Biodiversity Ireland

ISSUE 19 | AUTUMN/WINTER 2019

Explore Your Shore!
Take part in our survey of coastal biodiversity

Bivalves of Ireland Poster
Get to know your Piddock from your Pod
Razor Shell

Biodiversity Tales
News from recording schemes for butterflies, birds, and bryophytes
Contents

NEWS .................................................................................................................. 3
Alert System for Invasive Alien Species .......................................................... 6
Colette O’Flynn introduces the Data Centre’s alert system

GALLERY: Recorder Workshops 2019 ............................................................... 8
A selection of images from our workshop programme

Explore Your Shore! ............................................................................................. 10
Dave Wall introduces this exciting citizen science project

BIODIVERSITY TALES ....................................................................................... 16
Updates on birds, whales, plants and more

Staff of the National Biodiversity Data Centre

Juanita Browne, Pollinator Plan Community and Engagement Officer (part-time), is responsible for engaging with partner organisations to assist implementation of the All-Ireland Pollinator Plan and to promote the conservation of Ireland’s pollinators. She also contributes to communications activities of the Data Centre.

Dr. Úna Fitzpatrick, Senior Ecologist, is responsible for the plant and vegetation work programmes of the Data Centre. This includes management of the National Vegetation Classification System.

Gemma Hughes, Pollinator Plan Agri-business Officer (part-time), is responsible for engaging with the agri-business sector to assist implementation of the All-Ireland Pollinator Plan and to promote the conservation of Ireland’s pollinators.

Dr Saorla Kavanagh, Farmland Pollinator Officer is the Project Manager of the Protecting Farmland Pollinators project which seeks to test evidence-based actions to make farmland more pollinator-friendly. This is a five-year project funded under the European Innovative Partnership programme.

Dr. Liam Lysaght, Centre Director, is responsible for setting the strategic direction of the Data Centre, overall management of the operations and work programme, and building of partnerships with other organisations. He is an active recorder and helps with the delivery of the Data Centre’s work programme on butterflies, birds and mammals. He also serves as Head of Delegation for Ireland to the Global Biodiversity Information Facility (GBIF).

Ben Malone, Administrative & Engagement Officer, is responsible for day-to-day office management at the Centre. He also has developed and is coordinating the Centre’s engagement and outreach programme, including organising the capacity-building recorder workshops.

Colette O’Flynn, Invasive Species Officer, is responsible for the Invasive Species work programmes of the Data Centre. She manages the National Invasive Species Database, provides coordination of invasive species data and information, and contributes advice and policy support at the national and European level.

Barry O’Neill, Data and ICT Manager, is responsible for the IT infrastructure and database management activities of the Data Centre. He developed the Citizen Science Data Portal and other online data capture systems that are provided as shared services to partner organisations.

Dave Wall Citizen Science Officer is responsible for the Explore Your Shore! and Dragonfly Ireland 2019-2024 citizen science projects. He also takes the lead on developing the Data Centre’s work programme on citizen science and all marine biodiversity activities.
This autumn 2019 issue of Biodiversity Ireland showcases some of the exciting recording activity and survey work that is currently ongoing in Ireland, both by the Data Centre and many of its partner organisations. The ‘Biodiversity Tales’ section provides a good overview of some of the main findings and expansion in knowledge on different taxonomic groups since the start of the year, reported by national experts and conservation NGOs. Most of this has resulted from targeted surveys or fieldwork undertaken by highly skilled and highly motivated volunteers and professionals. We feel it is important to showcase this work as these are the building blocks of evidence used to better understand Ireland’s biodiversity and how it is changing.

This need for evidence has taken on a new emphasis in 2019. In May, Dáil Éireann declared a Climate and Biodiversity Emergency, making Ireland only the second country in the world to make such a declaration. This was a significant development, not because it will necessarily lead to the transformative changes that the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES) said needed to happen if biodiversity loss is to be tackled, but because it is proof that the evidence around biodiversity decline is finally being heard. This attention was probably due to international media coverage of the first global synthesis of insect declines published in April and the IPBES global biodiversity assessment published in May. Both these reports presented alarming evidence of biodiversity loss right across the world. And because of the increasing amount of surveying and monitoring happening in Ireland, we now have the evidence that we are also experiencing a biodiversity crisis in Ireland.

It has been a year of mixed fortunes for the Data Centre. Thanks to external funding, we have grown the staff complement this year. Dave Wall joined the staff at the start of the year as Citizen Science Officer, bringing valuable expertise on marine biodiversity. The strong marine theme of this issue of the newsletter demonstrates the increased capacity in this area. Colette O’Flynn, Invasive Species Officer, has been assigned additional responsibilities supporting the work of NPWS to report under the EU Invasive Species Regulations and to provide national coordination of species alerts. And Saorla Kavanagh has joined the team to spearhead the Protecting Farmland Pollinators EIP project, which will test practical, evidence-based solutions for making farmland more pollinator friendly.

On the flip side, after six years, we are losing Dr. Tomás Murray. Everyone will know the tremendous work that Tomás did in building the insect monitoring programmes and developing the analytical capacity of the Data Centre over that time. His skill set will be sorely missed at the Data Centre; I wish him the very best in his new career path.

For the core contract staff of the Data Centre, 2019 has presented personal and professional challenges because of the uncertainty around the future of the National Biodiversity Data Centre. The Heritage Council is currently undertaking a review of the governance, operational and funding structure most appropriate for the running of the Data Centre. Everyone associated with the Data Centre hopes that this will result in decisive action to place the Data Centre on a more secure footing to better enable it to support the efforts by the Government of Ireland to address the Biodiversity Crisis we currently face.

Recording goes from strength to strength

A very significant milestone was reached in August when the number of records submitted to Ireland’s Citizen Science Portal in 2019 passed the 100,000th mark. The 100,000th records was of Heather (Calluna vulgaris) from Valentia Island [grid ref. V387774] on August 22nd, 2019, submitted by Margaret Cahill. It was appropriate that this milestone was reached during Heritage Week 2019, as biodiversity is such an important and increasingly threatened aspect of our natural heritage.

2019 has seen a phenomenal rate of recording of Ireland’s biodiversity, with on average almost 3,000 records submitted each week since the start of the year. This includes 31,498 records of plants, 27,084 birds, 12,255 butterflies and 5,618 records of mammals.

“We feel it is important to showcase this work as these are the building blocks of evidence used to better understand Ireland’s biodiversity and how it is changing.”

Director’s Comment

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To celebrate World Bee Day May 20th 2019, President Higgins invited founders of the All-Ireland Pollinator Plan, Dr Una FitzPatrick, National Biodiversity Data Centre; and Prof Jane Stout, Trinity College Dublin, to visit Áras an Uachtaráin to highlight the success of the All-Ireland Pollinator Plan.

News

Rare Plant Monitoring Scheme
The Data Centre received funding from NPWS to expand its Rare Plant Monitoring programme in 2019. This involved hosting a series of workshops led by Paul Green, who trained volunteers in monitoring known populations of Ireland’s threatened species. This relatively straightforward scheme is now monitoring more than 60 populations of rare plants, providing valuable information on tracking how they are faring. This should provide early warning signs of problems and hopefully help to protect rare plant populations into the future.

Submission to Heritage Ireland 2030
The National Biodiversity Data Centre made a detailed submission to the Heritage Ireland 2030 consultation. In its submission, the Data Centre clearly highlighted the strategic value of how its work contributes to the three identified themes of National Leadership, Heritage Partnerships and Community and Heritage. The submission also identified new services and roles that the Data Centre is ideally placed to deliver through strategic partnerships with other public bodies, if additional resources were provided. The submission can be downloaded at http://www.biodiversityireland.ie/wordpress/wp-content/uploads/Submission_Heritage_2030_National_Biodiversity_Data_Centre.pdf

National Biodiversity Indicators - 2018 Status and Trends
The Data Centre published the National Biodiversity Indicators - 2018 Status and Trends report in June. 52 indicators underpin the latest assessment representing a range of both direct and indirect metrics. The 2018 report finds that overall, clear progress is being made in only 31% of the indicators, with progress in 65% being either static or poor and another 4% are of uncertain status.

The report finds that the greatest gains over the five years or so have been in awareness and knowledge of Irish biodiversity. As an example, in the latest European surveys on attitudes to wildlife protection, now over 90% of Irish people agree that looking after nature is essential in tackling climate change, and at 4.2 million, there are now three times the number of biological records in the Data Centre as we had 10 years ago.

In contrast, certain measures that directly relate to governmental actions that safeguard Irish biodiversity are far from positive. Based on data from the Central Statistics Office, the level of national expenditure on biodiversity in 2016, the latest year available, was 143 million: 27% below the preceding five-year average and 47% below the 10-year average. If this trend continues, key national policies such as the National Biodiversity Action Plan 2017-2021 will not be fully implemented due to lack of resources.

The Data Centre is always looking for details of species sightings as it helps us to build up a detailed picture of what species occur where, across Ireland. The more sightings we receive, the more useful this information.

Go to Ireland’s Citizen’s Science Portal at https://records.biodiversityireland.ie and tell us what you find, by providing: your name; your email address; the location where you saw the species; data or your observation; and the grid coordinates for the location.

**Backyard Biodiversity Survey**
As a beginner, we are encouraging recorders to look for 20 relatively common species you might find in your back garden in different seasons. Check out the Backyard Biodiversity web page http://www.biodiversityireland.ie/record-biodiversity/backyard-biodiversity/ to see which species you can find, and submit details to the Data Centre.

**Monitoring schemes**
Tracking change in detail requires systematic monitoring; repeating a survey periodically to a standard methodology. The Data Centre manages three insect monitoring programmes: the Irish Butterfly Monitoring Scheme, the Bumblebee Monitoring Scheme and the Marsh Fritillary Monitoring Scheme. It also manages the Rare Plant Monitoring Scheme, a programme that monitors populations of Ireland’s rare and threatened plant species.

**Providing support to partners for national surveys**
The Data Centre provides support to some of its partner organisations to host survey pages and provide online record submission forms. During 2019, surveys supported by the Data Centre included:

- All-Ireland Squirrel and Pine Marten survey
- National Hare Survey
- BirdWatch Ireland's Lapwing Survey
- BirdWatch Ireland's River Bird Survey
- Swift Conservation Ireland
- Wild Honeybee Survey

**National surveys and atlases**
The Data Centre is currently seeking observations for three taxonomic group to contribute to Atlases:

**Butterfly Atlas 2021**
The Butterfly Atlas 21 project is encouraging submission of butterfly sightings to be included in the Atlas of Butterflies in Ireland 2021 project, which runs to the end of 2021.

**2nd European Mammal Atlas**
Working in conjunctions with NPWS, we are looking for records of any terrestrial mammals seen to contribute to the 2nd European Mammals Atlas. This project runs until 2023, and any mammal sightings submitted will contribute to this huge regional atlas.

**Atlas of Ladybirds in Ireland 2025**
The Ladybird Atlas 2025 is seeking observations of Ireland’s ladybirds in order to produce the first comprehensive distribution atlas for this insect group across the island of Ireland.

**Invasive Alien Species**
Records of invasive alien species are needed to better understand their current distribution and to support public bodies to take action to mitigate their negative impacts. Sending details of any species listed for action under the EU Regulations will trigger an Alert, and rapid response as appropriate.

**Dragonfly Ireland 2019-2024**
This EPA-funded project is seeking records of Dragonflies and Damselflies to help increase our knowledge of their current distribution and explore their value as indicators of water quality and climate change.

**Explore Your Shore!**
Explore Your Shore! is another EPA-funded project seeking records of all coastal and intertidal marine species to help improve our knowledge of their distribution and habitats.
The National Biodiversity Data Centre operates an Invasive Alien Species Automated Record Alert System. Species tagged for alert are those that are not yet present in Ireland or have a rare occurrence, but could become high-impacting invasive species if they established here. If an occurrence of these species is detected in Ireland, then where possible, a rapid response to contain and remove them should be initiated. Otherwise it may be too late to eradicate or contain established populations.

In 2018, 70 automated invasive alien species record alerts were received (Table 1). Of the 70 records submitted: 33 were verified as the species recorded; 32 of the records were not verified due to a lack of supporting evidence; and, for 5 of the records submitted, the species were identified as something else.

Submission of a photograph or video with the record will aid in confirming the species identification. It is not always possible to have such evidence, especially for unexpected encounters with animals, but submission of the sighting record is still encouraged.

Additional sightings were submitted directly by email (figures not included in Table 1) but use of the online recording form or the Biodiversity Data Capture App for submitting sighting details will ensure the automated alert is triggered and the National Biodiversity Data Centre receives and responds to the submitted alert records.
Table 1. Invasive Species Automated Record Alerts for 2018

<table>
<thead>
<tr>
<th>General Taxon Group</th>
<th>No. of alert records submitted</th>
<th>No. of each species reported</th>
<th>No. of records verified</th>
<th>No. of records unable to verify</th>
<th>No. records verified as a different species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshwater Invertebrate/pathogen</td>
<td>5</td>
<td>2 non-native crayfish 2 Crayfish Plague 1 Asian clam</td>
<td>2</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Freshwater Vertebrate</td>
<td>9</td>
<td>6 Trachemys scripta species 3 Rainbow trout</td>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Freshwater Plants</td>
<td>11</td>
<td>3 New Zealand pigmyweed 3 Nuttall’s waterweed 3 Parrots feather 2 Curly waterweed</td>
<td>9</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Terrestrial Invertebrate</td>
<td>3</td>
<td>3 Asian hornet</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Terrestrial Vertebrate</td>
<td>29</td>
<td>14 Raccoon 6 Coypu 6 Muntjac deer 2 Black rat 1 Siberian chipmunk</td>
<td>7</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>Terrestrial Plants</td>
<td>10</td>
<td>10 American skunk-cabbage</td>
<td>9</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Marine</td>
<td>3</td>
<td>2 Didemnum vexillum 1 Wakame</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total no. of alert records</strong></td>
<td><strong>70</strong></td>
<td></td>
<td><strong>33</strong></td>
<td><strong>32</strong></td>
<td><strong>5</strong></td>
</tr>
</tbody>
</table>

So far in 2019, 34 automated alert records were submitted: 14 verified, 9 unverified and 7 identified as other species (Table 2). Interestingly, one of the alert records submitted in 2019 was for Rusty crayfish. The species wasn’t a Rusty crayfish but turned out to be the Yabby (*Cherax destructor*) and the first non-native crayfish record in our freshwaters. While Yabby wasn’t a tagged alert species there was immediate concern and a rapid response was triggered to immediately sample the site to confirm its presence and determine the status of its establishment.

Table 2. Invasive Species Automated Record Alerts for 2019

<table>
<thead>
<tr>
<th>General Taxon Group</th>
<th>No. of alert records submitted</th>
<th>No. of each species reported</th>
<th>No. of records verified</th>
<th>No. of records unable to verify</th>
<th>No. records verified as a different species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshwater Invertebrate/pathogen</td>
<td>1</td>
<td>1 Rusty crayfish (was a Yabby).</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Freshwater Vertebrate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Freshwater Plants</td>
<td>5</td>
<td>3 New Zealand pigmyweed 1 Nuttall’s waterweed 1 Parrots feather</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Terrestrial Invertebrate</td>
<td>4</td>
<td>3 Asian hornet 1 Gypsy moth</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Terrestrial Vertebrate</td>
<td>21</td>
<td>9 Coypu 5 Muntjac 4 Raccoon 2 Rose ring-necked parakeet 1 Feral pig</td>
<td>2</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>Terrestrial Plants</td>
<td>9</td>
<td>9 American skunk-cabbage</td>
<td>8</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Marine</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total no. of alert records</strong></td>
<td><strong>40</strong></td>
<td></td>
<td><strong>15</strong></td>
<td><strong>21</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>
Through its annual training programmes, the National Biodiversity Data Centre offers numerous opportunities for the public to learn about different facets of biological recording. Participants visit a variety of wild spaces and interesting habitats, upskill in species identification, learn about conservation issues, and benefit from the knowledge and skills offered by our national experts in the field of ecology.

Getting to grips with grassland habitats, Birr Castle, Co. Offaly.

A Farmland Walk for Burren in Bloom, which had a special focus on Pollinators this year.

Anyone can get involved
Just head to our Events page at www.biodiversityireland.ie to find out what workshops are planned. Book online at: www.biodiversityireland.ie/events or contact info@biodiversityireland.ie for further information.

Explore Your Shore! - seaweeds and seashells, with Dave Wall and Marie Power Garrarus Beach, Waterford.
Have you been to visit the coast lately? Did you spend any time exploring our coastal marine wildlife? Were you able to identify any of the species you saw, and did you record your sightings via the National Biodiversity Data Centre?

Ireland has 3,171 km of coastline and probably in excess of 1000 coastal marine species, and yet in 2018, only 3.7% of 100,390 records submitted to the National Biodiversity Data Centre were of coastal marine species.

Trips to the coast are a popular activity, with people engaged in walking, angling, surfing, diving, rockpooling, paddle boarding, coasteering and a whole range of other activities. Despite this, we receive relatively few intertidal species records at the National Biodiversity Data Centre.

To put this in some context, many of you will be familiar with the beadlet anemone, which is one of the most widespread and abundant species on our coastline. I doubt there are many rocky shores in Ireland where they do not occur, however, at the end of 2018 we had only 400 records of beadlet anemone in our database. In contrast we had 11,000 records of red fox which, although easy to recognise, is largely nocturnal and not very easy to spot.

So why are we failing to record our intertidal and coastal species with the same fervour we record terrestrial species? Part of it may be because most intertidal species are small, and many of them look alike. There are also a vast number of them, for example there are at least 500 seaweed species growing along our shores. However, there are 2,328 vascular plant species in Ireland and that doesn’t appear to discourage people recording those. As I glance at our Citizen Science Portal, I can see that over 18,000 plant records were submitted between May and July 2019 alone!
A major factor in low recording effort is a lack of familiarity with marine species. In my previous role, working in coastal community engagement, I was constantly surprised at how few intertidal species people could identify. The same point has been raised to me by several people working with community and school groups around Ireland. I suppose very few marine species (apart from whales, dolphins and sharks) make it into school books about nature, which tend to be full of furry foxes and pretty plants. Squishy sponges and slimy seaweeds rarely make the grade!

Explore Your Shore! is a new Citizen Science initiative, funded by the Environmental Protection Agency, focused on increasing our knowledge of the distribution of our intertidal species, exploring their potential as bio-indicators of water quality and climate change, and highlighting actions we can all take to tackle water pollution and global warming. To encourage maximum participation in coastal marine species recording, four surveys will be available:

**Seashore Spotter**
The Seashore Spotter survey is our entry level survey, designed to allow you to submit casual species records. No matter what you are doing at the coast, you can always submit a marine species record via our smartphone-friendly online form. The form allows you to submit multiple species records from the same location which is perfect for rockpooling! Just record your details, your location and the species and include a photo of each species to help us validate your record.

**Big Beach Biodiversity Survey**
The Big Beach Biodiversity Survey asks volunteers to conduct a timed survey, recording bivalve shells, and other flotsam cast up on the tide. We are asking you to record both live and dead animals and plants found on the beach. The dead animals will have originated from the adjacent sea and can provide a really useful indication of the diversity of life living beneath the waves just off the shore. Any sandy or cobble beach will do, and you can upload your data and photographs via our smartphone-friendly form. Getting involved is easy and a Big Beach Biodiversity Survey can be completed in as little as 30 minutes.

Our Seashore Spotter and Big Beach Biodiversity surveys are up and running and available right now via the ExploreYourShore.ie website. We have two more marine biodiversity surveys planned which will be available online in the next few months.
Seashore Snapshots

Seashore Snapshots will ask volunteers to head down to the shore and take some digital survey pictures (using a printable quadrat) of sessile intertidal species such as limpets, barnacles and seagrass. The images you submit will then be analysed by trained researchers to identify the species and calculate the density of animals present. This information will be used to explore the use of sessile intertidal species as bio-indicators for climate change and water quality. Images will be uploaded via an online form, along with details of when and where they were taken.

Rocky Shore Safari

Finally, our Rocky Shore Safari will focus on recording species on intertidal rocky shores. This will involve a timed walk-over survey from the upper shore to the water’s edge, with surveys conducted at low tide. Volunteers will be free to record any species they identify; however, we will also be asking surveyors to search for and record a list of key species. These species will be selected for their use as bio-indicators of climate change, water quality and habitat assessment. All records and photographs will be uploaded via a smartphone-friendly online form.

Explore Your Shore!

Coastwatch Europe runs an annual survey each September/October designed to give an overview of the state of the coast. Volunteers from all walks of life check a 500m stretch of coast (survey unit) once around low tide, and record observations on marine litter, water quality and biodiversity.

The Irish Whale and Dolphin Group works collaboratively with the National Biodiversity Data Centre and the Irish Whale and Dolphin Group to ensure that basking shark sightings are recorded and stored in a single national database.

The Big Jellyfish Hunt is a citizen science project run by the UCC School of Biological, Earth & Environmental Sciences, working in partnership with the National Biodiversity Data Centre. It asks members of the public to submit records of jellyfish sighted or stranded.

Purse Search Ireland is a citizen science project, which asks the public to record Mermaids’ Purses, the eggcases of sharks, skates and rays. These eggcases can provide valuable information on the location of nursery areas for these species.

Explore Your Shore! is also working in partnership with a number of existing projects collecting marine species data in Ireland:

Seasearch Ireland who use volunteer recreational divers and snorkellers to record marine species and habitat data from around the Irish coast. They also survey a network of monitoring sites on a monthly basis during the summer months.

The Irish Whale and Dolphin Group operate a sightings and strandings recording scheme for Ireland. The IWDG also operates a number of other cetacean surveys using citizen scientists, including a Constant Effort Recording Scheme and line transect surveys for cetaceans on board commercial car ferries across the Irish Sea.

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KelpRes is a citizen science project run by the NUI Galway School of Natural Sciences, which asks volunteers to submit records of kelp forest or of non-native species such as Golden Kelp.
Taking a Species Record Photograph

To take a good species record shot, get as close as you can to your subject, make sure your photo is in focus and well lit, and please take a photo of enough of the animal or plant to enable us to identify it! For most species, this will be a photo of the entire animal, however for seaweeds, a close-up of a section of the algae, showing details of the frond is preferable. Some example species record shots are shown here.

Know Your Seaweeds

Ireland has at least 500 seaweed species. The thought of learning how to identify seaweeds may at first seem daunting, however we can start by learning a few of our more easily recognised and common species.

**Bladder Wrack**
Found on the mid-shore and easily recognised by its paired air bladders either side of a prominent midrib.

**Channelled Wrack**
Found on the upper-shore, often dried out and brittle. A distinct channel in the frond helps retain moisture.

**Egg Wrack**
Found on the mid-shore, with rows of single bladders located centrally on long, strap-like fronds.

**Serrated Wrack**
Found on the lower-shore and easily recognised by its saw-toothed or serrated edged frond.

**Spiralled Wrack**
Found on the upper-shore and lacks bladders or a serrated frond. Frond often has twisted appearance.

**Thongweed**
Found on the extreme lower-shore. Has long, narrow, strap-like fronds sparingly branched. Grows to 2m in length and up to 10mm in width.

All the information you need to get involved in Explore Your Shore! is available via our project website. All data collected is validated by experts and will be available via the National Biodiversity Data Centre’s Biodiversity Maps database. For more information and survey details, please visit [www.ExploreYourShore.ie](http://www.ExploreYourShore.ie)
Bivalves of Ireland

This is a selection of the 250-plus Bivalve species which have been recorded in Irish waters. The Big Beach Biodiversity Survey is looking for volunteers to conduct a timed survey, recording bivalve shells and other species cast up on the tide. To take part, please visit ExploreYourShore.ie

Mya truncata
(Blunt Gaper)

Cerastoderma edule
(Common Cockle)

Lutraria lutaria
(Common Otter Shell)

Glycymeris glycymeris
(Dog Cockle)

Atrina fragilis
(Fan Mussel)

Gari fervensis
(Faroe Sunset Shell)

Arctica islandica
(Icelandic Cyprine)

Magallana gigas
(Pacific Oyster)

Ensis siliqua
(Pod Razor Shell)

Mya arenaria
(Sand Gaper)

Chamelea gallina
(Striped Venus)

Spisula solida
(Thick Trough Shell)

Thanks to the National Museum of Ireland – Natural History for access to photograph specimens
This is a selection of the 250-plus Bivalve species which have been recorded in Irish waters. The Big Beach Biodiversity Survey is looking for volunteers to conduct a timed survey, recording bivalve shells and other species cast up on the tide. To take part, please visit ExploreYourShore.ie

- Polititapes rhomboides (Banded Carpet Shell)
- Cerastoderma edule (Common Cockle)
- Atrina fragilis (Fan Mussel)
- Magallana gigas (Pacific Oyster)
- Chamelea gallina (Striped Venus)
- Ensis ensis (Common Razor Shell)
- Modiolus modiolus (Horse Mussel)
- Mactra stultorum (Rayed Trough Shell)
- Mya truncata (Blunt Gaper)
- Glycymeris glycymeris (Dog Cockle)
- Arctica islandica (Icelandic Cyprine)
- Mya arenaria (Sand Gaper)
- Pholas dactylus (Common Piddock)
- Pecten maximus (Great Scallop)
- Aequipecten opercularis (Queen Scallop)
- Pharus legumen (Bean Razor Shell)
- Ostrea edulis (Common Oyster)
- Ensis siliqua (Pod Razor Shell)
- Spisula solida (Thick Trough Shell)
- Mytilus edulis (Blue Mussel)
- Ostrea edulis (Common Oyster)
- Limaria hians (Flame Shell)
- Acanthocardia echinata (Prickly Cockle)
- Limaria hians (Flame Shell)
- Pecten maximus (Great Scallop)
- Modiolus modiolus (Horse Mussel)
- Aequipecten opercularis (Queen Scallop)
- Mactra stultorum (Rayed Trough Shell)
- Mimachlamys varia (Variegated Scallop)

Thanks to the National Museum of Ireland – Natural History for access to photograph specimens.
Ladybirds

There has been a very significant increase in recording for the Ladybirds Atlas which is due for production after 2025. All ladybird records received up to the end of July 2019 have now been validated and added to the ‘Ladybirds of Ireland’ database. The total number of new validated records added to the database was 2,493, which is an overall increase of 63% on the number prior to 2018.

Records were received for 16 ladybird species over the period. The most commonly recorded species was the 7-spot Ladybird, and it comprised 65% of all records received. The 14-spot and 22-spot Ladybird were the next most commonly recorded. Together, these three species account for more than 80% of all records received. There is now good momentum with ladybird recording in Ireland, and the database has grown to 6,255 records. There is, however, a bias of recording effort toward the south-east of the country.

A species new to Ireland, the Bryony Ladybird, was recorded in Bandon, Co. Cork, by Lydia Rose on February 23rd 2019. This is an interesting find, but the assumption is that it is a one-off, as its wild food plant is White Bryony, quite a rare plant in Ireland. It may, however, be associated with gardens or horticultural areas as it is known to feed on cucurbits and gourds, which include melons, cucumbers, marrows and pumpkins. This find follows on from Myles Nolan recording Cream-streaked Ladybird at Irishtown Park, Sandymount, Dublin, in September 2017, another species new to Ireland.

Fourteen new records of Kidney-spot Ladybird were received, confirming that there is a strong population of this species around Cork, but its range now extends north to Mallow and east to Cloye. Valuable additional records of 11-spot, Cream-spot, Orange and Eyed Ladybirds were also received to help us build up a better picture of their distribution in Ireland. The invasive Harlequin Ladybird continues to spread, with 81 records received over the period.

A small number of records of Hieroglyphic, Larch and 13-spot were received, suggesting these are very localised species in Ireland. One additional record of Striped Ladybird in July 2018 was received from Gillian Stewart at Aughrim, Co. Wicklow.

Recorders are encouraged to continue to submit any sightings of ladybirds to the National Biodiversity Data Centre. All records will be published as an Atlas of Ladybirds in Ireland 2025, which we hope to produce in partnership with CEDaR, Northern Ireland.

The 14-spot ladybird is one of the top three most frequently recorded ladybirds in Ireland.

Dr Liam Lysaght
DIRECTOR
National Biodiversity Data Centre

The Identification Guide to Ireland’s Ladybirds is available to buy online from: www.biodiversityireland.ie/shop/

UPDATED DATASETS
Caddisflies (Trichoptera) of Ireland - Dr. James O’Connor (478 records)
Butterflies of Ireland – submitted to the Data Centre (7,812 records)
Bees of Ireland – submitted to the Data Centre (3,378 records)
Mammals of Ireland 2016-2025 – submitted to the Data Centre (2,799 records)
Irish Vascular Plant Data – Robert Northridge (6,174 records)
Ladybirds of Ireland – submitted to the Data Centre (2,152 records)
Syrphids of Ireland – submitted to the Data Centre (499 records)

National Invasive Species Database - submitted to the Data Centre (51 records)

To view the datasets and records, visit Biodiversity Maps at http://maps.biodiversityireland.ie/.

There was a very significant increase in the number of records submitted to Ireland’s Citizen Science Portal in 2019, with 111,322 submitted up to the end of September.

To submit records of any species, please visit Ireland’s Citizen Science Portal: http://www.biodiversityireland.ie/.
2019 has been a great year so far, with more records than ever before being submitted. In good news, the Tawny mining bee (Andrena falva) has had an excellent year. That’s the lovely spring-flying solitary bee that reappeared from extinction in 2012. It was reported safe and well from its existing sites in Wicklow and Kilkenny. We also had our first ever sighting from Dublin City (Churchtown) and it was recorded for the first time in County Kildare (Athy). It’s great to add two new counties to its range in 2019. We’ve also had new populations of the most recent solitary bee to arrive in Ireland. The Wool Carder bee (Anthidium manicatum) was recorded for the first time in Ireland from Wexford in 2015. Records this year show it is now very well established in the south-east.

Of most interest this year is that the Tree Bumblebee (Bombus hypnorum) has been reported from Belfast. It’s been spotted in at least two separate locations in the city. It was first recorded in Ireland from St. Stephen’s Green in September 2017. It’s hypothesised that there are two main insect migration routes into the island of Ireland. From Wales into the south east and from Scotland into the north east. It looks like the Tree Bumblebee is no different. The Tree Bumblebee is a robust bumblebee and an excellent pollinator. It will be interesting to see the range expansion in both cases over the coming years. Unlike most bumblebee species which make their nests at ground level, in long grass or in old abandoned rodent nests, Tree Bumblebees nest in holes in trees or other similar structures and are commonly found in empty bird boxes. The National Biodiversity Data Centre is encouraging everyone to look out for Tree Bumblebees to help map their progress in Ireland. The Tree Bumblebee has a black head, a fuzzy ginger-brown thorax, a black abdomen and a white tail.

Two of our rarest bumblebee species (Shrill Carder Bee and the Great Yellow Bumblebee) have been recorded this year, with the Shrill carder bee seeming to remain in healthy numbers in the Burren.

We are delighted to have collaborated with BirdWatch and Mayo County Council to publish the first All-Ireland Pollinator Plan guideline document on protecting rare pollinators, which is focused on The Great Yellow Bumblebee – I only hope it will result in more populations to report in coming years. See www.pollinators.ie/greatyellowbumblebee

Each autumn, I ask people to keep an eye out for the Ivy Bee (Colletes hederae). It has never been spotted in Ireland, but it is now common in Britain and seems likely to arrive on our shores very soon. It’s a solitary bee with a very late flight period, to match the flowering of its favourite plant - Ivy. In Britain it can be found from early September until early November. As bees go, it should be fairly easy to recognise as it’s quite large and has very distinctive bands of white on the abdomen. To make it a little easier, most of our solitary bees have already completed their life cycles for this year, but there will still be hoverflies and honeybees on the wing. If you think you’ve spotted this bee, please try to take a photograph and email it to us for validation www.pollinators.ie/record-pollinators/watch-for-new-arrivals

On a personal note, I want to express my best wishes to Tomás Murray who is leaving us. Tomás and I learned to identify bees together when we both worked on another project, long before becoming colleagues in the National Biodiversity Data Centre. I’ve become used to having his expertise, support and friendship in the office next door and it’ll be sorely missed.

Dr Úna FitzPatrick
Senior Ecologist,
National Biodiversity Data Centre
www.pollinators.ie
Butterflies

Our fantastic network of recorders continues to expand and excel. For the second year in a row, they’ve beaten all previous records: 810 recorders have now submitted over 16,400 records to the Data Centre this year alone, a 15% increase in recorders and 35% in butterfly records compared to 2017! In addition, there are now 32 recorders who have successfully surveyed 52 Five-Visit Monitoring squares for the Butterfly Atlas too, so for anyone wishing to take a step beyond casual recording and explore a new area with a Five-Visit walk, please take a look at the Butterfly Atlas 2021 website to see where and how you can get involved.

It’s humbling to see the level of support that the Butterfly Atlas 2021 has received and the increase in recording activity across our partners, Butterfly Conservation Ireland and Butterfly Conservation Northern Ireland too. With this many eyes on the ground, it’s unsurprising that our rarer resident and migrant species are being detected with greater frequency. Normally only recorded every 5-10 years, the rare migrant Camberwell Beauty was sighted again this year in Smithfield on July 17th by Damien Walshe. Clearly benefitting from the heatwave, between 200-500 individuals of one of our rarest resident species, the Small Blue, were recorded by both Janet Whelehan in Wexford and John Lovatt in Dublin in early June. In addition, counts of one of our more easily overlooked species, the Green Hairstreak, increased two-fold this year, and what would normally be considered a north, midlands and west-coast species has been recorded in good numbers in eastern counties, too.

At the time of writing, the Irish Butterfly Monitoring season has just ended and records are still winging their way in from our wonderful network of butterfly monitors. Initial estimates from two-thirds of our sites show that although the start of the season was delayed due to the snow and poor weather in April, we had an above-average May, with populations up by 38%, followed by a second boost from the heatwave, with counts across late June and July up 15%. Overall, across the year the dips and peaks have evened out, resulting in 2018 being an average year in term of the size of our butterfly populations. The peculiar combination of weather this year did benefit some species more than others, with Essex Skipper, Dingy Skipper, Grayling, Marsh Fritillary and (as mentioned above) Small Blue counts double or triple that recorded in previous years! Even up until the end of September, butterfly monitors were still recording Common Blue and Small Copper, both of which had poor 1st generations but excellent 2nd ones.

In parallel with populations in the UK, the Small Tortoiseshell seems to be one of the few species to have declined by ca. 20% this year. Although still widespread and very common in some localities, this is the fourth year in a row the national population of this species has declined. The drivers of the decline are still a mystery as its foodplant, the ubiquitous nettle, thrives in our agricultural landscapes and urban areas. It may well be that we’ll have to look toward a mystery disease, parasite or even climate change for an answer.

Dr Tomás Murray
SENIOR ECOLOGIST
National Biodiversity Data Centre

www.biodiversityireland.ie/record-biodiversity/surveys/butterflyatlas/
www.biodiversityireland.ie/record-biodiversity/surveys/butterfly-monitoring-scheme/
Bugs

It is 12 months since the last report, and it’s interesting to compare the past two years with regard to bugs and their life cycles. This is based largely on impressions and random wanderings, there is no standardised monitoring methodology for bugs. However, I have spent enough time in both years at one of my regular sites to notice what I think were some genuine differences. The site is Craigavon Lakes in north Co Armagh, a park around two artificial lakes, created in the 1960s, that now contains quite a diverse range of habitats, including short, sparse vegetated brownfield, amenity grassland, scrub and broad-leaved woodland (mostly planted, but with some old oaks which are remnants of the old hedgerows). Eight species of shieldbug are present, which is all the local species apart from Blue Shieldbug, *Zicrona caerrulea*.

Late winter is when the first active bugs can be seen, and it is usually Gorse Shieldbug, *Piezodorus lituratus*, appearing not unexpectedly on Gorse (it will also use Broom). Which stands of Gorse contain clusters varies. Stands that were packed with Gorse Shieldbugs a few years ago are now poor as they have become more shaded or have been burnt and simply do not exist anymore. Of course they may also have got more leggy and taller so are less easily examined. There also seems to be an element of randomness, two seemingly similar patches can have different densities of shieldbugs. This may simply be that the first few settled on one patch and others joined them; Gorse Shieldbugs are rarely found alone.

Gorse Shieldbugs seem to spend most of their time sitting in the sun doing very little. I presume they feed on the seeds of Gorse, but why they seem to spend so little time feeding is a bit of a puzzle. Most other insects don’t have such a laid back attitude. The barrel-shaped eggs are laid on the seedpods, typically in two lines, and the nymphs are often seen sitting on the outside of the pod. I do wonder what happens to these nymphs when the pods open explosively to scatter the seeds. Are they flung through the air never to re-find their home plant? Or is it just an exciting interlude in their life but involving a bit of a walk back to a host plant?

Apart from the year-to-year change in location, Gorse Shieldbugs seemed as common in 2019 as in 2018. Numbers of Hairy Shieldbug, *Dolycoris baccarum*, however, certainly increased at the lakes and in other areas and it is almost becoming a guaranteed find. I also found nymphs in several very ordinary road verges and weedy fields indicating successful breeding and firm establishment.

A puzzling feature of this spring has been the relative absence of Hawthorn, *Acanthosoma haemorrhoidale*, and Birch, *Elasmostethus interstinctus*, Shieldbugs. These must be around as both species overwinter as adults and in 2018 they were common in my area. But I did find them hard or impossible to locate, unlike others who seemed to see them easily. This year, like the previous, there is an abundance of berries on Rowan, Hawthorn and also Whitebeam, so these are full of developing nymphs of Hawthorn Shieldbug. I have also seen nymphs on Alder trees enough times to suggest they may even be breeding on them. The literature only mentions plants in the rose family as host species.

The two birch-feeding shieldbugs have had contrasting seasons. Birch Shieldbug has had a good year, and seems similarly abundant to last year. Nymphs were easy to find on birch catkins. In 2018, Parent Shieldbug, *Elasmucha grisea*, was quite hard to find. I think the drought conditions in the early summer, which caused many Birch to drop their leaves, impacted numbers. But this year, it has bounced back, though it is, as always, less numerous than Birch Shieldbug in my experience. Another species which is having a better year in 2019 is the Bronze Shieldbug, *Troilus luridus*. Alder is the tree I find it on most easily.

The species that has shown the biggest change in the two years has been Forest Shieldbug, *Pentatoma rufipes*. Unlike most Irish species, it overwinters as a nymph and these mature into the new adult generation in early summer. Forest Shieldbug was common at Craigavon...
The National Biodiversity Data Centre has just produced a new poster on Irish Shieldbugs.

Lakes in 2018, with nymphs very numerous in late summer on the oaks. This year, so far, I have seen no nymphs and the adults were much harder to find than in 2019. Why this has been so is unknown to me.

Turning to other bugs, there have been several more additions to the Irish list of Heteroptera in 2019, so far at least four species. The first to mention is *Megacoelum infusum*, a very striking orange and red bug with a very splendid pair of antennae as long as its body. Nymphs are similarly coloured, but also have long antennae so are instantly recognisable. Unfortunately, the adults of the two west European species cannot be told in the field. It used to be thought that *infusum* was found on oak and other broad-leaved trees and the second species *beckeri* on pine, but this is not a safe way to identify them. The Irish list includes *beckeri*, though that is inferred as the specimens were seen on pine and were not checked. In recent years, *Megacoelum* nymphs have been seen by Ciaran Byrne in Carlow; Larry Doherty in Tipperary; and myself in Co Armagh; indicating a wide distribution, but without adults to confirm the species. This year, finally, Larry Doherty has found an adult and that has allowed the species to be determined as *M. infusum*.

A second addition is another species of *Deraeocoris*, the third new Irish species from this genus since 2016. This new species is *lutescens* found first by Brian Power in Co. Carlow and then, a few days later, by Ciaran Byrne from at least two sites including near Dublin, suggesting that it has clearly been overlooked. *Deraeocoris flavilinea*, which was added in 2017 at Craigavon has now been found in both Co Dublin and Co Tipperary. The third species, *D. ruber*, is found around Cork City.

The other two additions are both from Craigavon Lakes, Co Armagh. One is the tiny (c.2mm) *anthocorid, Buchananiella continua*. Two specimens have been beaten from willows in the last few weeks. The species is found globally and is sometimes considered invasive. It feeds in compost heaps and amongst leaf litter.

The last addition reported here is *Blepharidopterus diaphanus*, a delicate pale green bug found on White Willow, *Salix alba*. White Willow is relatively common around north Armagh, as large imposing trees with a weeping habit, which makes them easy to sample despite their height. It is a planted, non-native, tree. I have never found anything on them apart from a few generalist bugs so have generally ignored them. Hearing about *B. diaphanus* being found in Scotland for the first time, prompted me to look at the Craigavon trees in early August, which produced many adults and nymphs. Another check of a White Willow that grows just 100m from my house also produced many specimens of the bug, suggesting it may have been here for a few years and is clearly doing very well.

Just to end with a suggestion for two species to look out for. The first is the Western Conifer Seedbug, *Leptoglossus occidentalis*. It is much bigger than any terrestrial bug present in Ireland. The species breeds on North American conifers, especially Douglas Fir. At this time of year, adults disperse from their breeding sites to overwintering sites and may turn up indoors or in moth traps, attracted to the lights. Records of this species, especially any nymphs would be very welcome to track its likely establishment and spread in Ireland.

The second is a ‘traditional’ shieldbug, the Southern Green Shieldbug, *Nezara viridula*. This has been seen a small number of times in Ireland, but it is not known if it is established. Adults may have been imported, with vegetables for example, and the nymphs seen in Dublin in 2017 may have been brought in on plants. The species is spreading in Britain, and again any sightings in Ireland would be very welcome. The adults are larger than the resident Green Shieldbug and typically a paler green colour. Nymphs are very distinctive with large white and pink spots on a black or green background.

Accounts of the new species found in 2019 will be written up in more detail but I wish to thank Larry Doherty, Brian Power and Ciaran Byrne for sharing their discoveries. Lastly, a thank you to everyone who has submitted shieldbug and other bug records over the last 12 months.

Dr Brian Nelson

INVERTEBRATE ECOLOGIST
National Parks and Wildlife Service
A lot of people seemed to be worried about the lack of Hirundines around their properties.

Birds

What were the avian talking points of the summer just passed?

A lot of people seemed to be worried about the lack of Hirundines around their properties – referring to our Swallows that nest in folks’ outhouses/stables/farm sheds, and House Martins nesting under the eaves. I agree, they have been in short supply in my patch, but before I declare a national emergency I will get Dick Coombes to look at the first 200 returns from the 2019 iteration of the Countryside Bird Survey and report back to you later. Swifts, as another species of aerial insectivore, often lumped with the Hirundines, are a focus of a multi-year survey by BirdWatch Ireland – this summer, county-wide surveys have been completed in Wicklow, Meath and West Cork. There are lots of things you can do to help Swifts and earlier this year we published a document ‘Saving Swifts’. This can be downloaded here: https://birdwatchireland.ie/publications/saving-swifts-guide/

Other common species of resident garden/countryside birds seemed to have a productive year, especially Blackbirds and Song Thrushes. Between April and June, I cannot recall ever seeing so many parent thrushes collecting loads of worms and molluscs from well mown verges and lawns. Young Great, Blue and Coal Tits appear plentiful at the moment, so my feeling is that they did fairly well, too. The pair of Goldfinches that nest in my garden double-brooded, but Greenfinches still seem scarce. A full report on trends in our common breeding species over the last three years (2017-2019) will be available in early 2020, maybe in time for the next issue of Biodiversity Ireland.

If you do not feed garden birds year-round, dig your feeders out now, clean them and load them up before Monday December 2nd – the start of the Garden Bird Survey season. Download forms and instructions at www.birdwatchireland.ie Enjoy birdwatching, while collecting meaningful data, from the comfort of your kitchen!

There is growing concern over the fate of our breeding waders; once common farmland species like Lapwing are very patchily distributed these days, and seeing displaying adults is an increasingly rare spectacle. BirdWatch Ireland made a call for information in the spring and hopefully a few lucky people were able to report sightings. The plight of the Curlew is well known, with probably no more than 100 pairs left in the country (RoI), and their last haunts are being intensively managed to maximise their productivity; in the Lough Corrib area there were 8-10 pairs this summer, seven of these hatched young and birds were known to have fledged from five of these pairs.

https://birdwatchireland.ie/our-work/surveys-research/research-surveys/irish-garden-bird-survey/
My summer focus is on the terns nesting on the east coast. Generally speaking, each of the four species did well somewhere: Little Terns experienced predator and tidal/storm setbacks at each of the three monitored colonies, Kilcoole, Baltray and Portrane, each recovered to some degree and a reasonable number of young fledged and we have some fascinating post-fledging movement patterns between these colonies and Gronant in North Wales. Arctic Terns nested successfully on the main Dalkey Island in south Dublin, we hope partially helped by rodent control the preceding winter and our better management of visitors on this popular tourist destination. Common Terns were productive in the Dublin Port colonies and Rockabill; at the latter productivity was >1 young per pair, something we have not seen for many years. The Roseate Terns on Rockabill also had a good summer, with a similar level of productivity. The only other seabird we monitor for productivity at multiple sites on an annual basis is the Kittiwake. At Downpatrick Head in Mayo, they raised >0.7 young per egg-laying pair and on the east at Rockabill it was about 0.6, much better than the last few years, when egg predation by Great Black-backed Gulls was intense.

BirdWatch Ireland is a partner in the cross-border EU-funded MarPAMM Project (Marine Protected Area Management and Monitoring); this summer we have been focussing on the large gulls in the northwestern counties of Sligo and Donegal. Here, we have successfully fitted GPS tags on Herring and Lesser Black-backed Gulls, which yielded important information on foraging behaviour during the breeding season and we are now seeing very different patterns of non-breeding distributions. The Herring Gulls have dispersed to all corners of Ireland, whereas the Lesser Blacks are virtually all in Iberia and one is on a beach in Morocco! I will come back to these stories in more detail in a future column.

Dr Steve Newton
SENIOR CONSERVATION OFFICER
Birdwatch Ireland

There is growing concern over the fate of our breeding waders; once common farmland species like Lapwing are very patchily distributed these days and seeing displaying adults is an increasingly rare spectacle."
RHD2 has now been confirmed from wild rabbits in a handful of dispersed locations around Ireland and has also been confirmed in the Irish hare.

Mammals

I’m writing this as reports come in of a deadly disease in wild rabbits and hares. The confirmation of rabbit haemorrhagic disease (RHD) in the wild in Ireland is worrying news. The disease was first reported in China in the 1980s, killing millions of farmed rabbits in a matter of months. It jumped from there to continental Europe and has spread globally since, leading to significant mortality in wild rabbit populations.

In 2010, a new more virulent strain of this virus (RHD2) emerged in France; it was detected in the UK in 2014 in domestic rabbits and was reported from domestic pets in Ireland a couple of years later. Originally confined to rabbits, several species of hare across Europe have also been shown to be susceptible to RHD2. Significant concerns were raised about local population crashes in brown hares (Lepus europaeus) in the UK last year; Lepus timidus in Sweden has also been affected.

RHD2 has now been confirmed from wild rabbits in a handful of dispersed locations around Ireland and has also been confirmed in the Irish hare. Unfortunately the virus is easily spread on soil and clothing as well as from animal to animal. Domestic rabbits can be vaccinated against the disease, but this does not seem a feasible option for wild rabbit populations at this time and the vaccine has not been tested in hares. NPWS rangers are monitoring this rapidly emerging situation on the ground, but it may be some time before we understand the full impacts of the disease.

In more positive news, the continued recovery of both the red squirrel and the pine marten is really encouraging. The preliminary results from the 2019 All-Ireland Squirrel and Pine Marten survey appear to show that the grey squirrel is still declining, particularly in midland counties. That said, it continues to do well on the east coast and is showing some increase in its range in the south-west and north-west. The survey is a collaborative effort between the Ulster Wildlife Trust and the National Biodiversity Data Centre, with financial support from the National Parks and Wildlife Service. You can follow updates on social media (search for: 2019 All-Ireland squirrel and pine marten survey) and you can submit records here: http://www.biodiversityireland.ie/record-biodiversity/surveys/all-ireland-squirrel-and-pine-marten-survey/

After a slightly longer gap than usual, planning is finally well underway for the next All-Ireland Mammal Symposium (AIMS 4). This time, the gathering is being organised by the Department of Zoology, TCD, with the event itself due to take place in DCU on November 23-24, 2019. The previous three symposia have been excellent, with great talks and posters on all aspects of Irish mammal research and conservation, and this latest instalment (the 10th anniversary meeting) promises to be good, too. For updates, follow the AIMS 2019 social media pages: Twitter @AllMammal; Facebook @AIMS2019. Hope to see lots of you there!

Finally, the results of the latest national Harbour Seal survey have been published. The survey used a thermal imaging camera mounted on a fixed-wing plane and was focussed on the major haul-out sites around the coast. This species appears to be in favourable conservation status in Ireland. Full details of the methods and results are available in the final report which is published in NPWS’s Irish Wildlife Manuals series: https://www.npws.ie/publications/irish-wildlife-manuals

Dr Ferdia Marnell
HEAD OF ANIMAL ECOLOGY
National Parks and Wildlife Service
Cetaceans

During the period April to September, the Irish Whale and Dolphin Group (IWDG) received and validated 738 cetacean sighting records, comprising the following nine species: common dolphin and minke whale, both top of the league table at 19%, followed by bottlenose dolphin at 15%, humpback whale 13%, harbour porpoise 12%, basking shark 5%, fin whale 3%, Risso’s dolphin 3%, and killer whale 1%.

It’s interesting that sightings of our most widely distributed and smallest cetacean, the harbour porpoise, are down on 2018, and sightings of our most iconic whale, the humpback whale, as a percentage of the total, are on the rise. Under the WhaleTrack Ireland project, funded by Ryanair passengers, IWDG fieldwork has focused on large whales, and humpback whales in particular. Thus far, we have documented 98 sightings of humpback whales since April 2019. In contrast to 2018, when they were only recorded in counties Cork and Kerry, this year we’ve added Counties Clare, Donegal, Antrim and Down. We can’t say whether this represents a range expansion, but it is good to see humpback whales outside of their known West Cork and Kerry hotspots.

Among the most memorable humpback encounters this season were re-sightings of #HBIRL001 & 002, the first individuals on the Irish Humpback Whale catalogue who date back to September 1999, when they were filmed together off the Kinsale Gas Fields. What are the chances that 20 years later, almost to the day, IWDG can document the same pair of humpback whales off the Blasket Islands?

But humpback #HBIRL003, Ireland’s best known whale, known to many as ‘Boomerang’, was never one to be left off the honours list and his return to Clonakilty Bay on September 14th, means he has been documented in inshore waters along the Cork and Waterford coast on at least 49 occasions, since he was first photographed in August 2001. This shows remarkable site fidelity with inter-annual re-sightings on 14 of the past 19 years.

The larger whale species tend to dominate news, however our smallest baleen whale, the minke remains our most frequently recorded and widely distributed whale species, with 154 records from nine counties. Their numbers this year started to build during March, but from early April it was clear that minkes were starting to arrive inshore along the south coast in impressive numbers. Between late April and June, whale-watching boats in Co. Cork were regularly recording between 10-40 minke whales during a standard four-hour trip.

As we’ve mentioned many times over the last few years, stranding records have remained at a high level in Ireland since 2011 compared with earlier years. Prior to that date, 130 or so would have been the expected annual total whereas in 2018, 277 stranding reports were validated and recorded on the IWDG Cetacean Stranding Database, the highest ever annual total. In 2019 (to September 24th), numbers remain high compared to historical figures, but there is a reduction in numbers compared to recent years.

As we approach the end of September, we have 185 cetacean strandings recorded for this year. During the same period in 2018, there were 240 stranding records and during 2017 there were 213. Twelve identifiable species have been recorded this year, but as in previous years, the most frequently recorded species are common dolphins, with 72 in 2019 (to date) accounting for 39% of all strandings. Other species recorded this year so far were bottlenose dolphin (8), Cuvier’s beaked whale (1), fin whale (1), harbour porpoise (37), minke whale (8), pilot whale (10), Risso’s dolphin (1), Sowerby’s beaked whale (4), sperm whale (4), striped dolphin (13) and white beaked dolphin (1).

While the term ‘stranding’ may convey the idea of a live animal, live strandings are not that common and so far this year, only 7% of all strandings were of live animals, with 13 incidents on record. This figure is down on recent years as 21 were recorded in 2018 and 24 in 2017. Once again, common dolphins are represented more than other species and were recorded in 38% of live strandings to date in 2019.

What are the chances that 20 years later, almost to the day, IWDG can document the same pair of humpback whales off the Blasket Islands?

Pádraig Whooley
SIGHTINGS OFFICER
Irish Whale and Dolphin Group

Mick O’Connell
STRANDINGS OFFICER
Irish Whale and Dolphin Group
Vascular Plants

It has been a big year for Irish botany as the Botanical Society of Britain and Ireland (BSBI) gears up to publish Plant Atlas 2020. BSBI’s network of 40 vice country recorders, along with numerous other volunteer recorders, have been scouring Ireland to record as many plant species, in as many places, as they can. So far over 150,000 plant records have been submitted to our database this year alone! Breaking it down geographically, for nearly every one of the 1009 hectads (10km x 10km squares) that make up Ireland, at least 60% of the total number of plants recorded any time before the year 2000 have been recorded since 2000. In many cases, the recording rates are even better, with a few hectads boasting more plant species recorded since 2000 than had ever been recorded there before. We know there are a lot of records still waiting to be added to our database, so we are looking forward to even greater coverage by the time Atlas2020 is compiled.

One area of botany that is often overlooked is aquatic plants. They are not readily visible during walks, may need extra equipment to survey, and are often considered difficult to identify. To help improve aquatic plant recording in Ireland, BSBI ran an Aquatic Plant Project this summer, thanks to funding from NPWS (RoI) and CEDaR (NI). Managed by Paul Green, the project has included 34 days of training and recording to help improve aquatic plant identification skills and increase recording of aquatic plants. The project kicked off in June with a day of training at Lavistown Study Centre, Co. Kilkenny, led by Lynda Weekes, and a day at Cleggan, Co. Galway, where participants could see nearly all the aquatic plants present in Ireland. Chris Preston and Cillian Roden also ran a few days of targeted training and recording with vice county recorders in different areas. The bulk of the training and recording days were led by Nick Stewart, covering the northwest and midlands of Ireland, and Northern Ireland. All told, 91 hectads in 24 counties were visited, 94 people got involved, and hundreds of new plant records were obtained.

Moving beyond the big projects, there have been a number of exciting vascular plant finds in 2019. Rory Hodd reported that a trip by BSBI’s Rough Crew to Hungry Hill, Beara, Co. Cork, in June resulted in several exciting finds, despite the damp weather! The group found Saxifraga stellaris (Starry Saxifrage) which hadn’t been recorded in the county for 125 years. This find was even reported in the Southern Star newspaper. The trip also resulted in the first record of nationally scarce Phegopteris connectilis (Beech Fern) for Beara. Rory also reported that an effort to relocate Cryptogramma crispa (Parsley Fern) at Slieve Foye, Co. Louth, was successful! This is one of only two sites where it has recently been seen in the Republic of Ireland. Many other useful records were made on the same trip, including Oreopteris limbosperma (Lemon-scented Fern), which had surprisingly not been seen in Co. Louth since 1887. If there wasn’t enough news from the mountains, Cliona Byrne and Kate Harrington found Diphasiastrum alpinum (Alpine Clubmoss) in the Cooley Mountains, a protected species found in few places around Ireland.

In an effort to record plants in even the furthest reaches of Ireland, Robert Northridge and John Faulkner visited the most northerly land in Ireland: the remote island of Inishtrahull, Co. Donegal. There they re-discovered the tiny Ophioglossum azoricum (Small Adder’s-tongue) and Ligusticum scoticum (Scots Lovage), both of which were last recorded on Inishtrahull by the lighthouse keeper during World War II. Robert and John also added a total of 18 species to the island’s species list. Another island find was Gentianella campestris (Field Gentian), found by Clare Heardman on Hare Island, Co. Cork, this September. It was the first record of the species in Co. Cork for at least 50 years. Although a mostly north-western species, this uncommon flower had been recorded on Horse Island in Roaringwater Bay by Oleg Polunin in 1950. British botanist John Ackeroyd, author of The Wild Plants of Sherkin, Cape Clear and adjacent Islands of West Cork, has documented nearly 600 plants on the islands, however Field Gentian had eluded him.
On hearing of its rediscovery this year he replied, ‘an excellent piece of news... the most exciting find in Roaringwater Bay for years! I’ve looked hard for so long on autumn visits, and had quietly given up on \textit{Gentianella campestris}, thinking that maybe Oleg Polunin, who was less experienced in 1950, mistaken... but as ever, Oleg was absolutely correct!’

Back on the mainland, Paul Green recorded over 80 plants of \textit{Matthiola sinuata} (Sea Stock) on the face of a dune at Morriscastle, Co. Wexford. Paul reports that according to \textit{Ireland Red List: Vascular Plants} Matthiola has been extinct in Co. Wexford since 1925, with the last confirmed Irish record from Co. Clare in 1933. Contrary to the published records, a number of botanists have come forward to say they saw Matthiola in Co. Wexford in the 1970s.

Several keen-eyed botanists were rewarded for their efforts as \textit{Hammarbya paludosa} (Bog Orchid) was re-found in at least three Irish sites this year: on John’s Hill, Co. Carlow by Ciarán Byrne; near Coomasaharn Lake, Co. Kerry by John Diggin; and in the Cooley Mountains, Co. Louth by Cliona Byrne. This tiny green orchid can be fiercely difficult to spot among other plants on a bog, so may be under-recorded. Even at known locations, it can take hours of looking to spot one!

A bit more excitement for orchid enthusiasts comes from Gonçalo Santos. While botanising in Dublin, he found what he originally thought was \textit{Epipactis helleborine} (Broad-leaved Helleborine), but was later identified by Mike Waller to be \textit{Epipactis dunensis} (Dune Helleborine). This identification was confirmed by Mark Lynes. \textit{E. dunensis} has never been recorded in Ireland before and is considered endemic to Britain, though Mark reports that there was a previous unconfirmed claim of it in Dublin many years ago. Gonçalo is working with Brendan Sayers to write up the finding for publication, and they are currently awaiting genetic confirmation from Kew. Updates will be posted on his blog, somethingintheyard.blogspot.com. At one of the \textit{E. dunensis} sites, Gonçalo also recorded a population of the rare \textit{Epipactis phyllanthes} (Green-flowered Helleborine).

This year has highlighted that our Irish flora is incredibly rich and there are still new surprises to be found. The amazing efforts of recorders are helping us to understand our flora better than ever before, giving us the information we need to help protect it for the future.

\textbf{Dr Sarah Pierce}

\textbf{BSBI IRELAND OFFICER}

\textit{National Botanic Gardens}

\textit{Email: sarah.pierce@bsbi.org}

\textit{Twitter: @BSBI_Ireland}

\textit{Facebook: @IrishSectionBSBI}

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Bryophytes

2019 has been a busy bryological year so far in Ireland. We had our usual Irish Bryophyte Group (IBG) winter trips at the start of the year. These included spring visits to a wet woodland in Co. Wicklow and native woodland at Knockeyon Hill Wood, Co. Westmeath. For both of these we were very fortunate to be joined by woodland ecologist Professor Daniel Kelly, who generously shared his knowledge with us.

The summer 2019 meeting of the British Bryological Society (BBS) was held in Kerry in early July, organised by local bryologist Rory Hodd. Kerry has a hyper-oceanic climate, with high rainfall, which supports a rich and diverse assemblage of ‘Atlantic bryophytes’. Many of these species are rare in Europe outside of southwest Ireland. We were joined by a number of bryologists from Britain, keen to familiarise themselves with the rich flora of this area and they weren’t disappointed!

Rory has a great knowledge of Atlantic bryophytes and their niches and was able to show participants good colonies of southwestern Irish specialities such as the liverworts *Radula holtii*, *Lejeunea hibernica*, *L. flava* and *Cephalozia hibernica* and mosses *Sematophyllum demissum* and *Hageniella micans*. These species are either absent or very rare in Britain. We also spent a few days in the Macgillycuddy’s Reeks where we found rare ‘hepatic mat’ liverworts (such as *Scapania nimbosa*, *S. ornithopodioides* and *Mastigophora woodsii*), restricted to places such as humid and shady north-eastern crags, and many montane species that are rare in Ireland (e.g. *Amphidium lapponicum*, *Ditrichum zonatum* and *Isopterygiopsis muelleriana*).

For the bog moss fans, there were new records for the rare Sphagnum affine and *S. flexuosum*, showing that even in the well-recorded Killarney National Park it is possible to make new and interesting bryophyte records. The next field meeting of the BBS will be a long weekend in Co. Wicklow in October. Contact Joanne Denyer (local secretary) joanne@denyerecology.com if you wish to join us for future meetings.

Other interesting bryophyte news from around Ireland includes: from the north, Nick Hodgett’s finding of *Syntrichia princeps* on Binevenagh, Co. Derry (which was previously classified as ‘Regionally Extinct’ as it was last recorded in Sligo in 1962); from the south-west, Rory Hodd’s record of the Red Data Book ‘Vulnerable’ species *Aulacomnium androgynum* in North Kerry (unusually from cow dung in an upland bog); and, from the east, my record of the Red Data Book ‘Vulnerable’ species *Plagiothecium laetum* from Co. Dublin, in an unremarkable area of gorse within a forestry plantation.

Finally, I am eagerly awaiting publication of the European Red List of Bryophytes. There was a meeting to present the results of the LIFE European Red Lists project at the end of September 2019 in Brussels. Hopefully I’ll be able to update you on the publication of this by the next issue.

Please make contact if you would like to be added to the email list of the Irish bryophyte Group. The IBG 2019-20 winter field programme will be sent out after the October BBS meeting.

Dr Joanne Denyer  
BRYOPHYTES SPECIALIST  
Irish Bryophyte Group
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051 306 240
info@biodiversityireland.ie
www.biodiversityireland.ie