RARE PLANT MONITORING SCHEME 2022

Tuberaria guttata (Spotted Rock-rose)

Anacamptis morio (Green-winged orchid)

What is it?

The Rare Plant Monitoring scheme was launched by the National Biodiversity Data Centre in 2017. Where someone submits a casual record of a rare plant to the Centre, they are asked if they would be willing to visit their rare plant population once a year during its flowering period and to count the total number of individuals present. Data on the rare plant location, the count, and additional information about the site is submitted to the Centre. The project was discussed and agreed with the National Parks and Wildlife Service (NPWS). It is framed around the 2016 Vascular Plant Red List and is mainly focused on monitoring vulnerable, near threatened and rare least concern species, with a view towards contributing high quality data on these species for future Red Lists. In 2017, volunteers monitored 36 populations across 24 taxa. In 2022, this has increased to 299 populations across 107 taxa.

Why is it important?

When assessing the national conservation status of very rare species according to IUCN Red List methodology, it is recommended that you use annual population count data. Given the numbers of rare plant species a country might have, this information can be very difficult to collect in any volume. This citizen science project relies on the generosity of expert volunteers to 'keep an eye' on rare populations near them and to submit standardised count data once a year. When collated centrally over time, this information makes a very important contribution towards efforts to protect these species.

Who is involved?

The scheme is open to anyone. The main scheme is driven by where recorders happen to come across rare plants within their local area. We do not send people to search for species. The Rare Plant Monitoring Scheme has proved popular and we are very grateful for the support of our volunteers. They have been willing to become involved – partly because they clearly see how their data will contribute to conservation, but also because they are being asked to carry out a dedicated task that is not too time consuming, and that can be planned for annually. When recorders become aware of a rare plant population near them, many feel a protectiveness of the population and are keen to check on its status each year. By together doing this, and centrally managing the data, we can help preserve these plants into the future.

Since 2019, we have also been running a small number of rare plant workshops each year. Each workshop is free and is open to **local** participants. During the workshop a series of rare plant populations are visited, with participants given the opportunity to then adopt the population and monitor themselves going forward.

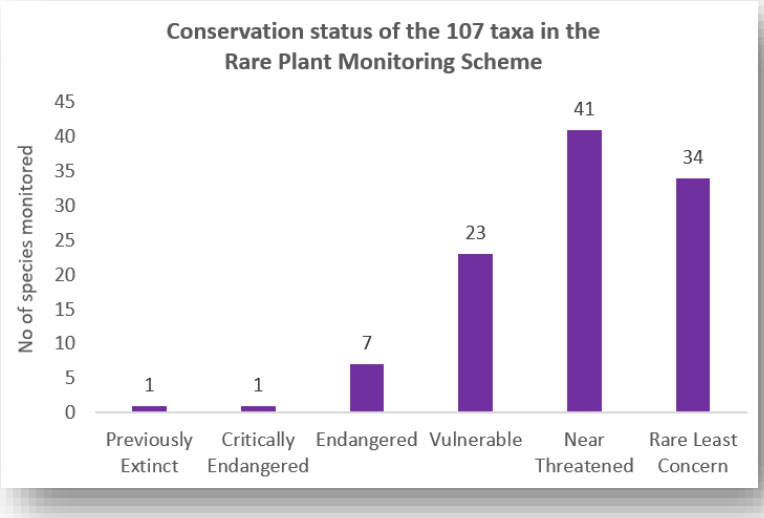
How has the Rare Plant Monitoring Scheme grown since 2017?

The current master dataset contains 299 populations across 107 taxa. This means that 299 populations have been monitored at least once since the scheme started in 2017. In a volunteer-driven citizen science scheme like this, not all populations will be visited annually. In any year, individual volunteers may find it's simply not possible to visit their population and that is a fully accepted part of a scheme of this nature.

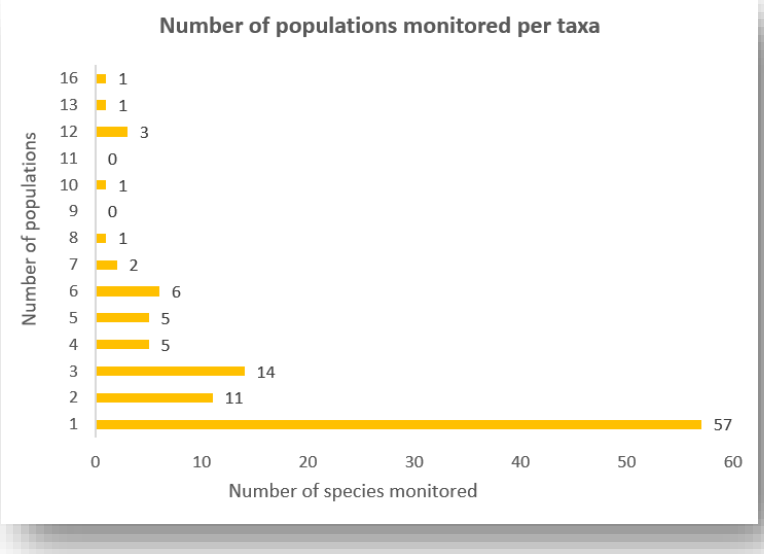
The table below shows the most recent figures based on the current master dataset. This will differ slightly from year to year as the database is cleaned, with some populations removed, and occasionally new data retrospectively provided.

Number of populations and taxa monitored each year since 2017:

	2017	2018	2019	2020	2021	2022
Total number of populations in the scheme	36	101	159	202	238	299
Number of populations monitored	36	93	144	158	189	257
Number of different taxa monitored	24	52	76	86	78	107



2022: Most taxa monitored in the scheme are Near Threatened



2022: 57 taxa are represented by one single population. Those taxa with most individual populations being monitored are: Green-winged orchid (16 pops), Sea-kale (13), and Frog Orchid, Fly Orchid & Narrow-leaved Helleborine (each with 12)

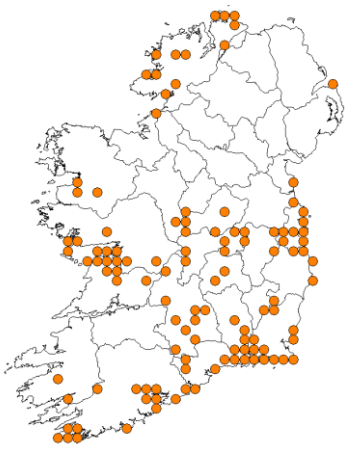
Some quick facts:

23 populations have been monitored each year since 2017
116 populations have been monitored at least four times between 2017-2022
69 new populations were added to the scheme in 2022

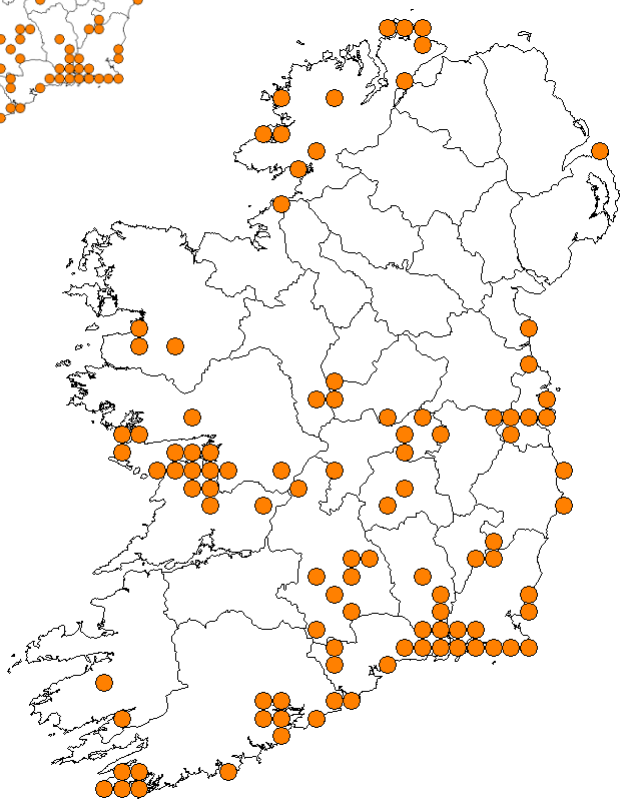
The current master dataset contains 299 populations across 107 taxa. This means that 299 populations have been monitored at least once since the scheme started in 2017.

Species	No. pops	Species	No. pops
Achillea maritima (Cottonweed)	1	Hypopitys monotropa (Dutchman's pipe)	5
Agrimonia procera (Fragrant Agrimony)	1	Juncus acutus (Sharp Rush)	1
Ajuga pyramidalis (Pyramidal Bugle)	5	Lamiastrum galeobdolon subsp. montanum (Yellow Archangel)	4
Allium ampeloprasum var. babingtonii (Babington's Leek)	1	Lathraea squamaria (Toothwort)	7
Alopecurus aequalis (Orange Foxtail)	2	Ligusticum scotium (Scots Lovage)	1
Althaea officinalis (Marsh-mallow)	1	Linum bienne (Pale Flax)	3
Anacamptis morio (Green-winged orchid)	16	Lithospermum officinale (Common Gromwell)	4
Anthriscus caucalis (Bur Chervil)	1	Logfia minima (Small Cudweed)	1
Arenaria norvegica (Arctic Sandwort)	3	Lotus subbiflorus (Hairy Bird's-foot-trefoil)	1
Artemisia absinthium (Wormwood)	2	Lycopodiella inundata (Marsh Clubmoss)	1
Asparagus prostratus (Wild Asparagus)	4	Mertensia maritima (Oysterplant)	2
Asplenium obovatum (Lanceolate Spleenwort)	1	Mibora minima (Early Sand-grass)	1
Ballota nigra (Black Horehound)	1	Neotinea maculata (Dense-flowered Orchid)	6
Betonica officinalis (Betony)	4	Neottia cordata (Lesser Twayblade)	1
Campanula trachelium (Nettle-leaved Bellflower)	3	Neottia nidus-avis (Bird's-nest Orchid)	1
Cardamine impatiens (Narrow-leaved Bittercress)	1	Oenanthe fistulosa (Tubular Water-dropwort)	2
Carduus tenuiflorus (Slender Thistle)	1	Oenanthe pimpinelloides (Corky-fruited Water-dropwort)	1
Carex divisa (Divided Sedge)	1	Ophioglossum vulgatum (Adder’s-tongue)	1
Centaurea scabiosa (Greater Knapweed)	1	Ophrys apifera var chlorantha	1
Centaurium pulchellum (Lesser Centaury)	3	Ophrys apifera var flavecens	1
Centunculus minimus (Chaffweed)	1	Ophrys apifera var fusca	1
Cephalanthera longifolia (Narrow-leaved Helleborine)	12	Ophrys apifera var trolli	1
Clinopodium acinos (Basil Thyme)	3	Ophrys insectifera (Fly Orchid)	12
Clinopodium ascendens (Common Calamint)	1	Ornithopus perpusillus (Bird's-foot)	1
Colchium autumnale (Meadow Saffron)	6	Papaver argemone (Prickly Poppy)	2
Crambe maritima (Sea-kale)	13	Parentucellia viscosa (Yellow Barsia)	2
Crepis paludosa (Marsh Hawk’s-beard)	1	Pseudorchis albida (Small White Orchid)	1
Cuscuta epithymum (Dodder)	3	Puccinellia fasciculata (Borrer’s Saltmarsh Grass)	3
Cynoglossum officinale (Hound's-tongue)	1	Pyrola media (Intermediate Wintergreen)	1
Cytisus scoparius ssp maritimus (Prostrate Broom)	1	Pyrola rotundifolia (Round-leaved Wintergreen)	1
Dactylorhiza fuchsii var. rhodochila	1	Pyrola rotundifolia subsp. maritima (Round-leaved Wintergreen subsp. maritima)	1
Dactylorhiza incarnata subsp. pulchella (Early Marsh Orchid)	1	Rumex pulcher (Fiddle Dock)	3
Dactylorhiza traunsteinerioides (Narrow-leaved Marsh-orchid)	1	Sagina subulata (Heath Pearlwort)	1
Dactylorhiza viridis (Frog Orchid)	12	Salvia verbenaca (Wild Clary)	6
Drymochloa sylvatica (Wood Fescue)	3	Sarcocornia perennis (Perennial Glasswort)	1
Epipactis dunensis (Dune Helleborine)	3	Saxifraga granulata (Meadow Saxifrage)	3
Epipactis palustris (Marsh Helleborine)	2	Scilla verna (Spring Squill)	4
Epipactis phyllanthes (Green-flowered Helleborine)	5	Scleranthus annuus (Annual Knawel)	1
Erigeron acris (Blue Fleabane)	5	Scrophularia umbrosa (Green Figwort)	1
Eriocaulon aquaticum (Pipewort)	8	Silene gallica (Small-flowered Catchfly)	1
Erodium maritimum (Sea Stork’s-bill)	2	Silybum marianum (Milk Thistle)	2
Euphorbia exigua (Dwarf Spurge)	1	Sisyrinchium bermudiana (Blue-eyed Grass)	1
Filago vulgaris (Common Cudweed)	2	Sorbus hibernica (Irish Whitebeam)	3
Galeopsis angustifolia (Red Hemp-nettle)	3	Spiranthes romanzoffiana (Irish Lady's-tresses)	1
Gentianella amarella (Autumn Gentian)	1	Spiranthes spiralis (Autumn Lady's-tresses)	10
Gentianella campestris (Field Gentian)	6	Teucrium scordium (Water Germander)	5
Geranium pratense (Meadow Crane's-bill)	1	Torilis nodosa (Knotted Hedge-parsley)	1
Geranium purpureum (Little-Robin)	6	Trichomanes speciosum (Killarney Fern)	3
Geranium rotundifolium (Round-leaved Crane's-bill)	1	Trifolium glomeratum (Clustered Clover)	1
Glaucium flavum (Yellow Horned-poppy)	6	Trifolium ornithopodioides (Bird's-foot Clover)	1
Gnaphalium sylvaticum (Heath Cudweed)	1	Tuberaria guttata (Spotted Rock-rose)	1
Hordeum secalinum (Meadow Barley)	7	Verbena officinalis (Vervain)	2
Huperzia selago (Fir clubmoss)	1	Viola persicifolia (Fen Violet)	1
Hypericum hirsutum (Hairy St John's-wort)	1	**Total**	**299**

A small number of species have been included, not because they are rare nationally, but because they are very rare in their county e.g., Marsh Helleborine in Wicklow & Wexford.



Map showing the hectads within which rare plants have been monitored at least once between 2017-2022



Map showing the hectads within which rare plants have been monitored in 2022

Thank you to all the volunteers who monitored rare plant populations in 2022

We hugely appreciate the generous efforts of all those volunteers who participate in this scheme

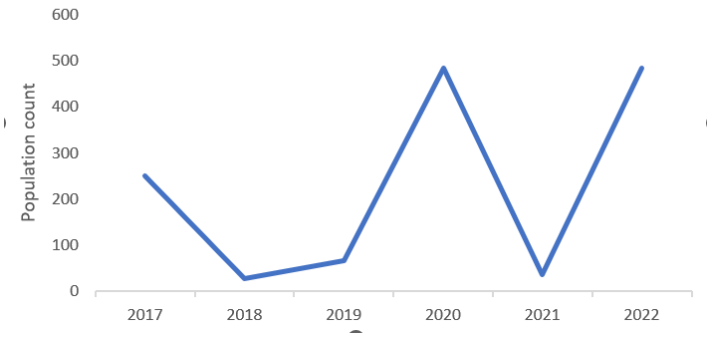
2022 monitoring scheme volunteers: Adrian Allen, Áine Ryan, Alison Delaney, Amanda Browne, Ann Manley, Ann Trimble, Ann Trimble & Andrew Malcolm, Anne Harrington-Rees, Aoife Hughes, Brendan McSherry, Brian Gaynor, Brian Moran, Brian Power, Bríd Nowlan, Carmel Ann Daly, Carmel Cummins, Carol Gilroy, Chris Huxley, Ciara O'Brien, Clair O'Connor, Claire Deasy, Colm Leahy & Ivan Smith, Damaris Lysaght, Dara Reid, Darren Reidy, David Rees, Deirdre Bannon, Deirdre Burns, Deirdre Morrissey, Des Finnamore, Eamonn Twomey, Eddie Gilligan, Emer Magee, Eoin McGreal, Finbarr Wallace, Finola Finlay, Fiona Brennan, Geoff Newell, Gerry Gallagher, Gonçalo Santos , Henry Lamb, Jacintha Cloney & Margaret Scally, Jamie O'Neill, Jim Hurley, John Brennan, John Fogarty, Jonathan & Martine Derham, Julie Larkin, June Hayes, Kerry Ann Clarke, Laura Cantwell, Laurence Laide, Leon van der Noll, Lynda Weekes, Lynn Stringer & Jacky van Zyl, Magda O'Driscoll, Mairead Hennessy, Mairead Stack, Margaret Brennan, Mark Roper, Mary Fitzsimons, Mary Howard, Mary Mahoney, Mary Molloy, Mick Berry, Miriam O'Regan, Niamh Byrne, Oisin & Mairead Duffy, Ollie Price, Oonagh Conway, Orzen Colovic, Patricia O'Leary, Paul Green, Paul Murphy, Paul O'Flaherty, Paula O'Meara, Prim Duplessis, Rachel Daunt, Rachel McKenna, Ralph Sheppard, Rodney Daunt, Sam Connolly, Saorla Kavanagh, Shona MacDonald, Therese Kelly, Tim O'Rourke, Trish & Feargal O'Neill, Trish Fallon, Úna FitzPatrick, Valerie Pedlow, Vera Roche Murphy, Yvonne Grace.

<u>Special thanks to the following who all monitor large numbers of populations</u>: Mary Howard, John Fogarty, Jamie O'Neill, Eamonn Twomey, Rodney Daunt, Valerie Pedlow, Damaris Lysaght & Vera Roche Murphy

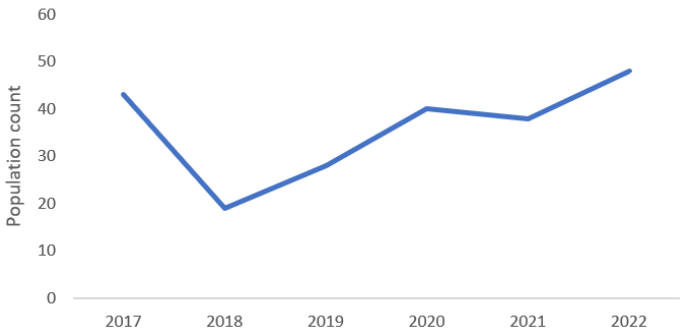
Graphs showing counts in some of the populations that have multiple years of data

What these graphs show most clearly, is that rare plants populations can fluctuate significantly from year to year. This will depend on various factors, including climate, and not all species will respond in a similar way. It is by having long-term data, that we will be able to pick up statistically significant trends, and get early warning signs of real declines.

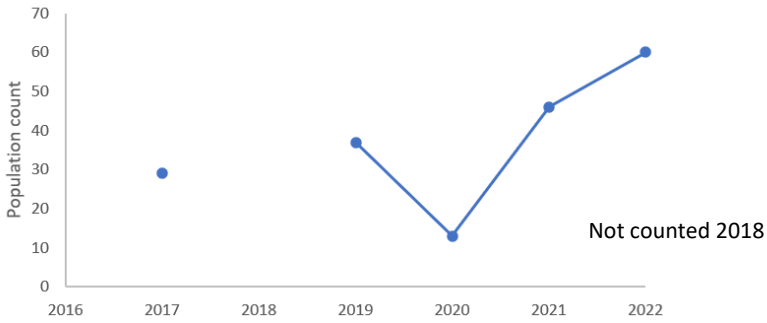
***Hordeum secalinum* (Meadow Barley)**
Paula O'Meara (Co Wexford)



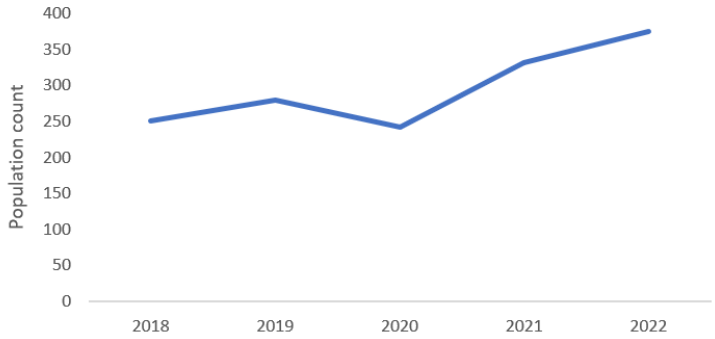
***Anacamptis morio* (Green-winged orchid)**
John Fogarty (Co Tipperary)



***Ophrys insectifera* (Fly Orchid)**
Eamonn Twomey (Co Clare)



***Crambe maritima* (Sea-kale)**
Damaris Lysaght (Co Cork)



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Rare Plant Monitoring Scheme Workshops 2022

National Biodiversity Data Centre
A Heritage Council Programme

National Parks & Wildlife Service

In 2022, the National Parks and Wildlife Service provided funding to enable the National Biodiversity Data Centre to employ Paul Green (expert botanist) to carry out ten dedicated rare plant workshops to support the Scheme. Workshops were organised to monitor a series of rare plants within a specific area, and the workshop was opened only to recorders from that area who had submitted recent casual records to the Centre. Workshops were incredibly popular, with all being very significantly overbooked. Each workshop had 6-8 participants. They were limited to this number to enable most participants to 'adopt' a population going forward.

- ✓ Seventy-eight volunteers attended across the 10 workshops. This allowed upskilling of these new volunteers in monitoring rare plant populations and provided them with a focus for their recording efforts.

- ✓ Forty-seven new rare plant populations were monitored across the 10 workshops. These have all been adopted by one of the local participants, who has agreed to annually monitor the population themselves going forward. In future years they will then come under the general administration of the scheme, as managed by the National Biodiversity Data Centre.

Thank you to those who attended rare plant workshop in 2022 and in particular to those who have now adopted one of the populations visited:
Ann Manley, Ann Trimble & Andrew Malcolm, Bríd Nowlan, Carmel Ann Daly, Carmel Cummins, Claire Deasy, Damaris Lysaght, Dara Reid, Deirdre Bannon, Eddie Gilligan, Finbarr Wallace, Finola Finlay, Fiona Brennan, Henry Lamb, Julie Larkin, Kerry Ann Clarke, Magda O'Driscoll, Mairead Stack, Mark Roper, Mary Molloy, Mick Berry, Niamh Byrne, Ollie Price, Orzen Colovic, Patricia Carroll, Prim Duplessis, Rachel Daunt, Tim O'Rourke, Trish Fallon, Vera Roche Murphy, Yvonne Grace.

Plans for 2023



Rare Plant Workshops

Pending funding, we hope to run workshops again in 2023. The format used is that each workshop is free and is open to **local** participants only. During the workshop a series of rare plant populations are visited, with participants given the opportunity to then adopt the population and monitor themselves going forward.

Existing populations that need to be reallocated

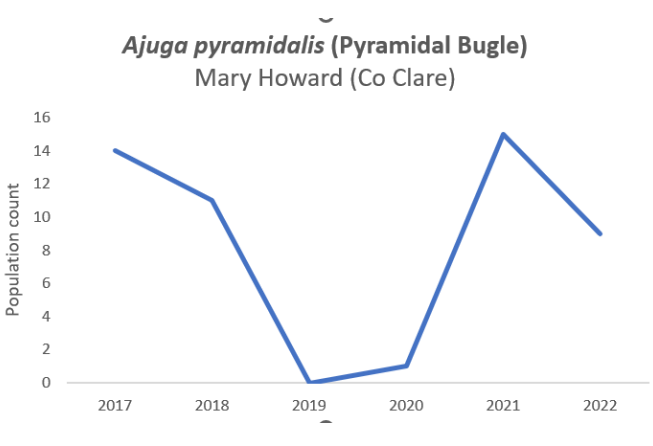
In a citizen science scheme like this, people's personal circumstances can change, making it no longer feasible for them to continue monitoring rare plant populations that they may have been visiting annually. This has happened over the course of the project. At the end of 2021, there were 33 populations that were previously monitored, but that needed to be reallocated to a new volunteer if possible (mainly in counties Dublin, Offaly, Westmeath and Wexford). Fifteen of these were reallocated in 2022 (12 through the dedicated workshops). It is hoped that others can be reallocated in coming years.

Do populations ever disappear?

There are quite a few zero sighting populations in the scheme. In come cases, these are rare populations that were known in the recent past and that are being annually rechecked in case they reappear. It is worth continuing this over a number of years to confirm that the species has definitely been lost from the site.

In other cases, extreme weather or very significant management changes can result in zero sightings in a particular year. In this case, collecting annual data is incredibly useful in understanding the species recovery.

Other populations may be extremely small, and may fluctuate from year to year, including some years when they disappear entirely. Collecting annual data helps us better understand these fluctuations.



This small Pyramidal Bugle population in the Burren recorded a zero sighting in 2019 but reappeared again in 2020

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What happens to the data?

Each population in the scheme has a rare plant recording card which is managed as a word document (see page 9). Each year, the volunteer updates table 2 with the date, count and any notes for that year and returns it by email. All data submitted is double checked. It is held within a dedicated Rare Plant Monitoring Database within the National Biodiversity Data Centre. It is not made publicly available. A updated copy of the database is provided to the NPWS annually.

How will it be used?

The true value of these data are in the longer-term trends that they will provide. If annual counts are carried out on the populations into the future it will provide early warning signs of threats. It will also help improve the accuracy of future conservation assessments of the species. It is the intention of the Data Centre that this is a longer-term data stream to support rare plant conservation in Ireland.

How were the species being monitored selected?

Species were not deliberately selected. The scheme has been developed organically around those recorders who happened to submit casual records of very rare species. These species were cross referenced with the 2016 Irish Plant Red List to select those that it would be most valuable to have trend data on. It does not involve deliberately searching for rare species. It is the intention that the scheme continue to grow in this way.

Can I monitor other rare species not currently in the scheme?

Yes, if you are aware of other rare species near you that you feel it would be useful to monitor annually, please get in touch.

Can I take part?

Yes, we are always grateful for new volunteers. If you have not participated before, but are aware of a rare plant population that you would like to monitor, please get in touch directly. As the monitoring data is not made publicly available, this allows me to minimise the chance of the same population being inadvertently monitored by multiple people ufitzpatrick@biodiversityireland.ie

Thank you again to all the existing volunteers in the Rare Plant Monitoring Scheme

This scheme is managed by Dr Úna FitzPatrick with assistance from Oisín Duffy

Citation: *Rare Plant Monitoring Scheme – 2022 Newsletter.* National Biodiversity Data Centre, Waterford.

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The Heritage Council
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Department of Housing, Local Government and Heritage

The National Biodiversity Data Centre is a programme of the Heritage Council and is operated under a service level agreement by Compass Informatics. The Biodiversity Data Centre is funded by the Heritage Council and the Department of Housing, Local Government and Heritage.

Rare Plant Recording card, showing the fields to be completed

RARE PLANT MONITORING SCHEME

This table is completed on joining the scheme

Species	
Site name	
Grid reference	
Start year	
Recorder(s)	
Brief description of the site	
Brief description of the rare plant population	
Current management (if known)	
Threats	
Details that would help locate the population	
Other	

This table is updated each year with the date and annual count

Date	Count (number of individuals)	Area the population covers (m2)	Notes

Photos: