

Irish Examiner

Biodiversity in Action

**National
Biodiversity
Data Centre**
Documenting Ireland's Wildlife



**Gas
Networks
Ireland**

What is biodiversity and what has it ever done for us?

Biodiversity is the variety of life on earth made of all the different species of plants, animals and fungi, the genetic diversity that occurs within species and the diversity of ecosystems.

Humans share this planet with, and are part of biodiversity. It is still not known how many different species exist on the planet, with estimates varying from around 5 million to hundreds of millions. This huge level of uncertainty is due to different factors:

- We know there are many species that have not yet been found and described.
- There are still large parts of Earth that are poorly studied because they are difficult to access, such as tropical rainforest and the deep sea.
- Other organisms are tiny, some live in environments where they are difficult to find, such as inside other organisms, and there are groups of organisms that we

simply don't have the taxonomic capacity to describe.

- With the advent of DNA analysis, even the concept of what constitutes a 'species' is being questioned.

Is diversity important?

Diversity of species is the number of different species present in an ecosystem. But is a higher diversity important? Well what ecologists have found is that if there is a higher diversity in an ecosystem that the ecosystem is more resilient, more adaptable and functions better in severe events. High diversity in systems is also related to a lower transfer of disease to humans, decreased rates of infections.

What are we doing to biodiversity?

There are between 5.3 million and one trillion species on Earth and humans are one of these species. However, human activity is compromising its health and killing

BIODIVERSITY



Jay. Niamh Phelan.

millions of animals and plants every year. Biodiversity loss is happening at an extremely wide scale and, if left unchecked, it can have serious consequences. What are the benefits of biodiversity and why is it so important to protect it?

According to the Living Planet Report 2022, since 1970, there has been a decline of 69% in species populations. There are five main reasons that we our biodiversity is declining globally:

1. Changes in land & sea use, especially for food production.
2. Overexploitation by harvesting or hunting.
3. Pollution.
4. Climate change.
5. Invasive species.

What we do know is that we have a moral responsibility to share this earth with other creatures and not cause their extinction.

The National Biodiversity Data Centre has recently been established as a Company Limited by Guarantee, with oversight provided by the Heritage Council.

Biodiversity In Action: Niamh Phelan and Dave Wall of the National Biodiversity Data Centre compiled the content for this booklet with text provided by staff of the National Biodiversity Data Centre and other organisations.

National Biodiversity Data Centre
Documenting Ireland's Wildlife



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreacht
Department of Housing,
Local Government and Heritage



Funded by

**An Chomhairle Oidhreacht
The Heritage Council**

Our marine biodiversity

Shanny. Dave Wall.

Ireland has committed to protect 30% of its maritime area by 2030 – But why? What is marine biodiversity? Why is it important to protect?

Marine Biodiversity is all the different forms of life found in our ocean, from rocky shores and beaches to the deepest depths of the Challenger Deep, 11 km deep off Mariana Islands in the Western Pacific. The diversity of marine life is mind blowing. 230,000 marine species are known to science, but the ocean is vast, covering 71% of the Earth's surface, and accounting for 97% of the area of the space on Earth that can be inhabited by life. It is thought that anywhere from one million to ten million marine species exist in our ocean.

Marine biodiversity supports life on earth. Phytoplankton and algae living in the ocean produce between 50% and 80% of the oxygen on earth. The ocean can only continue to do this if ocean ecosystems remain healthy. Rising sea temperatures threaten to damage our life support system.

Globally, oceans have lost around 2% of dissolved oxygen since the 1950s and are expected to lose about 3–4% by 2100. Much of this loss is in the upper areas of the ocean, where life is most abundant. Predicted changes in ocean currents due to global warming may lead to a reduction in phytoplankton and nutrients in the upper layers of the ocean.

The ocean is saving us from the worst impacts of, and helping to slow, climate change by absorbing and storing vast amounts of CO₂. For example, when phytoplankton die, their bodies sink to the ocean depths locking away this CO₂ and keeping it out of our atmosphere. It is estimated the ocean has absorbed over 30% of the CO₂ produced by human activities over the past 200 years and 90% of the warming produced in recent decades due to greenhouse gases.

Marine biodiversity feeds us, with fish accounting for 15% of animal protein consumed annually worldwide. Meanwhile seaweeds are becoming an important food source worldwide and a new



Dahlia Anemone - Dave Wall

development area for aquaculture. The ocean is a vast store of biological and chemical resources. Many of our medicines come from ocean species including drugs that fight cancer, arthritis, Alzheimer's and heart disease, and life-saving tests for endotoxins. With many marine species yet to discover, it is vital we protect ocean biodiversity as we may rely on it and the products they contain for the future treatment of diseases and benefits to human health.

Spending time by the sea is good for our mental health and wellbeing. Studies have found that living close to the sea is associated with lower levels of psychological distress and more generally that regular exposure to nature reduces stress levels. In Ireland 40% of the population lives within 5km of the sea. We have an increasing number of recreational activities that are focused on, or benefit from, our enjoyment of marine biodiversity from surfing to whale-watching and rock-pooling to scuba diving.



Dublin Bay Prawn. Dave Wall.

What are we doing to our marine biodiversity?

Unsustainable fishing is causing loss of marine biomass and biodiversity. It is estimated the total biomass of large predatory fish in our ocean has declined by 90% since industrial fishing began. Bottom trawling and dredging have altered the habitat and species diversity of the European seabed with many areas trawled at least once per annum and some trawled multiple times. Trawled areas of seabed may take many years to recover and may never recover their original levels of biodiversity. Deep water trawling, though now banned in Irish waters, has decimated our cold-water coral reef systems, which may take centuries to recover and depleted populations of slow-growing deep water fish such as orange roughy. Bycatch in active and static fishing gear is one of the major threats to whales, dolphins and porpoises in Irish waters, and has contributed to the disappearance of the angel shark and common skate from Irish coastal waters. Globally 9.1 million tonnes of marine species are discarded annually as bycatch in commercial fisheries.

Noise pollution from shipping, acoustic surveys, and offshore development interferes with communication, socialising, mating, resting, navigation, foraging and survival of a range of marine species, notably whales, dolphins and porpoises. Meanwhile the development of offshore renewables such as wind and tidal power are a new and largely unquantified impact on the horizon. Plastic has polluted every area of the ocean from the Irish coast to the deepest ocean trench. 60-90% of marine litter is plastic-based and plastic has been found in the stomachs of plankton, shellfish, fish, seabirds, turtles, and whales. Globally, discarded fishing gear or ghost nets kill millions of marine animals including whales,

dolphins, seals turtles, sharks and seabirds annually.

Chemical pollutants from agriculture are creating dead zones in parts of our ocean and leading to declines in water quality in our bays and estuaries. Industrial chemicals last used in the 1970s and 1980s still pollute the bodies of marine fish, reptiles, and mammals in European waters, leading to reduced reproductive success and other health impacts. The only resident Killer Whales around the Irish coast are dying out with only two males left and no calves produced in 30 years. Autopsies on dead Killer Whales in Ireland have shown very high levels of Polychlorinated biphenyls, a chemical once used in the electronics industry.

Shifting baselines are one of the greatest threats to our marine biodiversity. Each new generation accepts the world around them as 'normal', losing sight of biodiversity loss in our ocean caused by previous generations. This can lead to low ambition in terms of marine biodiversity protection and restoration and grossly underestimating what truly 'natural' marine ecosystems look like.

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- **Reduce your carbon footprint**

- see: www.seai.ie/home-energy/take-climate-action/

- **Buy fish from sustainable sources**

- see: www.mcsuk.org/goodfishguide/

- **Only flush pee, poo and toilet paper**

- see: www.water.ie/help/blockages/think-before-you-flush/

Invasive alien species



Invasive alien species introduced into marine and freshwater habitats can outcompete and predate on our native species, spread disease, cause biofouling of vessels and water inlets, and alter ecosystems. Marine invasive alien species may arrive in the ballast water of ships, attached to the hulls of ships or boats, imported along with aquaculture stock, or deliberately or accidentally released from a land-based source e.g., aquarium, fishmonger or restaurant.

One species thought to have arrived in Europe with aquaculture stock is the Pacific seaweed, wireweed. It was recorded in Strangford Lough, Co. Down in 1995 and since, it has rapidly spread to all coasts of Ireland, possibly through multiple introductions. It can locally dominate in rockpools, harbours and shallow waters, crowding out native seaweeds and seagrasses.

In 2021, an alien looking crab was recorded dead on Dollymount strand. This impressive beast turned out to be a Chesapeake Blue Crab, native to the east coast of the United States and the Gulf of Mexico. It first arrived in Europe in the early 1900s, probably through ships ballast water. In the Mediterranean it

became a huge problem and has run rampant through coastal ecosystems and outcompeting and feeding on native species. After some investigation it was deemed likely that the Dollymount Crab had been purchased at a local fishmonger, who imports them, and released intentionally or by accident into Dublin Bay.

You should never release any non-native marine species (this includes shop or restaurant bought lobsters which may be an imported American species) as they may do irreparable harm to our native marine species and habitats.

BIODIVERSITY IN ACTION

- **Keep your boat hull free of growth**
- see: <https://invasives.ie/biosecurity/check-clean-dry/>
- **Never release non-native marine species into Irish waters.**
- **Live seafood should not be purchased for release into Irish waters as its origin may be unknown.**

Is climate change affecting biodiversity?

Factors such as temperature changes in day length indicate to species that is time to progress to the next stage of life. We recognise the study of these phenomena as phenology. Crucially, the timing of these natural events are highly sensitive to climate change.

Climate change causes more severe weather, like floods, droughts and storms affecting the habitats where species live. Unfortunately, with climate change, these synchronicities are at risk. Climate change could potentially move pollinators out of sync with the flowers they are responsible for pollinating, putting the plants at risk from insufficient seed production. If the flowers of Blackthorn do not receive pollination, they will not be able produce sloes in the winter which is valuable food source for birds.



The Farmers' Wildlife Calendar is supported by the Department of Agriculture Food and the Marine. It aims to track the effects of weather and climate on the timing of seasonal events. While recording is largely over for 2023, we would encourage everyone to take part again next year.

This initiative has only 3 years data and this is only sufficient to estimate the effects of the changes in weather from year to year and not yet climate which is estimated over a much longer period. However, we know from studies abroad that with rising temperatures, seasonal events are typically happening sooner.



Large Red Damselfly . Liam Lysaght.

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- Submit records to the Farmers' Wildlife Calendar
- Walk, bike or use public transport – Does your job offer the cycle to work scheme?
- Eat a more plant-based diet.



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plants that they love!

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What is a citizen scientist? How can I become one?

Citizen science is data collection by members of the public to help answer research questions

In other words, we want to collect high quality, scientifically robust data to track changes in Ireland's species and habitats. We rely on the good will and expertise of our recording community to take part in recording initiatives and monitoring schemes to collect data. Contributing and participating in these initiatives make a significant contribution to better understand how Ireland's biodiversity is changing.

There are many benefits to becoming a citizen scientist:

- Adding to the national Irish dataset on biological data. We also share our data with GBIF, a global

biodiversity database of more than 2 billion records.

- Increasing your own scientific knowledge.
- By monitoring, you are becoming a part of political decision making through your scientific contribution. Your data helps to track our efforts and allows to better use our resources to improve our biodiversity.

The National Biodiversity Data Centre offer resources to our citizen scientists so they can increase their species identification and monitoring skills.



The National Biodiversity Data Centre produce several identification guides that are useful to have to increase your knowledge on Ireland's biodiversity and are useful to have to hand while you

How your input helps national and global conservation



Submit your records and datasets to National Biodiversity Data Centre



Your data will help us to track Ireland's progress towards our goals to conserving biodiversity



We will share your data with the Global Biodiversity Information Facility, a global biodiversity database of more than 6 billion records

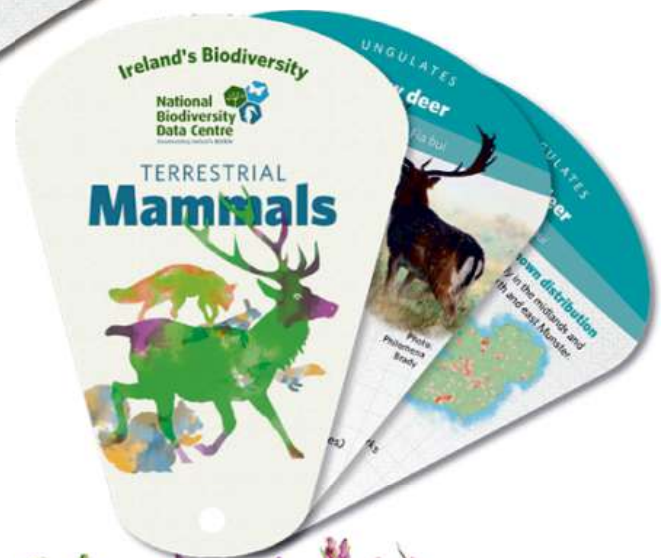


are out recording.
All items can be
purchased online
at <https://shop.biodiversityireland.ie/>

Workshops are
delivered by a
professional and are a
great way to learn more
about Ireland's biodiversity
and get 'hands-on' experience.
Workshops that are planned for
2023 are:

- An introduction to Ireland's dragonflies and damselflies
- Identifying and monitoring Ireland's butterflies
- Introduction to Ireland's grass identification
- An introduction to Ireland's decomposers: carrion beetles (Silphidae)
- Ireland's native tree and shrub species

All details and bookings can be
made on <https://biodiversityireland.ie/workshops>



Spring Flowers Project

Bluebells. Orlán Duffy

The Spring Flowers Project, a joint initiative between the National Biodiversity Data Centre and the Botanical Society of Britain and Ireland which kicked off in 2017. It is suitable for all knowledge levels and is perfect for beginners or entry-level recorders, so if you're interested in recording plants but don't know where to start, why not check out our Spring Flowers Project.

The project is looking for records of 20 species, most of which are common and easily distinguished from other plant species, although some are more difficult to find and identify. Spring is a great time to get involved with plant recording as there are fewer species in flower, meaning that there is less confusion when identifying. Why not see what Spring flowers are flowering in your local area now and record them through Ireland's Citizen Science Portal.

Some of the most distinctive species featured in the Spring flowers project are our native Bluebells, Lesser Celandine, Primrose, Violets and Wood Sorrel. Our project webpage is full of information to help you with the identification of our chosen species, a special on-line recording form for the project and "Spotter Sheets" suitable for the whole family available in both Irish and English and recording statistics with real time mapping showing what records have been submitted throughout the country: <https://biodiversityireland.ie/surveys/spring-flowers-project-2023/>

BIODIVERSITY IN ACTION

Biodiversity in Action:

Find out what Spring Flowers are in your area and submit your sightings through Ireland's Citizen Science Portal: <https://records.biodiversityireland.ie/record/spring-flowers#7/53.455/-8.016>



Irish Butterfly Monitoring Scheme

In Ireland, there are 32 resident and 3 species of migrant butterflies. The Irish Butterfly Monitoring Scheme was established in 2008 and has been tracking changes in butterfly populations. The latest analysis shows that the 15 commonest species have declined by 35% since 2008.

Wait, why is the analysis done on the 15 most common species and not the full 35 species found in Ireland?

Well there are two main reasons for this:

1. For some species, we don't have enough people taking part in the Irish Butterfly Monitoring Scheme to collect enough data to be included in the analysis.
2. For other species, they are localised meaning that

they are only found in specific areas in Ireland and require dedicated monitoring schemes to get an estimate of their population.

What's causing the decline in butterfly populations?

Like most declines in biodiversity, it isn't linked to one overall cause and is rather a combination of interacting effects. There are several threats to butterflies in Ireland:

- Increased use of fertiliser and loss of semi-natural grassland
- Use of pesticides
- Urbanisation
- Afforestation which is the planting of trees in areas that were previously not forested
- Climate change.

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- Take part in the Irish Butterfly Monitoring Scheme

Farmers engaging in citizen science to monitor moths

Ireland is home to over 1,500 moth species, magnificent organisms that are often overlooked. Forty-three of Ireland's 578 larger moth species are threatened with extinction. To improve our knowledge of how moths are fairing on farmland, the National Biodiversity Data Centre coordinated an ambitious project to monitor moths on, beef, dairy, mixed and tillage farms in Kildare, Laois, and Wicklow.

Twenty farmers operated light traps on their farms once every two weeks between June and September. Moths were caught, photographed, and released. Two traps were operated on each farm. One trap was placed along a field margin close to a hedgerow and another was placed in the middle of a field managed for production.

One-hundred and twelve moth species were recorded across the farms during the survey period. The Large Yellow Underwing was the most common species recorded. Both the total number of moths (abundance) and the total number of moth species (species richness) were higher in traps situated along the field

margins. This would suggest that hedgerows and other marginal features provide important refuge for moths in Irish farmland, in the form of shelter, a source of nectar plants as well as foodplants for the moth larvae to feed on.

It is hoped that the success of this project is built upon, and the scheme can be rolled out across Ireland in the near future. For more information visit: <https://biodiversityireland.ie/projects/farmer-moth-monitoring-project/>.



Elephant Hawkmoth. Fergal Byrne.



Buff Arches. Mirelle McCall.

Take action for butterflies and moths

Now we know more about butterflies and moths, what action can we take?

There is a suite of actions everyone can take for butterflies and moths, so read this as a menu and pick and choose things that suit you. It's important when you are taking action, that you know it will work so we've also included "evidence why" for each action.

- Focus on planting native species or reducing your mowing to allow for natural regeneration of species rich meadows.

Evidence why: Caterpillars will only feed on native plants and have a much narrower diet compared to their adult counterparts.

- Planting flowers which have evolved to produce nectar at night like Honeysuckle, Large-flowered Evening Primrose and Red or White Campion are good native plant choices.

Evidence why: Many plants close at night, making them less suitable for nectar supply e.g. Dandelions close in the evening. If you're looking to take action for moths, you



Marsh Fritillary Butterfly.

need to focus on plants that produce nectar at night.

- Reduce or eliminate pesticide (herbicides, fertilisers and insecticides) use.

Evidence why: Herbicides and fertilisers reduce the diversity and amount of food available to butterflies and moths. Using insecticides will kill both the target and non-target insects.

- Sensitive management of hedgerows and allow flowering to finish before cutting.

Evidence why: Hedgerows only flower on two-year old wood, so if you cut them annually, you will not have flowers for butterflies or moths to feed on.



Common Purple and Gold Moth.

Gas Networks Ireland – Biodiversity in Action

Gas Networks Ireland operates Ireland's €2.77bn, 14,664 km national gas network, connecting over 720,000 homes and businesses to a safe secure supply of natural gas. By replacing natural gas with renewable gases, such as biomethane and hydrogen, and complementing intermittent renewable electricity, Gas Networks Ireland is supporting Ireland's journey to a cleaner energy future.

Commitment

Gas Networks Ireland is committed to promoting sustainability across its business and in the communities where it operates. One of only 41 companies in Ireland to hold the Business Working Responsibly Mark, Gas Networks Ireland maintained a 'B' grade in the Carbon Disclosure Project (CDP) climate change ratings this year, exceeding the global, European and sector averages to finish in the top quartile of all businesses assessed globally.

Leave No Trace Hot Spot Programme

For a third year in a row, Gas Networks Ireland is collaborating with Leave No Trace to support the Hot Spot programme. The Hot Spot Programme is a conservation project for areas of natural beauty and ecological importance.

Having previously worked to help restore the areas of Glengarra Wood in Co. Tipperary that were impacted by outdoor activities and heavy use, last year Gas Networks Ireland focussed on the Turvey Nature Reserve and Rogerstown Estuary in Co Dublin. As part of 2023 National Tree Week, in collaboration with volunteers from Leave No Trace, Fingal County Council, Gas Networks Ireland and the local community, 600 native Irish trees were planted at Turvey Nature Reserve.

Kestrel Project

Gas Networks Ireland funded Wildlife Management Services' Kestrel Project. The aim of this project is to help identify the location of kestrel sites and to provide kestrel nesting sites, as well as promoting

awareness of the actions both the public and farmers can take to protect these birds.

Midlands Science

Midlands Science is a not-for-profit company which works to create greater interest in STEM [Science, Technology, Engineering & Maths] education and skills among students, teachers and members of the public in the Midlands - Laois, Offaly, Longford and Westmeath.

Last year, Gas Networks Ireland worked with Midlands Science to deliver a day of biodiversity workshops for primary school students during Biodiversity Week 2022, where the students learned about the environmental effects of their actions.



Landscaping Guidelines

Ensuring that there are best practices and processes in place to manage any work that has the potential to impact on biodiversity is a key aspect of Gas Networks Ireland's approach to environmental management and is enforced through the company's Environmental Management System.

Last year, Gas Networks Ireland's employees and contractors received training on dealing with invasive



Gas Networks Ireland employees who together with Fingal County Council and local community members planted 600 native Irish Trees as part of 2023 National Tree Week at the Turvey Nature Reserve and Rogerstown Estuary in Co Dublin.

alien species and on the company's Landscaping for Biodiversity guidelines which are implemented on sites during both the design and construction project stages.

The company's bespoke Envirokit and EnviroPlan environmental toolkits assist designers and planners in applying a standardised approach to Environmental Management including Biodiversity Management, while EnviroOps, an in-house environmental guidance document, was developed to assist operations personnel in applying best practice.

Grass Management

Gas Networks Ireland began changing how grass was managed at its offices and large grassed infrastructure, with reduced cuttings to provide more food and shelter for vital pollinators. These efforts were rewarded with the appearance of the rare bee orchid in the short meadows at the company's National Services Centre in Dublin. Grass management options will continue throughout 2023 to deliver this important biodiversity goal.

www.gasnetworks.ie



Rare wild bee orchids growing at Gas Networks Ireland's National Services Centre in Dublin.



Perkin's Mining Bee rediscovered in Ireland after nearly 50 years

The Perkin's Mining Bee last seen in 1977, was feared to have disappeared from Ireland and was found by the National Biodiversity Data Centre's, Owen Beckett while surveying in Carlow.

The Perkin's Mining Bee is one Ireland's 80 solitary bees, meaning it nests singly and does not form colonies. It is one of 26 mining bees which construct their nests underground. The females are slightly smaller than a Honeybee, with a predominantly black body and sparse brown thorax hairs. A more distinct ID feature is the bright red band on the abdomen, which none of our other mining bees possess. The males are similar but are smaller and slimmer in size and shape.

This species has only been found in Co. Carlow in Ireland and from just four different sites. It is also very scarce in Britain, with the only recent sightings coming from Cornwall and southwest Wales.

Two generations fly per year, the first from late March until late May and the second from early July until late August. The first generation visits Blackthorn and Willows in particular. The second-generation forages mainly on umbellifers such as Hogweed and Angelica. Because it is so rare, it is difficult to determine its ideal habitat, but it appears to like semi-natural areas of woodland edge and scrub.

Although very rare, its rediscovery indicates that the Perkin's Mining Bee may be found elsewhere. Keep an eye on Blackthorn and Willow blossom during the spring and on Hogweed and Angelica flowers during the summer, especially if you are in Carlow or neighbouring counties. If you've spotted it, take a photograph and submit your record to the National Biodiversity Data Centre: <https://records.biodiversityireland.ie/record/solitary-bees>



The Heritage Council — Leading the conversation on Ireland's natural heritage

Local Authority Biodiversity Programme:

The Heritage Council is delivering the Biodiversity Officer Programme which is funding the appointment of a dedicated biodiversity officer in every local authority in the country. The programme, which is being rolled out in partnership with others, signals the beginning of a new era for the protection of wildlife at local level.

The Heritage Council Library Citizen Science Kits:

In partnership with 10 County Library services, the Heritage Council has made biodiversity monitoring equipment available to communities to record the fauna and flora in their locality. The information generated by citizens are expected to feed into the National Biodiversity Data Centre records, helping to inform State policy on biodiversity.

National Heritage Week:

Every summer, along with the hundreds of natural heritage events run as part of National Heritage Week, the Heritage Council supports the magical Wild Child Day. The popular day features events encouraging children to get outside and explore the diverse beauty of the landscape in their local area; from nature scavenger hunts to storytelling sessions to craft workshops. Wild Child Day takes place on Saturday 19th August 2023.

Natural heritage for people on the margins:

Our Coming to your Natural Senses programme arms people with sight



impairment with the tools needed to maximise their enjoyment of our natural world. It does this through interactive training days with wildlife experts who help them to interpret the sounds of biodiversity in their daily lives.

Our Wildlife Sanctuary programme partners with Sanctuary in Nature and Heritage who work together to create a cultural exchange programme facilitating the coming together of persons seeking asylum and conservation volunteers. It does this through field trips to community focused natural heritage sites which include guided tours, hands-on work and building connections around communal meals.



 **An Chomhairle Oidhreachta**
The Heritage Council

You can find further information at
www.heritagecouncil.ie

Farmers taking action to help solitary bees

When farmers are incentivised to take action to protect wildlife, they want to see that these actions work. The creation and occupancy of solitary bee nests in the Protecting Farmland Pollinators EIP project in Ireland is a clear example of where farmers can instantly see the results of their labour. Creating a solitary bee nest site is a positive easy action that can be taken to help pollinators on the farm. Since the onset of the EIP project over 300 bare soil nest sites for mining solitary bees, and 130 bee boxes for cavity nesting solitary bees were created across 40 farms.

Within the first 4 months, the exposed areas of bare soil were already successfully colonised by mining bees, and one-third of nest sites were occupied. Eleven of the 29 bee boxes from eight farms were occupied. The most common bee to nest was *Halictus rubicundus*.

There are over 100 bee species in Ireland and 80% of these are solitary bees. No matter the species, all bees need flowers close to their nest and solitary bees will only travel a few hundred meters to find food. Solitary bee nesting sites can be created at little to no cost and are a known limiting factor for having solitary bees in any one location. The Protecting Farmland Pollinators Action Sheet 1 has evidenced based data on how to create solitary bee nest sites.



Solitary bee nesting site created on Mireille McCall's farm.

https://biodiversityireland.ie/app/uploads/2022/05/ActionSheet_Solitary-Bees-WEB-2.pdf.

For more information visit: www.biodiversityireland.ie/farmland/



Most of Ireland's bee nest in the ground or in bare soil areas. Saorla Kavanagh.

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Biodiversity on your farm

The 'Biodiversity on your Farm' project will help you learn more about the species you are likely to find on your farm. Every week we will focus on a different species and share a simple tip for managing your farm for biodiversity.

Find out more <https://biodiversityireland.ie/surveys/biodiversity-on-the-farm/>

This project is a new recording initiative in collaboration with the Department of Agriculture, Food and the Marine.

—BIODIVERSITY—
on your Farm



Can you find this species on your farm?

Clarke's Mining Bee
(*Andrena clarkella*)

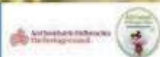
Ginger-brown hairs on thorax, black hairs on abdomen, dark face hairs, hind leg and pollen brush are orange

Widespread species – can be seen anytime from March to June



If you do, submit sighting to <https://records.biodiversityireland.ie/record/biodiversity-on-your-farm>

SPECIES
#4



Ladybird Atlas 2025

The National Biodiversity Data Centre in collaboration with the Centre for Environmental Data and Recording (CEDaR) has initiated a Ladybird Atlas 2025 project. The project has two overarching objectives. First, to increase the amount of observation of ladybirds in order to produce more comprehensive distribution. And second, to improve knowledge of habitat preferences of the different species of ladybird. It is easy to help with the Ladybird Atlas 2025 project. If you see a ladybird and are sure of its identification, please submit your sightings through Ireland's Citizen Science Portal. Ladybirds have their own specific recording form.

Ladybirds are an attractive group of insects, found in a wide variety of habitats. By far the most well know species is the 7-spot ladybird, as it is a common and widespread species, which can be easily found in gardens and a range of other habitats.

As part of our Ladybird Atlas 2025 project, we have set up a dedicated "Ladybirds of Ireland" dataset, which now has over 12,000 records, across all 32 counties and more than 20 different species. Throughout 2022, there has been some great recording activity with 2,328 records added to Biodiversity Maps. You can



7-spot Ladybird . Oisín Duffy.

find out more information on the project, along with identification help and many more resources planned for the next season of recording in 2023 on the project webpage:

<https://biodiversityireland.ie/surveys/ladybird-atlas-2025/>

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- Attend a Ladybird Workshop with the National Biodiversity Data Centre.
- Submit sightings through Ireland's Citizen Science Portal:

<https://records.biodiversityireland.ie/record/ladybirds#7/53.455?-8.016>



ONSITE INSIGHTS

FARM WALKS & PRACTICAL ACTIONS

A series of **farm walks** where our **Farming For Nature Ambassadors** showcase their practical actions for nature on their land



3rd June 2pm James Ham Co. Westmeath

14th June 6:30pm Sean Condon Co. Limerick

24th June 2pm Aonghus O Coistealbha Co. Galway

1st July 2pm Gerry Fitzsimons Co. Cavan

8th July 11am Sinead Moran Co. Mayo

15th July 2pm Maurice Deasy Co. Tipperary



23rd July 11am Cathal & Bronagh O'Rourke Co. Clare

5th August 11am Cathal Mooney Co. Donegal

12th August 2pm Brigid O'Connor Co. Kerry

19th August 2pm Mark Harold Barry Co. Tipperary

26th August 2pm Colm Flynn Co. Kildare



2nd September 2pm Paul McCormick & Jacinta French Co. Cork

9th September 2pm Thomas & Claire O'Connor Co. Kerry

18th September 2pm David Dennison Co. Waterford

23rd September 2pm Kate Egan Co. Westmeath

30th September 2pm Andrew Chilton Co. Roscommon

Tickets & more info available on
WWW.FARMINGFORNATURE.IE

These events have been jointly supported by the Department of Agriculture,
Food and the Marine and the National Parks and Wildlife Service.



Irish Stoat Survey

VWT Vincent
Ireland Wildlife Trust



Irish Stoat. Carrie Growley.

The Irish Stoat has been present in Ireland for thousands of years, yet there is still much to be learned about it. It is a small fast-moving mammal skilled at avoiding the normal methods scientists use to study wildlife, so this spring we are appealing to Citizen Scientists to keep their eyes open and to submit records.

The Irish Stoat is so-called as it differs from other stoats elsewhere in Europe because it doesn't turn white in winter, and the line dividing its chestnut-coloured upper fur and the creamy-colour belly fur is usually irregular. But, like all stoats, it does have a distinctive black tip to its tail, a long sinuous body, short legs and a flattened head. It is most often spotted running at speed across a road or along a

stone wall or hedgerow, so a new identification guide is available to help distinguish it from other small mammals.

The survey will run until 2025 and we hope the records submitted will provide us with a better understanding of the occurrence and distribution of Irish stoats. Although the folklore surrounding this elusive mammal is fascinating, we need facts to help us protect it.

The Irish Stoat Survey is a partnership project between Vincent Wildlife Trust, National Biodiversity Data Centre, University of Galway and Centre for Environmental Data and Recording. Financial assistance was provided by the Irish Environmental Network and National Parks and Wildlife Service.

Biodiversity in action

The Department of Agriculture, Food and the Marine are proud to be considered a forerunner in the integration of 'Biodiversity in Action' on farmland as part of the drive towards sustainable food production. Occupying approximately two thirds of Ireland's land area, farmland and farmers are central to Ireland's biodiversity and the Department has been building supports to encourage farmers to take action to support biodiversity through many different incentives, schemes, projects, educational and awareness raising initiatives.

For the Department the focus in relation to biodiversity is on farmland and the semi-natural habitats and species which rely on agriculture for appropriate and sensitive management.

Ireland's new CAP Strategic Plan, which commenced in January, has been designed to reflect a significantly increased dedication to the environment and, in particular, biodiversity.

One quarter of the CAP budget that was previously allocated to farm income support has been diverted to create a new voluntary annual Eco-Scheme open to all farmers. The new Agri-Climate Rural Environment Scheme (ACRES) has seen 46,000 farmer applicants in the first tranche. This five-year scheme consists of two approaches, ACRES General which individual farmers can apply for as a national scheme, and a new Co-operation Project landscape level approach in eight defined high priority geographical areas. These Co-operation Project areas will benefit from bespoke farm or landscape actions designed by a local Co-operation Project Team to address the specific needs of the local area.

The incorporation of results-based payment measures into the new ACRES Scheme is another progressive step to incentivise more appropriate management of many of our protected habitats. Other biodiversity actions in ACRES are designed to provide the habitat and food requirements for farmland dependent species.

Existing European Innovation Partnerships (EIPs) countrywide, such as The Hen Harrier and Pearl Mussel Projects are continuing to showcase the success of locally-led and targeted approaches blending agricultural activities with biodiversity. Many other EIPs around the country focus on local scale and targeted biodiversity actions. EIP support will continue under the CAP Strategic Plan where it is envisaged that there will be specific calls for projects which will support the breeding wader habitats of the Shannon Callows amongst others.

Outside of the CAP Strategic Plan, the Department

is engaged in several EU LIFE projects, working in collaboration with the Department of Housing, Local Government and Heritage. The Wild Atlantic Nature LIFE Integrated Project, Corncrake LIFE and LIFE on Machair projects, for example, all focus on biodiversity actions for priority habitats and species. These projects are a great opportunity for farmers to contribute to knowledge sharing and the development of biodiversity actions. The learnings from these projects will inform future policies to support biodiversity in the same way the EIP's have informed the development of ACRES.

Through the wide variety of initiatives, the farming community is showing great enthusiasm for taking action and for sharing their wealth of knowledge of what is happening on their land.

The Department is delighted to support the recently launched 'Biodiversity on Your Farm' challenge for farmers. This campaign is led by the National Biodiversity Data Centre (NBDC) and was developed to engage farmers in the recording of species on their farms. Throughout the year the project will highlight 40 different species, with a focus on pollinators and plants that are important to pollinators. Farmers should keep an eye out every week for a new species profile and weekly tip on managing their farm for biodiversity. Weekly posts are shared on Twitter @BioDataCentre and @agriculture_ie and on the Department's Facebook page. Sightings can be recorded at biodiversityireland.ie

It is not too late to join in. Species number 8, The Hawthorn or Whitethorn is associated with hedgerows in bloom across the country during May. Biodiversity Tip #8 is on hedgerow connectivity.

BIODIVERSITY on your Farm

National
Biodiversity
Data Centre
Disseminating Ireland's Wildlife

Our Nature Subsidies
are now open
for applications
from the Department of Agriculture
Food and the Marine

Biodiversity Tip No 8

Connect native hedgerows on your farm

Tall and wide
hedgerows make
great wildlife
corridors.

They provide
wildlife with food,
shelter from wind
and rain, and a place
to breed and
overwinter.

If you do, submit sighting to
<https://records.biodiversityireland.ie/record/biodiversity-on-your-farm>

Tip No
8

For more information
contact the National
Biodiversity Data Centre

Return of the Humpback Whales



In the early days of the Irish Whale and Dolphin Group (IWDG), around the mid-1990s, humpback whales were a rare thing in Irish waters. The last known stranding had been in 1907, when one washed ashore at Moville, Co. Donegal. The only other acceptable records of humpbacks in the previous decades were individuals sighted off Cape Clear and Galley Head, Co. Cork in 1967 and 1989. Humpback whales had been heavily targeted by commercial whaling, which ended in 1986. By then most populations had been decimated to just 5% of their original levels.

Our oceans sadly lack good news conservation stories, but the end of commercial whaling is a rare exception. These days humpback whales are a regular occurrence off the Cork and Kerry coasts. The Irish Humpback Whale Catalogue now contains 124 recognizable individuals, and they support an important whale watching industry off West Cork and Dingle Bay. The humpback season seems to get earlier each year, with the first 2023 whales recorded between Kenmare River and Bolus Head on the Iveragh Peninsula, Co. Kerry from 2nd – 10th March.

Humpback Whales. Pádraig Whooley, IWDG.



IWDG in collaboration with international researchers have photo-identified matches of humpbacks between Ireland and the Caribbean breeding grounds of the Dominican Republic, Teriberka, in the Barents Sea, Russia, the breeding grounds of Cabo Verde off West Africa, and Newfoundland in Canada. As we catalogue an ever-increasing number of humpback whales in Irish waters, the question it seems isn't so much... "where are they going?", rather... "where aren't they going?"

Padraig Whooley, Irish Whale and Dolphin Group.

BIODIVERSITY IN ACTION

Submit your records of sightings and strandings of whales, dolphins and porpoises to the IWDG at <https://iwdg.ie/>



New protections for Ireland's basking sharks

Thomas Pennant during a tour of Scotland and Ireland in 1772 remarked of basking sharks that “they inhabit most parts of the western coasts of the northern seas”. Indeed, the first shark fishery and rendering plant in Ireland was built by Thomas Nesbitt, the inventor of the swivel harpoon, in Donegal Bay in 1759. Irish basking shark fisheries continued from then into the 1960s. The most famous was the shark fishery off the Aran Islands, Co. Galway, included in Robert Flaherty’s 1934 film ‘Man of Aran’. The largest Irish basking shark fishery was off Achill Island, Co. Mayo, which killed 9,000 sharks between 1950 and 1964. The Norwegians too hunted basking sharks in Irish waters, with Norwegian vessels taking sharks here up until 2006.

Mostly the hunt focused on extracting and rendering shark livers for their valuable oil, though after the decline in demand for shark liver oil, they were targeted for their large fins for shark fin soup on the Asian market.

The overexploitation of sharks in Ireland in the 50s and 60s, perhaps coupled with oceanographic changes, led to a collapse in the fishery and for decades basking sharks were a rare enough site off the Irish coast. However, in recent years they have been making a comeback with increasing numbers



Basking Sharks. Simon Berrow.

spotted off West Kerry, Achill, and Malin Head. The Irish Basking Shark Group and Queens University Belfast have been to the fore in conducting research into their ecology, including tagging and radio-tracking individuals around the Irish coast, with sharks tracked as far west as the United States, and as far south as West Africa.

Despite being listed as vulnerable on the IUCN’s Red List, they remained unprotected in Irish waters until 2022, when they were given legal protection under Section 23 of the Wildlife Act.

WHAT CAN I DO?

Submit your sightings of basking sharks to the Irish Basking Shark Group at <https://www.baskingshark.ie/report-a-sighting>

Ireland's vanishing marine species

Northern Right Whale. iStock.

Shifting baselines are a major concern in marine conservation. In the absence of well documented historical baselines for marine species, we are inclined to accept what we see in the ocean today as 'the norm'. It is only when we talk to previous generations, we may start to understand the degree of biodiversity loss our ocean has suffered. Here is the case of three marine species, once found around the Irish coast that are now largely absent, out of sight and increasingly, out of mind.

The Northern Right Whale was so named because it was the 'right' whale to hunt, having a thick blubber layer, being slow swimming and easy to catch, and remaining afloat once killed. This species once occurred on the west coast of Ireland, with whaling catches dating back to the 1700s. By the start of the 20th century, they appeared to be uncommon but between 1908 and 1910 whalers from the Arranmore and Blacksod Whaling Companies caught and killed 18 right whales. After this no more were caught and it is likely they had become locally extinct. A small and diminishing population of Northern Right whales still hangs on off the east coast of America but now numbers less than 340 animals. It is unlikely we will see this species in Irish waters again and its future looks bleak.

The Angel Shark is a peculiar looking fish, it has flattened, broad body with wide triangular pectoral fins making it look more like a skate or ray than a shark. While once relatively common around the Irish coast, today they are on the verge of becoming

extinct in Irish waters and are listed as Critically Endangered. Angling data from Inland Fisheries Ireland show that Angel Sharks suffered a decline of at least 95% since the 1990s. Impacts include intensive catches in angling competitions in the 60s and 70s and as bycatch in fishing nets and bottom trawls. With recent records restricted to Tralee Bay, unless action is taken to protect this enigmatic shark, it will become a lost element of Ireland's marine biodiversity.

The Purple Sea Urchin, once an incredibly abundant species along the west coast of Ireland, with densities of 1,600 individuals per m² recorded from Galway Bay. Then in the late 70s and 1980s they were heavily harvested for the export market. The harvest was unregulated and unsustainable and resulted in the decimation of purple sea urchin populations along the west coast. Today their populations have not recovered and are a rare sight on the west coast, though the holes they wore in the rocks can still be seen at some locations. There is no conservation strategy for this species, and no regulation of sea urchin harvesting in Ireland. Despite this, there is some glimmer of hope for the purple sea urchin as they are beginning to be recorded in some areas again.

WHAT CAN I DO?

Submit your records of Purple Sea urchins to www.exploreyourshore.ie

Explore Your Shore!



Explore Your Shore! is a Citizen Science initiative of the National Biodiversity Data Centre and is funded by the Environmental Protection Agency. The project focuses on increasing our knowledge of our intertidal species, exploring their potential as bio-indicators of water quality and climate change, and highlighting actions we can take to tackle water pollution and global warming.

To make it easy to get involved, we have a range of surveys you can take part in. Explore Your Shore! is also in partnership with projects that are already collecting marine biodiversity citizen science data in Ireland and links to these are available on exploreyourshore.ie

SEASHORE SPOTTER

No matter what you are doing at the coast, you can always submit a marine species record via our online recording form or recording app. Take a photo of the species and use the form or app to record your details, location, and the species. Our online form allows you to submit multiple species and photos from the same location, and even allows you submit photos of species you cannot identify, and we will do the identification for you!

THE BIG BEACH BIODIVERSITY SURVEY

This survey asks you to record marine species found cast up on Irish beaches. The remains of species cast up by the tide can be a useful indicator of what is living beneath the adjacent waves. It helps us map the distribution of marine species around the Irish coastline, and to find out what species occur at different times of year. Our goal is to monitor changes in the distribution and occurrence of marine species linked to climate change and water quality.

THE GREAT ROCKY SHORE BIOBLITZ

Help us to find Ireland's most Biodiverse Shore! This survey will help us identify marine biodiversity hotspots around the Irish Coast and establish baselines for intertidal marine species. This in turn will help us select the best shores to monitor for changes in the distribution and occurrence of marine species linked to climate change and water quality. Select your shore, record and photograph as many species as possible during a walkover survey in the hour leading up to low tide and submit your records using the survey form. Don't forget, you can submit images of species you cannot identify, and we will do the identification for you!

ADOPT-A-ROCKPOOL!

Find your favourite rockpool and record what's in it once in each season. This data will help identify changes in marine species in your rockpool linked to climate change and water quality. Select your rockpool, take a photo of it from above, showing the whole rockpool, each time you survey it. Record and photograph as many species possible from your rockpool. Look under rocks, in crevices and beneath seaweed. You can submit images of species you cannot identify, and we will do the identification for you!

BIODIVERSITY IN ACTION

- Visit the Explore Your Shore! website to discover how you can help record marine species around the Irish coast
see: <https://exploreyourshore.ie/>
- Complete the National Biodiversity Data Centre's Free Online Course on Marine Biodiversity Citizen Science.
see: <https://learn.biodiversityireland.ie/courses/marinebiodiversity>

Biodiversity success stories in Ireland



Kilmeen & Kilbree GAA Club, Co Cork, participants in the Green Clubs network.

GAA Green Clubs

In 2021, the GAA launched the Green Club Programme. Over 30 trail-blazing clubs came together from across the island of Ireland to run sustainability projects around the themes of Energy, Water, Waste, Biodiversity and Travel and Transport.

Drawing on the experiences of these pioneering clubs, the GAA created the Green Club Toolkit – a free, online portal developed with expert partners, offering simple, practical advice on each of the five themes.

The National Biodiversity Data Centre helped develop the 'Biodiversity' section of the Toolkit, drawing on the All-Ireland Pollinator Plan guidelines for the pollinator-friendly management of sports clubs.

From reduced mowing of non-playing grass and managing native hedgerows, to creating biodiversity walking trails and planting pollinator-friendly flowers in club colours, the Biodiversity Toolkit has loads of simple ideas to choose from.

Mullingar Shamrocks were one of the first clubs to take part in the Programme. Their work included going herbicide free and creating a pollinator-friendly sensory garden. Joan Crawford of Mullingar Shamrocks said:

“There’s a huge overlap between health and wellbeing and the environment and we wanted to build on the success of our Healthy Club initiatives by taking on actions that would benefit the environment and make the club a safe, healthy and welcoming place for everyone from across the community.”

The Green Club Programme is now in its second phase, and the network of Green Clubs is growing. With over 2,000 clubs across the island of Ireland, the Gaelic Games community can play a huge part in making our island more sustainable.

To find out more, visit <https://learning.gaa.ie/greenclub>

Skerries give hope to rare bee

Ireland is home to a variety of pollinating insects, including over 100 types of wild bee. It is a sobering fact that one third bee species are threatened with extinction. But there is hope: local populations are improving in places where the landscape is being managed to help them.

Skerries is a perfect example of a community coming together to protect local pollinators, in particular the rare Large Carder Bee which is now thriving in the town as a result of the hard-working Sustainable Skerries group.

Since 2019, Sustainable Skerries have been carrying out inspirational work, supported by Fingal County Council. Working with the council, they eliminated pesticide use in the town and reduced mowing to encourage native wildflowers. New biodiversity corridors have been created with the establishment of pollinator-friendly herb beds around the town which are enjoyed by bees and people alike.

They also raised awareness about the Large Carder bee within the Skerries community by running Bee walks with local school children, biodiversity walks and talks, and a Wild Bee Festival in August 2022 in collaboration with Fingal County Council and the National Biodiversity Data Centre. The group also helped the All-Ireland Pollinator Plan develop a free guideline 'Helping the Large Carder Bee in your local community'.

What they are doing is working! The Large Carder Bee has now spread to new areas and established itself in the area around Skerries Mills in the centre of town. Sustainable Skerries say this is only the beginning and they intend to continue protecting this rare bumblebee into the future.

Cobh is Gold for Pollinators

Every year, the All-Ireland Pollinator Plan works with the Heritage Officer network to run the Tidy Towns Local Authority Pollinator Award; a Special Award run as part



Cobh, Co Cork, winners of the overall Pollinator Award. Ruth Ring.

of the Tidy Towns competition.

Since 2016, towns and villages all over Ireland have risen to the challenge of protecting pollinators by taking simple actions, following the advice of the All-Ireland Pollinator Plan.

Last year, Cobh Tidy Towns took home the overall Pollinator Award for their inspiring work around the harbour town.

The Five Foot Way is among 37 sites around Cobh managed for pollinators by the Tidy Towns group. In 2020, they began an extensive planting project on the walkway, creating a 500m pollinator corridor of 1,200 nectar and pollen-rich flowers. The formerly grey station wall was transformed into a colourful mural celebrating local butterflies. A volunteer for Cobh Tidy Towns said:

"I was here planting in the rain in the spring of 2020 as lockdown loomed. I walk here every day and my God it's gorgeous. It's full of colour and always buzzing."

Elsewhere, the group have reduced mowing in grassy areas, a change that has allowed native wildflowers to grow, including the beautiful Bee Orchid. Community herb boxes made by Cobh Men's Shed are bursting with Basil, Oregano, Mint and Sage, providing food for pollinators and local residents alike.

Through their hard work to 'Keep Cobh Buzzing', Cobh Tidy Towns have proven that helping biodiversity can create beautiful, healthy, vibrant communities where people and pollinators can survive and thrive.



Gas
Networks
Ireland

Moving
Ireland's
Energy

We're moving energy in a new way

Bringing more sustainable sources into the pipeline.

