Kinvara Biodiversity Action Plan 2025-2030

Comhairle Chontae na Gaillimhe
Galway County Council

FORBAIRT TUAITHE NA GAILLIMHE
GALWAY RURAL DEVELOPMENT

Photo ©IanStone

Introduction

Kinvara, County Galway (Cinn Mhara - 'The Head of the Sea'), is located at the head of Kinvara Bay, at the South-eastern corner of Galway Bay in the West of Ireland. It has been a fishing village, market town and a port. It is now a major tourist destination along the 'Wild Atlantic Way'[1]. Kinvara Bay and coastline lie within the Galway Bay Complex Special Area of Conservation (Site code 000268)[2]. It stands at the foothills of the Burren – an area of unique limestone pavement, which is an area designated as ASI (Area of Scientific Interest)[3] and NHA (Natural Heritage Area)[4]. Unique to Kinvara are the river and streams which flow underground from the karst aquifer geology[5] of the Burren Lowlands and run into Kinvara Bay from the Harbour to Dunguaire Castle, known as the "Kinvara Springs"[6]. This site is also a SPA (Special Protected Area) under the E.U. Birds Directive.

The Kinvara Springs create a unique environment for Flora and Fauna, with some species only found here. The whole Kinvara area supports many types of rare Flora, such as Orchids, along with many bird species, both resident and migratory, many of which are on the Amber and Red Endangered list of Birds of Conservation Concern in Ireland 2020-2026[7].

Kinvara is home every year to two major festivals, Fleadh na gCuach ("Cuckoo Festival")[8] an Irish traditional music festival at the start of May, and the Cruinniú na mBád ("Gathering of the Boats")[9] in mid-August, where a flotilla of traditional Connemara boats called "Hookers" race across Galway Bay.

All members of the local community including individuals, families, schools, clubs, and other organisations are welcome and encouraged to get involved in the Kinvara Biodiversity Action Plan to enhance and celebrate our wonderful natural and built heritage.

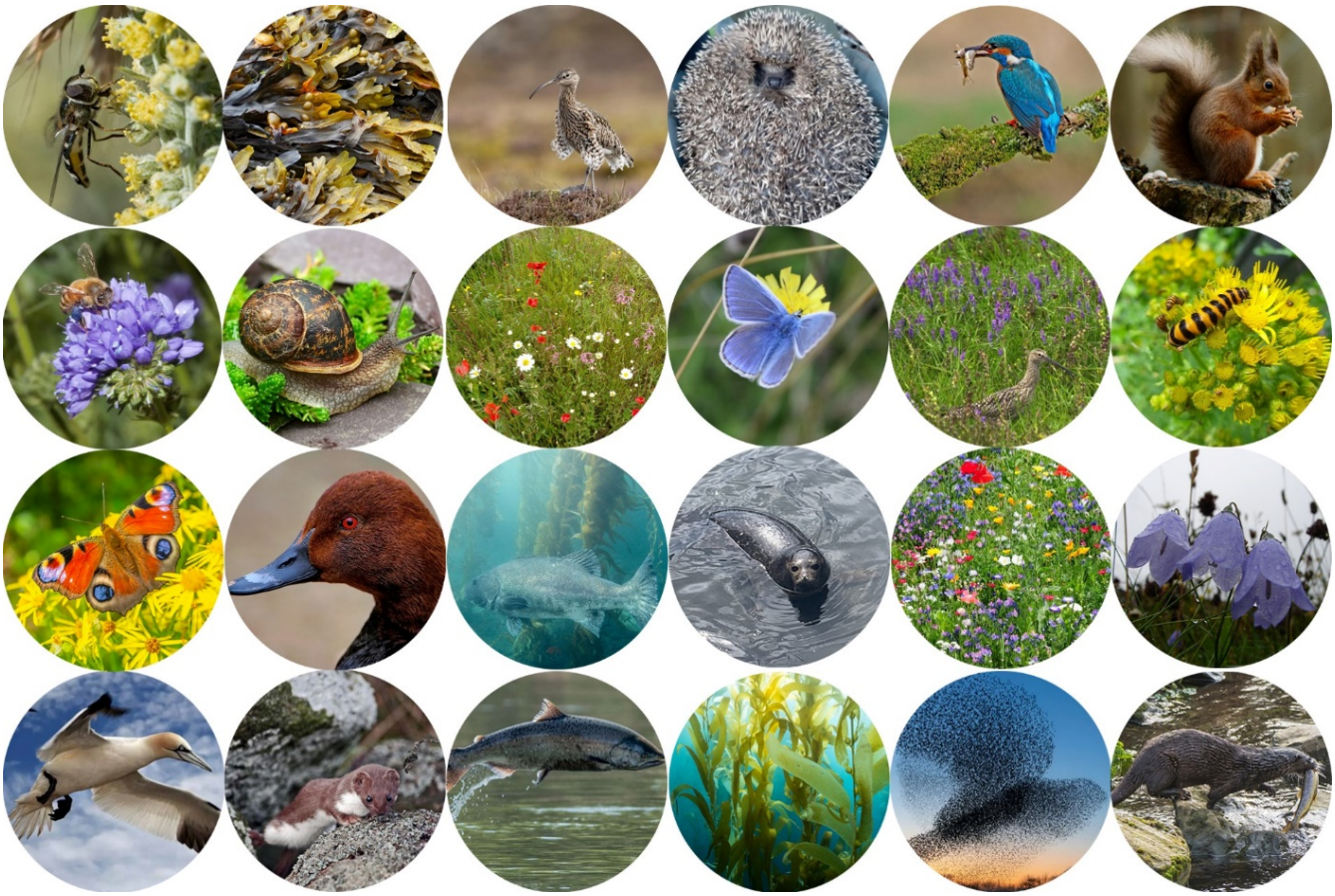
Satellite image of Kinvara Village July 2023 Insert showing location of Kinvara in Ireland.

Contents

What is "Biodiversity"

Biodiversity refers to the vast variety of life forms on Earth, encompassing all plants, animals, fungi, and microorganisms, along with their ecosystems and the genetic differences within and between species. It exists at three main levels: genetic diversity (variation within species), species diversity (the range of different species), and ecosystem diversity (variety of habitats and ecological systems).

Biodiversity plays a vital role in maintaining the planet's ecological balance. It underpins essential ecosystem services such as pollination, soil fertility, water purification, and climate regulation. For humans, it provides resources for food, medicine, energy, and materials, supporting livelihoods and economies worldwide. Cultural and spiritual connections to nature further underscore its importance.



However, Biodiversity is under severe threat due to habitat loss, pollution, overexploitation, climate change, and invasive species. These challenges disrupt ecosystems, weaken their resilience, and increase risks of extinction for countless species.

Conserving Biodiversity is critical for sustaining life on Earth. It ensures ecosystems remain functional and adaptive to environmental changes, benefiting both nature and human societies. Efforts to protect Biodiversity include establishing protected areas, sustainable resource use, restoring degraded habitats, and indeed, fostering global co-operation to address the current Biodiversity crisis.

Aims and Objectives of the Kinvara Biodiversity Action Plan (BAP)

The Kinvara Biodiversity Action Plan (BAP) is a strategic framework designed to conserve and enhance Biodiversity within and around Kinvara. Its primary aim is to safeguard ecosystems, species, and the overall diversity that are essential for maintaining ecological balance and supporting human well-being.

One of the key objectives of this BAP is to identify and protect priority habitats and species that are under threat due to human activities, climate change, or other natural causes. By focusing on the most vulnerable components of Biodiversity, these plans help prevent extinction and promote the recovery of declining populations.

Another central aim is to promote sustainable land-use practices. This BAP encourages agriculture, forestry, and urban development that minimise environmental degradation and maintain ecosystem services such as Pollination, Water Purification, and Carbon Storage.

This BAP shall also strive to engage and educate the local Community – through local Environmental groups, National Schools, Senior Schools and individuals, fostering collaboration and a sense of shared responsibility. By raising awareness about the importance of Biodiversity, this BAP aims to inspire actions that reduce harmful practices and support conservation efforts.

The BAP seeks to monitor and assess Biodiversity trends, providing data to guide policy and decision-making. This helps ensure that conservation strategies are evidence-based and adaptive to changing conditions.

Overall, this BAP serves as a vital tool in addressing the Biodiversity crisis, aiming to create a harmonious coexistence between human development and the natural world, while ensuring the resilience and safeguarding Ecosystems for future generations.

Methodology

In creating this BAP, it required a structured and evidence-based approach to identify priorities and design effective conservation strategies. To achieve this, we used the following methodology.

1. **Scoping and Objective Setting**
   Define Goals: Establish the aims of the BAP - such as protecting endangered species, restoring habitats and maintaining ecosystem services.

2. **Biodiversity Assessment**
   Inventory and Mapping: Conduct Habitat Survey to document the variety of Habitats, species, and ecosystems in the area, critical habitats, and biodiversity hotspots requiring urgent attention; and assess pressures such as habitat loss, pollution, invasive species, and climate change affecting Biodiversity.

3. **Setting Priorities**
   Selection of Focal Areas: Focus on species or habitats of high ecological, economic, or cultural value.

4. **Action Plan Development**
   Define Actions: Propose measures such as habitat restoration, species reintroduction, legislative changes, and community-based conservation. Set Measurable Targets: Establish clear goals, timelines, and indicators to monitor progress. Allocate Resources: Identify funding sources and assign responsibilities for implementation.

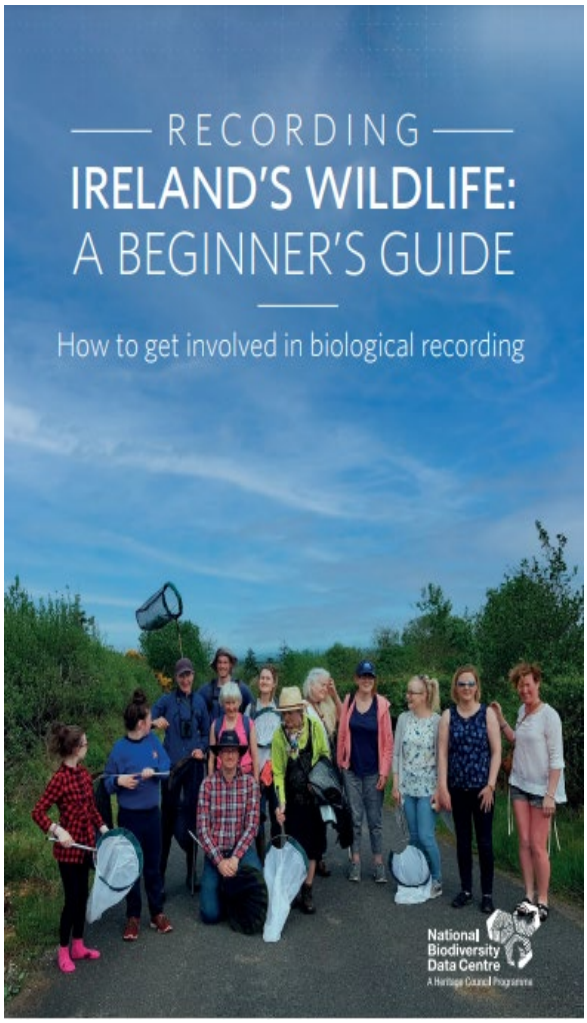
5. **Implementation and Monitoring**
   Implement Actions: Carry out the planned conservation activities.
   Monitor Progress: Regularly evaluate outcomes using established indicators and adapt the plan as needed.

6. **Review and Reporting**
   Periodically, update the BAP to reflect new data, changing priorities, and lessons learned to ensure long-term success.

Monitoring of Biodiversity

Citizen Science

Citizen science is data collection by members of the public to help answer research questions. Having a strong recording community is essential to citizen science.



So what is Citizen Science?

Citizen science is a form of scientific research in which members of the general public actively participate in collecting, analysing, or interpreting data, often in collaboration with or under the direction of professional scientists.

Key Features of Citizen Science:

- Participation of Non-Experts: People without formal scientific training contribute data.
- Collaboration with Scientists: Projects are often initiated or guided by professional researchers.
- Wide Range of Activities: Activities can include: Observing and recording natural phenomena, Collecting environmental samples, Analysing images or datasets, Testing hypotheses through experiments.
- Use of Technology: Many projects leverage smartphones, apps, and the internet for data collection, sharing, and analysis.

Main Benefits of Citizen Science

- Increased Data Collection: Harnesses large numbers of participants to gather data at scales that would otherwise be impossible for professional teams alone.
- Public Engagement: Enhances public understanding of science and creates opportunities for education and advocacy.
- Cost Efficiency: Reduces research costs by involving volunteers.
- Action-Oriented: Can lead to community-driven solutions to local issues.

Examples of Citizen Science Projects

National Biodiversity Data Centre: is a free, online and mobile resource that citizens can use to record biodiversity, view species data, maps and learn more about the natural world around them. This invaluable resource will help manage and analyse Biodiversity data, track environmental changes and help inform conservation actions. You can find out more here:

http://www.biodiversityireland.ie/

Bird Watch Ireland: Their most popular citizen science survey is the "Irish Garden Bird Survey."[11] Between December and February each year, they ask members of the public to keep note of the highest number of each bird species visiting their garden every week. As the Irish countryside changes, gardens are becoming increasingly important havens for many species, and it is vital for us to know how their populations are faring. You can find out more here:

https://birdwatchireland.ie/

eBird: A project for birdwatching enthusiasts to record and share bird sightings worldwide. eBird is among the world's largest biodiversity-related science projects, with more than 100 million bird sightings contributed annually by eBirders around the world and an average participation growth rate of approximately 20% year over year. A collaborative enterprise with hundreds of partner organisations, thousands of regional experts, and hundreds of thousands of users, eBird is managed by the Cornell Lab of Ornithology[12]. You can find out more here:

https://ebird.org/

Citizen Science and Sustainable Development Goals

Citizen Science can significantly contribute to achieving the Sustainable Development Goals (SDGs) by leveraging public participation in data collection, analysis, and decision-making. The Sustainable Development Goals (SDGs) are a collection of 17 global objectives established by the United Nations in 2015 as part of the 2030 Agenda for Sustainable Development[13]. These goals aim to address a broad range of interconnected global challenges, including poverty eradication, environmental sustainability, social equity, and economic growth, under the guiding principle of "leaving no one behind."

Here's how citizen science supports these goals:

1. **Promote Environmental Sustainability**

SDG 13 (Climate Action): Volunteers can monitor climate indicators like temperature, precipitation, and biodiversity changes.

SDG 15 (Life on Land): Citizen Scientists contribute to biodiversity inventories, deforestation monitoring, and habitat restoration.

SDG 14 (Life Below Water): Projects like Reef Check[15] involve citizens in coral reef health assessments, supporting marine conservation.

2. **Enhance Public Health and Well-being**

SDG 3 (Good Health and Well-being): Community-led projects can monitor health indicators, such as air quality (e.g. using low-cost sensors), mosquito populations (vector-borne disease tracking), and noise pollution levels.

SDG 11 (Sustainable Cities and Communities): Citizen Science initiatives can identify urban heat islands or areas lacking green spaces, contributing to healthier urban planning.

3. **Provide Critical Data for SDG Monitoring**

Many SDGs require extensive data for tracking progress, but gaps in data—especially in low-resource or remote areas—pose a challenge. Citizen science can fill these gaps by:

Collecting local data: E.g., monitoring air and water quality for SDG 6 (Clean Water and Sanitation) and SDG 13 (Climate Action).

Providing real-time insights: Citizen Science data can be more frequent and timely than traditional methods, aiding in dynamic tracking.

4. **Influence Policy and Promote Innovation**

SDG 17 (Partnerships for the Goals): Citizen Science fosters collaboration among governments, academic institutions, non-profits, and communities. The data generated can inform evidence-based policymaking and inspire technological innovations.

Examples of Success: eBird and Biodiversity Goals (SDG 15): Citizen birdwatchers provide critical data for tracking migratory bird populations, influencing conservation policies.

Habitats

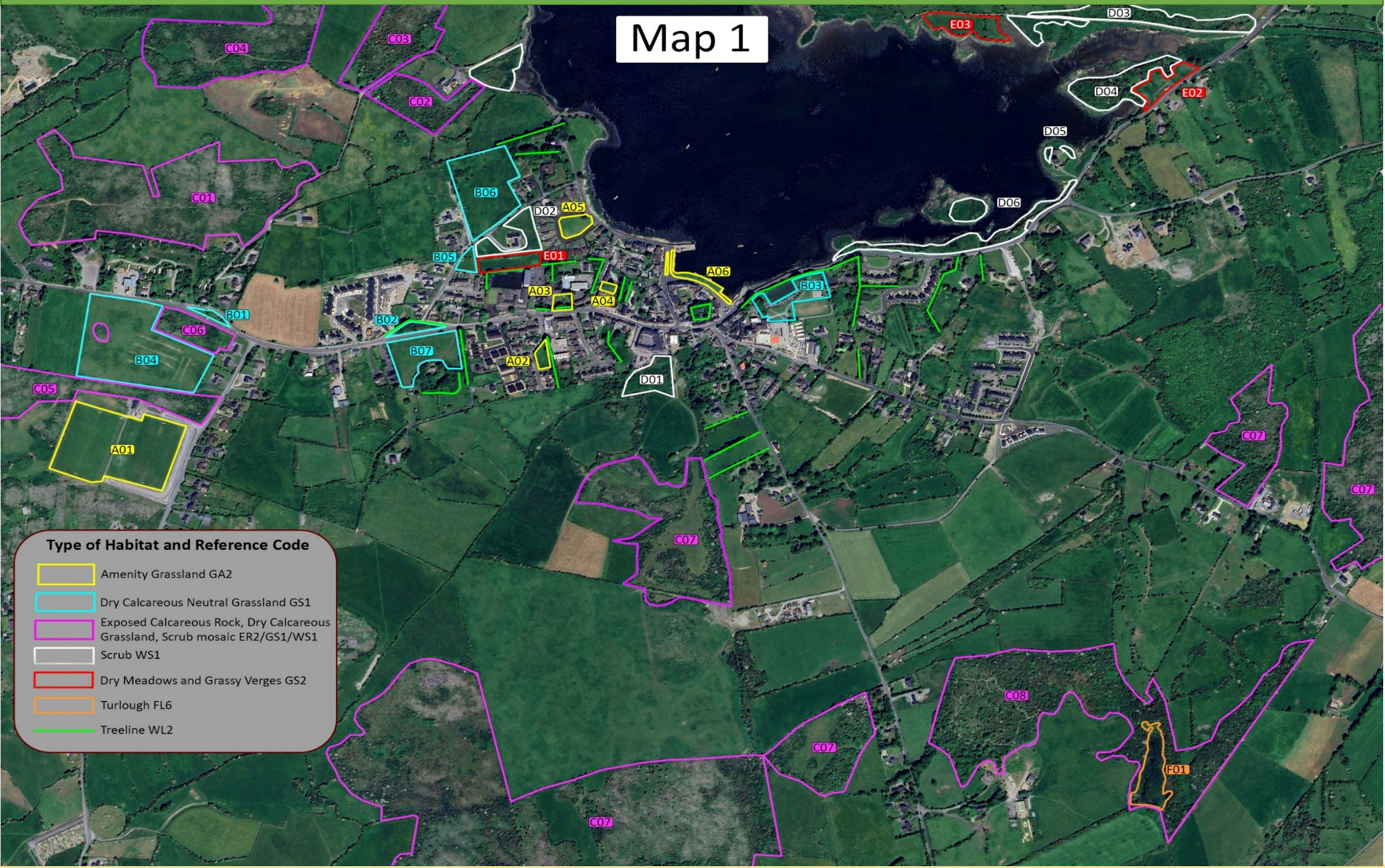
During the recent Survey commissioned by Kinvara Tidy Towns (Ecological Assessment of the Habitats in the vicinity of Kinvara – Sept 2024)[19], 10 Habitats were recorded within or directly adjacent to Kinvara Village. These Habitats are shown in the table below. The habitat classifications and reference codes correspond to those described in "A Guide to Habitats in Ireland" by Julie A. Fossitt, October 2000[20].

Several areas defined as a "Habitat" within and surrounding Kinvara Village, actually contain more than one type of Habitat, such as Exposed Calcareous Rock, Dry Calcareous Grassland, Scrub mosaic. For better visual awareness of the Habitats within and surrounding Kinvara Village, we have used satellite imagery and produced two Maps – (Map 1 and Map 2). Map 1 imagery is from May 2023 and Map 2 imagery is from March 2022. Each Habitat site identified on Map 1 and Map 2 has their own ID Codes.

Detail shown on these maps, shows all of the different types of Habitat, with the exception of Stone Walls BL1. This is due to the fact that, stone walls can be found on every single road and track within this area. However, details of some exceptional examples of Stone Walls, will be discussed at the end of the Habitat section.

Although not classed as a Habitat and not mentioned in "A Guide to Habitats in Ireland," The Burren Lowlands and its unique Karst Aquifer system are mentioned because of its very important effect on other Habitats within the Kinvara area.

Type of Habitat	Reference Codes	Map No.	ID Code
Amenity Grassland	GA2	Map 1	A01 –A06
Dry Calcareous Neutral Grassland	GS1	Map 1	B01 – B06
Exposed Calcareous Rock, Dry Calcareous Grassland, Scrub mosaic	ER2/GS1/WS1	Map 1	C01 – C08
Scrub	WS1	Map 1	D01 – D06
Dry Meadows and Grassy Verges	GS2	Map 1	E01 – E03
Turlough	FL6	Map 1	F01
Tree line	WL2	Map 1	N/A
Sheltered Rocky Shores/Mud Shore Mosaic	LR3/LS4	Map 2	G01
Upper/Lower Salt marsh mosaic	CM1/CM2	Map 2	H01 – H05
Stone Walls	BL1	N/A	N/A


Map 1
C04
C03
C02
C01
B06
D02
A05
E01
B05
A03
A04
A06
B03
B01
B02
C06
B04
B07
A02
D01
C05
A01
C07
C08
F01
E03
D03
D04
E02
D05
D06
Type of Habitat and Reference Code
Amenity Grassland GA2
Dry Calcareous Neutral Grassland GS1
Exposed Calcareous Rock, Dry Calcareous Grassland, Scrub mosaic ER2/GS1/WS1
Scrub WS1
Dry Meadows and Grassy Verges GS2
Turlough FL6
Treeline WL2

Amenity Grassland (GA2)

There is a large area on the Moy Road that contains several GAA Pitches (A01 Map 1). There are several other smaller areas within the village – Convent Park (A02 Map1), Parish Garden (A03 Map1), Memorial Garden on Glebe Road (A04 Map1), Castleview Park (A05 Map1) and the area surrounding the "The Quay" by the Harbour (A06 Map1), which are classified as amenity grassland. These grasslands are regularly cut to keep them short and have a high footfall. Due to this, these areas contain far less flora species than other grassland areas within the village.

GAA Pitches (A01 Map 1)

Memorial Garden (A04 Map 1)

The Quay (A06 Map 1)

Dry Calcareous Neutral Grassland (GS1)

A common classification within Kinvara Village is Dry Calcareous and Neutral Grassland. This is mainly due to Kinvara being situated within the Burren Lowlands. Both Holly Tree Garden (B01 Map 01) and Ballybranagan Garden (B02 Map 01) are within this classification and are maintained by Kinvara Tidy Towns, who actively manage these sites to improve them for Biodiversity and species richness.

Another excellent example of this habitat type is located within Seamount Secondary School (B03 Map1). The school participates in "No-Mow May," and as a result a rich and diverse habitat has emerged, which is characterised by several species of Orchid, as well as some calcareous-loving species.

Several other fields on the perimeter of the village – north of the GAA Pitch (B04 Map1), Nun's Orchard Field (B05 Map1), the field to the north of the Convent Road (B06 Map1) and the field opposite Holly Tree Garden (B07 Map1) fell into this classification. Some of the habitats were more species rich and diverse than others and a number of these habitats could be improved by management.

Nun's Orchard field, which was being grazed by horses during the survey, is an important feature of the habitat classification and can be a valuable management practice. Meadow management and mowing regimes are also important for these habitat types.

Ballybranagan Garden (B02 Map 01)

Holly Tree Garden (B01 Map 01)

Area of species-rich Calcareous Grassland in the grounds of Seamount College (B03 Map 1)

Common Spotted and Bee Orchid (foreground) and Pyramidal Spotted Orchid (background) in the grounds of Seamount College (B03 Map 1)

Exposed Calcareous Rock, Dry Calcareous Grassland, Scrub mosaic ER2/GS1/WS1

There are large areas of this mixed habitat within the Kinvara Village area and indeed the wider Burren Lowlands. The Exposed Calcareous Rock manifests itself mainly as Limestone and in particular Limestone pavement. Limestone Pavement is a priority habitat, which is listed under Annex I of the EU habitat directives. These outbreaks of Exposed Calcareous Rock, within the Kinvara area, always appear in areas of Dry Calcareous Grassland and Scrub mosaic.

Large areas of unspoilt Limestone Pavement within this type of habitat can be seen on the road leading down to the Wastewater treatment plant – which starts at Ballybranagan Garden and terminates at the sea (C01, C02, C03 and C04 Map 1). Species such as Juniper, Holly, Blackthorn and Bramble are common features of this rocky habitat. Some of this area falls within lands designated as part of the Galway Bay Complex SAC 000268.

Other Similar Habitat types were identified: the field between the GAA grounds (C05 Map 1) and the proposed Hockey pitch site; the area of land between the Hockey Pitch land and the N67 National Route; and in the vicinity of the stone circle which is at the western end of the proposed Hockey Pitch (C05 Map 1). All of these areas contained Dry Calcareous Grassland and Scrub mosaic but very little Calcareous Rock is present.

Large areas of Exposed Calcareous Rock, Dry Calcareous Grassland, and Scrub mosaic can be found to the south and east of Kinvara Village (C07 Map1). These areas contain only small pockets of Exposed Calcareous Rock, mainly in the form of rocky outcrops. An area of note of this type of habitat lying just over 1Km from Kinvara Village and to the east of the L4508, within the Burren Nature Sanctuary, contains a Turlough (C08 Map 1).

Limestone Pavement along the Ballybranagan Road (C01 Map 1)

Limestone Pavement between the GAA grounds and the Proposed Hockey Pitch grounds.
(C05 Map 1)

Species-rich Dry Calcareous Grassland in field near the GAA Pitch and Proposed Hockey Pitch.
(C06 Map 1)

Scrub (WS1)

Scrub is essentially, transitional woodland in an early stage of succession from grassland to woodland. Scrub is generally less than 5m tall and can comprise of a mixture of different species, such as Bramble, Gorse, Hawthorn, Blackthorn, Willow and Hazel. Scrub occurs quite naturally but can also form easily, if an area of habitat is no longer managed or grazed for some time.

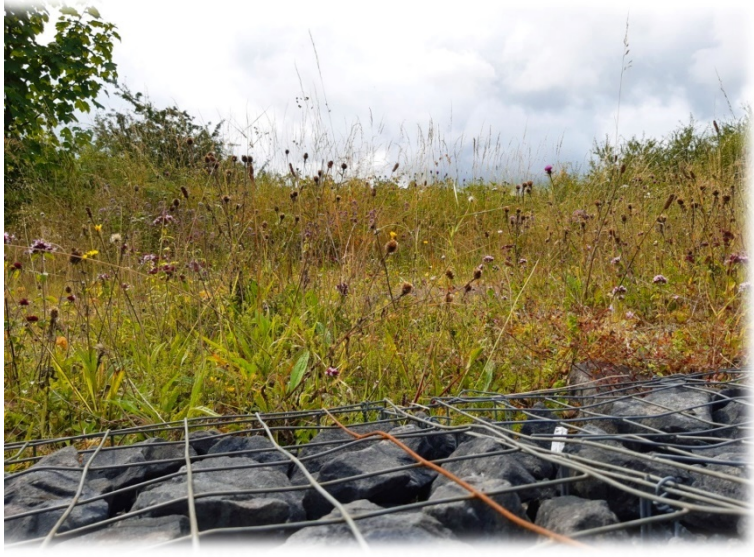
The areas of Scrub that have been identified in and around Kinvara Village, are in various stages of growth. Some have only recently become Scrub and other areas have been this way for many years. This is likely due to these areas being previously managed, probably for grazing purposes. The longer they have been left the more overgrown they have become, subsequently becoming more diverse and therefore supporting more insects, small mammals and birds.

An area of Scrub exists at the back of the Eurospar car park (D01 Map 1) and also in the field to the north of Nun's Orchard along the Convent Road (D02 Map 1).

Large areas of scrub have been identified east of Kinvara Castle, both to the north of a shallow inlet (D03 Map 1) and the south of the inlet (D04 Map 1). Scrub can also be found surrounding Dunguaire Castle (D05 Map 1) and extensively along the edge of the shoreline from Dunguaire Castle, along the N67 and on several coastal islands/rocky outcrops within Kinvara Bay (D06 Map 1).

Unmanaged field, which has become colonised by Bramble scrub on the Convent Road. This has now become a very valuable habitat for insects, small mammals and birds (D02 Map 1).

Area of mature scrubland and transitional woodland at the southeast corner of Kinvara Bay (D04 Map 1)



Scrubland to the rear of the Eurospar Carpark (D01 Map 1)

Dry Meadows and Grassy Verges (GS2)

There are several areas within Kinvara Village that can be adequately classified as Dry Meadow and Grassy Verges. These are mainly created from previously managed areas of grassland by prolonged grazing or cutting, but have now been left. There is one adjacent to Nun's Orchard (E01 Map 1). The other two areas are to the east of the southern part of Kinvara Bay. One is next to the N67 road (E02 Map 1) and the other to the north along the shoreline (E03 Map 1).

These areas contain a higher amount of Tussock or Rank grasses and are generally present along with tall herbs or climbing plants. Some of the habitats to the east of the southern part of Kinvara Bay are within the Galway Bay Complex SAC 000268.

Area of Dry Meadow and Grassy Verges southeast corner of Kinvara Bay (E02 Map 1)

Turlough (FL6)

There are many Turloughs within the Burren Lowlands, including one that is just over 1Km from Kinvara Village (F01 Map 1). Turloughs are ephemeral lakes that occupy basins or depressions in limestone areas, and where water levels fluctuate markedly during the year. They are virtually unique to Ireland and the general pattern is to flood in winter and dry out in summer, but there may be other sporadic rises in response to high rainfall.

Turloughs normally fill through underground passages and sinkholes but some also have inflowing rivers or streams. Some Turlough basins retain standing water in channels, pools or small lakes when flooding subsides. All areas within the normal limit of flooding are considered as part of the Turlough habitat.

Satellite imagery of the Turlough at The Burren Nature Sanctuary. The first image is taken during the height of summer, and the second image is taken during winter after prolonged rainfall.

The image above clearly shows that even during summer, water remains, giving to a unique and diverse habitat.

Tree line (WL2)

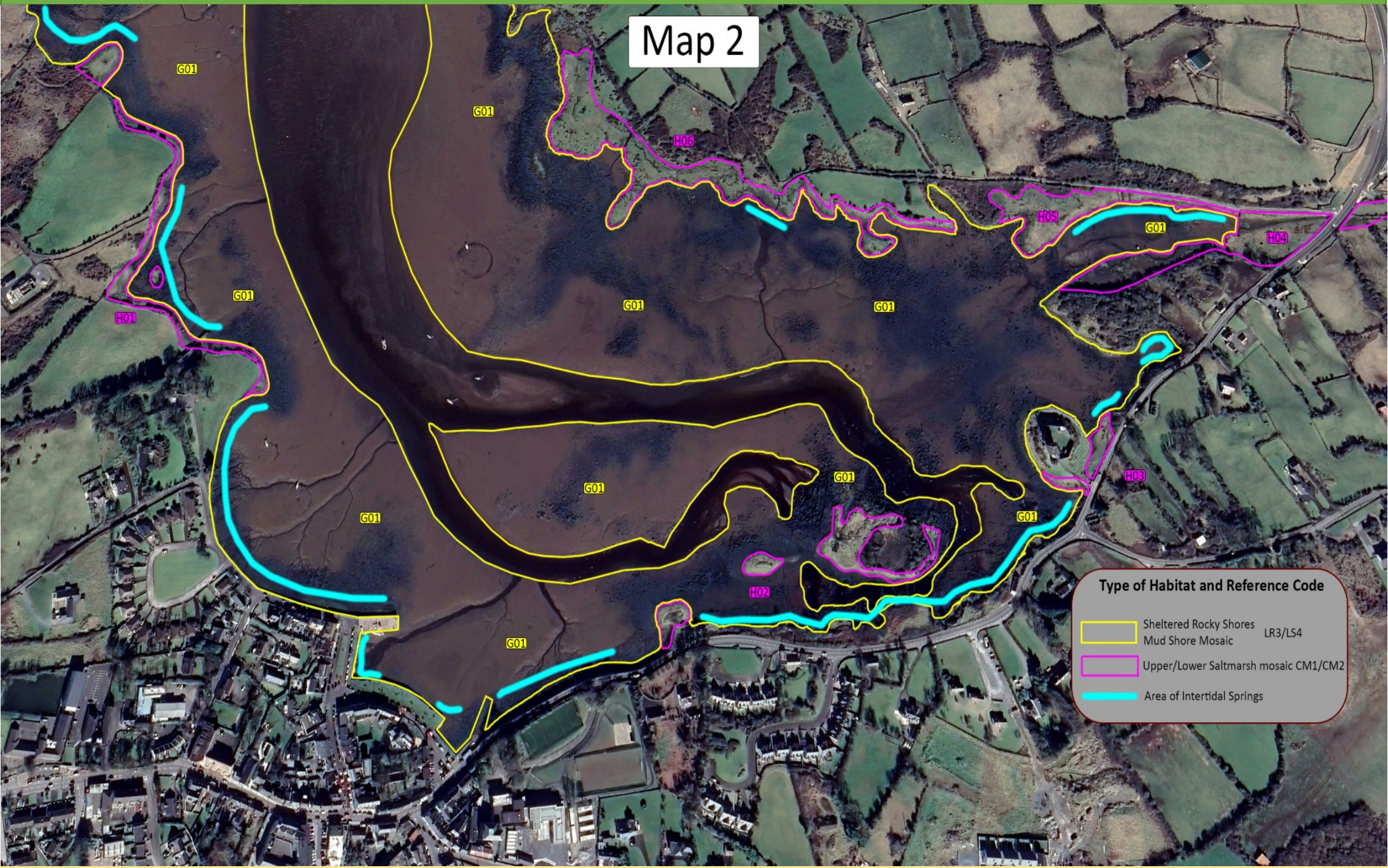
Numerous mature tree lines are present within Kinvara Village. These include Holly Tree Garden, around Convent Park, surrounding the Memorial Garden, within Millennium Garden, surrounding St. Coman's Church, and in the grounds of Seamount College. These tree lines and others not mentioned here can be identified by green lines on Map 1.

Large individual trees are also present in various locations within the village, including ones growing in private gardens – these individual trees are not shown on Map 1. The most commonly encountered species within this habitat type are Sycamore, Horse Chestnut, Beech and Ash.

Mature trees on Main Street, Kinvara, beside St. Joseph's Church

Tall trees around the boundary of Seamount College

Tall trees to the rear of the Memorial Garden


Map 2
G01
H01
H02
H03
H04
H05
H06
Type of Habitat and Reference Code
Sheltered Rocky Shores Mud Shore Mosaic
LR3/LS4
Upper/Lower Saltmarsh mosaic CM1/CM2
Area of Intertidal Springs

Sheltered Rocky Shores/Mud Shore Mosaic LR3/LS4

Kinvara has an extensive shoreline on the southern part of Kinvara Bay with several types of marine habitat, including Sheltered Rocky Shores and Mud Shores (G01 Map 2). The Mud Shore is visible at each low tide, and surrounded by Sheltered Rocky Shoreline, interspersed with large rocks and many boulders.

Inland of these marine habitats, are areas that occupy the Intertidal zone. In Kinvara Bay, there are large strips of this area classified as Upper/Lower Salt Marsh. Salt marsh habitats are comprised of a collection of species that are tolerant of the salty conditions that come with tidal inundation and tidal splash.

Several sections of salt marsh vegetation are evident to the north and south of Kinvara Wastewater Treatment Plant (H01 Map2). Several other smaller sections can be found at the southern margins of Kinvara Bay including several coastal islands (H02 Map 2), and around Dunguaire Castle (H03 Map 2).

Three more extensive sections of salt marsh are present just to the north of Dunguaire Castle and in the south-eastern section of Kinvara Bay. One section is at the point where a culvert allows run-off of both fresh water during heavy rains and the passage of tidal water under the N67 during Spring tides or storm surges (H04 Map 2). There is a section that lies adjacent and to the north of this (H05 Map2). The largest area of salt marsh runs for approximately 700 metres, along the northern edge of the southern section of Kinvara Bay (H06 Map 2).

Stone Walls (BL1)

Nearly all roads and boreens, in Kinvara Village and the surrounding area, are flanked by stone walls. Some of these walls date back centuries, whilst others have been recently erected. There are varying types of walls, such as sea walls, jetties and piers; walls to old buildings such as Dunguaire Castle; and dry stone walls and modern mortar walls. On the outskirts of the village, these stone walls are vital for the management of livestock and for property boundaries. The sea walls evident all along the coast of the village play an important role in sea defence of the village and are over 4m tall in places. In photo SW001 you can see an abundance of Red and White Valerian growing on the sea wall between the Quay and Dunguaire Castle.

Photo SW001

Photo SW002

Typical wall vegetation is present on many of these walls. Ferns are one of the most common plants on this vertical habitat. Five species of fern can be seen on virtually all the walls of Kinvara namely, Rustyback Fern, Wall Rue, Maidenhair Spleenwort, Hart's Tongue and Polypody. In addition, broadleaf herbs such as Herb Robert, Navelwort, Wall Lettuce, Shiny Cranes-bill, Rue-leaved Saxifrage, Wall Pennywort, Pellitory-of-the-wall and Pearlwort can all be found on the stone walls in Kinvara. In Photo SW002 you can see Rustyback Fern and Maidenhair Spleenwort.

Many of the older walls in Kinvara were built using old dry stone walling techniques. This is an ancient and highly skilled technique, whereby walls are constructed in the absence of mortar. Dry stone walls provide very valuable habitats for many species of flora and fauna. These walls have cracks and crevices which create niches for many species such as insects, spiders, woodlice, bees, moths, butterflies, wasps, mammals and reptiles. In addition the holes in its structure allow smaller animals such as mice, shrews, stoats, hedgehogs, rabbits and hares to pass through and into adjacent habitats on the other side. In contrast to this, solid walls often create barriers for mammals moving between habitats and accessing resources within their territories. Photo SW003 shows typical dry stone walls that were first erected hundreds of years old and have been maintained by successive generations of farmers.

Photo SW003

The vegetation is maintained in various ways, depending on who owns the property on which the stone walls are located. In some cases it is cut-back or removed completely. Another factor in the flora present is environmental conditions. For example, the extensive stone walls along the shoreline have a clear marine influence associated with them, which lends itself to a wall of flora community of vascular plants above the salt spray zone. Structures such as Dunguaire castle and the pier are also interesting structures that have old wall flora associated with them. Photo SW004 shows Red and White Valerian, interspersed with Dandelions, growing on the sea wall between the Quay and Dunguaire Castle.

and Red species walls abundant.

Photo SW005

are barely safety adjacent SW005 this route.

The high walls around Seamount College are overgrown with Ivy, Bramble, Stinging Nettle Valerian. Several non-native and invasive are present growing within or on top of the especially Snowberry and Griselinia, which are Privet is also recorded occasionally. The vegetation is so dense in places, that the walls visible. It is cut and maintained regularly, for reasons to maintain sight lines, particularly to the N67 that passes through Kinvara. Photo shows the stone walls are barely visible along

Photo SW006

Some of the best examples of Kinvara's wall vegetation can be found on the walls approaching the Community Centre on Glebe Road and on the walls surrounding the Millennium Garden. A wide diversity of species was recorded on these walls including Polypody, Rue-leaved Saxifrage, Wall Lettuce, Rustyback Fern, Ivy, Herb Robert, Maidenhair Spleenwort, Navelwort and Petty Spurge – See Photo SW006 (Left). These walls are actively encouraged to grow these diverse species. Photo SW006 shows Wall Pennywort (top right) and Pellitory-of-the-Wall (bottom right).

Stone walls now play a surprisingly important role in ecosystems, both in rural and natural landscapes. These structures, often built for agricultural or boundary purposes, provide essential habitats, influence microclimates, and contribute to biodiversity in the following ways:

1. **Habitat for Wildlife**

   Shelter: Stone walls offer hiding places for small mammals, reptiles, amphibians, and insects. For instance, lizards and snakes often bask on sun-warmed stones and retreat into cracks for safety and to regulate their body temperature. Nesting sites: Birds, such as wrens or robins, may nest in gaps within the walls.

2. **Corridors for Movement**

   Stone walls serve as natural corridors for wildlife to move safely across otherwise open terrain. This is especially vital in fragmented habitats where continuous stretches of vegetation or shelter are limited.

3. **Promoting Biodiversity**

   The variety of microhabitats within and around a stone wall allows for the coexistence of numerous species. Mosses, ferns, and lichens often colonise the stones, creating a miniature ecosystem. Insects that live in the wall support larger species, like birds and small mammals, promoting interconnected ecological networks.

4. **Regulating Microclimates**

   Stone walls absorb and retain heat during the day, creating warm microclimates that benefit temperature-sensitive species like reptiles and certain plants. By providing shade and cooler refuges in crevices, they help species survive extreme weather conditions.

5. **Preventing Soil Erosion**

   Walls can act as barriers that slow water flow and reduce soil erosion, indirectly supporting plant and microbial life in the surrounding area.

6. **Seed Dispersal and Plant Growth**

   Crevices in Stone Walls often trap soil and organic matter, allowing seeds to germinate and grow. Over time, this can create a mix of native plants that support pollinators and herbivores.

7. **Cultural and Historical Significance**

   Stone walls are often remnants of historical land use and serve as records of human interaction with nature. Maintaining them can support traditional landscapes and their associated species.

In essence, stone walls are more than just physical boundaries; they are living elements of the landscape that contribute significantly to the ecological balance and biodiversity as a whole.

Karst Aquifer

Whilst not a habitat in itself, the Karst Aquifer system[21] of the Burren Lowlands, plays an important role in the habitat of Kinvara Bay, influencing its ecosystem in various ways.

Water from the northern part of the Slieve Aughty Mountain range runs through the Burren Lowlands in streams, rivers, loughs, turloughs and finally through underground conduits, which can be up to 40 m^2, into Galway Bay. The majority of which, enters Kinvara Bay through underground intertidal springs by Dunguaire Castle and various other smaller springs around Kinvara Bay, including in the Harbour in Kinvara. They are clearly visible at low tide, but are fully submerged at high tide.

Example of a Limestone Karst Aquifer conduit

The Western Springs near Dunguaire Castle

Kinvara Bay is also fed by freshwater from the Burren National Park. It flows through several loughs and turloughs (including Lough Bunny, and Coole-Garryland turlough), as well as springs, estavelles, and underground conduits. The springs in the intertidal zone at Kinvara, have an estimated mean discharge of 12 cumecs /12,000 Litres per Second. That is the equivalent of three Olympic sized swimming pools every 3 ½ minutes. No streams or rivers flow over ground into the sea at Kinvara or Galway Bay from the Burren Lowlands. This happens nowhere else in Ireland and is only known to happen in several other places in the world.

Outflow in Kinvara Harbour at low tide.

Key factors of the importance of the Karst Aquifer system of the Burren Lowlands are:

1. Hydrological Connection

- The Burren lowlands are characterised by Karst landscapes, which are Carboniferous Limestone formed between 363 and 325 million years ago. This geology allows water to flow through underground conduits, emerging from caves and disappearing again through fissures.
- This Karst system feeds Kinvara Bay with nutrient-rich freshwater through springs and submarine discharges, particularly from sources like the Poulnabrone turloughs and Pollnagollum cave systems via underground conduits.
- The freshwater input regulates salinity levels in the bay, creating a unique brackish habitat.

View across the Burren Lowlands towards the Slieve Aughty Mountain range.

2. Nutrient Enrichment

- The water flowing from the Burren lowlands carries dissolved nutrients and organic matter from the surrounding landscape, enriching the bay's waters.
- This nutrient influx supports primary production and benefits marine organisms like plankton, fish, and shellfish.

3. Biodiversity Support

- Kinvara Bay hosts a variety of habitats, including intertidal mudflats, salt marshes, and sub-tidal zones. The brackish water environment created by the Karst aquifer outflow is critical for species adapted to fluctuating salinity levels within the Bay.
- It provides an essential feeding ground and nursery area for fish and bird species, enhancing regional biodiversity.

4. Water Quality and Purity

- The Burren Lowlands Karst aquifer can deliver water of high purity to downstream ecosystems via springs on Kinvara Bay, as long as it remains unpolluted along its course by human activity.
- This clean water is crucial for maintaining the health of sensitive marine habitats and the whole Ecosystem within Kinvara Bay.

5. Resilience to Environmental Changes

- The connection between the Burren lowlands and Kinvara Bay ensures that the bay receives a consistent supply of water, even during dry periods, due to the buffering capacity of Caherglassaun turlough (see photo to the right).
- This hydrological resilience supports the bay's ecosystem against climate variability.

6. Cultural and Economic Importance

- The ecological health of Kinvara Bay, sustained by the Burren's Karst aquifer, supports local fishing, aquaculture, and tourism, which provides significant income for the community as a whole.

Key Concerns

- **Pollution** from agricultural runoff, septic tank systems, and land use changes can quickly infiltrate the karst aquifer system and impact Kinvara Bay.
- Sustainable management of the Burren lowlands is essential to maintain the balance and protect the bay's habitats.

In summary, the Karst aquifer in the Burren lowlands is integral to the ecological and hydrological functioning of Kinvara Bay, fostering biodiversity, supporting local livelihoods, and sustaining a unique habitat shaped by its connection to the Carboniferous Limestone-dominated landscape.

Flora – Wild Flowers

Kinvara's various habitats support many different species of plants - Trees, Shrubs, Grasses and of course an abundance of wildflowers. Whilst Kinvara Tidy Towns' recent publication "Ecological Assessment of the Habitats in the vicinity of Kinvara", lists all of the species found in different locations, we wanted to highlight some of wildflowers that are growing in grassland areas.

Wildflowers play a vital role in grassland ecosystems by supporting biodiversity, ecosystem stability, and soil health. They give pollinator support to bees, butterflies, and other pollinators, which are essential for plant reproduction and maintaining food chains. They provide habitat and food for a wide variety of insects, birds, and small mammals, increasing species diversity. Wildflowers help prevent soil erosion by stabilising the ground with their roots. Some species also fix nitrogen, enriching the soil for other plants. They enhance grassland resilience against climate change by supporting adaptive ecosystems and improving water retention in the soil. Beyond ecological benefits, wildflowers contribute to the beauty of grasslands, supporting ecotourism and cultural traditions.

The two largest grassland areas where Wild Flowers can be found, are Holly Tree and Ballybranagan Gardens, located on the N67 heading west out of Kinvara (B01 and B02 on Map 1).

Of special note on these sites, are large quantities of Pyramidal Orchids – *(Anacamptis pyramidalis).* These Orchids are a very special wildflower, as you cannot just simply sow them. The tiny Orchid seeds contain no nutrients for them to germinate effectively, so the seeds need to land into soil where a mycorrhizal fungi is present. This symbiotic relationship gives the Orchid food to thrive and the Fungus somewhere to live.

They can take several years before they flower and indeed a decade to mature to the point of producing viable seeds. They can remain hidden in mown grass - only being able to flower when mowing stops. Whilst they are common around Kinvara, their presence is the envy of wildflower meadow growers nationwide.

Other species found at these sites are (but certainly not limited to) are:

Heath spotted Orchid
(Dactylorhiza maculate)

Field Scabious
(Knautia arvensis)

Devil's bit Scabious
(Succisa pratensis)

Creeping Buttercup
(Ranunculus repens)

Lady's Bedstraw
(Gallium verum)

Selfheal
(Prunella vulgaris)

Common Knapweed
(Centaurea nigra)

Ox Eye Daisy
(Leucanthemum vulgare)

Perforate St. John's Wort
(Hypericum perforatum)

Bird's Foot Trefoil
(Lotus corniculatus)

Yarrow
(Achillea millefolium)

Yellow Rattle
(Rhinanthus minor)

Flora – Invasive Species

According to the Biodiversity Data Centre, Ireland has 1280 non-native species[22], although most of them are described as harmless, 13% are spreading and becoming harmful. The table in Fig. 4.1 below, lists the invasive or potentially invasive species that have been recorded within the Kinvara hinterland. It can be seen from the table below that there is no data on several of the species that are potentially invasive. All of the species on the table were introduced as garden species and have escaped into the wild. This is a massive problem as the knowledge and understanding of invasive species is often decades behind the introduction of these species.

Common Name trees/shrubs	Scientific Name	Status BDC
Butterfly Bush	*Buddleja davidii*	Medium impact
Travellers joy/Old Man's Beard	*Clematis vitalba*	Medium impact
Cotoneaster	*Cotoneaster sp.*	Medium Impact
Staghorn/Sumac	*Rhus typhina*	No data
Flowering Currant	*Ribes sanguineum*	No data
Snowberry	*Symphoricarpos albus*	Low impact
Common Name broadleaf herbs	**Scientific Name**	**Status**
Red Valerian	*Centranthus ruber*	Low impact
Montbretia	*Crocosmia x crocosmiiflora*	Low impact
Spanish Bluebell	*Hyacinthoides hispanica*	Low impact
White Stonecrop	*Sedum album*	No data
Winter Heliotrope	*Petasites fragrans*	Low impact

Fig. 4.1 Table showing invasive species currently recorded in the Kinvara hinterland.

Butterfly Bush

Butterfly Bush (*Buddleja davidii*) is a non-native shrub that has escaped from gardens and is now well established in Ireland. It is described as a medium impact invasive species on the Biodiversity Data Centre Website. It was recorded on limestone pavement near Ballybranagan Road (Fig. 4.2) and in the field between the GAA pitch and the proposed Hockey Pitch field. In addition, B.davidii was recorded on Convent Park Road. The open rocky habitats of the Burren are similar to Buddleia's preferred habitat of abandoned rocky areas, or disturbed ground. This species has the potential to negatively impact the delicate ecosystems that are unique to the Burren. B.davidii has been promoted as a species that is valuable for wildlife, as it is known to attract butterflies and other pollinators; however, given the proximity of the Burren, the negatives of this species could likely outweigh the positives.

Fig. 4.2 B.davidii growing on limestone pavement near Ballybranagan Road

Old Man's Beard

Old Man's Beard is described as a 'Rampant deciduous Climber' (Stace, 2001) which can grow up to 30m. This species is very common in the wider area and is becoming established on the outskirts of Kinvara. The vines can spread out over other vegetation and form dense canopies smothering the species beneath (Fig 4.3). Several small individuals were noted on Convent Park Road (Fig. 4.4). It may be possible to eradicate this species here as it is in a very early stage of colonisation.

Fig. 4.3 Old Man's Beard overtaking an apple tree

Fig 4.4 Old Man's Beard taking root along Convent Park Road

Cotoneaster

There are up to 100 species of Cotoneaster cultivated in Ireland; however there are a much smaller number which are considered to be invasive. These include Hollyberry Cotoneaster (*Cotoneaster bullatus*), Entire-leaved Cotoneaster (*Cotoneaster integrifolius*), Small-leaved Cotoneaster (*Cotoneaster microphyllus*), Himalayan Cotoneaster (*Cotoneaster simonsii*) and Cotoneaster (Cotoneaster horizontalis).

The seeds are easily spread by birds and therefore the plants can colonise a wide area very quickly. A species of Cotoneaster was noted in the corner of Holly-Tree Garden during the Ecological Assessment of the Habitats in the vicinity of Kinvara Survey 2024. This individual seems to have spread across the road from a garden where it is growing on a wall. The plant resembles closely the Small leaved Cotoneaster (*Cotoneaster microphyllus*). Cotoneaster has been recorded in a number of places and is spreading into numerous habitats around the village.

In addition to the plants in Holly Tree Garden, it was noted on the limestone pavement areas between the Hockey Pitch and the GAA pitch - possibly spread from a garden on the Moy Road directly opposite to the GAA grounds and on the limestone pavement along Ballybranagan Road (Fig 4.5). A large bed entirely dominated by Cotoneaster was also present in a long rectangular bed at the rear entrance to the Eurospar.

Fig. 4.5 Cotoneaster on limestone pavement.

Fig. 4.6 Cotoneaster at entrance to Eurospar Car Park.

Snowberry

Snowberry is a shrub from Western America which is established and widespread in Ireland. It spreads extensively by means of suckers, where it can form a dense thicket displacing native species. It produces tiny pink funnel-shaped 5-petalled flowers (4-6mm across) in short, terminal racemes from June to September.

Its oval leaves are small and un-toothed. In autumn it has round white berries (1.5-2cm diameter) which contain 2 seeds. The leaves of Snowberry are a larval food-plant of the Death's Head Hawkmoth. The berries are poisonous to humans but pheasants and grouse are known to eat them.

This species was recorded growing next to the wall in the Memorial Garden (Fig. 4.7), which has now been removed, and on the road to Ballybranagan where it has spread along a large section of hedgerow on the eastern side of the road (plate 3.19). In addition a dense growth of Snowberry was noted within the grounds of Seamount College.

Fig. 4.7 Snowberry in Memorial Garden

Fig. 4.8 Snowberry along wall on Ballybranagan Road

Sumac Species

A species of Sumac was also noted at the western end of the study site just west of Ballybranagan (Fig. 4.9). Although no data is available for this deciduous shrub on the National Biodiversity Data Centre website, the species is considered to be invasive in the UK.

Fig. 4.9 Sumac near Ballybranagan, Kinvara

Montbretia

Montbretia (Crocosmia x crocosmiflora) is very commonly planted in gardens. It is considered low impact on the National Biodiversity Data Centre website. Montbretia spreads via corms and can completely dominate habitat to the exclusion of the native flora. This species was recorded along the woodland path adjacent to the Kinvara Playground (Fig. 4.10), in a flowerbed opposite this woodland area and in a flower bed where the Quay meets the Green road (now removed).

Fig. 4.10 Montbretia along the woodland path adjacent to Kinvara Playground

Redcurrant, Red Valerian and White Stonecrop

Three non-native and possibly invasive species were particularly prominent on the eastern side of the village along the stone walls above the areas of tidal influence. These were Redcurrant, Red Valerian and White Stonecrop.

Redcurrant has been described as naturalised, however the National Biodiversity Data Centre has described it as established but 'not-assessed' in terms of its invasiveness.

Red Valerian has been described as low risk in terms of its impact, however the proximity of the Burren habitat is concerning as this species is becoming established there and could dominate large section of habitat displacing other Burren wildflowers (Fig. 4.11)

For similar reasons, the non-native White Stonecrop could become problematic in the Burren. This species can be frequently seen along walls and rocky areas within the Kinvara hinterland.

White Stonecrop

Flowering Red Currant

Red Valerian

Winter Heliotrope

This species was recorded along Nally's Lane and Ballybranagan Lane. It is considered low impact on the National Biodiversity Data Centre website. Originally it was introduced as an ornamental species due to its attractive flowers and also its spreading habit makes excellent ground cover. However it will completely overshadow other native species and its growth needs to be managed wherever it is spotted. Fortunately it only spreads vegetatively and not by seed, so its growth is confined to where it is found.

Spanish Bluebell

This species was recorded along the southern section of N67 road occasionally between Ballybranagan Garden and Holly Tree Garden (Fig. 4.12). Although this species was encountered occasionally it may be more abundant than the Ecological Assessment suggests as it flowers between April and June. The survey took place towards the end of its flowering period. This species is thought to be a risk to native Bluebells (Hyacinthoides non-scripta), which are more delicate looking with drooping flowers. Spanish Bluebell mostly spreads by planting and is difficult to eradicate once it becomes established due to the corms remaining in the soil and re-sprouting. They can hybridise with native Bluebells.

Fig.4.12 Spanish Bluebell along N67

Fauna – Mammals

Five species of Bat have been recorded in the vicinity of Kinvara town - The Brown Long-eared Bat, Common Pipistrelle, Soprano Pipistrelle, Lesser Noctule and Natterer's Bat. All bats are protected under Annex IV of the EU habitat directive with the exception of Lesser Horseshoe Bat, which is afforded a higher level of protection under Annex II.

Fig 7.1 Brown Long Eared Bat

Fig. 7.2 Common Pipistrelle

Fig. 7.3 Soprano Pipistrelle

Fig. 7.4 Lesser Noctule

Fig. 7.5 Natterer's Bat

Other species of Mammal that have been recorded in the Kinvara area are Fox, Badger, Stoat, Pygmy Shrew, Otter, and Hedgehog. Of these species, Otter has the highest protection under Annex II of the EU habitat directive and all others are listed in Annex IV.

Several other species such as Red Deer, Rabbit, Hare, Brown Rat, Wood Mouse, House Mouse, and indeed the invasive Common Vole, White-toothed Shrew and Mink are all likely to be present within the Kinvara area at least on occasion.

Fig. 7.6 Fox in field behind Convent Park

Fig. 7.7 Otter with crab along Kinvara Bay Shoreline

Fig. 7.8 Hedgehog at Kinvara Community Centre

Fig. 7.9 Hare on Seaweed in Kinvara Bay

Fauna – Birds

Due to the immensely rich environment and ecosystem, Kinvara Bay has seen a high number of Bird Species over the years, including some important Breeding Species. However, in recent years numbers of many species of Birds have declined. A Global survey by Birdlife International in 2022[23], found that 60-65% of Birds in Ireland, are in decline. Within this, an alarming 25% are listed as in severe decline. By far the biggest drop in number of birds is within the Wetlands and Shoreline Birds, but other birds have also suffered recently.

Kinvara Bay forms a large part of the Inner Galway Bay Special Protection Area (SPA) 004031[24] which is a very large, marine-dominated site situated on the west coast of Ireland. Kinvara Bay, along with Aughinish and Muckinish Bays are somewhat protected from exposure to Atlantic swells by the Aran Islands and Black Head. Further protection is afforded by the narrow inlets to these bays.

Kinvara Bay adds texture to the patterns of water movement and sediment deposition, which lends variety to the marine habitats and communities. The Carboniferous Limestone platform of the Burren Lowlands conceals conduits that allow runoff from the Slieve Aughty Mountains to enter Kinvara Bay via intertidal springs at the southern end of the Bay. The long shoreline is noted for its diversity, and comprises complex mixtures of bedrock shore, shingle beach, sandy beach and fringing salt marshes. Intertidal sand and mud flats occur around much of the shoreline.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive[25], of special conservation interest for the following species: Black-throated Diver, Great Northern Diver, Cormorant, Grey Heron, Light-bellied Brent Goose, Wigeon, Teal, Red-breasted Merganser, Ringed Plover, Golden Plover, Lapwing, Dunlin, Bar-tailed Godwit, Curlew, Redshank, Turnstone, Black-headed Gull, Common Gull, Sandwich Tern and common Tern. All of which can be seen along the varying types of Coastline of Kinvara Bay and on the Water of the Bay. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated water birds are of special conservation interest.

Kinvara Bay supports internationally important wintering populations of Great Northern Diver, Light-Bellied Brent Goose and nationally important wintering populations of many other additional species including Black-throated Diver, Cormorant, Grey Heron, Wigeon, Teal, Red-breasted Merganser, Ringed Plover, Golden Plover, Lapwing, Dunlin, Bar tailed Godwit, Curlew, Redshank, Turnstone, Black-headed Gull, Common Gull, Little Grebe, Long tailed Duck, Scaup, Herring Gull, Great Crested Grebe, Mallard, Common Scoter, Oystercatcher, Grey Plover, Black-tailed Godwit, Mute Swan and Great Black-backed Gull. The site provides both feeding and roost sites for most of the species. Little Egret, a species which has recently colonised Ireland, is now a common site along the shoreline of Kinvara bay.

Kinvara Bay SPA is of high ornithological importance with several wintering species having populations of international importance and further wintering species having populations of national importance. The breeding colonies of Sandwich Tern, Common Tern and Cormorant are also of national importance. Also of note is that six of the regularly occurring species are listed on Annex I of the E.U. Birds Directive, i.e. Black-throated Diver, Great Northern Diver, Golden Plover, Bar-tailed Godwit, Sandwich Tern and Common Tern. Inner Galway Bay is a Ramsar Convention site[26].

The latest release of BIRDS OF CONSERVATION CONCERN IN IRELAND 2020-2026, published in April 2021 found that of the 211 species assessed, that 78 (37%) were on the Green List, 78 (37%) were on the Amber list and 55 (26%) were on the Red List.

It was the fourth review of the status of birds in Ireland. Two hundred and eleven species were assessed and assigned to the Red, Amber or Green list of conservation concern. The criteria mainly follow previous assessments of conservation status at global and European levels; and within Ireland, include historical decline, trends in population and range, rarity, localised distribution and international importance. The availability of more data has allowed us to move closer towards the ideal time windows of existing criteria.

Results show 23 species moving onto the Red list and only six leaving it. Twelve species are newly Red-listed due to changed European or global status. Three are Red-listed due to declines within the expanded short-term breeding time period. There is no doubt that having 54 (25.6%) of Ireland's regularly occurring bird species now on the Red list is alarming, with some species having shown dramatic declines and losses on this island.

Existing conservation concerns are reinforced, such as the further catastrophic decline of waders with six more wading bird species joining the Red list; and generalist birds of farmland, like Kestrel now Red-listed. When grouped by habitat, upland (50%) and farmland (35%) have the highest proportions of Red-listed species. Snipe is now Red-listed with severe declines in its breeding and wintering populations and Swift is Red-listed due to a decline in its breeding population. Good news comes from some recovery in the populations of species such as Black-headed Gull and European Herring Gull, which move from Red to Amber.

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Biodiversity Action Plan – Actions

Project No.	Project/ Activity/Event	Description	Community Involvement	Project Timeline		
				Start	Finish	Status
1	**Meadow Management**	Continue to develop and manage Holly Tree and Ballybranagan as wildflower meadows and maintain existing native trees. Holly Tree meadow is cut only once a year by Tidy Towns, and we have an agreed meadow cutting and management plan for the entire village with Galway County council. The objectives of the mowing regime to allow the local native wildflowers and grasses to emerge and thrive. The meadows will also support a vast range of life above and below ground (invertebrates), including pollinators. Mowing regime and plan engagement with custodians and owners of green areas throughout village to promote the reduction of mowing and the benefits for biodiversity. Promote use of local yellow rattle to help manage meadows throughout village.	Leader – Kinvara Tidy Towns. Cross Groups Collaboration with Galway County Council, schools, residential estates and church grounds.	2025	2030	Ongoing
2	**Tree planting**	Based on the recommendations of the tree audit survey (completed March 2024) continue to plant and manage native trees in the village and Kinvara area. Work with Galway County Council to identify if tree preservation orders can be assigned to mature or historic trees within Kinvara. Continue to work with landowners and housing estates to plant more native trees. Ash dieback management – continue to monitor and implement actions where needed.	Leader – Kinvara Tidy Towns, Galway County Council, Kinvara Ballinderreen Tree Gang.	2025	2030	Ongoing

Project No.	Project/ Activity/Event	Description	Community Involvement	Project Timeline		
				Start	Finish	Status
3	**Biodiversity Awareness & Initiatives.**	A very big priority for Kinvara Tidy Towns is the Education of Youth in Ecosystems, Biodiversity and Sustainability Development Goals. The aim is develop awareness, learning via talks, workshops and projects within our community including collaborations with other environmental groups within our village. Design & Facilitate Biodiversity events, workshops and talks. Engage, educate and support biodiversity actions and initiatives in resident estates, schools, Galway County Council partners and sports clubs. Use of social media (Facebook and Instagram) and Kinvara Tidy Towns website to promote knowledge and awareness of habitats and our biodiversity plan for Kinvara amongst our four schools and wider community.	Kinvara Tidy Towns	2025	2030	Ongoing
4	**Pollinator-friendly planting according to the All-Ireland Pollinator plan**	Strive to design and ensure all planting schemes favour pollinator-friendly perennial or annual plants including propagation by our Tidy Town's team. Share our skills, plants, and expertise with our community through workshops and meet ups. Continue to plant pollinator friendly plants and shrubs.	Leader – Kinvara Tidy Towns. Cross Groups Collaboration with Residents, Sports clubs and businesses.	2025	2030	Ongoing
5	**Biodiversity Nature Trail Development**	Development of trail (signage and launch event). Start at the planned hockey pitch in 2024/2025, up to the Ballybranagan Meadow, GAA pitch, Holly Tree Garden, Community Centre, Memorial Garden and Quay. Will include boards on Biodiversity Trail, birdlife, stone walls and potentially other boards may be identified including wildlife overtime.	Leader – Kinvara Tidy Towns. Cross Groups Collaboration with Burrenbeo.	2025	2030	Started

Project No.	Project/ Activity/Event	Description	Community Involvement	Project Timeline		
				Start	Finish	Status
6	**Habitat Mapping & Conservation**	**1. We plan to build a wildlife pond in Holly Tree Garden** using Hare's Corner grant to support activity. Ponds are important sources of freshwater that support a wide variety of species. The best ponds have a variety of different depths, natural shallow margins and aquatic vegetation. Smaller bucket ponds are also valuable habitats for invertebrates, amphibians, birds and even mammals. A fence will enclose the pond to make it safe for young children and small mammals. In this way, water features can be incorporated, adding to the diversity of habitats, while maintaining safe places for children and other users. It is important to include rocks within the ponds to allow access for wildlife when water levels fluctuate and to enhance safety by minimising access to water. **2. We will add Bird nest boxes** in Holly Tree and other suitable locations throughout the village. **3. Organise a Bat Survey of our area**. Put up bat boxes and register them with Bat Conservation Ireland. Bird and bat boxes will be mounted on trees and tall buildings. Boxes for Swifts to be placed together on taller buildings to attract swifts. These birds are social animals and often nest close together on tall buildings. For other bird species and for bats, boxes could be placed in Millennium Garden if permission could be granted or in Holly Tree along the mature tree line. Work with Galway County Council to look at making swift boxes compulsory on all new multi-storey buildings. **4. Seek to ensure that Galway County Council** and local area plan custodians take account of the rich habitats in Kinvara.	Leader – Kinvara Tidy Towns. Cross Groups Collaboration with Burrenbeo.	2025	2030	Started

Project No.	Project/ Activity/Event	Description	Community Involvement	Project Timeline		
				Start	Finish	Status
7	**Creating an Orchard**	Orchards can be very valuable habitats for wildlife and choosing heritage apple varieties has big advantages. Creating a heritage orchard within our village would benefit people and wildlife. The orchard could be used to raise awareness of food security and our over reliance on industrial food systems. Continue to expand the dispersed community orchard throughout Kinvara village and wider area.	Leader – Kinvara Tidy Towns Group. Collaboration with Kinvara Ballinderreen Tree Gang, a resident group may be involved TBD.	2026	2030	Started
8	**Composting**	Whilst Kinvara Tidy Towns already have a very successful Composting system, we intend to increase the volume produced each year and utilise this compost in our beds pots and containers, to enrich our soil and improve invertebrate diversity.	Leader – Kinvara Tidy Towns Group.	2025	2027	Started
9	**Invasive Species Management**	A management plan to control the most invasive species within Kinvara has been created and a plan for their control put in place: 1. Remove Snowberry in Memorial Garden and Ballybranagan areas. 2. Remove Winter Heliotrope in Ballybranagan lane. 3. Remove Old Man's Beard (Clematis Vitalba) from Nally's lane. Continue to educate local people to identify invasive species and increase the level of recording with National Biodiversity Data Centre Work with Galway County Council to remove target species that require specialist control and eradication methods.	Leader – Kinvara Tidy Towns Group, Galway County Council.	2025	2030	Started

	Project/	Description	Community	Project Timeline

Project No.	Activity/Event		Involvement	Start	Finish	Status
10	**Pesticides**	Kinvara Tidy Towns have a "Zero Pesticide" use scheme in place, in consultation with Galway County Council, have agreed to cease all use of Both Pesticides and chemicals in the control of weeds and plants within the village.	Leader – Kinvara Tidy Towns Group.	2025	2030	Started
11	**Kinvara Bay Conservation (SC.000268)**	Work with Irish Water and Galway County Council to reduce impact on Kinvara Bay supported by regular environmental /water monitoring surveys. Collaborate with Cuanbeo and promote Green Flags for Ocean and Sea awareness with schools. Seek to influence the completion of a full fish survey to identify all species within the catchment area.	Leaders – Cuanbeo, Irish Water, Kinvara Community Council, Kinvara Earthkeepers and Galway County Council	2025	2030	To start
12	**Hedges**	Seek to protect and influence the creation and expansion of hedgerows to support feeding corridors. Identify stretches of hedges to maintain and protect as part of the habitat report.	Leader – Kinvara Tidy Towns Group, Galway County Council and Residents.	2025	2030	To start
13	**St. Coman's Hidden Church within Kinvara Village**	1. Conduct an annual clearance event of some Ivy from the walls, the brambles and scrub as required. 2. Explore use of goats to help manage green growth and biodiversity.	Leader - Kinvara Heritage Group.	2025	2030	To start
14	**Stone walls**	Heritage and 'Living Walls' conservation balance with ivy and invasive species management actions as needed. Obtain guidance on stone walls management from both the Biodiversity and Heritage Offices. In particular, the growth and management of ivy including scrubland along the footpath to Dunguaire Castle.	Leader – Kinvara Tidy Towns Group, Galway County Council and Residents.	2025	2030	To start

		Complete an audit of Stonewalls for both ivy and structural repair. Seek to promote the educational possibilities of Stone walls for plant identification.				
15	**Citizen Science programmes**	Bird Watch Ireland surveys promotion Bat Surveys Flower Insect Timed Count Bee and insect monitoring National Biodiversity Data centre - Citizen Science recording tool to promote use throughout community. Will promote recording through social media (plants, insects, wildlife, birds etc.).	Leader – Kinvara Tidy Towns Group, Schools, Cross community groups and resident estates.	2025	2030	To start

Resources to support Actions

Subject	Organisation-Group-Professional Service	Websites
Archaeology monuments	National Monuments Service	https://maps.archaeology.ie/historicenvironment
Bat information and support	Bat Conservation Ireland	https://www.batconservationireland.org
Biodiversity - All you need to know	National Biodiversity Date Centre	https://www.biodiversityireland.ie
How to record Biodiversity	National Biodiversity Data Centre	https://biodiversityireland.ie/monitoring/
Biodiversity Reports	Environmental Protection Agency	https://www.epa.ie/pubs/reports/biodiversity
Biodiversity plans, information, and event listings	The Galway County Biodiversity Project	https://biodiversity.galwaycommunityheritage.org
Bird information and support	BirdWatch Galway BirdWatch Ireland	http://www.birdwatchgalway.org https://birdwatchireland.ie
Conservation areas, habitat data, Citizen Science Portal, BirdWatch Ireland, Bats, Geology, Woodlands etc.	National Biodiversity Data Centre	https://maps.biodiversityireland.ie/map
Conservation areas, site synopsis, protected habitat data	National Parks and Wildlife	https://www.npws.ie/maps-and-data
Environment Resources	Galway Country Council Environmental Unit	https://www.galway.ie/en/services/environment/
Folklore, school's collection, Kinvara photo archive	Duchas, National Folklore Collection. The Cresswell Archive (old Kinvara photos)	https://www.duchas.ie https://www.kinvara.ie
Geology, soils, groundwater (includes OS discovery base maps)	Geological Survey of Ireland	https://www.gsi.ie/en-ie/Pages/default.aspx
Habitat mapping	Heritage Council Green schools Ireland	Best practice guidance for habitat survey and mapping (PDF) Habitat Mapping (PDF)

Subject	Organisation-Group-Professional Service	Websites
Heritage maps - monuments architectural areas of interest, environmental maps, 1st, and 2nd ed. OS maps	Heritage Council	https://heritagemaps.ie/WebApps/HeritageMaps/index.html
Historic maps, geology, conservation, population	Ordnance Survey Ireland/Geohive	Irish Townland and Historical Map Viewer
Heritage	Galway Country Heritage Office	https://heritage.galwaycommunityheritage.org
Miyawaki Method	Akira Miyawaki - Inventor of Manmade Forest	https://www.crowdforesting.org
Nature Trail development	Various - see website links	https://www.out-scape.com https://www.noticenature.ie/about/walking-trails-in-ireland http://www.irishtrails.ie
Place names	Place Names Database of Ireland	https://www.logainm.ie
Pollinator advice	All Ireland Pollinator Plan	https://pollinators.ie
Protecting local Water Sources	Local Authority Water Programme	https://consult.watersandcommunities.ie/en
Rivers, lakes, catchments, water quality, licensing, waste enforcement	Environmental Protection Agency (EPA) EPA Maps Waterways Ireland	https://epa.ie https://gis.epa.ie/EPAMaps/ https://www.waterwaysireland.org/
Signage Resources	National Biodiversity Data Centre All-Ireland Pollinator Plan	www.biodiversityireland.ie www.pollinators.ie
Talk & Advice	BurrenBeo Green Foundation Ireland Cuanbeo Others will be identified over time.	https://Burrenbeo.com https://www.greenfoundationireland.ie https://www.cuanbeo.com

Subject	Organisation-Group-Professional Service	Websites
Trees Resources 1	Galway's Living Landscapes	Galway's Living Landscapes - Galway County Heritage Office
Trees Resources 3	Heritage Trees of Ireland Native Woodlands Trust	https://data.gov.ie/dataset/heritage-trees-of-ireland https://www.nativewoodlandtrust.ie
Trees Resources 4	Crann (Trees for Ireland)	http://www.crann.ie
Wildflowers Meadow & Wild seeds supplier resources	Various - see website links	https://www.biodiversityireland.ie/practical-advice-on-managing-wildflower-meadows http://www.wildflowers.ie https://www.suffolkwildlifetrust.org/conservationadvice/meadows-and-grassland https://www.teagasc.ie/publications/2020/wildflower-meadow.php https://irishseedsavers.ie https://www.bloomingnative.ie

PLEASE NOTE: Whilst every care has been taken to ensure that all links in this document are correct and currently working as of 22nd January 2025, some organisations, even large ones, frequently update their websites changing the URL of pages and/or documents and even use a different Domain Name altogether. If they ***DO NOT*** install automatic forwarding from the old links to the new links, you will receive a "404 Page error" or a "Page not found error". If this is the case, please perform a search in your search engine, which may result in you being able to find the website and/or document you are wishing to access.

Acknowledgements

The Kinvara Biodiversity Action Plan 2025-2030, was commissioned by Kinvara Tidy Towns, in autumn 2024. This plan follows on from the previous plan Kinvara Biodiversity Action Plan 2021-2024 and the interim Kinvara Biodiversity Action Plan 2024-2027. These previous plans, can be found on the Kinvara Tidy Towns website, at the following link: Plans - Kinvara Tidy Towns

The development of the Biodiversity Action Plan for Kinvara, were led by Ian Stone. Ian is a passionate Ornithologist and Wild Life Photographer. Ian joined Kinvara Tidy Towns on a Tús Scheme managed by Galway Rural Development. Ian has bought his experience and skills as a graphic designer to this project and Kinvara Tidy Towns over the last eighteen months.

Key inputs for the plan were from the Habitat assessment of Kinvara completed by Ecologist Jen Fisher, Marita Barry, Kinvara Tidy Towns Biodiversity lead and Hilda O'Grady, Kinvara Tidy Towns Chairperson.

Contributors:

Written and Compiled by	Ian Stone
Ecological Assessment of the Habitats	Jen Fisher
Tidy Towns Volunteers	Hilda O'Grady Marita Barry Kim Smart

In addition, it must be acknowledged, the work, skills, experience, and enthusiasm of the Local Community Volunteers - both Individuals and Groups have in the Kinvara area.

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Galway County Council

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