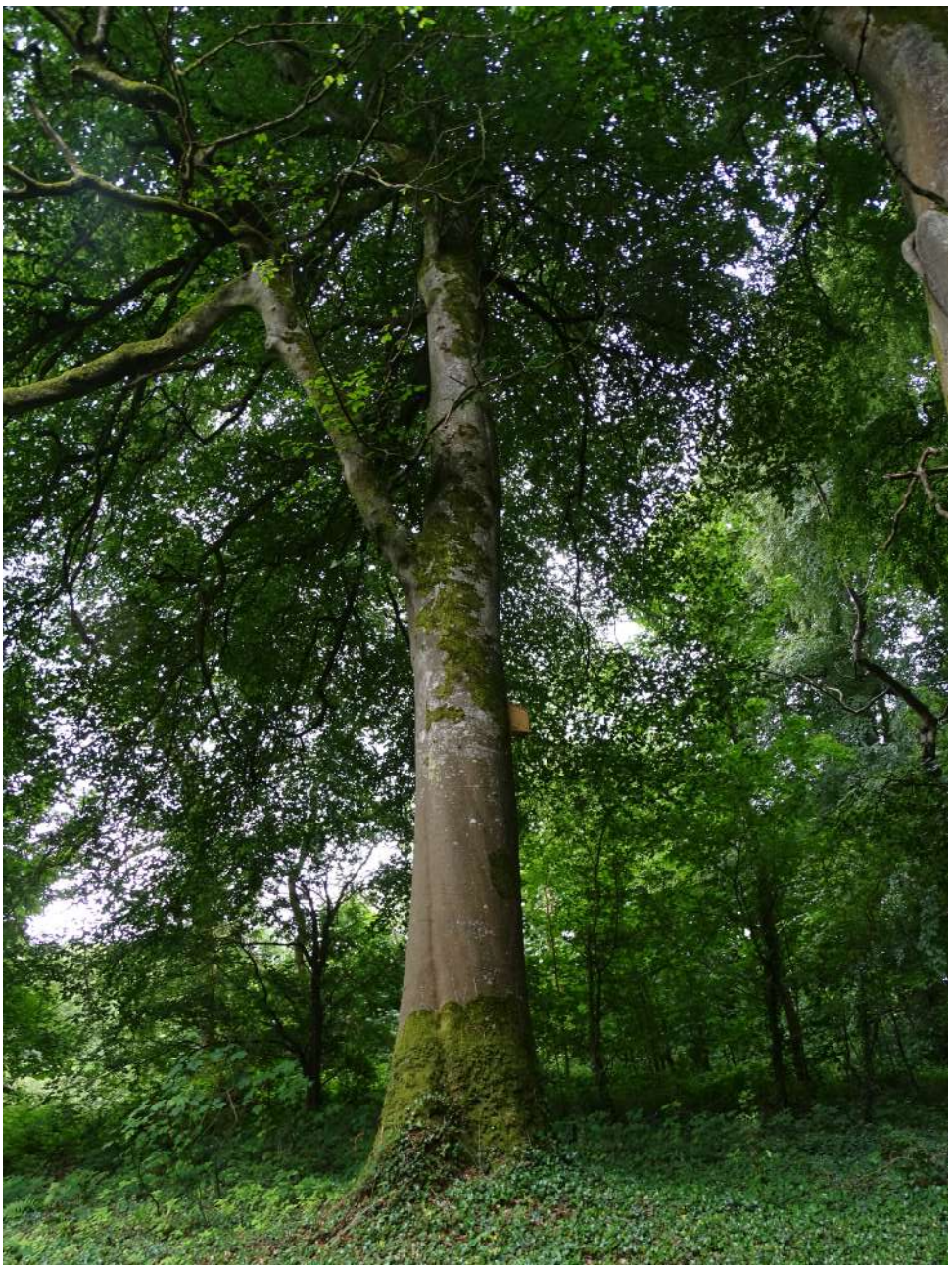


***Plate 8: An example of a mature beech tree within the woods at Killedan House and Farm. Ivy is present on the woodland floor. A bat or bird nest box is seen on the tree. Action 6.1.13 in Table 4 recommends installing robin nest boxes - letterbox style - in the woods as juvenile robins were observed at Killedan. Photo: © C. O'Connell***

***Plate 9: An example of cherry laurel investation in the woods at Killedan House. Cherry laurel is an invasive species which colonises woodland. As it is evergreen it casts deep shade preventing the growth of woodland flowers and ferns and the regeneration of tree seedlings causing the woodland to be moribund. Action 6.1.16 in Table 4 recommends developing a plan to remove all cherry laurel from Killedan as a priority to allow for the structural diversity of the woodland to develop (see Action 6.1.4). Photos: © C. O'Connell***

**Meadow GS2**
This habitat occurred to the front and side of Killedan House, in the southern corner of the site and along part of the power line that had been cleared of trees to the north east. This habitat is dominated by grasses mixed with wild flowers and is not grazed (Plate 10). As it is open and not shaded by overhanging trees, it has a sunny aspect and has an abundance of insects. The herbs and grasses noted were: rye grass, Yorkshire fog, plantain, buttercup, dock, willow herb, sweet vernal grass, foxglove and cock's foot grass. Insects recorded included meadow brown butterfly, spittle bug (leaf hopper), cranefly, white-tailed bumble bee and wolf spider. In some areas rose bay willow herb formed dense stands.

***Plate 10: Meadow habitat at Killedan House and Farm, Co. Mayo. Rye grass, Yorkshire fog, plantain, buttercup, dock, willow herb, sweet vernal grass and cock's foot grass were recorded in this plant community. Meadow brown butterflies (image inset left) breed in grassland and feed on grasses. Action 6.1.3 in Table 4 recommends maintaining open areas within the woods to add meadow diversity, an important habitat for pollinators.***
***In the background sandwiched between the woodland and meadow dense bracken habitat occurs (image inset right). Photos: © C. O'Connell***

**Dense Bracken HD1**
In damp areas where the underlying soil was peaty, particularly along the power line, dense stands of bracken were present with rushes and foxglove. This habitat bordered the grassland and woodland habitat along the power line (Plate 10).

**Ornamental Non Native Shrub WS3**

In the southern part of the Killedan House and Farm site, *Rosa rugosa*, planted in the past has become naturalised and forms a dense impenetrable stand. The shrubs were up to 1.5m tall (see Plate 11). This species can cause problems for landowners as it are difficult to control, especially as once cut, the many stems regenerate as coppice from the cut stem. It is regarded as an invasive of medium impact.

***Plate 11: Rosa rugosa has become naturalised at Killedan House and farm and forms a dense impenetrable stand. The shrubs were up to 1.5m tall. Action 6.1.17 in Table 4 recommends removing this invasive species with care for the adjacent meadow habitat. Photo: © C. O'Connell***

**Flower Beds and Borders BC4**

Two flower beds have been established in Killedan. A long thin flower bed, with stonework to the front has been installed in the entrance driveway and a second flower bed has been established to the rear of the Tower House. Peat is being used to create soil and a variety of non native shrubs have been planted (see Plates 12 and 13).

***Plate 12: A non native flower bed located at the Tower House in Killedan House and Farm. Action 6.1.2 in Table 4 recommends replanting this bed for woodland pollinators. Photo: © C. O'Connell.***

***Plate 13: A non native flower bed established along the driveway of Killedan House and Farm. Action 6.1.9 in Table 4 recommends not using peat in flower beds as it is not sustainably produced and its production destroys native peatland habitats and releases the carbon stored in the peat adding to global warming. Action 6.1.2 in Table 4 recommends planting this area with native woodland species beneficial to pollinators. Photo: © C. O'Connell***

**Artificial Pond FL8**

An artificial pond has been created by the land owners at Killedan House and Farm. This is a circular structure, surrounded by a low wall and is rainwater fed. Creating a water retaining soil base in the pond using bentonite powder has not worked to date with the exception of a small area of the pond (see Plate 14).

***Plate 14: The artificial pond at Killedan House and Farm does not hold water. Action 6.1.5 in Table 4 suggests consulting an expert to determine how this situation can be resolved. Action 6.1.6 provides information on how the pond should be planted for wildlife. Killedan has a healthy frog population (owner personal communication) and a working pond would be a great boost to biodiversity within this site. Action 6.1.6 suggests creating bridges in the walls of the pond to allow for the passage of wildlife in and out of the water. Photo: © C. O'Connell.***

**Horticultural Land BC2**

A walled orchard and a number of raised cultivation beds occur adjacent to Killedan House and Stables. The orchard had some old apple trees and a variety of new fruit trees have been planted including cherry, plum and apple (Plate 15). In the raised planters sage, rosemary and chives were planted in peat (Plate 16). The orchard was a stronghold for invasive Japanese Knotweed which the land owners have tackled. Regrowth of this invasive species must be kept in check (see Action 6.1.15 in Table 4).

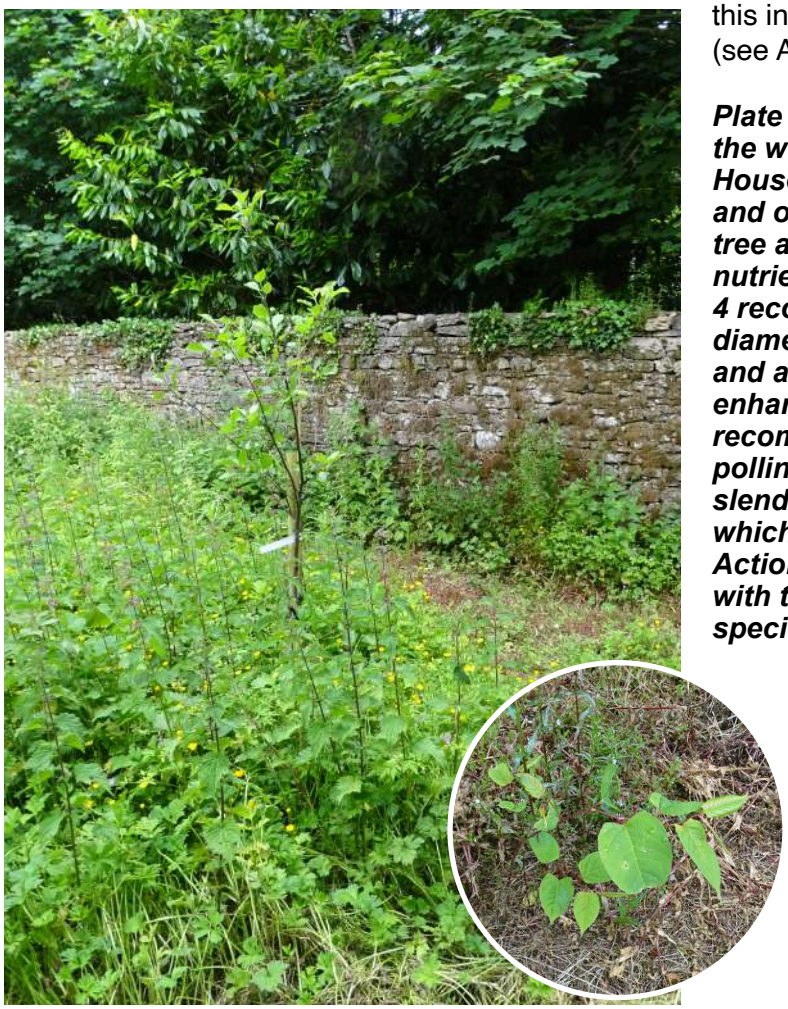


***Plate 15: A fruit tree recently planted in the walled garden or orchard at Killedan House. The abundant growth of nettle and other species around the base of the tree are in competition with it for nutrients and water. Action 6.1.8 in Table 4 recommends weeding a circle of 1m diameter around the base of each tree and applying a homemade mulch to enhance growth. Action 6.1.8 recommends managing the orchard for pollinators. The photo inset shows a slender stem of Japanese Knotweed which has grown from treated roots. Action 6.1.15 recommends continuing with the eradication programme for this species. Photos: © C. O'Connell***

***Plate 16: The raised planters at the edge of the orchard. These have become overgrown but a mixture of culinary herbs are present among the weeds. They have been planted in moss peat. Action 6.1.10 in Table 4 suggests setting up a composting system in the orchard to generate a sustainable source of soil improver and avoid the use of peat which threatens wild bog habitats and contributes to global warming. Photo: © C. O'Connell.***

**Champion and Heritage Trees**
A number of very old trees of beech and oak occur within the grounds of Killedan House and Gardens (see Plate 17). A champion tree is defined as the tallest or oldest or most massive example of its species or kind in a given region while a heritage tree has a particular story of biological, cultural, ecological or historical interest. Within the site there are fine examples of beech, lime, oak, Scot's pine, yew, ash, sycamore and horse chestnut. It might be interesting to develop a tree walk around the farm which takes in these fine specimens and which can be used to raise awareness about the heritage of the site and their importance as habitats for biodiversity.

***Plate 17: A possible champion or heritage oak tree in Killedan House and Farm. A tree of this age provides habitat and food for over 1,000 other species. Action 6.1.18 in Table 4 recommends including this tree and others on the Tree Register of Ireland (see https://www.treecouncil.ie/tree-register-of-ireland). Action 6.1.20 in Table 4 recommends collecting acorns from this tree to grow as the next generation of oaks at Killedan. Photo: © J. FitzGerald.***

**Invasive Species**
There were four invasive species recorded in the grounds of Killedan House and Farm. These were Japanese knot weed, cherry laurel, snowberry and rugose rose (see Plate 18).

A programme of eradication of Japanese knot weed (*Reynoutria japonica*) is underway at the property. Some regeneration of shoots from root stock were noted in the orchard and at the artificial pond.

Cherry laurel (*Prunus laurocerasus*) presents a challenge as it is prolific in the central area of the site around the buildings. In this area the laurel dominates the understorey of the woodland, casting deep shade and ensuring that the native wild flowers and tree seedlings normally found in a woodland are absent. As a matter of priority and in the interest of the long term biodiversity of Killedan House and Farm woodlands, cherry laurel needs to be removed entirely.

Snowberry (*Symphoricarpos albus*) was noted in the woodland close to the driveway at the entrance to Killedan House. Again the owners have removed some of this shrub, but the work needs to be completed. This shrub spreads by producing suckers replacing typical woodland species such as hawthorn and blackthorn. It is an agressive plant and needs to be removed.

Rugose rose (*Rosa rugosa*) formed a dense impenetrable thicket in the southern open area of the property. This plant is regarded as an invasive of medium impact. However once cut many stems regenerate as coppice from the cut stem which presents a challenge for landowners.

***Plate 18: Composite image showing the four invasive species identified at Killedan House and Farm. Clockwise from the top left Japanese knot weed, cherry laurel, snowberry and rugose rose. All of these species need to be eradicated. Programmes of eradication need to be continued and completed and new plans must be put in place to remove cherry laurel which is causing the woodland at Killedan to be moribund. See Actions 6.1.15 to 6.1.18 in Table 4. Photos: © C. O'Connell.***

### 6.1.6 Killedan House and Farm - Biodiversity Actions

The biodiversity actions presented in Table 4 aim to manage Killedan woods in a way that enhances biodiversity. Management strategies for small woodlands usually involve removal of invasive species; creation of structural diversity (tall trees, shrubs, gaps and glades); encouragement of “soft edges” (scrubby margins with lots of shrubs and flowering broad-leaved herbs) and retention of dead and decaying wood (important for invertebrates, fungi and birds that nest in holes). In general, structural diversity improves the habitat for nesting birds, and sheltered areas with nectar-producing plants are favoured by invertebrates such as butterflies, hoverflies, bees and wasps. The presence of late flowering plants (e.g. bramble and ivy) and early flowering plants (e.g. blackthorn and willow) provide a food supply for birds and insects at times when it is otherwise scarce. The biodiversity actions for Killedan House and Farm presented in Table 4 aim to protect the existing biodiversity and to implement improvements where possible. Some additional actions target sustainable best practice within the site such as the phasing out of the use of moss peat and the setting up of a composting system to deal with organic waste. There are citizen science recommendations documented in the table such as registering the farm with pollinators.ie, reporting frog sightings to the Hop to It National Frog Survey and undertaking monitoring projects as outlined in Chapter 4 of this plan.

**Table 4: Biodiversity enhancement actions for Killedan House and Farm, Co. Mayo**

| Action Number | Action | Notes |
|---|---|---|
| **6.1.1** | **Retain old stone wall habitats. Protect from colonisation by nettle, bramble and cherry laurel** | The old stone wall habitats of Killedan House are an unique feature with their dense cover of mosses and ferns typical of the oceanic climate of the west of Ireland. Retain these habitats and manage vigorous bramble, cherry laurel and nettle growth so that they do not destroy this habitat. |
| **6.1.2** | **Enhance shrub bed on driveway and at Tower House for woodland pollinators** | Transfer non native shrubs in the flower bed along the drive and at the Tower House to the main house garden area. Plant these beds with pollinator friendly woodland plants that grow from bulbs or seed. These include Irish bluebell (*Hyacinthoides non-scripta*), wood anemone (*Anenome nemorosa*), ramson (*Allium ursinum*), lords and ladies (*Arum maculatum*) and lesser celendine (*Ficaria verna* ssp *verna*). Biennials and perennials to consider planting from seed (or plugs) are wood sorrel (*Oxalis acetosella*), primrose (*Primula veris*), foxglove (*Digitalis purpurea*) and dog violet (*Viola riviniana*). |
| **6.1.3** | **Manage grassland areas as meadow** | Grassland areas within Killedan should be mowed only once a year and the clippings lifted and removed to create a meadow. This action increases the diversity of grasses and wild flowers for pollinators. The following publication gives guidance on how to develop and manage a wild flower meadow: https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Wildflower-Meadows-2018-WEB.pdf. |
| **6.1.4** | **Increase structural complexity of the woodlands** | With the invasion of cherry laurel in the understorey over a significant area of the woodland at Killedan, the structural complexity of the woodland and the range of ages of the trees are limited. Once cherry laurel is removed there will be an opportunity to plant native trees of oak (grown from acorns germinated from the veteran oak tree Action 6.1.20) and to allow for the woodland flora and understorey to develop naturally. This action works with Action 6.1.16. |
| **6.1.5** | **Pond restoration** | Consult an expert with regard to the issue of water retention within the pond created at Killedan. For example Feidhlim Harty at http://www.wetlandsystems.ie/. |
| **6.1.6** | **Plant pond for wildlife** | Killedan House and Farm has a healthy frog population. Once the pond has been created and is holding water it should be stocked with a variety of wild native floating, emergent and marginal plants to create a biodiversity hot spot. Ensure that wildlife bridges are created to allow frogs and newts and other wildlife to access and exit from the pond. Further information from https://content.freshwaterhabitats.org.uk/2013/09/Creating-Garden-Ponds-for-Wildlife.pdf? |

| Action Number | Action | Notes |
|---|---|---|
| **6.1.7** | **Citizen science: submit frog sightings to the Hop to It Frog Survey** | Frogs are resident at Killedan. Frog sightings and information on any stage observed in their life cycle should be submitted to the Hop to It Frog Survey of Ireland which collects all data on the different stages in the frog life cycle each year in Ireland. See http://www.ipcc.ie/help-ipcc/hop-to-it-national-frog-survey-irelandcard/. Frogs are indicator species of habitat quality, occupying a position in the middle of a food chain. While the frog feeds on invertebrates at the lower end of the food chain, they are in turn taken by fox and birds higher up the food chain. |
| **6.1.8** | **Manage orchard for fruit and pollinators** | Recently planted fruit trees in the orchard at Killedan need to be mulched at their base so that the earth immediately around them is kept moist and free of competing weeds for a diameter of 1m. This should be repeated annually. The orchard should be managed for pollinators as wild bees and hoverflies will pollinate the fruit tree flowers which will produce fruit. In the ground layer of the orchard a meadow of wild flowers should be created, cutting the meadow just once a year in autumn and removing the clippings entirely to enhance the range of wild flowers (see https://pollinators.ie/wp-content/uploads/2023/06/Meadow-Guideline-2023-WEB.pdf for more details). Be patient, making a meadow naturally may take 3-5 years to achieve. Some fallen fruit should be left to feed bees, butterflies and moths. Small amounts of dead wood trimmed from the older apple trees can be left in a pile for insects. Gaps in the stone walls around the orchard will provide nesting sites for bees. Further information https://pollinators.ie/wp-content/uploads/2023/09/AIPP-Farmland-Orchards-2023-WEB.pdf. |
| **6.1.9** | **Phase out the use of peat as a growing medium** | Peat moss is being used in raised beds near the orchard and in shrub beds established along the driveway to Killedan House. Peat is extracted from raised bogs, one of the most threatened wetland habitats in Ireland and its use not only damages wild habitat but also releases the carbon that is stored long term in peat. Consider purchasing peat-free compost for growing if necessary and supplement it with home produced compost. |
| **6.1.10** | **Set up a composting area** | A composting station should be set up in the grounds of Killedan House, preferably near the raised bed growing areas or orchard. A large composting system needs to be developed (see Plate 19). |
| **6.1.11** | **Monitor and maintain swallow nesting in stables** | A natural swallow nest is located in one of the stables at Killedan. The use of the nest should be maintained by providing easy access for the birds via an open door or window. If necessary swallow nesting cups could be erected to encourage a larger number of birds to breed. Swallow are an amber listed bird of conservation concern due to loss of their habitats and food sources through the use of pesticides and herbicides. |
| **6.1.12** | **Retain log piles already created in the woods and orchard.** | A log pile is a complex home and food source for all sorts of beneficial creepy crawlies and invertebrates. They can even be used by larger animals such as frogs and hedgehogs for hibernation. Large logs give a more stable environment but every log counts. Stack them up randomly leaving some space between them. Partly bury some logs into the ground to create the cool moist conditions loved by ground dwelling invertebrates including woodlice, centipedes, ground beetles and the devil's coach horse. Log piles are not static. Continue to add to the pile as it rots down. This will ensure that you have fresh dense wood at the top and brittle, soft decomposing wood at the bottom. A log pile is a wildlife sanctuary and will enhance the wildlife value of Killedan House and Farm with very little effort. See Plates 20 and 21. |
| **6.1.13** | **Install robin nest boxes** | There are many blue tit nest boxes in Killedan, but no robin boxes. Bird boxes are a valuable resource encouraging birds to nest in the woods. Even in winter when birds are not breeding they use the boxes as a roost. Boxes with letterbox style opening work for robin. |

| Action Number | Action | Notes |
|---|---|---|
| **6.1.14** | **Ash die back monitoring and management** | Ash dieback, caused by the fungal pathogen *Hymenoscyphus fraxineus* is present in Killedan Woods. A survey to identify tolerant trees should be made. In addition any trees that may cause a public health and safety issue need to be identified and monitored.<br><br>The spores of this fungus reproduce on dead leaves of ash which fall to the woodland floor in autumn. Woodland management can help stop the local spread of ash dieback and would involve collecting the fallen ash leaves and burning, burying or deep composting them. This disrupts the fungus's lifecycle. Further information for forest managers from https://www.forestresearch.gov.uk/tools-and-resources/fthr/pest-and-disease-resources/ash-dieback-hymenoscyphus-fraxineus/chalara-manual-2-managing-ash-trees-and-woodland-including-logs-and-firewood/ |
| **6.1.15** | **Continue with eradication programmes of Japanese knot weed and snowberry** | Continue to monitor the regrowth of Japanese knot weed and snowberry as part of the eradication of these two invasive species. |
| **6.1.16** | **Remove invasive Cherry Laurel** | Develop and implement an action plan to tackle the Cherry laurel (*Prunus laurocerasus*) investation of Killedan woods. The following document provides useful practical advice: https://invasivespeciesireland.com/wp-content/uploads/2012/01/Rhododendron-BPM.pdf. Seek funding to implement the plan. |
| **6.1.17** | **Remove invasive rugose rose** | Develop a programme to eradicate invasive Rugose rose to the south of Killedan Farm. This may require liaison with the National Biodiversity Data Centre (https://invasives.ie). |
| **6.1.18** | **Register champion and/or heritage trees** | Possible champion or heritage trees occur in Killedan House particularly the oak tree near the house. Investigate whether this tree should be included on the Tree Register of Ireland (see https://www.treecouncil.ie/tree-register-of-ireland). |
| **6.1.19** | **Leave fallen trees on the woodland floor to create new habitat for wildlife** | Fallen trees actually provide extremely valuable, and often overlooked, habitats. Like in their upright phase of life, fallen trees provide food and shelter for a wide variety of organisms. A range of new habitats are created around a fallen tree including a hollow where the roots once were, a mound of earth moved with the roots of the tree, the decaying tree trunk provides food and shelter for fungi and wildlife, the gap in the canopy of the woodland allows more light to reach the woodland floor and stimulates new growth and the dead wood of the tree top provides shelter and foraging for birds and animals (Plate 21). |
| **6.1.20** | **Seed collecting from veteran trees for the next generation** | Collect and germinate seed from veteran trees such as oak and ash trees to provide for the next generation of trees at Killedan. Once cherry laurel is removed there will be opportunities for establishing oak woods. |
| **6.1.21** | **Pledge Killedan House and Farm for pollinators** | Once the work is underway at Killedan to enhance pollinators, the farm should be pledged for pollinators with the National Biodiversity Data Centre. See https://pollinators.ie/pledge-your-garden-for-pollinators/. |
| **6.1.22** | **Citizen science monitoring of the biodiversity improvements you are making** | Once some of the measures have been completed it is important to undertake simple monitoring actions of how well biodiversity is doing. For example a FIT survey could be undertaken on a patch of dandelions or the species diversity could be counted in the areas set aside to become wildflower meadows. See further details in Chapter 4 of this plan. See also https://pollinators.ie/is-your-action-making-a-difference-you-can-help-by-tracking-changes/ |

**Plate 19: Composting units at the Bog of Allen Nature Centre made from recycled plastic lumbar. Each of the bays is filled in turn with a mixture of green and brown organic waste. The provision of 8 bays allows material to compost down over time, facilitates turning and ensures the compost area remains neat and tidy. Action 6.1. in Table 4 recommends installation of this type of system in Killedan House and Farm. Photo: © N. Madigan.**

**Plate 20: An example of a log pile established near the Tower House in Killedan House and Farm. In time this structure will provide an excellent habitat for wildlife (see Action 6.1.12 in Table 4. Photo: © C. O'Connell.**

**Plate 21: Fallen trees in the woodland open up the canopy and let light down to the ground which allows new life to grow in the woods. Action 6.1.19 in Table 4 recommends leaving the tree in place to rot naturally. Photo: © C. O'Connell.**

## 6.2 Killanley Farm, Co. Sligo

### 6.2.1 Killanley Farm, Co. Sligo - Location 54.166724, -9.126143

The biodiversity study area is farmland surrounding a private farm house and a house construction site accessed from L6611 road on the western boundary (see Figures 7 and 8). A tributary of the River Moy flows along the northern boundary of the biodiversity study site through deciduous woodland. The land surrounding the site is farmland divided into fields with hedges, stone wall, fencing and embankments. The land is in private ownership and is being farmed under the ACRES Scheme (Agri-Climate Rural Environment Scheme) of the Department of Food, Agriculture and the Marine. The farmer has destocked, is managing part of the farm as low input grassland for hay and silage. The area of the site is 26,754 square metres or 2.68ha.


***Figure 7: Discovery map showing the location of the Killanley Farm biodiversity site, Co. Sligo. The site lies east of the River Moy Estuary and north of Ballina town in Co. Mayo. The biodiversity study site is shown with an asterisk. © Source: Tailte Éireann https://www.tailte.ie***

***Figure 8: Satellite image showing the biodiversity study area at Killanley Farm, Co. Sligo outlined in red. © Source: AppleMaps.***

### 6.2.2 Killanley Farm, Co. Sligo - Results of Screening for Biodiversity and History

Killanley Farm was screened for conservation designations using the National Parks and Wildlife Service map viewer (see https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba). Along the northern boundary of the farm, the woodland and stream tributary are designated within the Killala Bay/Moy Estuary proposed Natural Heritage Area and Special Area of Conservation with the code number 000458 for both. Information about the importance of Killala Bay/Moy Estuary for habitats and wildlife can be found at https://www.npws.ie/protected-sites/sac/000458 and https://www.npws.ie/protected-sites/spa/004036. Figure 9 shows the location of the farm incorporating Killanley in relation to these nature conservation sites.

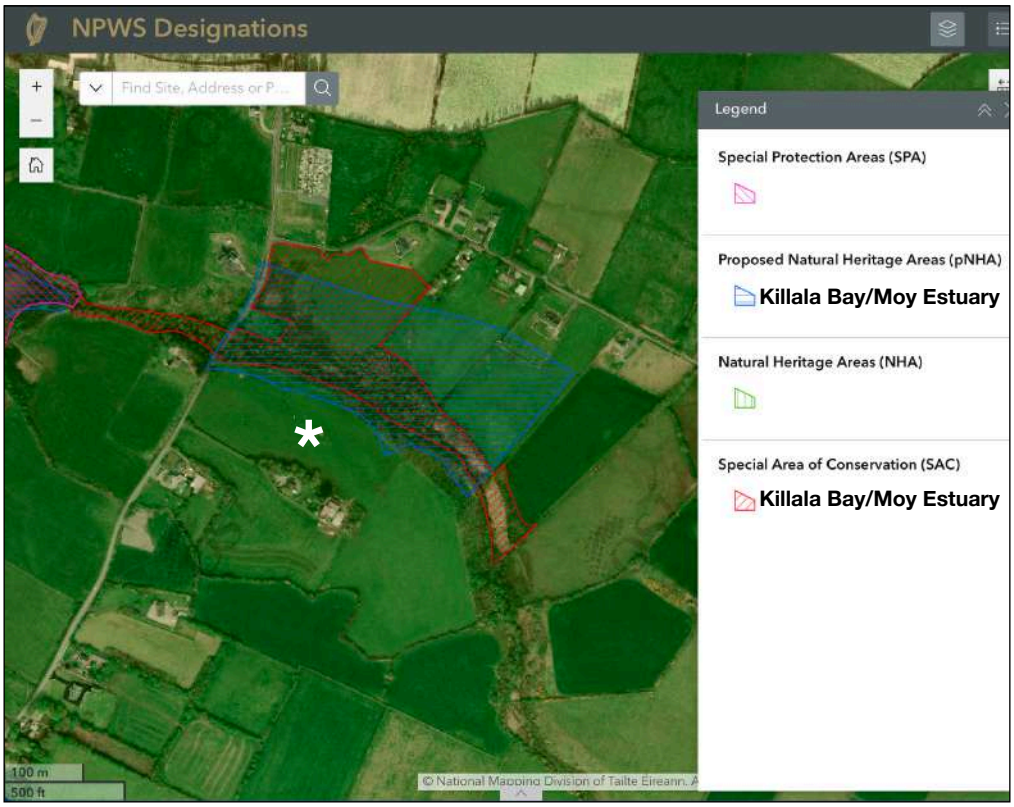



***Figure 9: Map showing the location of the Killanley Farm, Co. Sligo in relation to the Killala Bay/Moy Estuary SAC and pNHA. The biodiversity study site is shown with an asterisk. Source: https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba. © Source: Tailte Éireann https://www.tailte.ie/ National Parks and Wildlife Service.***

The Wetland Surveys Ireland on line map (see https://www.wetlandsurveysireland.com) was checked for sites adjacent to Killanley Farm and no sites were found.

Information on the species diversity present in Killanley is available from the National Biodiversity Data Centre (NBDC). Species records can be found for areas of the country based on a system of 1km square grids (see https://maps.biodiversityireland.ie/Map). The grid number screened for Killanley was G2624 and there are 65 species records in this square for the site. These include 4 plants, 2 ladybirds, 13 water beetles, 1 butterfly, 2 moths, 4 true bugs, 33 species of non marine mollusc (including 5 threatened species, one of which is protected), 2 mammals (1 of which is a protected species) and 4 bats (3 of which are protected species).

The inventory of historic environments (see https://maps.archaeology.ie/HistoricEnvironment/) indicates a variety of features located within 100 to 200m of the Killanley Farm. These include: SL022-015001 - Killanly Church, SL022-015003 - Killanly Font, SL022-015002 - Killanly Graveyard, SL022-023 - Killanly Barrow, SL022-022 - Killanly lime Kiln and SL022-025 - Killanly Structure. The location of these sites is shown in Figure 10.

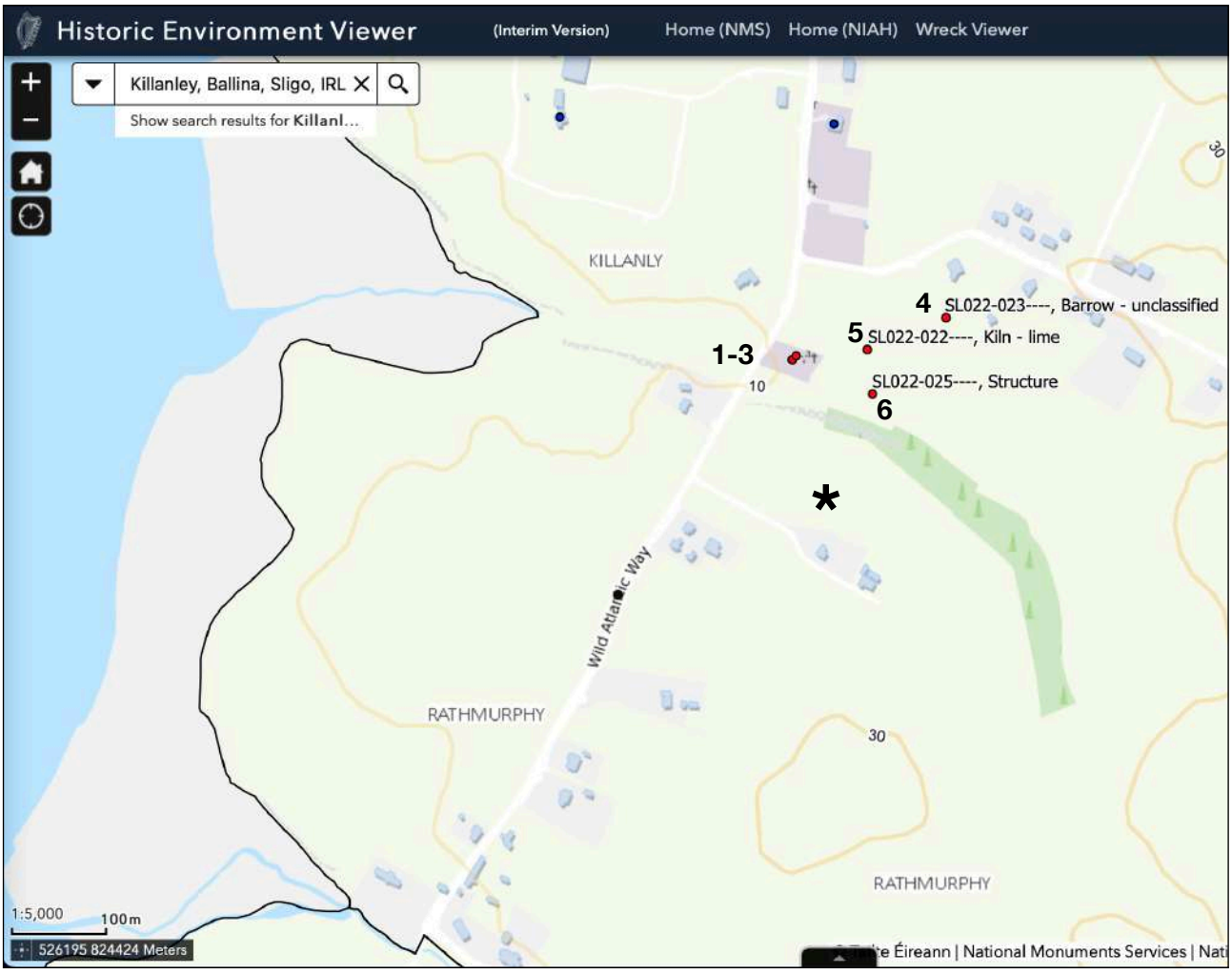



***Figure 10: Map showing the location of historic features (see https://maps.archaeology.ie/HistoricEnvironment/) located within the biodiversity study area of Killanley Farm. These include:***
***1. SL022-015001 - Killanly Church,***
***2. SL022-015003 - Killanly Font,***
***3. SL022-015002 - Killanly Graveyard,***
***4. SL022-023 - Killanly Barrow,***
***5. SL022-022 - Killanly lime Kiln and***
***6. SL022-025 - Killanly Structure.***
***The biodiversity study site is shown with an asterisk. © Source: Tailte Éireann https://www.tailte.ie.***

### 6.2.3 Killanley Farm, Co. Sligo - Biodiversity Field Survey

Killanley Farm is in private ownership. The farm is being managed under the ACRES scheme of the Department of Agriculture and the Marine. The land has been destocked for part of the year and the grassland is being managed with low inputs of fertiliser. As a result in parts of the farm where sheep have not been grazing in 2024 grassland habitat with flowering grasses and herbs has developed. The land is not flat but sloping gently. A stream occurs along the northern boundary of the farm with tufa formations which flows into the River Moy Estuary further west. The stream banks are wooded along its length with marsh plants in the riparian zone where light penetrates. From the farm fields there is a steep embankment 5m tall at the edge of the stream. The farmer planted deciduous trees of oak, sycamore, ash and willow in a strip adjacent to the natural woods along the stream over 20 years ago. To the front of farm there is wall along the L6611. Along the eastern boundary there is a hedge beside the entrance driveway as well as a private house and farm buildings. Along the south eastern boundary there is a wire fence.

The site was surveyed on the 19th June 2024. The various habitats identified at Killanley Farm are shown in Figure 11 and are described in Section 6.2.5.


***Figure 11: Habitat map for Killanley Farm, Co. Sligo Map © https://www.apple.com/maps/, amended C. O'Connell.***

### 6.2.4 Killanley Farm, Co. Sligo - Site Management

The site is farmland with sheep grazing for part of the farm year and is low input grassland. It is managed by a private landowner. The work includes hay and silage making at different times of the year. The hedge along the driveway is trimmed. The tree plantation is monitored for wildlife with the use of a trail camera. Ash die back has attacked the planted ash trees and the farmer has applied for a Reconstitution Grant to replace the infected trees with other native species. At the farm buildings a barn owl box has been mounted.

### 6.2.5 Killanley Farm, Co. Sligo - Habitats and Species Present

**Species Diversity**
The species recorded in Killanley Farm were as follows: 69 plants, 1 fungus, 1 mammal, 8 invertebrates and 10 birds with a total of 89 species for the site (see Appendix 2).

**Habitats**
Eight habitats present in Killanley Farm are shown on Figure 11 and are described below.

**Stone Wall BL1**
An old stone wall is present along the road front of Killanley Farm between 1.2 and 1.5m tall. The wall is almost completely vegetated with brambles, grasses and herbs for most of its length although a mature wytch elm tree and other trees including sycamore, ash and hawthorn were also recorded. The grasses and herbs recorded included buttercup, bush vetch, nettle, sow thistle, herb robert, cow parsley, ground elder, water figwort, horsetail, hart's tongue fern, speedwell, ivy, meadowsweet, Yorkshire fog and cock's foot grass (see Plate 22).

***Plate 22: Stone wall along the road front at Killanley Farm. The wall is overgrown with grasses and woodland plants for most of its length. In the distance mature trees of sycamore, ash and hawthorn can be seen. Photo: © C. O'Connell.***

**Hedgerow WL1**
A well maintained hedge of hawthorn and blackthorn occurs along the driveway on the southern boundary of Killanley Farm. The hedge is protected from grazing animals by an electric fence. It is 2m high and 2.4m wide at the base (see Plate 23).

***Plate 23: The hawthorn and blackthorn hedge along the entrance driveway to Killanley Farm. The hedge is maintained and is stock proof. The highly trimmed status of this hedgerow does not provide many benefits for wildlife. Flowering hedgerows are a major source of pollen and nectar for pollinators on a farm and in autumn provide food for birds as well as providing shelter all year round. Action 6.2.1 in Table 5 recommends allowing some of the hawthorn trees in this hedge to grow to create greater diversity and better feeding opportunities for pollinators and birds. Photo: © C. O'Connell.***

**Neutral Grassland Meadow GS1**

Much of Killanley Farm study site is given over to hay meadow habitat (see Plate 24). Examples of both grazed and ungrazed meadow were seen at the time of survey. In the ungrazed meadows to the front and back of the site the sward height was up to 75cm tall while in the grazed portion the sward was 10-15cm tall (see Plate 25). The species present were buttercup, white and red clover, lesser trefoil, dandelion, daisy, chickweed, sorrel, colt's foot grass, Yorkshire fog, sweet vernal grass, crested dog's tail grass, rye grass, marsh thistle and lady's smock. Creeping thistle was more prevalent in the grazed field. Swallows were foraging across the meadows in search of insects.

***Plate 24: The paddock hay meadow habitat at Killanley Farm. The L6611 road can be seen towards the back on the right hand side. The mature wytch elm tree and the topped hedge occur at the entrance to the farm. Action 6.2.2 in Table 5 recommends changing the management of this meadow to create a species rich wild flower meadow going forward. Hares are grazing on Killanley Farm (image inset). Photo: © C. O'Connell.***

***Plate 25: Meadow habitat at Killanley Farm being managed in two different ways. The field to the right is grazed and the field to the left was left ungrazed allowing plants and grasses to flower and provide multiple benefits for pollinators. Meadow brown butterflies were observed in the flowering meadow (photo inset). Photo: © C. O'Connell.***

North of the roadside paddock meadow, part of the ridge descending to the stream is meadow habitat. On the embankment additional species were found including pignut, heath spotted orchid, quaking mary grass and lady's smock. This area is ungrazed and fenced off, being part of the designated Natural Heritage Area and Special Area of Conservation (Plate 26).

***Plate 26: Meadow habitat and woodland on part of the embankment that drops to the stream at Killanley Farm. This area is designated for conservation. Photo: © C. O'Connell.***

**Treeline WL2**
This habitat occurred on the northern margin of the farm buildings at Killanley screening them from the fields. A barbed wire fence occurred at the base of the trees with an abundance of nettles and some bramble. The mature trees were up to 20m tall and included:  beech, willow, ash, pine, sycamore, alder and hawthorn.

***Plate 27: Treeline habitat adjacent to the farm buildings at Killanley Farm. The field grazed by sheep for part of the year is fenced off with post and wire fencing and an abundance of nettles and some bramble grow along its path. Mature trees of beech, willow, ash, pine, sycamore, alder and hawthorn were included in the tree line which was up to 20m tall. Action 6.2.3 in Table 5 recommends creating woodland edge habitat between the treeline and the grazed field by moving the fenceline out 1-3m. Photo: © C. O'Connell.***

**Stream FW2/Riparian Woodland WN5/Oak Ash Hazel Woodland WN2**
The stream occurred on the northern margin of Killanley Farm. Tufa formation was observed on the stream bed and the discharge point of the stream into the Moy Estuary was examined by Dr. Joanne Denyer in a study undertaken in 2021 entitled Petryfying Spring Survey and Assessment Moy Estuary, Co. Mayo (see https://rivermoysearchandrescue.com/tufa-habitats/). The stream is perennial with water flowing year round. The banks of the stream were shallow. The stream bed was between 1 and 2m wide. Riparian woodland habitat occurred on the flatter banks of the stream. The main canopy trees present in the wetter areas were willow, alder and birch. Only where light penetrated the overhanging woodland did species indicative of periodic flooding occur including flag iris, butterbur, water figwort and meadow sweet. Some of the willow trees had fallen across the stream bed (see Plate 28).

***Plate 28: Looking at the stream on the northern margin of Killanley Farm from the bridge on the L6611. The vegetation was lush dominated by iris (image inset), water figwort and willow. Amber snails were common on the iris leaves (image inset). This site is designated for nature conservation. Action 6.2.4 in Table 5 recommends safeguarding the stream from disturbance such as run off and engaging in the citizen science water quality programme once a year. Photos: © C. O'Connell.***

Moving away from the flat riparian zone of the stream towards the 5m high soil embankment the character of the vegetation changed to species of drier woodland with trees of sycamore and hawthorn forming a closed canopy with whitebeam, hazel, ash, blackthorn, rowan and willow. There was good growth of seedlings of ash and hawthorn in the ground layer alongside primrose, cleavers, speedwell, bramble, strawberry, buttercup, Yorkshire fog grass, hart's tongue fern, broad buckler fern, bluebell, herb robert and bush vetch (Plate 29). Birds seen or heard in the woodland

included goldcrest, blue tit and wren. The zonation from the stream bed to the embankment covered a distance of 20m.

***Plate 29: The embankment on the northern boundary of Killanley Farm between the stream and the meadow habitats. There is a luxurious growth of hart's tongue fern in this area. The bare soil of the embankment can provide an important habitat for a solitary bees. This area is within the designated Natural Heritage Area and Special Area of Conservation. Photo: © C. O'Connell.***

**Immature Woodland WS2**

Adjacent to the natural woodland surrounding the stream on the north side of Killanley Farm, a deciduous plantation with a variety of species has been planted (Plate 30). The trees are 20 years old and include ash, oak, sycamore, birch, alder and larch trees. This is regarded as immature woodland habitat. The trees were 10-12m tall and as they were deciduous a ground flora was developing well. Species recorded included bramble, speedwell, cleavers, bush vetch, buttercup, broad buckler fern and bluebell. The ash trees in the immature woodland were infected with ash dieback and the farmer has applied for a Reconstitution Grant to fell these and replace them with native species.

***Plate 30: Ash plantation at Killanley Farm, Co. Sligo. As light penetrates to the ground the flora is developing. The ash trees have ash die back and are to be replaced with other native trees. Action 6.2.5 in Table 5 recommends planting oak, hawthorn, holly, crab apple, yew, hazel, blackthorn, guelder rose, elderberry, wytch elm and spindle to allow for the development of a natural woodland with canopy and understorey trees. Photo: © C. O'Connell.***

### 6.2.6 Killanley Farm - Biodiversity Actions

The biodiversity actions presented in Table 5 for Killanley Farm aim to protect the biodiversity and habitats documented in this plan and to implement improvements where possible. Changes in the existing management of hedges, meadows and woodland edge will bring about an enhancement in biodiversity. Citizen science recommendations are included in the table such as registering the farm with pollinators.ie, and undertaking stream and meadow monitoring projects as outlined in Chapter 4 of this plan.

**Table 5: Biodiversity enhancement actions for Killanley Farm, Co. Sligo**

| Action Number | Action | Notes |
|---|---|---|
| **6.2.1** | **Change hedgerow management to allow some parts of the hedge to flower each year and let some trees in the hedge grow up and mature** | The existing hedgerow along the entrance driveway at Killanley farm is topped each year. Managment should change to cut different parts of the hedge on a 2-3 year rotation which means there will be some parts producing flowers each year. This might be to allow the side of the hedge facing into the field to flower whilst maintaining the side along the drive for access. Allow some hawthorn in the hedge to grow into trees so that a hedge with standards is created in the long term. The trees can flower and produce fruit and this will provide for pollinators and birds. Further information on hedge management at https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Hedgerows-2018-WEB.pdf and https://www.farmingfornature.ie/your-farm/resources/best-practice-guides/hedgerow-management/. |
| **6.2.2** | **Manage front paddock as a wildflower meadow** | Management of the front paddock at Killanley should be altered to allow for the development of a wild flower meadow. This means cutting once in September and removing all of the cuttings for hay or if the weather is unfavourable haylage. This action helps to reduce soil fertility which suits wild flowers more. You can also add seeds of *Rhinanthus minor* or yellow rattle, a plant that parasites the roots of grasses reducing their vigor and making space for flowering plants. Species richness should improve by year 5 of this management. The target would be 15 or more species in a square metre area of your meadow (see Chapter 4 of this plan for further information).<br><br>See https://pollinators.ie/wp-content/uploads/2022/12/Farmland-Pollinator-Guidelines-2022-WEB.pdf and https://pollinators.ie/wp-content/uploads/2023/06/Meadow-Guideline-2023-WEB.pdf for further guidance. |
| **6.2.3** | **Create woodland edge habitat** | Woodland edge is a transition zone from an area of woodland or forest to fields or other open spaces. Woodland edge is a very important habitat where wildlife is often seen foraging. There is an opportunity at KIllanley to create this habitat between the margin of the immature woodland and the grazed fields and between the treeline at the farm buildings and the grazed field. Leave a margin of 1-3m ungrazed to allow wild flowers and shrubs to grow and develop at the woodland or treeline edge. This action will help pollinators, birds and wildlife. |
| **6.2.4** | **Protect the waters in the stream on the northern boundary of the biodiversity site and undertake an Annual Citizen Science Stream Index** | The stream on the northern boundary of Killanley farm is designated for conservation because it is part of the River Moy and it contains tufa formation and it may be fed by springs in the adjacent lands. The farmer should undertake a water quality survey of the Stream each year at the Bridge on the L6611 and submit the CSSI result to info@lawaters.ie. Contact the western Ireland Waters and Communities Team for assistance (see https://lawaters.ie/team/communities-team/#filter=.western-region-20). Further information in Chapter 4 of this plan. |
| **6.2.5** | **Sensitive clearance of ash plantation and replanting with native species** | It is likely that the deciduous plantation of ash which is infected with ash dieback will be felled and new native trees planted in the near future. During this operation due care needs to be given to protecting the water quality of the conservation important stream running adjacent to the plantation as it contains tufa features. Native species to plant to replace infected ash are: oak, hawthorn, holly, crab apple, rowan, whitebeam, yew, hazel, blackthorn, guelder rose, elderberry, wytch elm and spindle. This variety will allow for the development of a species diverse natural woodland with canopy and understorey trees which will have greater resilience in the long term. |

| Action Number | Action | Notes |
|---|---|---|
| **6.2.6** | **Retain log piles already created in the woods** | A log pile is a complex home and food source for all sorts of beneficial creepy crawlies and invertebrates. They can even be used by larger animals such as frogs and hedgehogs for hibernation. Large logs give a more stable environment but every log counts. Stack them up randomly leaving some space between them. Partly bury some logs into the ground to create the cool moist conditions loved by ground dwelling invertebrates including woodlice, centipedes, ground beetles and the devil's coach horse. Log piles are not static. Continue to add to the pile as it rots down. This will ensure that you have fresh dense wood at the top and brittle, soft decomposing wood at the bottom. Log piles already created should be retained as they enhance the wildlife value of Killanley Farm with very little effort. |
| **6.2.7** | **Ash Dieback - collect and grow seeds from immune trees** | Monitor ash trees on Killanley farm to determine if there are trees that are immune to ash dieback disease. If possible collect seeds from these trees and grow them on for the next generation of ash trees at the farm. |
| **6.2.8** | **Pledge Killanley Farm for pollinators** | Once the work is underway at Killanley to enhance pollinators, the farm should be pledged for pollinators with the National Biodiversity Data Centre. See https://pollinators.ie/pledge-your-garden-for-pollinators/. |
| **6.2.9** | **Citizen science monitoring of the biodiversity improvements you are making** | Once some of the measures have been completed it is important to undertake simple monitoring actions of how well biodiversity is doing. For example a FIT survey could be undertaken on a patch of buttercups in the newly developed meadow areas. In addition a simple count of the number of species in the meadow in a one metre square can be undertaken each year to monitor its increasing diversity. See further details in Chapter 4 of this plan. See also https://pollinators.ie/is-your-action-making-a-difference-you-can-help-by-tracking-changes/ |

## 6.3 Kinnagrelly Farm, Co. Sligo

### 6.3.1 Kinnagrelly Farm, Co. Sligo - Location 54.181983, -8.559636

The Kinnagrelly biodiversity site is a farmland site in two parts which has not been managed in 20 years or more. It is  located 5.5km west of the village of Collooney and 4km east of Coolaney village along the L2101. There is a field which fronts onto the L2101 to the south and there is an entrance gate to this field from a minor road off this. The larger part of the farm has an access gate from the same minor road at its lower end near the L2101 and at the upper end where the land rises to 80m towards the north and the mountains of Slieveward and Doomore. The land is sandwiched between actively managed farmland to the east, a number of homes to the west and rough marginal farmland to the north west. South of the site is the Owenbeg River and a disused railway line. The land is in private ownership. The site covers an area of 39,679 square metres or 3.97ha (see Figures 12 and 13).

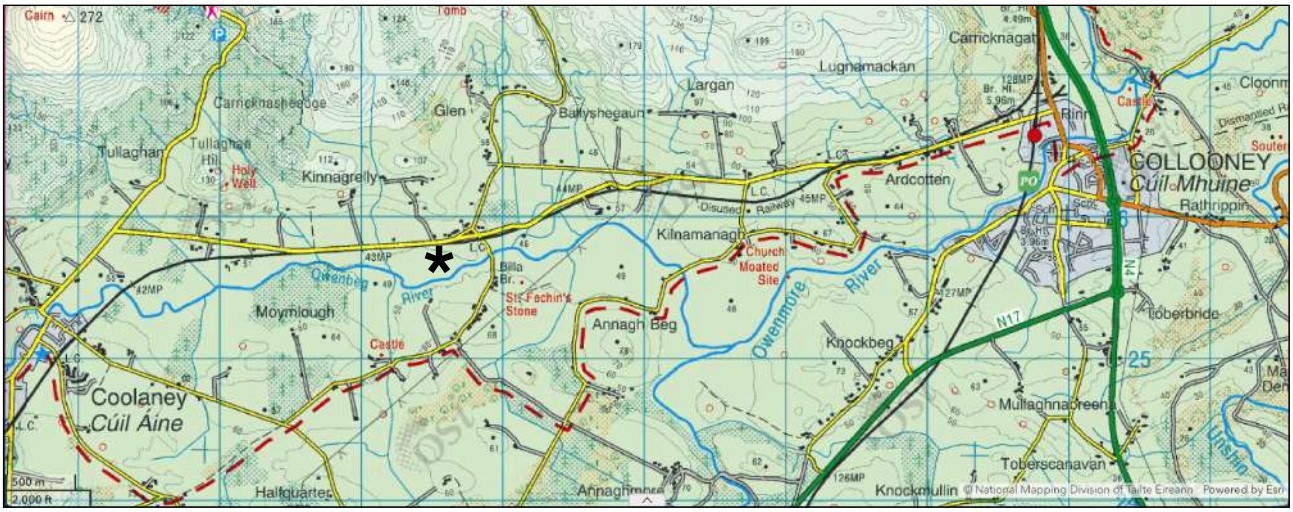



***Figure 12: Discovery map showing the location of the Kinnagrelly Farm biodiversity study site (shown with an asterick) in relation to the road and town network. Map © Source: Tailte Éireann https://www.tailte.ie.***

***Figure 13: Satellite image showing the location of the Kinnagrelly Farm biodiversity study site (outlined in white), Co. Sligo. Map © https://www.apple.com/maps/, amended C. O'Connell.***

### 6.3.2 Kinnagrelly Farm - Results of Screening for Biodiversity and History

Kinnagrelly Farm is located adjacent to three designated sites by the National Parks and Wildlife Service (see https://experience.arcgis.com/experience/edf34d92e28040fd87d3d14f55d8d95f). Directly across the road to the south of the farm is the Owenbeg River, a tributary of the Owenmore River which is in turn a tributary of the Unshin River and all are included in the Unshin River Special Area of Conservation #001898. East of the site adjacent to the N17 is Knockmullin Fen, a proposed Natural Heritage Area #001904 and north of the site is an area of blanket bog designated in Slieveward Bog Natural Heritage Area #001902. The location of these designated sites in relation to Kinnagrelly Farm are shown in Figure 14.

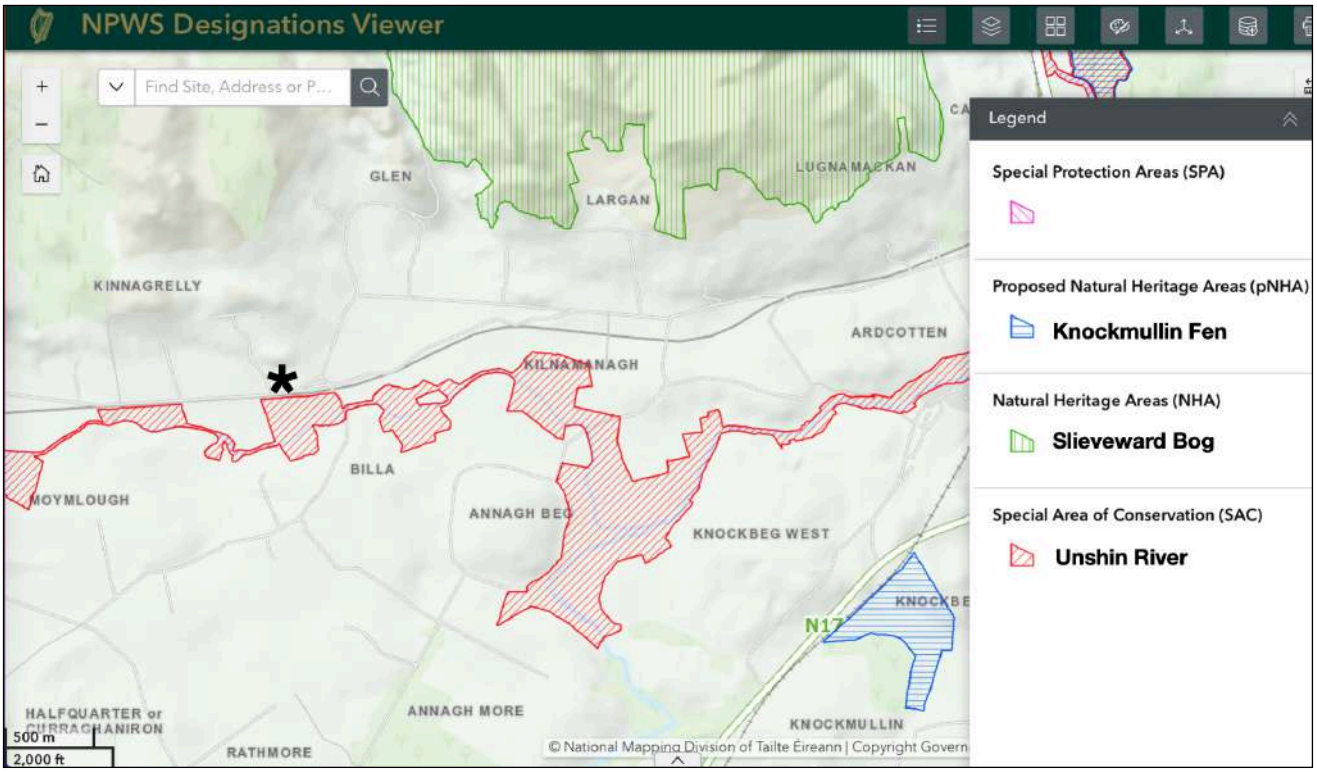



***Figure 14: Map showing the location of Kinnagrelly farm (with an asterick) and the three conservation designated sites located within 4km of the site. Source: https:// experience.arcgis.com/experience/edf34d92e28040fd87d3d14f55d8d95f. © Source: Tailte Éireann https://www.tailte.ie and the National Parks and Wildlife Service.***

Wetland Surveys Ireland conducted desk top research to identify wetland sites of conservation importance in Sligo. They have listed one site, a complex named Kinnagrelly Lugawarry Glen Complex (Code: WMI_SO477) within 1km to the north of the Kinnagrelly Farm. This site has a variety of wetland habitats including river, wet grassland, wet heath, lowland bog and scrub (see Figure 15).

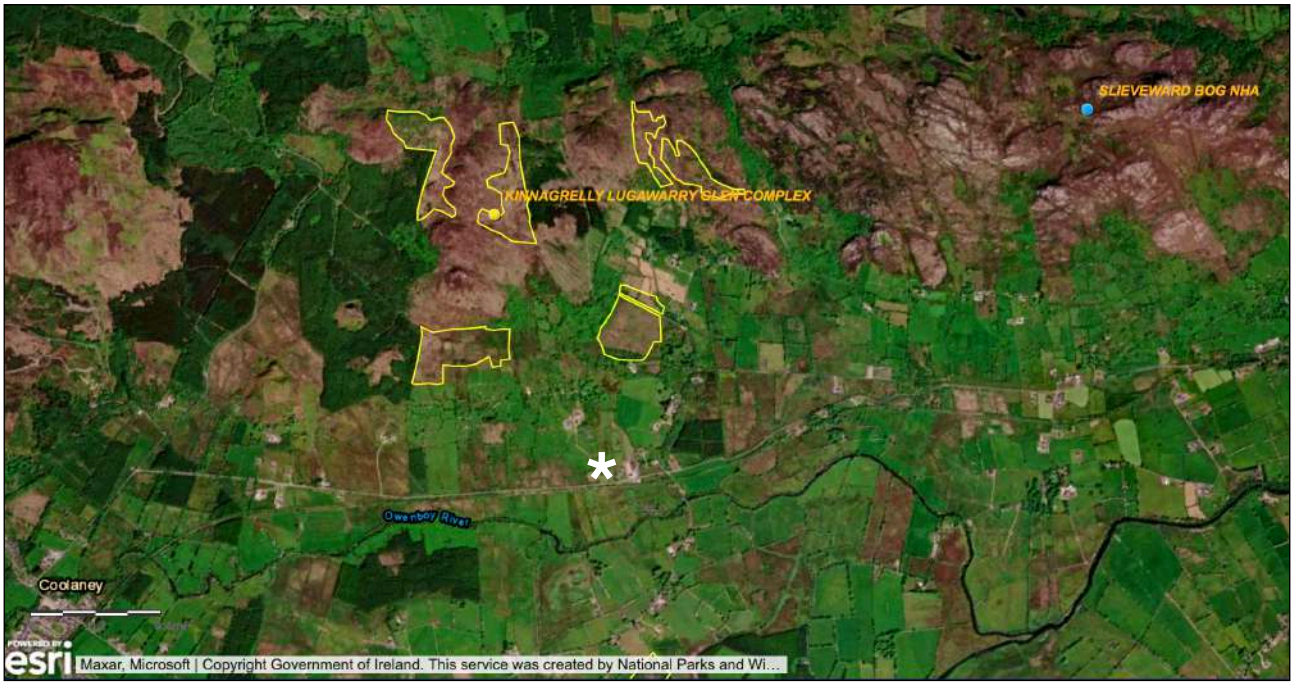



***Figure 15: Satellite image showing the location of the Kinnagrelly Lugawarry Glen complex (code WMI_S0477) which has a potential conservation value. The Kinnagrelly Farm Biodiversity Study site is shown with an asterick. © Source: https://www.wetlandsurveys.ie.***

Information on the species diversity present in Kinnagrelly is also available from the National Biodiversity Data Centre (NBDC). Species records can be found for areas of the country based on a system of 1km square grids (see https://maps.biodiversityireland.ie/Map). The grid numbers screened for Kinnagrelly were G6325 which covers the southern part of the site and contained records for three species of bat, a badger and a hedgehog. The second square screened was G6326 which covered the northern part of the study site. This had no records.

The inventory of historic environments (see https://maps.archaeology.ie/HistoricEnvironment/) indicates three sites less than 1km from the biodiversity study area. These include: Kinnagrelly Enclosure (code SL026-007), Kinnagrelly Ringfort - cashel (code SL026-008) both west of the site and Glen Souterrain (code SL026-177) east of the site. The location of these sites is shown in Figure 16.

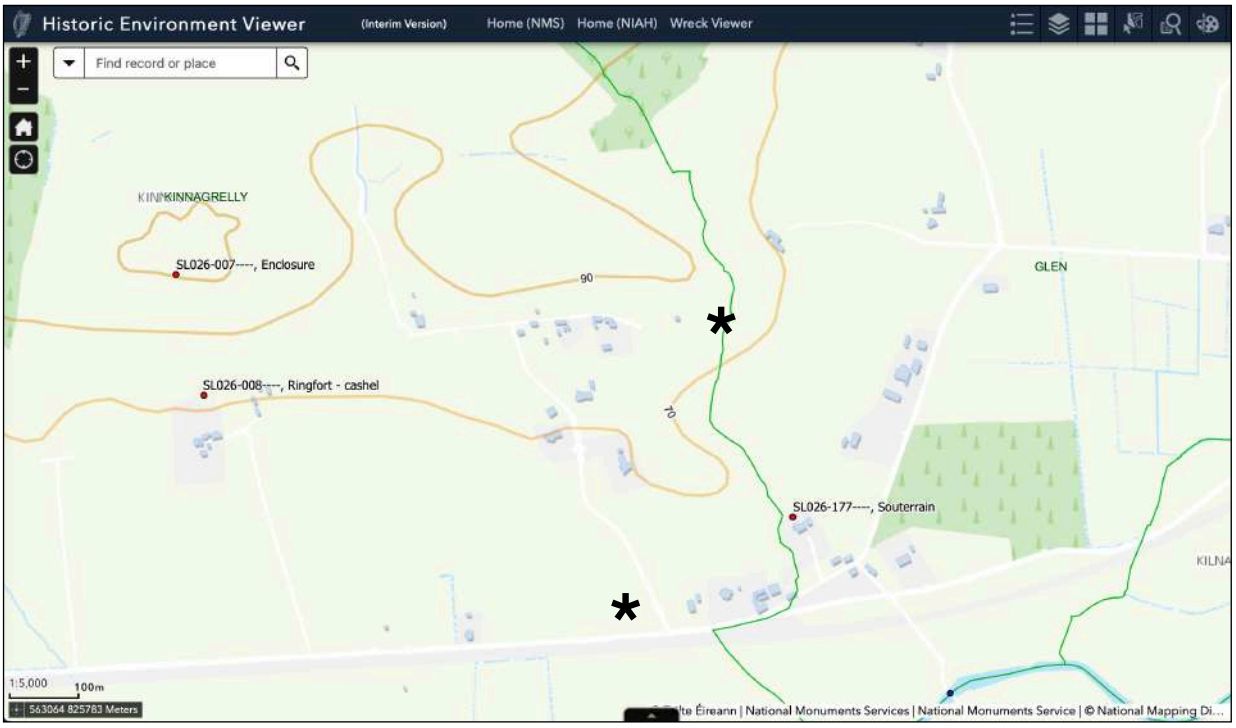



***Figure 16: Map showing the location of historic features (see https://maps.archaeology.ie/HistoricEnvironment/) located adjacent to the Kinnagrelly Farm biodiversity study area, Co. Sligo. These include:***
***1. Kinnagrelly Enclosure (code SL026-007),***
***2. Kinnagrelly Ringfort - cashel (code SL026-008),***
***3. Glen Souterrain (code SL026-177)***
***The extent of the biodiversity study site is shown with astericks. © Source: Tailte Éireann https://www.tailte.ie.***

### 6.3.3 Kinnagrelly Farm, Co. Sligo - Biodiversity Field Survey

Kinnagrelly Farm is in private ownership. The farm was inherited by the present owner and has not been managed for over 20 years apart from maintaining access via three gates. As a result plants have run wild with impenetrable thickets of gorse (or whin), bramble and bracken fern in parts. Japanese knot weed, an invasive plant is present at the old farm buildings in the northern part of the site. Hedges occur on the boundary of the property mostly of hazel or hawthorn but one adjacent landowner has planted an exotic hedge of Leylandii to the west side. The 25 Inch map for Kinnagrelly which was printed between 1863 and 1924 shows the farm with up to 16 small fields, six of which are designated as rough land. These are the areas where gorse, bramble and bracken have run wild today. The map also shows two paths through the farm (see Figure 17). A feature of the farm are the wild flower meadows on damp ground with a variety of flowering herbs including heath spotted orchids. These were noted to the front of the farm buildings looking south to the L2101. Two of the fields are described in the 1937 Schools Folklore Collection from Cúil Mhaoile (Scoil N. Feichín) in Collooney (see https://www.duchas.ie/en/cbes/4701720/4695861). *"Butter Hill" is so called because a lot of butter-cups grow there and "The Slow Meadow" is so called because it is wet and sloppy all the year.*

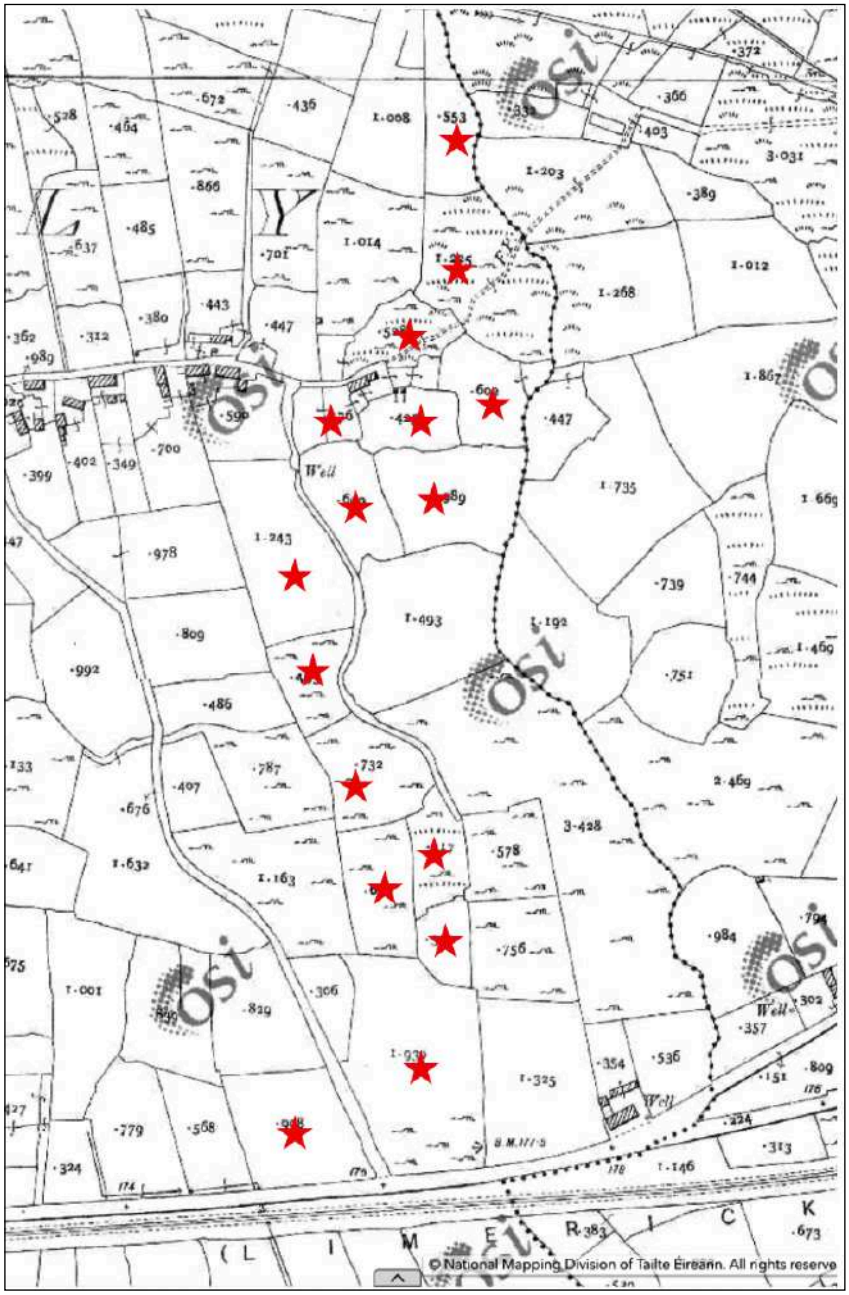



***Figure 17: Map printed between 1863 and 1924 at a scale of 25 inches to the mile. This shows the field layout at Kinnagrelly Farm and the surrounding landscape at that time. The fields included in the biodiversity study site are marked with a red star. When this map is compared with that presented in Figure 13 it is obvious that many of the field boundaries have become overgrown. © Source: Tailte Éireann https://www.tailte.ie.***

Kinnagrelly Farm was surveyed on the 19th June 2024. The various habitats identified at the Farm are shown in Figure 18 and are described in Section 6.3.5.


***Figure 18: Habitat map for Kinnagrelly Farm, Co. Sligo Map © https://www.apple.com/maps/, amended C. O'Connell.***

### 6.3.4 Kinnagrelly Farm, Co. Sligo - Site Management

The farm has been abandoned for two decades. Access is maintained through gates at the lower and upper end of the farm and to the field which fronts onto the L2101 (these entry points are shown in Figure 18).

### 6.3.5 Kinnagrelly Farm, Co. Sligo - Habitats and Species Present

**Species Diversity**
The species recorded in Kinnagrelly Farm were as follows: 74 plants, 1 fungus, 8 invertebrates and 8 birds with a total of 91 species for the site (see Appendix 2).

**Habitats**
Eight habitats present in Kinnagrelly Farm are shown on Figure 18 and are described below.

**Stone Wall BL1**
An old stone wall was present along the upper entrance to the biodiversity site leading to the ruined out buildings. This was 1.2m tall. Navel wort, hart's tongue fern, bramble, herb robert, cow parsley and hog weed were recorded at the wall (Plate 31). Stone walls were also noted dividing a meadow in the centre of the site and at the north western boundary of the site in association with two very old oak trees.

**Stone Buildings BL3**
The old outhouse buildings of the farm were colonised by navel wort and ivy. Japanese knotweed was prevalent around the buildings (Plate 32).

***Plate 31 (left): Stone wall habitat at the upper entrance to Kinnagrelly Farm. Navel wort is growing on the wall. Photo: © C. O'Connell.***

***Plate 32 (right): Part of a stone building at Kinnagrelly Farm. Navelwort is growing from between the bricks and the corrugated roof. Photo: © C. O'Connell.***

**Treeline WL2**

At the upper entrance to the biodiversity site, treeline habitat was recorded with mature trees of ash and sycamore and exotic cypress trees (Plate 33). Specimen trees occurred throughout the open areas of the farm particularly of sycamore and all had a luxurious growth of lichens including oakmoss lichen, beard lichen and strap lichen. The speckled wood butterfly was observed in this habitat. Japanese knotweed was invasive in this habitat.

***Plate 33: Mature cypress and sycamore trees formed a tree line on either side of the upper entrance to Kinnagrelly Farm. In the fore ground meadow habitat can be seen. Photo: © C. O'Connell.***

**Reed Swamp FS1**

This habitat occurred in the field adjacent to the L2101. Reeds were a significant component of the vegetation standing between 1 and 2 m tall, together with iris, meadowsweet, ragged robin, rush, horsetail and valerian (Plate 34). Large moss hummocks of red-stemmed feather moss were present in the ground layer. Wren, sedge warbler, robin and reed bunting were recorded in this habitat. There were numerous spittle bugs on the vegetation.

***Plate 34: An overview of the reed swamp habitat along the L2101 which is surrounded by hedgerow. The flowering heads of last year's reeds can be seen. Valerian and meadowsweet were components of this vegetation (images inset left and right). Action 6.3.2. in Table 6 recommends maintaining the open character of this habitat for wildlife and pollinators. Photos: © C. O'Connell.***

**Hedgerow WL1**
Hedgerow occurred around the field at the L2101 and along the margins of the biodiversity site to the east, north and west. A wooden fence occurred on the boundary with the neighbouring house on the southern margin with no hedge.  Hawthorn, blackthorn and hazel were recorded in the hedges with bush vetch, bramble, honeysuckle, Yorkshire fog, buttercup, herb robert, cleavers and ivy in the banks. Occasionally there were willow, ash trees or oak trees associated with the hedges. Two ancient oak trees were recorded in the northern part of the site and they had a luxurious growth of lichens including oakmoss lichen, beard lichen and strap lichen.

***Plate 35: Wild hedgerow of hazel along the north eastern margin of Kinnagrelly Farm. Honeysuckle was scrambling through the hedge (image inset). Action 6.3.1. in Table 6 recommends side trimming hedges to ensure they remain stock proof, replacing gaps with hawthorn or blackthorn and planting a new hedge along the southern boundary of the farm. Photos: © C. O'Connell.***

**Wet Grassland GS4**
Unimproved meadow was a feature of Kinnagrelly and was relatively species rich (Plate 36). Three meadow areas were distinguished at the site, the first associated with the remaining farm buildings/ outhouses, another in the central area divided by a stone wall and the last at the southern end of the farm near the L2101. A mixture of species of dry and damp soils occurred including: meadow buttercup, creeping buttercup, dock, horsetail, marsh thistle, angelica, lady's smock, red and white clover, rush, sweet vernal grass, silverweed, mint, knapweed, ragged robin, iris, daisy, creeping thistle, tormentil, cow parsley, ox eye daisy, cat's ear, bugle, self heal, heath spotted orchid, speedwell, lousewort, nettle, smooth meadow grass, cleavers and cock's foot grass. Large white and meadow brown butterflies were on the wing in this habitat (see Plates 36-38).

Japanese knotweed was invasive in part of this habitat particularly near the outhouses at the upper northern end of the site.

***Plate 36: An expanse of wet wild flower meadow at Kinnagrelly Farm, Co. Sligo which lies south of the farm buildings. Large sycamore trees occur in this habitat and the red roof of one of the outbuildings can be seen towards the back of the image. In this area rushes, buttercups and iris were prominant as the ground was damp. Meadow brown butterflies were feeding in this habitat (image inset). Action 6.3.2. in Table 6 recommends maintaining the open character of this habitat for wildlife and pollinators.***
***Photos: © C. O'Connell and J. FitzGerald.***

***Plate 37: Composite image showing three of the wild flowers found in the wet grassland meadows at Kinnagrelly Farm, Co. Sligo. From the left: marsh thistle, heath spotted orchid and flag iris. Photos: © C. O'Connell.***

***Plate 38: Wet grassland meadow habitat in Kinnagrelly Farm, Co. Sligo found adjacent to the lower entrance to the farm close to the L2101. In this area clumps of rushes and iris were prominant among the grasses, plantain and buttercups. Action 6.3.2. in Table 6 recommends maintaining the open character of this habitat for wildlife and pollinators. Action 6.3.1 recommends planting a hedge on the fence line with the neighbouring house seen to the top right hand corner of the photograph. Photo: © C. O'Connell.***

**Dense Bracken HD1/Gorse Scrub WS1**

These two habitats formed a mosaic on Kinnagrelly and were common in overgrown parts of the site particularly to the north above the farm outhouses and in a sloped area to the centre of the site. Bracken, willow, bramble and gorse formed a thicket together with rush, marsh thistle, heath bedstraw, tormentil, sweet vernal grass, Yorkshire fog and common starwort.

***Plate 39: The mosacic formed by gorse, bracken and willow on Kinnagrelly Farm, Co. Sligo. Action 6.3.5. in Table 6 recommends maintaining paths through this habitat to allow for biodiversity actions while Action 6.3.2 recommends curbing the spread of this habitat into wet meadow habitat. Photo: © C. O'Connell.***

**Plate 40: Looking north from the lower wet grassland meadow towards the scrub mosaic habitat formed by gorse and bracken. Action 6.3.5. in Table 6 recommends maintaining paths through this habitat to allow for biodiversity actions while Action 6.3.2 recommends curbing the spread of this habitat into adjacent wet meadow habitat. Photo: © C. O'Connell.**

**Champion and Heritage Trees**
Two very old oak trees occur on the northern boundary of Kinnagrelly Farm (see Plate 41). A champion tree is defined as the tallest or oldest or most massive example of its species or kind in a given region while a heritage tree has a particular story of biological, cultural, ecological or historical interest. These trees were festooned with lichens such as oak moss lichen, beard lichen and strap lichen (Plate 42).

***Plate 41: Possible champion or heritage oak trees at Kinnagrelly Farm. A tree of this age provides habitat and food for over 1,000 other species. Action 6.3.8 in Table 6 recommends including these trees on the Tree Register of Ireland (see https://www.treecouncil.ie/tree-register-of-ireland). Photo: © C. O'Connell.***

***Plate 42: Composite image of epiphytic lichens growing on the oak trees at Kinnagrelly Farm, Co. Sligo. Photos: © C. O'Connell.***

**Invasive Species**
Japanese Knot Weed (*Reynoutria japonica*) was abundant at Kinnagrelly Farm adjacent to the upper entrance and around the old farm buildings and outhouses (Plate 42). This is an aggressive invasive plant. Because of its ability to grow quickly into tall dense stands, it shades out native plant species and can dominate an area. It establishes in disturbed areas and it can spread by rhizomes and small pieces of plant fragment. Professional help is needed to remove this plant, to dispose of it carefully and to monitor and treat its regrowth. An information leaflet is available as a guide here: https://invasives.ie/app/uploads/2024/04/JapaneseKnotweed_FAQ_Apr2024_V1.5.pdf.

***Plate 42: Japanese knotweed clump adjacent to a large sycamore and farm buildings at Kinnagrelly Farm in Co. Sligo. Action 6.3.7 in Table 6 recommends the removal of this invasive plant with professional help - a process which may take 3 years.***
***Photo: © C. O'Connell.***

### 6.3.6 Kinnagrelly Farm - Biodiversity Actions

The actions presented in Table 6 for Kinnagrelly Farm aim to protect the biodiversity and habitats documented at this site and to implement improvements where possible. The biggest issue with the farm is the fact that it has been abandoned for 20 years. This has seen the spread of invasive Japanese knotweed and an expansion in the areas dominated by gorse and bracken. A return to low impact farming will help to control scrub encroachment and protect wet meadows. However there are many issues that need to be tackled before that can take place.

**Table 6: Biodiversity enhancement actions for Kinnagrelly Farm, Co. Sligo**

| Action Number | Action | Notes |
|---|---|---|
| **6.3.1** | **Maintain farm hedges to give the maximum benefit for birds and pollinators. Replenish missing hedge along the eastern boundary and plant a new hedge at the southern boundary.** | Some of the hedges in Kinnagrelly have become very overgrown and may not be stock proof. Hedges need to be managed by side trimming to provide access on a rotational basis. This action allows the upper part of the hedge to flower and set fruit providing the maximum benefit for wildlife and pollinators. In parts of the farm on the eastern boundary the hedge is missing and this should be replaced through planting bareroot whitethorn sourced locally. An opportunity exists to plant a new hedge along the southern boundary of the farm. See https://pollinators.ie/wp-content/uploads/2024/01/Hedgerow-Planting-Flyer-WEB.pdf for guidance on planting a hedge and https://www.farmingfornature.ie/your-farm/by-habitat/field-boundaries/ or https://www.farmingfornature.ie/your-farm/resources/best-practice-guides/hedgerow-management/ for information on hedge maintenance. |
| **6.3.2** | **Maintain open character of wet meadow and reed swamp habitats to allow for a wide range of pollinators.** | Wet meadow habitat occurs throughout Kinnagrelly Farm while reed swamp habitat occurs in the field along the L2101. Wet meadow habitat should be maintained by contolling the spread of bracken and gorse. This can be done manually or by introducing light grazing once the farm has been made safe. Wet meadow and reed swamp habitats are important for pollinators and are biodiverse but they needs to be managed as a wildflower meadow which means cutting once a year in September and removing the clippings to make hay or haylage. See https://pollinators.ie/wp-content/uploads/2023/06/Meadow-Guideline-2023-WEB.pdf for further guidance. |
| **6.3.3** | **Create a log pile from the fallen tree at the upper entrance gate to Kinnagrelly Farm** | A log pile is a complex home and food source for all sorts of beneficial creepy crawlies and invertebrates. They can even be used by larger animals such as frogs and hedgehogs for hibernation. Large logs give a more stable environment but every log counts. Stack them up randomly leaving some space between them. Partly bury some logs into the ground to create the cool moist conditions loved by ground dwelling invertebrates including woodlice, centipedes, ground beetles and the devil's coach horse. Log piles are not static. Continue to add to the pile as it rots down. This will ensure that you have fresh dense wood at the top and brittle, soft decomposing wood at the bottom. An opportunity exists to create a log pile when the fallen tree at the upper entrance gate to the farm is cleared. This is a great way to enhance biodiversity with very little effort. |
| **6.3.4** | **Re establish small field boundaries on the farm as per the 19th century map of Kinnagrelly (Figure 17)** | The 19th century historical map of Kinnagrelly shows 16 fields present at the farm whereas today only 6 of those fields are obvious. The field pattern of Kinnagrelly will be a useful platform upon which to tackle the various biodiversity actions. |
| **6.3.5** | **Create access paths around the farm** | Moving around the different habitats on Kinnagrelly Farm is difficult particularly through the gorse and bracken thickets. A path needs to be strimmed and maintained through these habitats to allow biodiversity actions to take place. The 19th century map shows an access path in place from the farm buildings south to the lower fields in the farm and another track running to the north east - these could be re-establised. |
| **6.3.6** | **Maintain entrance points to Kinnagrelly Farm** | Three entrance points to the different areas of Kinnagrelly Farm are overgrown and need to be cleared to maintain access to enable biodiversity actions to take place. |
| **6.3.7** | **Removal of invasive Japanese knot weed** | Japanese knot weed is an aggressive invasive plant present in Kinnagrelly Farm. Professional help is needed to successfully remove this plant from the land. See https://invasives.ie/app/uploads/2024/04/JapaneseKnotweed_FAQ_Apr2024_V1.5.pdf for further information. |

| Action Number | Action | Notes |
|---|---|---|
| **6.3.8** | **Register champion and/or heritage trees** | Possible champion or heritage trees occur in Kinagrelly Farm House particularly two oak trees on the northern boundary. Investigate whether these trees should be included on the Tree Register of Ireland (see https://www.treecouncil.ie/tree-register-of-ireland). |
| **6.3.9** | **Citizen science monitoring of the biodiversity improvements you are making** | Once some of the measures have been completed it is important to undertake simple monitoring actions of how well biodiversity is doing. For example a FIT survey could be undertaken on a patch of buttercups in the newly developed meadow areas. In addition a simple count of the number of species in the meadow in a one metre square can be undertaken each year to monitor its increasing diversity. See further details in Chapter 4 of this plan. See also https://pollinators.ie/is-your-action-making-a-difference-you-can-help-by-tracking-changes/ |

## 6.4 Crossmolina Community Sensory Garden, Mayo

### 6.4.1 Crossmolina Community Sensory Garden, Ballina Street, Crossmolina - Location 54.099949, -9.314299

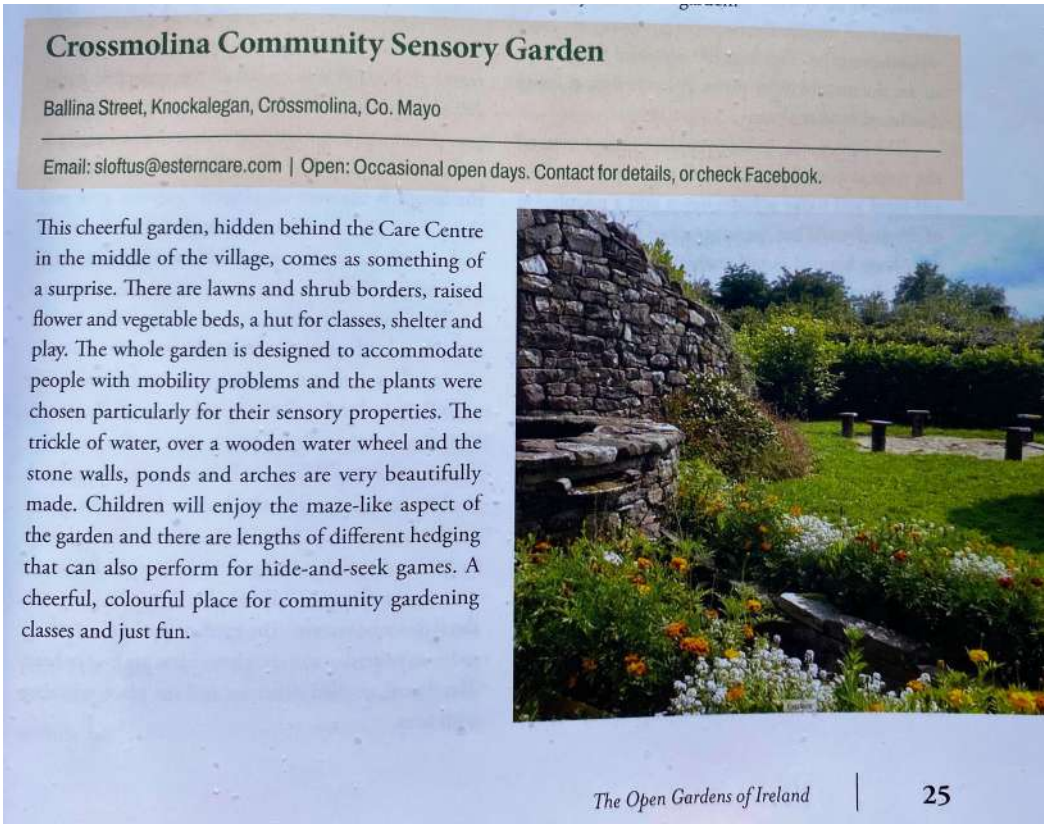
The Crossmolina Community Sensory Garden is located at Ard na Greine, Ballina Street (N59), Crossmolina and is open to the public seven days a week. The project is managed by Western Care Association. The biodiversity study site incorporates the sensory garden which is part of a site that also includes a larger area containing a shed, orchard and polytunnel which is available for use by volunteers. The entire site covers an area of 4,989 square metres or 0.5ha.

The sensory garden was first opened in 2019 and relaunched in 2024 following a makeover. The location of the garden is shown in Figure 19 and the boundary of the biodiversity study site is shown in Figure 20. The garden is situated behind the Cluainin Resource Centre on Ballina Street opposite the Cois Ahbainn housing estate. The River Deel flows to the north of the garden behind the Cois Abhainn Estate. There are neighbouring private gardens on the north east, north west and south west boundaries of the sensory garden and farmland and a private home on its south eastern margin.

A description of the Sensory Garden was written by Shirley Langan in a book entitled “The Open Gardens of Ireland, and published in 2024 by the Butterslip Press, Kilkenny (see Figure 21).


***Figure 19: Discovery map showing the location of the Crossmolina Sensory Gardens in Co. Mayo. The biodiversity study site is shown with a black asterick. © Source: Tailte Éireann https://www.tailte.ie.***


***Figure 20: Map showing the location of the Crossmolina Community Sensory Garden off Ballina Street (the N59) in Crossmolina. The biodiversity study site is shown with a white line and has an area of 0.5ha. © Source: Google Maps.***



## Crossmolina Community Sensory Garden

Ballina Street, Knockalegan, Crossmolina, Co. Mayo

Email: sloftus@esterncare.com | Open: Occasional open days. Contact for details, or check Facebook.

This cheerful garden, hidden behind the Care Centre in the middle of the village, comes as something of a surprise. There are lawns and shrub borders, raised flower and vegetable beds, a hut for classes, shelter and play. The whole garden is designed to accommodate people with mobility problems and the plants were chosen particularly for their sensory properties. The trickle of water, over a wooden water wheel and the stone walls, ponds and arches are very beautifully made. Children will enjoy the maze-like aspect of the garden and there are lengths of different hedging that can also perform for hide-and-seek games. A cheerful, colourful place for community gardening classes and just fun.



***Figure 21: The account of the Crossmolina Community Sensory Garden written by Shirley Langan in a book entitled "The Open Gardens of Ireland, published in 2024 by the Butterslip Press, Kilkenny.***

### 6.4.2 Crossmolina Community Sensory Garden - Results of Screening for Biodiversity and History

The location of the Crossmolina Community Sensory Garden biodiversity site was screened against lands designated for conservation by the National Parks and Wildlife Service. The Deel River (see Figure 22) which lies 100m to the north of the gardens is included in the River Moy Special Area of Conservation (# 002298).

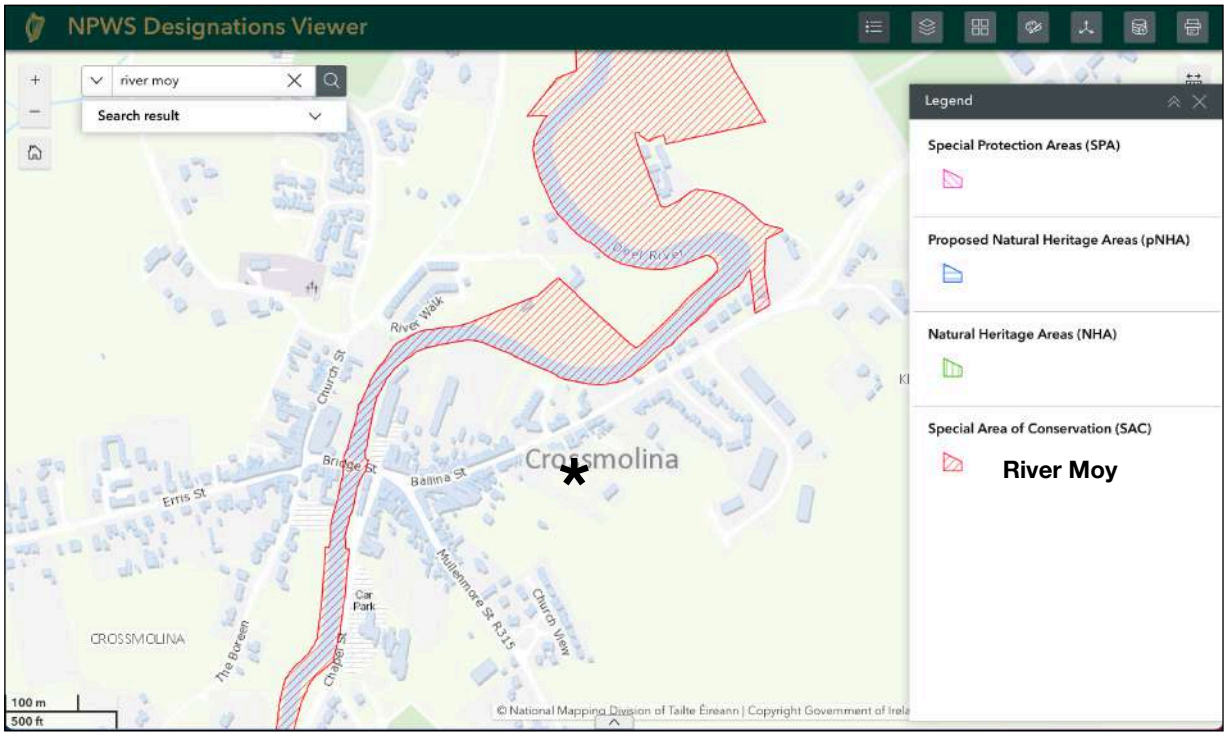



***Figure 22: Map showing the location of the Crossmolina Community Sensory Garden biodiversity study site (with an asterisk) in relation to the River Moy SAC (#002298). © Source: Tailte Éireann https://www.tailte.ie, National Parks and Wildlife Service.***

The Wetland Surveys Ireland on line map (see https://www.wetlandsurveysireland.com) was checked for sites adjacent to the Crossmolina Community Sensory Gardens and no sites were found.

Information on the species diversity present at the Crossmolina Community Sensory Garden is available from the National Biodiversity Data Centre (NBDC). Species records can be found for small sites in the country based on a system of 100m square grids (see https://maps.biodiversityireland.ie/Map). The grid numbers screened for the Crossmolina Community Sensory Garden were G141175 and G140175. There were no species records in either square for this site.

Two biodiversity plans written in 2011 and 2015/16 for Crossmolina were screened for information on the Crossmolina Community Sensory Garden (see https://www.mayo.ie/heritage/town-village-biodiversity-action-plans). Although neither plan specifically included the sensory gardens in their survey reports the development of a biodiversity plan for the gardens in the present work blends in with the ethos of both reports.

The inventory of historic environments (see https://maps.archaeology.ie/HistoricEnvironment/) was screened in relation to the Crossmolina Community Sensory Garden and there are no structures on this site included in this database.

### 6.4.3 Crossmolina Community Sensory Garden - Biodiversity Field Survey

The Crossmolina Community Sensory Garden biodiversity study site survey took place on the 17th June. The garden is a discreet and separate unit in the site with access on all days year round. At the time of survey work was underway on the construction of a sensory room and outdoor meeting area and the water feature in the garden with streams and ponds was being overhauled and repaired. The garden is located in a suburban setting.

### 6.4.4 Crossmolina Community Sensory Garden - Site Management

The Crossmolina Community Sensory Garden area is managed by Western Care Association in liaison with a Rural Social Employment Scheme and volunteers. The garden was being prepared for a relaunch during the survey period with repair and maintenance of its central water feature and the addition of a sensory room and covered outdoor meeting space. Vegetable growing areas were being replanted for the season with herbs and fruits. A cherry laurel maze is maintained through regular trimming. Areas of amenity grassland are maintained by mowing. Vandalism is an issue in the garden, particularly the removal of plants from the various beds.

The adjacent orchard and polytunnel in the remainder of this site are used by volunteers but management of this area is minimal and the area has a neglected feel. For example part of the area beside a shed is being used as a dump for building materials, the treelines have become overgrown blocking easy access, the polytunnel is underused, a bramble bed is expanding its territory and the orchard has become overgrown.  An area beside the polytunnel is mowed grassland and the weeds are controlled along the treeline through the use of herbicide.

### 6.4.5 Crossmolina Community Sensory Garden - Habitats and Species Present

**Species Diversity**
The species recorded in Crossmolina Community Sensory Garden and biodiversity site were as follows: 64 plants, 7 animals and 9 birds with a total of 80 species for the site (see Appendix 2).

**Habitats**
Nine habitats present at the Crossmolina Community Sensory Garden and biodiversity site are shown on Figure 23 and are described in Section 6.4.5.


***Figure 23: Satellite image showing the habitats found in the Crossmolina Community Sensory Garden biodiversity study site. © AppleMaps, amended C. O'Connell.***

**Stone Wall BL1**
Stone walls surrounded the ponds and stream channel in the sensory garden. A stone dome has been constructed at the upper pond and has been allowed to be colonised by wild flowers and grasses which form a meadow habitat (see Plate 43). Species included *Cotoneaster,* dandelion, herb robert, foxtail, Yorkshire fog, bent grass, nipplewort, harebell, lesser trefoil and hart's tongue fern. Honeybees were feeding on the flowers in this habitat.

***Plate 43: Hand built stone walls in the Crossmolina Sensory Garden. The stone dome constructed has become covered with meadow habitat. Action 6.4.1 in Table 7 recommends retaining this pollinator friendly habitat by controlling the growth of cherry laurel across this structure. Photo: © C. O'Connell.***

**Hedgerow WL1**

In the sensory gardens cherry laurel has been extensively planted to create a maze feature in the garden and to frame the entrance to the garden (Plate 44). These are topped annually to a height of 1.5-2m. A hedge containing elderflower, beech, ash and bramble is maintained on the southern boundary of the garden adjacent to an access lane while another hedge which screens the car parking area of the Western Health Care buildings was 2-3m tall and contained privet, hawthorn Escallonia, bramble, wild rose, cotoneaster and ivy as well as a sycamore tree (Plate 45).

***Plate 44: Part of the cherry laurel maze hedge in the sensory gardens at Crossmolina. Action 6.4.13 in Table 7 recommends setting up a community compost heap to compost the clippings from this hedge and recycle them in the garden. Photo: © C. O'Connell.***

***Plate 45: Mixed hedge which screens the car park from the entrance route to the Crossmolina Sensory Garden. Action 6.4.2 in Table 7 recommends maintaining this hedge by side trimming. This allows the top of the hedge to grow and produce flowers and fruit for pollinators and birds. Photo: © C. O'Connell.***

**Treeline WL2**
A treeline of beech trees has been planted between the sensory garden and the polytunnel area, separating the orchard from the poly tunnel and on the northern and south eastern margins of the site. The trees were 8-10m tall and spreading outwards across the site (Plate 46). In the shade cast by the beech trees, ivy, hart's tongue fern, tutsan and broad buckler fern were observed along with a variety of mosses. There was dumping of builder rubble under the trees and herbicides were being used to maintain a path. Wren and blackcap were present in this habitat.

***Plate 46: The treeline of beech trees that separates the polytunnel and orchard areas from the Sensory Garden. Also shown in the photograph is an area of grassland that is not being cut and is being allowed to develop into meadow. Action 6.4.7 in Table 7 recommends allowing woodland edge habitat to develop between the meadows and the treeeline. Spraying with herbicides to prevent plant growth should cease (see Action 6.4.15 ). Cutting the meadow once a year in September and removing all of the clippings to a compost heap is recommended (see Actions 6.4.9 and 6.4.11). Photo: © C. O'Connell.***

**Meadow/Grassy Verge GS2**
Beside the polytunnel, an area of grassland is being let grow long and flower in the interest of pollinators. Species included in the grassland were buttercup, dandelion, horsetail, plantain, silverweed, buttercup, dock, Yorkshire fog, rush, willow, bind weed and meadow foxtail (Plate 46).

**Amenity Grassland GA2**

Small areas of amenity grassland within the sensory gardens are regularly mowed for the convenience of visitors and the area of grassland to the west of the polytunnel is mowed as is an area adjacent to the bramble scrub which leads to the orchard (Plate 47). Species recorded in the amenity grasslands included buttercup, dandelion, horsetail, common liverwort, plantain and lesser trefoil. There was evidence of spraying along part of this habitat with herbicides.

***Plate 47: Amenity grassland habitat in front of the polytunnel in the area adjacent to Crossmolina Sensory Garden. The treeline of beech trees that separates the polytunnel from the bramble scrub and orchard is seen in the background. A song thrush was foraging in the amenity grassland habitat to the front of the sensory gardens (image inset). Action 6.4.9 in Table 7 recommends managing all of the grass around the polytunnel as wildflower meadow to encourage pollinators, while Action 6.4.16 suggests reducing mowing to just once per month to create a short-flowering meadow in the Sensory Gardens to allow flowering plants and insect friendly grasses a chance to help feed wild bees. Photos: © C. O'Connell.***

**Scrub WS1**
Between the orchard and a beech treeline in the northern part of the site there was an area that has become extensively overgrown with bramble scrub reaching 2m in height. Nettle, willow, hawthorn, willow herb and thistle were also present in this habitat but brambles were dominant (Plate 48). Wren, blackbird and wood pigeon were present in this habitat.

***Plate 48: Bramble scrub habitat in the area adjacent to Crossmolina Sensory Garden. Bramble is a very beneficial plant for wildlife. Action 6.4.8 in Table 7 recommends managing bramble on a three year rotation to get the maximum benefit from it for wildlife. Photo: © C. O'Connell.***

**Ornamental Shrub Beds WS3**

The sensory garden planting beds had a wide variety of non native shrubs chosen to appeal to the senses of “colour, scent or sound” thorughout the year (Plate 49). Species included bamboo, heather, rosemary, *Skimmia, Viburnum*, paper birch, *Magnolia*, New Zealand flax, red robin, elwood, spindle, red hot poker, shrubby cinquefoil, calla lily, *Cotoneaster*, *Mahonia*, *Pyracantha, Astilbe*, *Hydrangea* and *Fuchsia*.

***Plate 49: An ornamental non native shrub bed outlined in blue in the Senory Gardens at Crossmolina surrounded by amenity grassland. Heathers have been planted in the bed to the left and are very attractive to pollinators. Action 6.4.6 in Table 7 recommends a number of other shrubs that could be planted in spaces (see image inset) in the existing flower beds to provide year round interest for pollinators such as lavender, Hebe, broom, thyme and Berberis. These could be enhanced by planting crab apple and spring flowering bulbs such as crocus, snowdrop, grape hyacinth and Allium. Photos: © C. O’Connell.***

**Artificial Pond and Stream FL8**

A water feature in the sensory garden with two ponds, an upper and a lower pond provide a habitat for freshwater invertebrates including water mite, stonefly larva and blood worm (Plate 50). The ponds are connected by a channel with a mill wheel turned by a pump which keeps the water flowing between the ponds. The ponds and linking channel are surrounded with low stone walls up to 75cm high. In the upper pond water depth was 30cm. Algae were present in both ponds.

***Plate 50: A composite of images of the upper and lower ponds and part of a channel linking them in the Senory Gardens at Crossmolina. This water feature was under maintenance at the time of the visit. Ponds in the garden enhance biodiversity providing a habitat and source of water for invertebrates (image inset) and birds. Action 6.4.3 in Table 7 recommends introducing a dwarf water lily plant in the pond to help clear the water and provide shelter for creatures living there. The beds on either side of the stream should be planted with species typical of wetlands such as flag iris, purple loosestrife, valerian and meadow sweet (Action 6.4.4). Photos: © C. O'Connell.***

**Horticultural Land/Orchard BC2**
The orchard contained up to 20 apple trees planted in rows. The branches of the trees were festooned with lichens and mosses including oak moss and yellow scale (Plate 51). Beneath the trees the ground layer was overgrown with bramble, buttercup, ivy and nettle. Robins were observed in the orchard.

***Plate 51: The orchard adjacent to the Sensory Gardens at Crossmolina. The ground layer beneath the trees was overgrown with nettle and bramble. Action 6.4.11 in Table 7 recommends managing the orchard for pollinators and hiring a professional horticulturalist to prune the trees to improve their structure, minimize wind damage and increase fruit bearing area. Photos: © C. O'Connell.***

In the sensory garden a variety of raised beds were recently planted with strawberry, chive and mint as part of the “taste” sense. The polytunnel (Plate 52) adjacent to the sensory garden contained twelve raised planting beds. Some were planted with potato, cabbage, carrot and raddish. A variety of weeds were growing in other unused raised beds including fumitory, sow thistle, bind weed, rape, willowherb and dandelion.

***Plate 52: The polytunnel adjacent to Crossmolina Sensory Gardens. More volunteers could be invited to grow their own food within and help reduce food miles. Action 6.4.13 in Table 7 recommends constructing a simple rainwater harvesting system on the poly tunnel (image inset). Photos: © C. O’Connell.***

### 6.4.6 Crossmolina Sensory Garden - Biodiversity Actions

The actions presented in Table 7 for Crossmolina Sensory Garden and biodiversity site aim to protect the biodiversity and habitats documented in this plan and to implement improvements where possible. With just a few easy changes to the management of treelines, hedges and grasslands, biodiversity including wildlife and pollinators can be enhanced (see https://pollinators.ie/resources/ for detailed information). Table 7 also makes suggestions on sustainable practices in the garden such as harvesting rainwater and phasing out the use of moss peat and herbicides. Once the actions have begun the gardens should be pledged for pollinators (see www.pollinators.ie).

**Table 7: Biodiversity enhancement actions for Crossmolina Sensory Gardens, Co. Mayo**

| Action Number | Action | Notes |
|---|---|---|
| **6.4.1** | **Maintain wildflower habitat on the stone dome in the Sensory Garden** | Maintain and retain the pollinator friendly wildlife meadow that has colonised the stone dome constructed over the upper pond in the Sensory Garden. This includes ensuring that cherry laurel growing in the garden maze does not encroach on this habitat. |
| **6.4.2** | **Hedge maintenance** | The hedge between the car park and the Sensory Garden should be maintained by side trimming. This allows the upper part of the hedge to flower and produce fruit which is beneficial to pollinators and birds. See Further information on hedge management at https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Hedgerows-2018-WEB.pdf and https://www.farmingfornature.ie/your-farm/resources/best-practice-guides/hedgerow-management/. |
| **6.4.3** | **Plant dwarf water lily in fountain ponds in the Sensory Garden** | Plant dwarf water lily (*Nymphaea leibergii)* in the ponds of the water feature in the Sensory Garden to provide shelter and food for freshwater invertebrates. |
| **6.4.4** | **Plant stream edge flower beds in the Sensory Garden with wetland plants typical of marsh** | The beds on either side of the stream feature in the Sensory Garden should be planted with pollinator friendly plants typical of wetlands such as flag iris, purple loosestrife, valerian and meadow sweet. |
| **6.4.5** | **Create a natural hedge perimeter and wildlife corridor in the Sensory Garden** | In the Sensory Garden along the western cherry laurel hedge allow grass to grow long and flower so as to provide a natural corridor along which insects or animals can pass. Allow a strip of grassland 1-2m wide to grow, flower and set seed where possible along this hedge where there is currently bare soil and amenity grassland. Once a year mow the entire grassland meadow strip and remove waste to the compost heap. This helps to control vigorous grass growth. Scarify the ground with rakes to help wild flower seeds make contact with bare soil and germinate to increase the abundance of wild flowers in subsequent years. This action helps to promote biodiversity around the perimeters of species poor habitats such as amenity grassland. |
| **6.4.6** | **Plant pollinator friendly shrubs and bulbs in spaces in the Sensory Garden flower beds** | A number of pollinator friendly shrubs could be planted in spaces in the existing ornamental shrub beds in the Sensory Garden to provide year round interest for pollinators such as lavender, *Hebe*, broom, thyme and *Berberis*. These could be enhanced by planting crab apple and spring flowering bulbs such as crocus, snowdrop, grape hyacinth and *Allium*. See https://pollinators.ie/wp-content/uploads/2023/10/Sensory-Garden-A5-flyer-web.pdf for more details about how to manage a sensory garden for pollinators. |
| **6.4.7** | **Create woodland edge habitat** | Woodland edge is a transition zone from a a treeline to amenity grassland. Woodland edge is a very important habitat where wildlife is often seen foraging. There is an opportunity at the Crossmolina Sensory Gardens to create this habitat between the margin of the beech treelines all around the polytunnel and orchard and the amenity grassland. Leave a margin of 1-3m ungrazed to allow wild flowers and shrubs to grow and develop at the woodland or treeline edge. This action will help pollinators, birds and wildlife. |

| Action Number | Action | Notes |
|---|---|---|
| **6.4.8** | **Bramble patch management** | To encourage wildlife diversity manage the bramble patch between the orchard and the polytunnel on rotation by cutting back one third in any year to achieve a habitat mosaic. This creates new growth favoured by some species while leaving old growth to provide shelter and nesting sites. The flowers of bramble are a rich source of nectar and pollen for honeybees and other insects. |
| **6.4.9** | **Increase the area of wild flower meadow around the polytunnel** | At present grassland occurs on either side of the polytunnel. This is managed in different ways. the portion to the east of the tunnel is being allowed to flower and set seed providing the maximum benefit for pollinators and wildlife. The portion to the west side is maintained by regular mowing as amenity grassland. Management should consider managing this as wildflower meadow, thereby doubling the beneficial area for pollinators in the gardens. This means reducing cutting to just once a year in September and removing all of the clippings to a compost heap. See (see https://pollinators.ie/wp-content/uploads/2023/06/Meadow-Guideline-2023-WEB.pdf for more details. |
| **6.4.10** | **Maintain grass access paths around the orchard and polytunnel** | A grass path should be maintained to provide access to the meadows, treeline, polytunnel, bramble area and orchard. This can be achieved through mowing once a month and composting the clippings. |
| **6.4.11** | **Manage orchard for fruit and pollinators** | The apple trees in the orchard at the Crossmolina Sensory Gardens need to be serviced by a horticulturalist as they have become very overgrown. Pruning is needed to improve tree structure, minimize wind damage and increase fruit bearing area. Trees also need to be mulched at their base to help retain moisture and reduce competition from weeds.<br><br>The orchard should be managed for pollinators as wild bees and hoverflies will pollinate the fruit tree flowers which will produce fruit. In the ground layer of the orchard a meadow of wild flowers should be created, cutting the meadow just once a year in autumn and removing the clippings entirely to enhance the range of wild flowers (see https://pollinators.ie/wp-content/uploads/2023/06/Meadow-Guideline-2023-WEB.pdf for more details). Be patient, making a meadow naturally may take 3-5 years to achieve. Some fallen fruit should be left to feed bees, butterflies and moths. Small amounts of dead wood trimmed from the older apple trees can be left in a pile for insects. Further information https://pollinators.ie/wp-content/uploads/2023/09/AIPP-Farmland-Orchards-2023-WEB.pdf. |
| **6.4.12** | **Set up a composting area** | A composting station should be set up in the grounds adjacent to the sensory gardens, preferably near the polytunnel or orchard. A large composting system needs to be developed (see Plate 53). See https://compostingireland.ie/wp-content/uploads/2022/09/Compost-Booklet-Web-Version.pdf for more information about composting. |
| **6.4.13** | **Phase out the use of moss peat and use home made compost** | Bags of moss peat were seen around the Sensory gardens and were being used to stock up planters and vegetable growing beds. Peat moss is harvested from Irish raised bogs and this action has led to a serious loss of natural habitat. It is not sustainable to use moss peat in a garden particularly when alternatives exist without any peat such as farm manure, bark chips and coir. In addition if the gardens started their own compost heap, they would not need to use bought in substances that threaten natural habitats and wildlife. |
| **6.4.14** | **Rainwater harvesting** | Water is needed in the gardens and polytunnel. A rainwater harvesting butt could be set up to collect water from the shed roof or the polytunnel to help reduce the need to use tap water and to move gardening practices towards sustainability. A rainwater harvesting kit for the shed can be purchased from any DIY store (Plate 54). Similarly a flexible rainwater gutter that can be fixed to the polytunnel is available from https://www.robinsonpolytunnels.co.uk/sale/Polytunnel-Gutter.html and an example is shown in Plate 55. |
| **6.4.15** | **Stop using herbicides** | Herbicides are being used at this site to control weeds. The use of chemicals is not compatible with protecting biodiversity and pollinators and needs to stop. Weeding with a hoe or strimming is a better way to maintain edges of borders. If necessary a natural weed killer can be used (see https://www.gardenersworld.com/how-to/grow-plants/organic-weedkillers/) for details. |

| Action Number | Action | Notes |
|---|---|---|
| **6.4.16** | **Reduce mowing to once per month in Sensory Gardens to create a short-flowering meadow for pollinators** | Reducing mowing of amenity grassland to just once per month in the sensory Gardens will allow flowering plants and insect friendly grasses a chance to help feed wild bees and still keep the area looking well. See https://pollinators.ie/wp-content/uploads/2024/03/Reduced-Mowing-Infographic-WEB.pdf |
| **6.4.17** | **Site Clean Up** | With the rennovations of the sensory garden, builders rubble has been dumped beside the shed in the area adjacent. A good site clean up is needed as this area is being used by the public and is unsightly. It provides the wrong message for the ethos of the area (Plate 54). |
| **6.4.18** | **Pledge Crossmolina Sensory Gardens for pollinators** | Once the biodiversity actions are being implemented at the Crossmolina Sensory Gardens and Orchard to enhance pollinators, the gardens should be pledged for pollinators with the National Biodiversity Data Centre. See https://pollinators.ie/pledge-your-garden-for-pollinators/. |
| **6.4.19** | **Citizen science monitoring of the biodiversity improvements you are making** | Once some of the measures have been completed it is important to undertake simple monitoring actions of how well biodiversity is doing. For example a FIT survey could be undertaken on a patch of buttercups in the newly developed meadow areas. In addition a simple count of the number of species in the meadow in a one metre square can be undertaken each year to monitor its increasing diversity. See further details in Chapter 4 of this plan. See also https://pollinators.ie/is-your-action-making-a-difference-you-can-help-by-tracking-changes/ |

***Plate 53: Composting units at the Bog of Allen Nature Centre in Co. Kildare made from recycled plastic lumbar. Each of the bays is filled in turn with a mixture of green and brown organic waste. The provision of 8 bays allows material to compost down over time, facilitates turning and ensures the compost area remains neat and tidy. Action 6.4.12 in Table 7 recommends installation of this type of system in the Crossmolina Community Gardens to compost the shrub and meadow grass cuttings. See https://compostingireland.ie/wp-content/uploads/2022/09/Compost-Booklet-Web-Version.pdf for more information about composting Photo: © N. Madigan.***

***Plate 54: Action 6.4.17 in Table 7 recommends a site clean up in the interests of visitor safety and biodiversity while action 6.4.14 recommends harvesting rainwater from the roof of the shed shown in the photograph. Photo: © C. O'Connell.***

***Plate 55: Light weight flexible gutter attached to wooden stakes for collecting rainwater from a polytunnel roof in Ballynahown, Co. Westmeath. This system could be established on the polytunnel in the Crossmolina Community Sensory Gardens and is recommended in Action 6.4.14 in Table 7. Photos: © C. O'Connell***

## 6.5 Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo

### 6.5.1 Netley Farm - Location 54.145580, -9.272277

Netley Farm is in private ownership and is located 8km north east of Crossmolina on the L1107 road to Killala. The land is divided into three fields and is being managed for grazing drystock cattle and the production of silage. The farmer will be going into the ACRES Scheme of the Department of Agriculture and the Marine shortly. The location of the site is shown on the Discovery Map in Figure 24 and the outline of the boundaries of the biodiversity study site are shown in Figure 25 on a satellite image. The farm occupies an area of 11.19ha. On the eastern boundary of the site is the L1107 road from Crossmolina to Killala separated from the farm by a hawthorn hedge. The land rises to the north west to the “headlands” at 30m and is separated by a wire fence and patchy gorse hedges from the neighbouring farmer. To the west the boundary is fenced and there are remains of stone walls in part with nettles. A mature treeline of sycamore and beech with a rookery separates Netley Farm from the adjoining neighbour. To the south is a minor road and the farmland is fenced with wire and posts from the road. There are small patches of hawthorn hedge on this margin. Access to the farm is at a shed on this boundary. Within the farm the fields are separated by post and wire fencing. The land rises to low hills to the north and there are low hills to the east and west within the cottage and grazing fields. A series of telegraph poles cross the farm from the L1107.

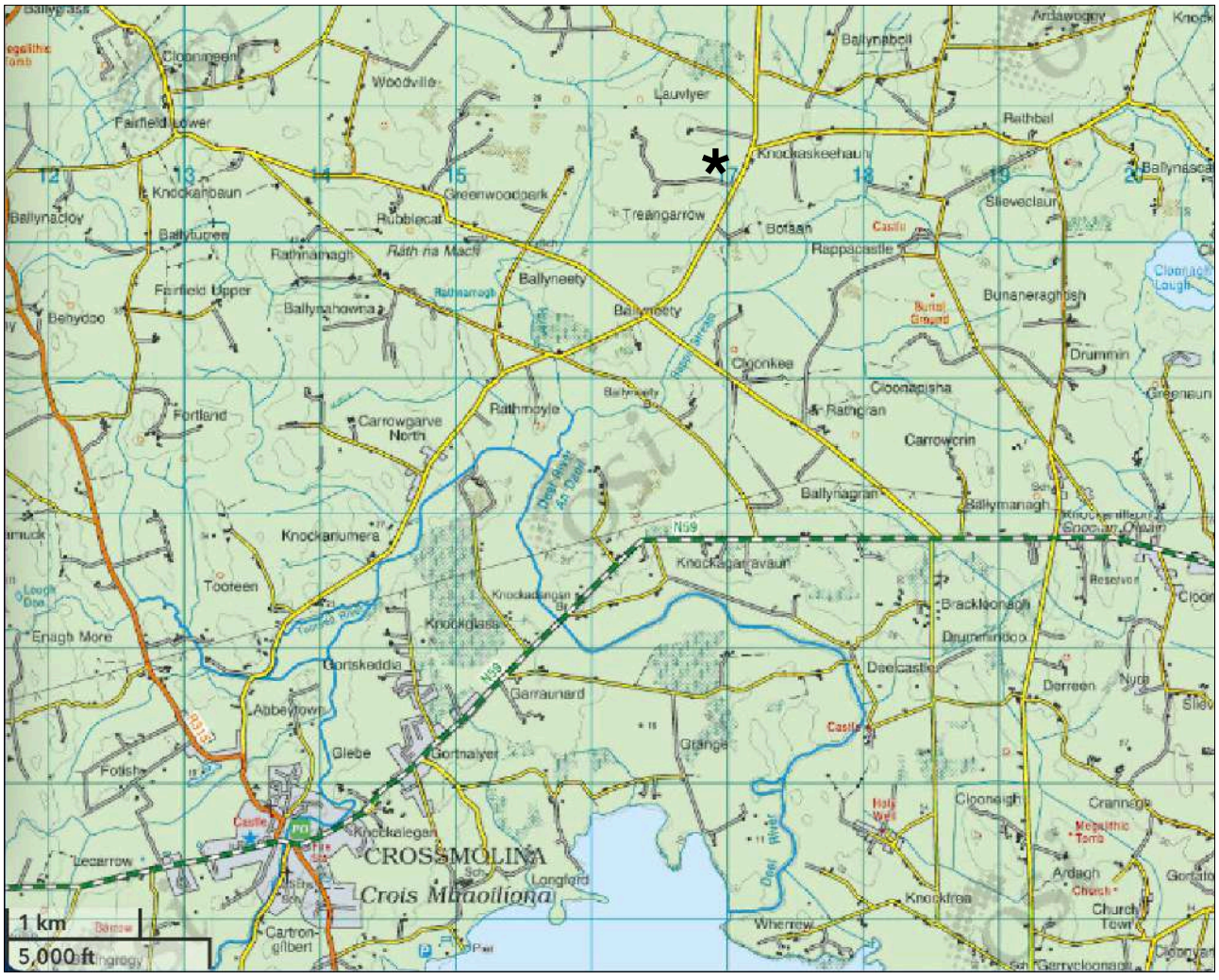



***Figure 24: Discovery map showing the location of Netley Farm near Crossmolina in Co. Mayo. The biodiversity study site is shown with a black asterick. © Source: Tailte Éireann https://www.tailte.ie***

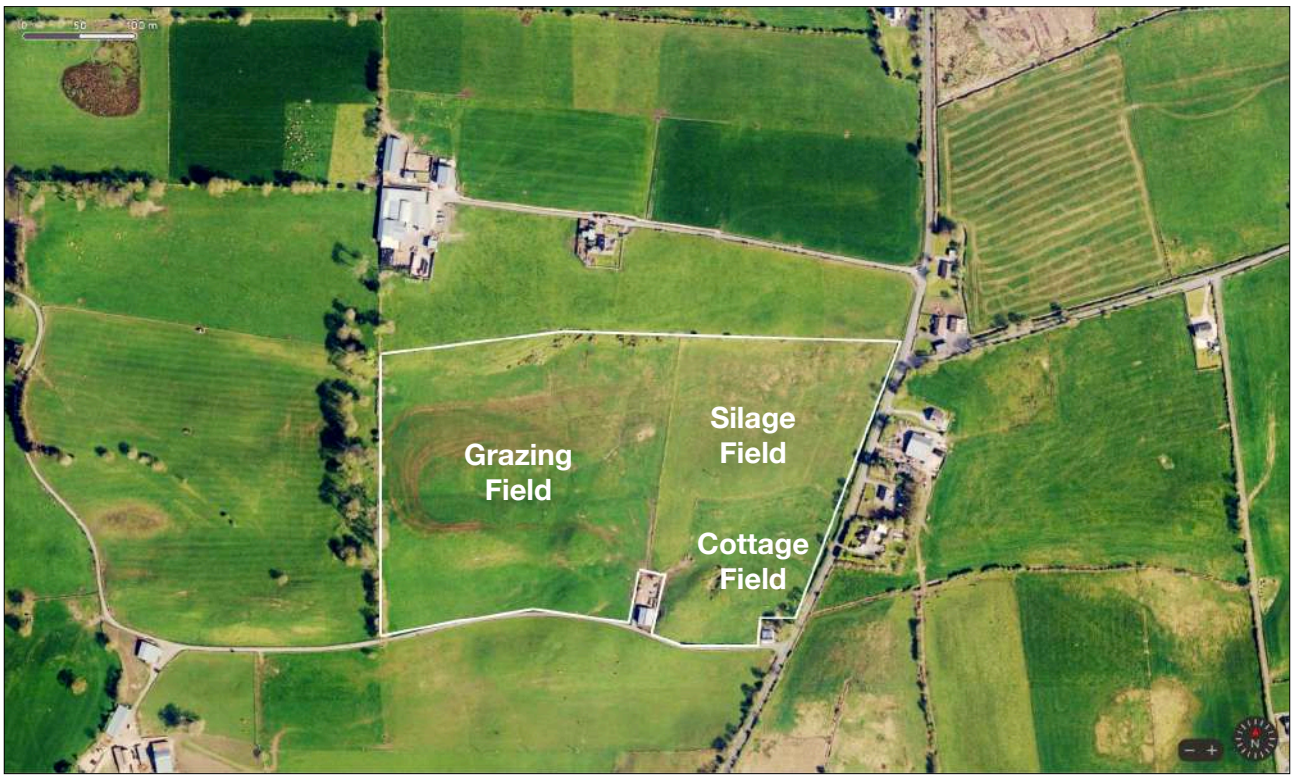



***Figure 25: Satellite image showing the location of the Netley Farm biodiversity study site in Co. Mayo. The biodiversity study site is outlined with a white line and consists of three fields: the cottage field to the south east, the silage field to the north east and the grazing field to the west. The fields are separated by barbed wire and post fencing © Source: https://www.apple.com/maps/, amended C. O'Connell.***

### 6.5.2 Netley Farm - Results of Screening for Biodiversity and History

The location of Netley Farm was screened against lands designated for conservation by the National Parks and Wildlife Service. Figure 26 shows the location of part of the River Moy SAC in relation to the biodiversity study site. A description of the River Moy Special Area of Conservation is available at https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY002298.pdf.

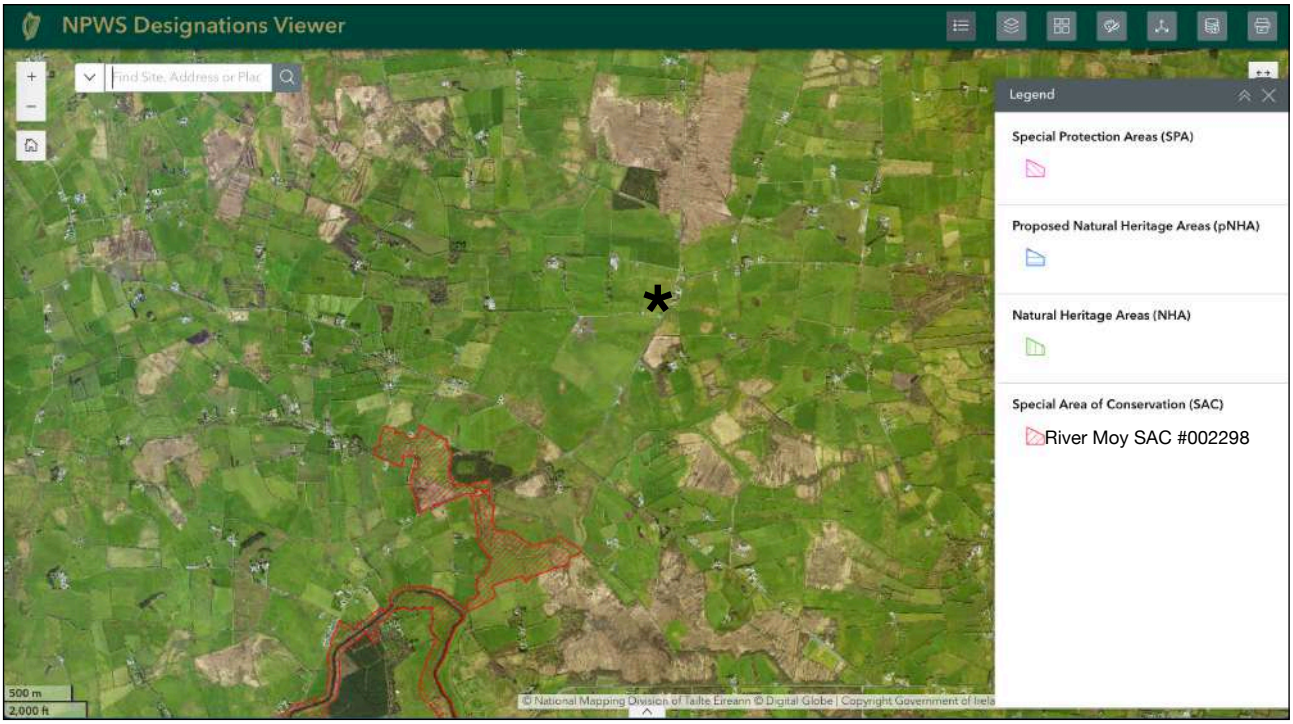



***Figure 26: Air photograph showing the part of the River Moy Special Area of Conservation (#002298) in relation to the Netley Farm biodiversity study site shown with an asterisk. Source: https://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba. © Source: Tailte Éireann https://www.tailte.ie, National Parks and Wildlife Service.***

The Wetland Surveys Ireland online map resource (see https://www.wetlandsurveysireland.com) was searched for wetlands on or adjacent to Netley Farm biodiversity study area. The results are shown in Figure 27. This information source indicates the presence of two sites to the north and south within 5km of Netley Farm. These are both classified as cutover bog sites and are Rappacastle Cutover to the south and Ballymackeehola Balloughadalla Cutover South to the north of the farm.

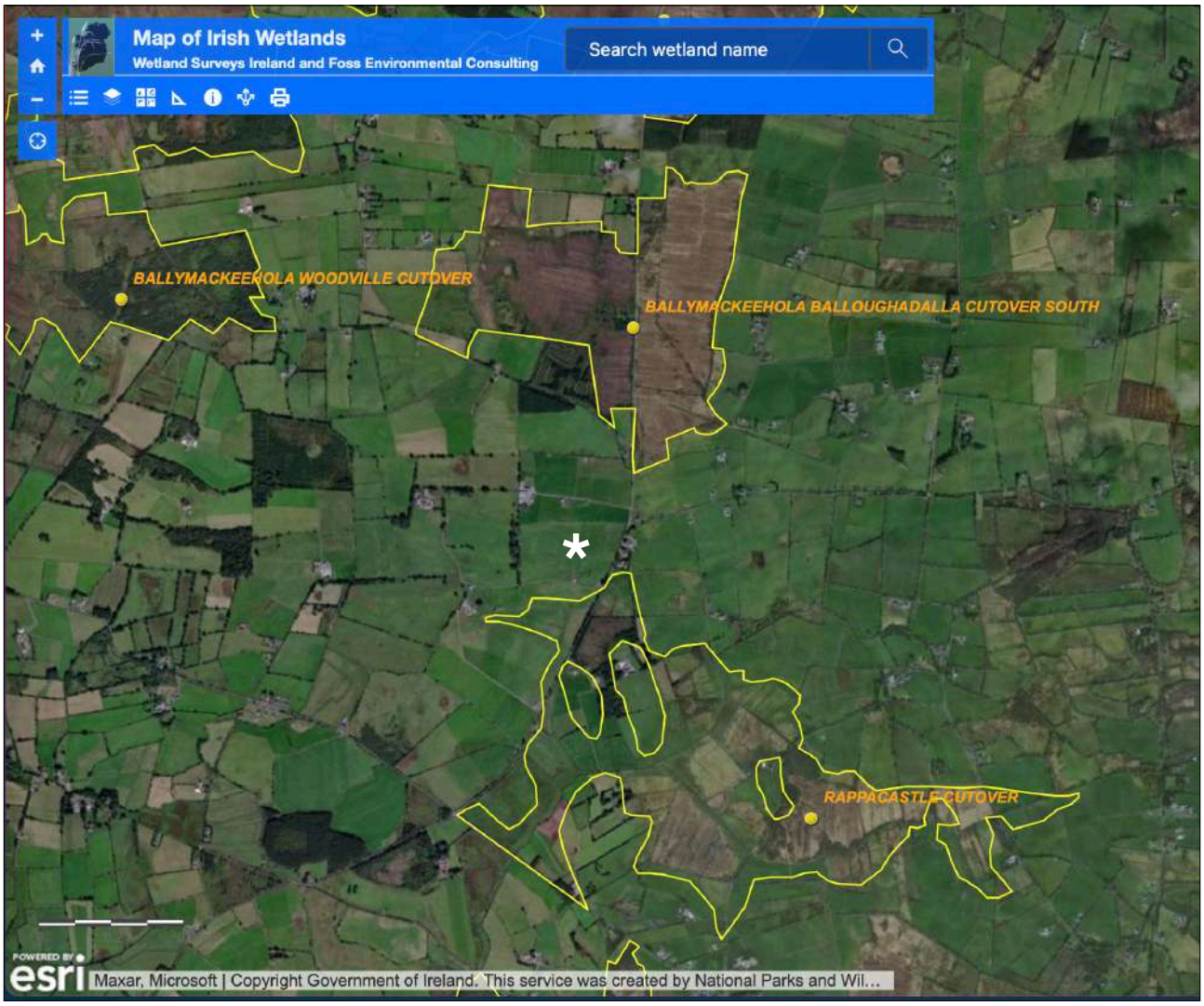



***Figure 27: Map showing the location of wetlands identified within the vicinity of Netley Farm biodiversity study site (shown with an asterick). © Source: https://wetland.maps.arcgis.com/apps/View/index.html?appid=e13b75c3bcab4932b992aa0169aa4a32&extent=-12.6266,51.3236,-3.2168,55.4102.***

Biodiversity information on the species diversity present in the Netley Farm is available from the National Biodiversity Data Centre (NBDC). Species records can be found for areas of the country based on a system of 1km square grids (see https://maps.biodiversityireland.ie/Map). The grid numbers screened for Netley Farm are G1622 covering the western part of the farm and G1722 covering the eastern part of the farm. Both squares record the presence of badgers.

The historic environments inventory (see https://maps.archaeology.ie/HistoricEnvironment/) was searched and shows that there are no sites of historic or archaeological importance on or near Netley Farm.

### 6.5.3 Netley Farm - Biodiversity Field Survey

There are three fields included in the biodiversity survey site at Netley. These are grazed by 15 drystock cattle and are also used for the production of silage. The dominant habitat present at the farm is neutral grassland, unimproved and used for low-intensity agriculture. Hawthorn hedges are present on the farm on some boundaries, on others they have been removed or are patchy. The land rises to low ridge called the “headlands” to the north at 30m and there are low hills to the east and west within the cottage and grazing fields. The hill within the cottage field is known as the quarry and animals shelter here in winter months.

Netley Farm was surveyed on the 17th June 2024. The various habitats identified at the Farm are shown in Figure 28 and are described in Section 6.5.5.

### 6.5.4 Netley Farm - Site Management

Netley farm is managed for drystock cattle. The fields provide grazing and silage is made from others for the animals. Fences are maintained to ensure they are stock proof.

### 6.5.5 Netley Farm - Habitats and Species Present

**Species Diversity**
The species recorded in Netley Farm biodiversity site were as follows: 45 plants, 1 fungus, 10 animals and 8 birds with a total of 64 species for the site (see Appendix 2).

**Habitats**
Four habitats present at the Netley Farm biodiversity site are shown on Figure 28 and are described in Section 6.5.5.


***Figure 28: Habitat map of the Netley Farm in Co. Mayo. © Source: AppleMaps, modified C. O’Connell.***

**Stone Walls and Other Stonework BL1**
A wall of stone, which is broken down in part occurs on the western margin of the grazing field at Netley Farm. Nettles were growing along the wall and there were patches of bare soil in this area where the cattle congregate (Plate 56).

***Plate 56: The Field margin on the western side of the grazing field at Netley Farm. Nettles grew in abundance along the fence line and the stone walls of a building are to be seen. The treeline of sycamore and beech is on the boundary of the neighbouring farm. Action 6.5.1 in Table 8 recommends planting a whitethorn hedge along this boundary of the farm. Photo: © C. O'Connell.***

**Neutral Grassland GS1**
All of the fields included in Netley Farm are assigned to this habitat type. The land is unimproved and well drained and dominated by grasses (Plates 57 and 59) but there were some patchy areas where rushes (Plate 58) were more dominant and the ground was wet. The ground was uneven under foot due to grazing by cattle. The grasslands extended to the “headlands” area of the farm and here the ground was more rocky as it rose to its maximum height on the northern boundary of the farm. Swallows were feeding in this habitat.

The species of the grasslands included buttercup, creeping thistle, Yorkshire fog, dock, daisy, cocksfoot grass, speedwell, white clover, chickweed, sweet vernal grass, smooth meadow grass, rye crass, crested dock’s tail, rush, meadow sweet, pointed spear moss and lady’s smock (Plate 57). A variety of insects were seen in the grasslands such as cranefly, dung fly, house fly, spit bug and meadow brown butterfly.

***Plate 57: Looking across the cottage field towards a low hill known as the quarry where cattle shelter in winter. The grassland habitat can be seen in the foreground dominated by buttercup, dock and Yorkshire fog grass. The fenced area contains a drainage ditch. Meadow brown butterflies were feeding in the grassland (image inset) Photos: © C. O’Connell.***

*Plate 58: A wetter part of the silage field in the north east of Netley Farm. Here rushes dominate the grassland and the area is poached by the cattle. Dung flies were observed pollinating the buttercups (image inset left) and craneflies were abundant (image inset right). The hawthorn hedge with mature sycamore trees along the L1107 can be seen in the background. Photos: © C. O'Connell and J. FitzGerald.*

*Plate 59: View south from the "headland" towards the farm shed at Netley with Nephin Mountain in the background. The silage field is left of the fence and the grazing field is to the right of the fence. Swallows were feeding across the grasslands. Photo: © C. O'Connell.*

**Hedgerow WL1**

The best hedgerow on Netley Farm occurred along the eastern margin with the L1107. The hedge was 3m tall predominantly of hawthorn and there were mature trees of ash and sycamore in it. The hedge was unmanaged and allowed to flower and set seed. An electric fence occurred in the cottage field along the hedge set at a distance of 1m. The species recorded in the hedge included: hawthorn, blackthorn, sycamore, elderflower, ivy, dog rose, nettle, herb robert, cleavers, hart's tongue fern, bush vetch, bird's foot trefoil, meadow sweet, buttercup, speedwell and meadow sweet (Plates 60 and 61). House sparrows were active in the hedge and on an adjoining ivy covered telegraph pole. Other birds recorded in the hedge were robin, starling and goldfinch.

***Plate 60: Hawthorn hedge with a mature ash tree along the eastern boundary with the L1107 of the cottage field at Netley Farm. The hedge is unmanaged and is being allowed to flower naturally. The electric fence is right next to the boundary of the hedge. Action 6.5.2 in Table 8 recommends moving the fence out to 2m to create a wild flower and grass border that will be of benefit to pollinators. Photo: © C. O'Connell.***

***Plate 61: Hawthorn hedge on Netley Farm in the silage field, on the boundary with the L1107 to the east. Action 6.5.3 in Table 8 recommends maintaining the existing management of the hedges by side trimming. Action 6.5.2 recommends moving the fence out to 2m to create a wild flower and grass border that will be of benefit to pollinators. Photo: © C. O'Connell.***

On the southern boundary of Netley Farm along the minor road, remnants of a hawthorn hedge were found (see Plate 62). As the hedge was not stock proof, fencing has been erected by the farmer. Nettles were abundant where the hedge was missing.

***Plate 62: All that remains of a hawthorn hedge along the minor road on the southern boundary of Netley Farm. Action 6.5.3 in Table 8 recommends replacing the hedge in the gaps and planting a new hedge. This will achieve two goals: provide a stock proof boundary and a habitat for wildlife. Photo: © C. O'Connell.***

Gorse formed a hedge along part of the northern boundary of Netley Farm. Where gorse was missing a wire fence was substituted. The gorse bushes provided habitat for a wealth of invertebrate species including flies and snails (Plate 62).

***Plate 66 (below): Gorse forming a hedge along the northern boundary or "headland" at Netley Farm. Snails were abundant in the Gorse (images inset). Action 6.5.1 in Table 8 recommends planting hedgerow in areas where it is missing on this farm boundary. Photos: © C. O'Connell.***

***Scrub WS1***

This habitat was associated with the area known as the “Quarry” on Netley Farm which is located in the cottage field and on part of the “Headlands” area located in the grazing field. Stunted hawthorn trees were found together with gorse and bramble at the quarry. As the area is used for shelter by cattle, the ground was poached and contained a variety of species including white clover, daisy, buttercup, spear thistle, nettle, dock, sow thistle, sweet vernal grass, slender St John’s wort, crested dog’s tail and smooth meadow grass. An earthern back to the back of the site had many small holes suggesting the presence of solitary bees (Plates 64 and 65). At the headlands area gorse formed the scrub habitat.

***Plate 64 left: Looking towards the scrub woodland habitat within the quarry in the Cottage Field at Netley Farm. Photo: © C. O’Connell***

***Plate 65: inside the quarry showing the earthen bank to the rear which can provide habitat for solitary bees and the gorse scrub to the sides and the abundance of grasses, docks and nettles in the ground flora. Photo: © C. O’Connell.***

### 6.5.6 Netley Farm - Biodiversity Actions

A number of actions are proposed to enhance biodiversity on the Netley Farm and are listed in Table 8. As the farmer is pariticipating in the ACRES scheme some of the actions proposed may already be planned or can be funded through the scheme. Some excellent biodiversity farm guides are available from the National Biodiversity Data Centre to help. Please see https://pollinators.ie/farmland/. Once work has begun on enhancing biodiversity the farm should be pledged for pollinators (see pollinators.ie) and undertaking monitoring projects as outlined in Chapter 4 of this plan.

**Table 8: Biodiversity enhancement actions for the Netley Farm, Co. Mayo**

| Action Number | Action | Notes |
|---|---|---|
| **6.5.1** | **Hedge Planting on Netley Farm** | Gaps exist in the hedge along the southern and northern boundaries of Netley Farm and there is no hedge at all on the western boundary. An opportunity exists to enhance the biodiversity value and aesthetic appearance of Netley Farm by planting hedgerows in these areas. Hawthorn or whitethorn is the native hedge common to the area but this should be supplemented with other hedgerow species such as willow, blackthorn, elderflower, crab apple and guelder rose. Species besides hawthorn can be planted in gaps in a hedge to provide diversity. In addition when planning the hedge allow some trees to grow to maturity to further enhance the value of the hedge for biodiversity. See https://pollinators.ie/wp-content/uploads/2024/01/Hedgerow-Planting-Flyer-WEB.pdf, https://www.farmingfornature.ie/wp-content/uploads/2020/11/Hedgerow-Management.pdf and https://www.teagasc.ie/news--events/daily/environment/planting-hedges.php for further guidance. |
| **6.5.2** | **Increase the area of meadow wild flowers on the farm by fencing a 2m margin around the perimeter of the fields adjacent to existing hedges** | Allow wild flowers to grow around the farm such as clover, dandelion, knapweed, ivy, bramble and bird's foot trefoil as these produce nectar and pollen for bees. Within a matrix of long grass there will be nesting places for bumble bees. To achieve this action, fence off a 2m margin around the perimeter of the fields adjacent to existing hedges. See https://pollinators.ie/wp-content/uploads/2022/12/Farmland-Pollinator-Guidelines-2022-WEB.pdf and https://www.farmingfornature.ie/your-farm/by-habitat/grasslands/ for more information. |
| **6.5.3** | **Maintain native flowering hedges** | Continue to manage hedges around the farm with pollinators and biodiversity in mind. Good quality hedgerows are predominantly composed of hawthorn or white thorn but will have up to four other tree species such as willow, blackthorn, elderflower, crab apple and guelder rose. Such hedgerows provide the four essential needs of pollinators: sources of pollen and nectar for food, places to breed, places to overwinter and corridors and pathways to travel across the farm. Hedges managed for pollinators should ideally be cut between November and January. If they must be cut, side trim only and cut sections in rotation, so some areas remain undisturbed. Let some Bramble and Ivy grow in hedgerows, as key food sources in summer and autumn. See https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Hedgerows-2018-WEB.pdf and https://www.farmingfornature.ie/your-farm/resources/best-practice-guides/hedgerow-management/ for more information. |
| **6.5.4** | **Pledge Netley Farm for pollinators** | Once the work is underway at Netley to enhance biodiversity and pollinators, the farm should be pledged for pollinators with the National Biodiversity Data Centre. See https://pollinators.ie/pledge-your-garden-for-pollinators/. |
| **6.5.5** | **Citizen science monitoring of biodiversity improvement** | Once some of the measures have been completed it is important to undertake simple monitoring actions of how well biodiversity is doing. For example a FIT survey could be undertaken on a patch of buttercups in the newly developed meadow areas. In addition a simple count of the number of species in the meadow in a one metre square can be undertaken each year to monitor its increasing diversity. See further details in Chapter 4 of this plan. See also https://pollinators.ie/is-your-action-making-a-difference-you-can-help-by-tracking-changes/ |

# *7. Funding Biodiversity Actions*

The following groups provide funding for different aspects of biodiversity enhancement. Further information for each scheme can be found on the relevant organisation's web site.

- Heritage Council Grants Schemes for buildings and management works (see https://www.heritagecouncil.ie/funding).
- Waterways and Communities Grant Schemes (see https://www.waterwaysireland.org/heritage-grant)
- Community Foundation of Ireland (see https://www.communityfoundation.ie/)
- Coca-cola Ireland (see https://www.coca-cola.com/ie/en/social)
- Mayo County Council Ballina General Municipal Allocation (GMA) Funding (https://www.mayo.ie/ballinamd/gmagrant)
- Mayo County Council Heritage Grant Scheme (https://www.mayo.ie/heritage/funding)
- Department of Agriculture, Food and the Marine have a number of funding streams available to local communities including Common Agricultural Policy (CAP) Post 2020: Pillar 2 Infrastructure, Environment and Development Support (The main schemes include ACRES, GLAS, EIP-AGRI and TAMS).
- Mayo Leader Programme for Community and Integrated Development (see https://www.mayo.ie/community/development/leader)
- Ireland Funds Community Development Grants (see https://www.irelandfunds.org/our-impact/focus-areas/community-development/)
- Department of Rural and Community Development (see https://www.gov.ie/en/organisation/department-of-rural-and-community-development/)
- Environmental Protection Agency Research and Event Grants (see https://www.epa.ie/our-services/research/epa--research-funding/)
- Sligo County Council funding for heritage buildings (see https://www.sligococo.ie/News/ConservationofHeritageBuildings2023/#:~:text=the%20grant%20schemes%3A-,Built%20Heritage%20Investment%20Scheme,and%20preserve%20their%20historic%20properties.)
- Sligo County Council grant schemes (see https://www.sligococo.ie/grants/)
- Sligo Leader (see https://www.sligoleader.ie/)

# *Appendix 1: Biodiversity Survey Sheet*

**Mayo and Sligo Farms Biodiversity Survey Record Sheet 2024**

**Recorders** **Date** **Area ha**

**Site Name** **#** **Location GPS** **Altitude m**

**Description**

**Habitats Present and Location**

| **Existing Management** |
| --- |
| |

**Biodiversity Actions**

**1.**

**2.**

**3.**

**4.**

**5.**

**6.**

**7.**

**Invasive Species:** Winter Heliotrope Cherry Laurel Japanese Knotweed Giant Hogweed Rhododendron Snowberry

**Details:** .....

**Species Diversity:** **Plants: .....** **Animals: .....** **Birds: .....**

**Habitats Present (Fossitt Codes):**

**Designated Site:** **Archaeology:** **NBDC Grids:**

# *Appendix 2: Species recorded in the Biodiversity Study Sites and submitted to the National Biodiversity Data Centre Survey Sheet*

National Biodiversity Data Centre
*Documenting Ireland's Wildlife*

**Dataset Description**

| Data Item | Description |
|---|---|
| Title of the dataset | Mayo and Sligo Farms Biodiversity Action Plan 2024-28 |
| Dataset Provider | Dr Catherine O'Connell |
| Description | Plant, animal and bird records collected from four farms and one garden in Mayo and Sligo, from 17th to 19th June 2024 |
| Method of data capture | General field observations in different habitats at specific biodiversity sites |
| Purpose of data capture | To create a Biodiversity Action plan for five sites in Mayo and Sligo - funded by the Community Foundation 2023. Copy of the Plan lodged with NBDC |
| Geographic coverage | Sites included ranged from Kiltimagh to Crossmolina in Co. Mayo and from Enniscrone to Collooney in Co. Sligo |
| Status of dataset | Dataset is completed during the survey and is internally published and distributed to River Moy Search and Rescue, Ballina, Co. Mayo, the Community Foundation and the NBDC |
| Data quality | The majority of plant, animal and bird records were verified by Dr Catherine O'Connell. A moth species was verified by Michael O'Donnell of Moths Ireland and a gall aphid was verified by Oisín Duffy of the NBDC |
| | |
| | |
| Data Centre use only | |
| Date dataset received | The date of receipt by Data Centre. |

| Recorder Name | Species Name | Coordinates Latitude | Coordinates Longitude | Location Name | Date | Abundance | Habitat (Fossitt where possible) | Comment | Deterimer Name |
|---|---|---|---|---|---|---|---|---|---|
| Catherine O'Connell | Turdus merula | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Sylvia atricapilla | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Cyanistes caeruleus | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Bombus lucorum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Buteo buteo | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Fringilla coelebs | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Phylloscopus collybita | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Periparus ater | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Motacilla cinerea | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | Foraging | Catherine O'Connell |
| Catherine O'Connell | Musca domestica | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Maniola jurtina | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Erithacus rubecula | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 2 | WN4 | 1 juvenile | Catherine O'Connell |
| Catherine O'Connell | Muscicapa striata | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Turdus philomelos | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Pararge aegeria | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Philaenus spurmarius | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | Numerous | WN4/GS2 | | Catherine O'Connell |
| Catherine O'Connell | Hirundo rustica | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 2 | GS2/BL3 | Nest in stables | Catherine O'Connell |
| Catherine O'Connell | Scathophaga stercoraria | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 2 | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Spinus spinus | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Troglodytes troglodytes | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | 1 | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Acer pseudoplatanus | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Aegopodium podagraria | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Aesculus hippocastanum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Alliaria petiolata | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Anthoxanthum odoratum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Anthriscus sylvestris | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Arctium minus | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Arum maculatum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Asplenium scolopendrium | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/BL1 | | Catherine O'Connell |
| Catherine O'Connell | Asplenium trichomanes | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | BL1 | | Catherine O'Connell |
| Catherine O'Connell | Athyrium filix femina | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Betula pubescens | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Calystegia sepium | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/BL1 | | Catherine O'Connell |
| Catherine O'Connell | Cardamine pratensis | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Carex pendula | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/BL1 | | Catherine O'Connell |
| Catherine O'Connell | Cerastium fontanum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Chamaenerion angustifolium | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Chrysosplenium oppositifolium | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/BL1 | | Catherine O'Connell |
| Catherine O'Connell | Circaea lutetiana | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Cirsium vulgare | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Corylus avellana | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Crataegus monogyna | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Crocosmia crocosmiiflora | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | BL1/ BC4 | | Catherine O'Connell |
| Catherine O'Connell | Dactylus glomerata | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Digitalis purpurea | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Dryopteris dilatata | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Epilobium parviflorum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Equisetum arvense | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/FL8 | | Catherine O'Connell |
| Catherine O'Connell | Fagus sylvatica | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Filipendula ulmaria | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Fistulina hepatica | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | Growing on ash | Catherine O'Connell |
| Catherine O'Connell | Fraxinus excelsior | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Fuchsia magellanica | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Galium aparine | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Geranium robertianum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Catherine O'Connell | Geum urbanum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Glechoma hederacea | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | BL1 | | Catherine O'Connell |
| Catherine O'Connell | Hedera helix | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/BL1 | | Catherine O'Connell |
| Catherine O'Connell | Heracleum spondylium | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Holcus lanatus | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Hymenoscyphus fraxineus | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Hypericum androsaemum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Ilex aquifolium | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Juncus effusus | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Lolium perenne | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Lonicera periclymenum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Malus sylvestris | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | BC2 | | Catherine O'Connell |
| Catherine O'Connell | Meconopsis cambrica | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | BL1 | | Catherine O'Connell |
| Catherine O'Connell | Parmelia caperata | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Pleurozia schreberi | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | BL1 | | Catherine O'Connell |
| Catherine O'Connell | Pinus sylvestris | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Plantago lanceolata | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Plantago major | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Polypodium vulgare | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/BL1 | | Catherine O'Connell |
| Catherine O'Connell | Prunus laurocerasus | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/BL1 | abundant invasive | Catherine O'Connell |
| Catherine O'Connell | Pteridium aquilinum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Quercus robur | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Ranunculus repens | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Reynoutria japonica | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | invasive, being treated | Catherine O'Connell |
| Catherine O'Connell | Rhytidiadelphus triquetrus | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | BL1 | | Catherine O'Connell |
| Catherine O'Connell | Rubus fruticosus agg | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/BL1 | | Catherine O'Connell |
| Catherine O'Connell | Rosa rugosa | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | BC4 | invasive, formed thicket | Catherine O'Connell |
| Catherine O'Connell | Rumex acetosa | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Rumex obstusifolius | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Salix cinerea | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Sambucus nigra | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Scrophularia auriculata | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Sonchus asper | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Stachys sylvatica | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Symphoricarpos albus | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | invasive | Catherine O'Connell |
| Catherine O'Connell | Taraxacum officinale | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Taxus baccata | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Thuidium tamariscinum | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Tilia cordata | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium pratense | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium repens | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Urtica dioica | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/BL1/BC2 | | Catherine O'Connell |
| Catherine O'Connell | Veronica chamaedrys | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4 | | Catherine O'Connell |
| Catherine O'Connell | Vicia sepium | 53.877623 | -9.014141 | Killedan House and Farm, Killedan, Swinford, Co. Mayo | 17/06/2024 | | WN4/GS2 | | Catherine O'Connell |
| Catherine O'Connell | Maniola jurtina | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 2 | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Erithacus rubecula | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | WN5/WL2/WN2 | | Catherine O'Connell |
| Catherine O'Connell | Korscheltellus fusconebulosa | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | WS2 | | Michael O'Donnell Moths Ireland |
| Catherine O'Connell | Corvus frugilegus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Philaenus spurmarius | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | Numerous | GS2/WS2 | | Catherine O'Connell |
| Catherine O'Connell | Maniola jurtina | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 2 | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Hirundo rustica | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 6 | GS2 | Foraging | Catherine O'Connell |
| Catherine O'Connell | Columba palumbus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Corvus monedula | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | WN5 | | Catherine O'Connell |
| Catherine O'Connell | Troglodytes troglodytes | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Succinea putris | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 2 | FW2/WN5 | | Catherine O'Connell |
| Catherine O'Connell | Turdus merula | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Cyanistes caeruleus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | WS2 | | Catherine O'Connell |

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|---|---|---|---|---|---|---|---|---|---|
| Catherine O'Connell | Regulus regulus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Lepus timidus hibernicus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | GS2/WS2 | | Catherine O'Connell |
| Catherine O'Connell | Phylloscopus trochilus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | 1 | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Arctium minus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | FW2 | | Catherine O'Connell |
| Catherine O'Connell | Acer pseudoplatanus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WL2/WS2/BL1/WL1 | | Catherine O'Connell |
| Catherine O'Connell | Aegopodium podagraria | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN5 | | Catherine O'Connell |
| Catherine O'Connell | Alnus glutinosa | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN5 | | Catherine O'Connell |
| Catherine O'Connell | Anthoxanthum odoratum | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Anthriscus sylvestris | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Asplenium scolopendrium | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN5 | | Catherine O'Connell |
| Catherine O'Connell | Bellis perennis | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Betula pubescens | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Briza media | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Cardamine pratensis | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Cerastium fontanum | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Circaea lutetiana | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN5 | | Catherine O'Connell |
| Catherine O'Connell | Cirsium arvense | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Circaea palustre | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Cirsium vulgare | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Conopodium majus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Cotoneaster horizontalis | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Crataegus monogyna | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WL1/WN2 | | Catherine O'Connell |
| Catherine O'Connell | Cynosurus cristatus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Dactylorhiza maculata | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Dactylus glomerata | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Dryopteris dilatata | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Equisetum arvense | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN5 | | Catherine O'Connell |
| Catherine O'Connell | Evernia prunastri | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN5 | | Catherine O'Connell |
| Catherine O'Connell | Fagus sylvatica | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Filipendula ulmaria | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN5 | | Catherine O'Connell |
| Catherine O'Connell | Fragaria vesca | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Fraxinus excelsior | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WS2/WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Fuchsia magellanica | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Galium aparine | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WL1/WN2 | | Catherine O'Connell |
| Catherine O'Connell | Geranium robertianum | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Geum urbanum | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Hedera helix | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2/BL1/WL1 | | Catherine O'Connell |
| Catherine O'Connell | Holcus lanatus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Hyacinthoides non scripta | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Hypericum androsaemum | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Iris pseudacorus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | FW2/WN5 | | Catherine O'Connell |
| Catherine O'Connell | Juncus effusus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | FW2/WN5 | | Catherine O'Connell |
| Catherine O'Connell | Larix decidua | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Hymenoscyphus fraxineus | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WS2/WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Lolium perenne | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Parmelia caperata | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | Epiphytic | Catherine O'Connell |
| Catherine O'Connell | Pinus sylvestris | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Poa pratensis | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Primula vulgaris | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Prunus spinosa | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Quercus robur | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Ranunculus acris | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Ranunculus repens | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2/GS2 | | Catherine O'Connell |
| Catherine O'Connell | Rubus fruticosus agg | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WL1/WN2 | | Catherine O'Connell |
| Catherine O'Connell | Rumex acetosa | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Rumex obstusifolius | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Salix cinerea | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN5 | | Catherine O'Connell |

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|---|---|---|---|---|---|---|---|---|---|
| Catherine O'Connell | Salix viminalis | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2/WN5 | | Catherine O'Connell |
| Catherine O'Connell | Scrophularia auriculata | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | FW2/WN5 | | Catherine O'Connell |
| Catherine O'Connell | Sonchus asper | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | FW2/WN5 | | Catherine O'Connell |
| Catherine O'Connell | Sorbus aucuparia | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Sorbus hibernica | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Taraxacum officinale | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Tetraneura ulmi | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WL1 | on wytch elm | Oisín Duffy NBDC |
| Catherine O'Connell | Tilia cordata | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium dubium | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium pratense | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium repens | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Ulmus glabra | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Urtica dioica | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Veronica chamaedrys | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | | Catherine O'Connell |
| Catherine O'Connell | Vicia sepium | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | BL1/WN2 | | Catherine O'Connell |
| Catherine O'Connell | Xanthoria parietina | 54.166724 | -9.126143 | Killanley Farm, Ballina, Co. Sligo | 19/06/24 | | WN2 | Epiphytic | Catherine O'Connell |
| Catherine O'Connell | Acrocephalus schoenobaenus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | FS1 | | Catherine O'Connell |
| Catherine O'Connell | Apis melifera | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Bombus pascuorum | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Buteo buteo | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | | soaring | Catherine O'Connell |
| Catherine O'Connell | Emberiza schoeniclus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | FS1 | | Catherine O'Connell |
| Catherine O'Connell | Erithacus rubecula | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Maniola jurtina | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 2 | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Pararge aegeria | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Philaenus spurmarius | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | Numerous | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Phylloscopus trochilus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Pieris brassicae | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Prunella modularis | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | WL1/WS1 | | Catherine O'Connell |
| Catherine O'Connell | Troglodytes troglodytes | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Turdus merula | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Acer pseudoplatanus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Adjuga reptans | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Alopecurus pratensis | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Angelica sylvestris | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Anthoxanthum odoratum | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Anthriscus sylvestris | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Asplenium scolopendrium | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Bellis perennis | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Cardamine pratensis | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Carex flacca | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | FS1 | | Catherine O'Connell |
| Catherine O'Connell | Centaurea nigra | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Cerastium fontanum | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Cirsium arvense | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Cirsium palustre | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Corylus avellana | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Crataegus monogyna | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Cynosurus cristatus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Dactylorhiza maculata | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Dactylus glomerata | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Epilobium hirsutum | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Equisetum arvense | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4/FS1 | | Catherine O'Connell |
| Catherine O'Connell | Evernia prunastri | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Filipendula ulmaria | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4/FS1 | | Catherine O'Connell |
| Catherine O'Connell | Fraxinus excelsior | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Galium aparine | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Galium saxatile | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Geranium robertianum | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |

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|---|---|---|---|---|---|---|---|---|---|
| Catherine O'Connell | Hedera helix | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Heracleum spondylium | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Holcus lanatus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Hyacinthoides non scripta | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Hymenoscyphus fraxineus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Iris pseudacorus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Jacobaea aquatica | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Juncus articulatus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | FS1 | | Catherine O'Connell |
| Catherine O'Connell | Juncus effusus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4/FS1 | | Catherine O'Connell |
| Catherine O'Connell | Lathyrus pratensis | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Leucanthemum vulgare | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Luzula multiflora | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Lychnis flos floculi | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4/FS1 | | Catherine O'Connell |
| Catherine O'Connell | Mentha aquatica | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4/FS1 | | Catherine O'Connell |
| Catherine O'Connell | Parmelia caperata | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Pedicularis sylvatica | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Phragmites australis | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | FS1 | | Catherine O'Connell |
| Catherine O'Connell | Plantago lanceolata | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Poa pratensis | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Polypodium vulgare | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Potentilla anserina | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Potentilla erecta | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Prunus spinosa | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Pleurozium schreberi | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | FS1 | | Catherine O'Connell |
| Catherine O'Connell | Pteridium aquilinum | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | HD1 | | Catherine O'Connell |
| Catherine O'Connell | Quercus robur | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Ranunculus acris | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Ranunculus flammula | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | FS1 | | Catherine O'Connell |
| Catherine O'Connell | Ranunculus repens | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Reynoutria japonica | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | Invasive | Catherine O'Connell |
| Catherine O'Connell | Rubus fruticosus agg | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Rumex acetosa | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Rumex obstusifolius | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Salix viminalis | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Sorbus aucuparia | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Stellaria holostea | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4/WS1 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium pratense | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium repens | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4 | | Catherine O'Connell |
| Catherine O'Connell | Ulex europaeus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WS1 | | Catherine O'Connell |
| Catherine O'Connell | Umbilicus rupestris | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | BL1/BL3 | | Catherine O'Connell |
| Catherine O'Connell | Urtica dioica | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4/BL1 | | Catherine O'Connell |
| Catherine O'Connell | Usnea subfloridana | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1/Wl2 | | Catherine O'Connell |
| Catherine O'Connell | Vaccinium myrtillus | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Valeriana officinalis | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | FS1 | | Catherine O'Connell |
| Catherine O'Connell | Veronica chamaedrys | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4/WL1 | | Catherine O'Connell |
| Catherine O'Connell | Vicia sepium | 54.181983-8 | -8.559636 | Kinnagrelly Farm, Rockfield, Co. Sligo | 19/06/24 | | GS4/WL1 | | Catherine O'Connell |
| Catherine O'Connell | Apis melifera | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Bombus lucorum | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Corvus monedula | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | BC2 | | Catherine O'Connell |
| Catherine O'Connell | Columba palumbus | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Erithacus rubecula | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Fringilla coelebs | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | WS3 | | Catherine O'Connell |
| Catherine O'Connell | Philaenus spurmarius | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | Numerous | BC2 | | Catherine O'Connell |
| Catherine O'Connell | Phylloscopus trochilus | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | WS1 | | Catherine O'Connell |
| Catherine O'Connell | Sylvia atricapilla | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Troglodytes troglodytes | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Turdus merula | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL2 | | Catherine O'Connell |

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|---|---|---|---|---|---|---|---|---|---|
| Catherine O'Connell | Turdus philomelos | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | 1 | GA2 | | Catherine O'Connell |
| Catherine O'Connell | Acer pseudoplatanus | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Alopecurus pratensis | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Asplenium scolopendrium | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Bellis perennis | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GA2 | | Catherine O'Connell |
| Catherine O'Connell | Calliergonella cuspidata | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Calystegia sepium | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | BC2 | | Catherine O'Connell |
| Catherine O'Connell | Cerastium fontanum | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Chamaecyparis lawsoniana Ellwoodii | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WS2 | | Catherine O'Connell |
| Catherine O'Connell | Cirsium arvense | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Cotoneaster horizontalis | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | BL1 | | Catherine O'Connell |
| Catherine O'Connell | Crataegus monogyna | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Dactylus glomerata | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Dryopteris dilatata | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Epilobium parviflorum | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Equisetum arvense | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Evernia prunastri | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | BC2 | Epiphytic | Catherine O'Connell |
| Catherine O'Connell | Fagus sylvatica | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Fraxinus excelsior | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Fuchsia magellanica | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WS3 | | Catherine O'Connell |
| Catherine O'Connell | Geranium robertianum | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Hedera helix | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL1/WL2 | | Catherine O'Connell |
| Catherine O'Connell | Holcus lanatus | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Hypericum androsaemum | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Juncus effusus | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Lapsana communis | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL2 | | Catherine O'Connell |
| Catherine O'Connell | Ligustrum vulgare | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Fumaria officinalis | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | BC2 | | Catherine O'Connell |
| Catherine O'Connell | Malus sylvestris | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | BC2 | | Catherine O'Connell |
| Catherine O'Connell | Plantago lanceolata | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Potentilla anserina | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Prunus laurocerasus | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | planted as a garden maze | Catherine O'Connell |
| Catherine O'Connell | Ranunculus acris | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Ranunculus repens | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Rosa canina | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Rubus fruticosus agg | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WS1 | | Catherine O'Connell |
| Catherine O'Connell | Marchantia polymorpha | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | BC2 | | Catherine O'Connell |
| Catherine O'Connell | Rumex acetosa | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Rumex obstusifolius | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Salix cinerea | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Sambucus nigra | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Sonchus oleraceus | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | BC2 | | Catherine O'Connell |
| Catherine O'Connell | Taraxacum officinale | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium dubium | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Urtica dioica | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | BC2/WS1 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium repens | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Xanthoria parietina | 54.099949 | -9.314299 | Crossmolina Community Sensory Garden, Ballina Street, Crossmolina, Co. Mayo | 17/06/24 | | BC2 | | Catherine O'Connell |
| Catherine O'Connell | Arion ater | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 1 | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Bombus lucorum | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Carduelis carduelis | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Cepaea nemoralis | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Columba palumbus | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 2 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Cornu aspersum | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | Numerous | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Corvus frugilegus | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 2 | GS2 | | Catherine O'Connell |
| Catherine O'Connell | Erithacus rubecula | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 1 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Hirundo rustica | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 4 | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Maniola jurtina | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 1 | GS1 | | Catherine O'Connell |

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|---|---|---|---|---|---|---|---|---|---|
| Catherine O'Connell | Motacilla alba yarrellii | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 1 | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Musca domestica | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | Numerous | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Passer domesticus | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 3 | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Philaenus spurmarius | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | Numerous | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Sturnus vulgaris | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 2 | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Tipula oleracea | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | Numerous | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Scathophaga stercoraria | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | 1 | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Acer pseudoplatanus | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Anthoxanthum odoratum | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Anthriscus sylvestris | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Asplenium scolopendrium | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Bellis perennis | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Calliergonella cuspidata | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Calystegia sepium | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Cardamine pratensis | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Cerastium fontanum | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Cirsium arvense | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Cirsium vulgare | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WS1 | | Catherine O'Connell |
| Catherine O'Connell | Crataegus monogyna | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1/WS1 | | Catherine O'Connell |
| Catherine O'Connell | Cynosurus cristatus | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Dactylus glomerata | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Filipendula ulmaria | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Fraxinus excelsior | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Galium aparine | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Geranium robertianum | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Hedera helix | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Heracleum spondylium | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Holcus lanatus | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Hymenoscyphus fraxineus | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Hypericum pulchrum | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WS1 | | Catherine O'Connell |
| Catherine O'Connell | Juncus effusus | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Lolium perenne | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Lotus corniculatus | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1/GS1 | | Catherine O'Connell |
| Catherine O'Connell | Plantago lanceolata | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Poa pratensis | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Prunus spinosa | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Ranunculus acris | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Ranunculus repens | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Rosa canina | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Rubus fruticosus agg | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1/WS1 | | Catherine O'Connell |
| Catherine O'Connell | Rumex acetosa | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Rumex obstusifolius | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Sambucus nigra | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |
| Catherine O'Connell | Sonchus asper | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Taraxacum officinale | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium pratense | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Trifolium repens | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Ulex europaeus | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WS1/WL1 | | Catherine O'Connell |
| Catherine O'Connell | Urtica dioica | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WS1/GS1 | | Catherine O'Connell |
| Catherine O'Connell | Veronica chamaedrys | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | GS1 | | Catherine O'Connell |
| Catherine O'Connell | Vicia sepium | 54.145580 | -9.272277 | Netley (Lauvlyer) Farm, Crossmolina, Co. Mayo | 17/06/24 | | WL1 | | Catherine O'Connell |