# RARE PLANT MONITORING SCHEME 2020

*Geranium purpureum* © Zoe Devlin

National Biodiversity Data Centre
A Heritage Council Programme

*Cephalanthera longifolia* © Zoe Devlin

**What is it?**

The Rare Plant Monitoring scheme was launched by the National Biodiversity Data Centre in 2017. Where someone submits a casual records 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 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 37 populations across 22 taxa. In 2018, this increased to 103 populations across 53 taxa. In 2019, it increased again to 150 populations across 78 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 that it is doing OK 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.

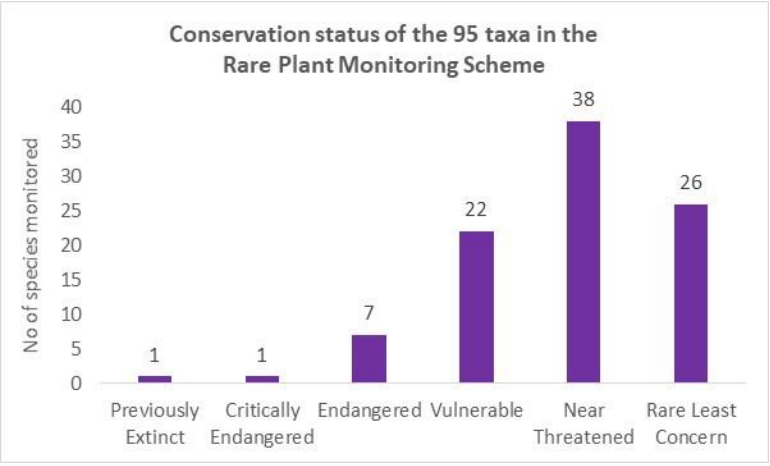
## How has the Rare Plant Monitoring Scheme grown since 2017?

**The current master dataset contains 211 populations across 95 taxa**. This means that 211 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 always be visited each year. COVID-19 has had an impact in 2020, but 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.

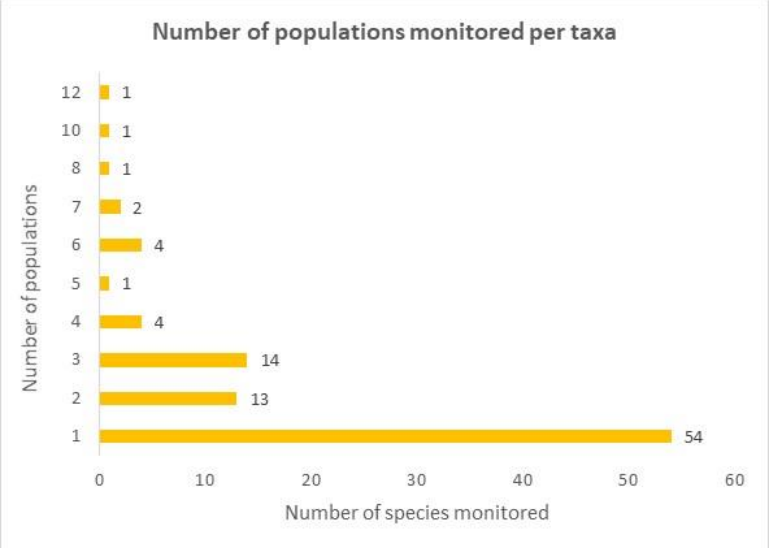
These are the most recent figures based on the current master dataset. They can differ slightly from year to year as additional data is sometimes retrospectively provided.

Number of populations and taxa monitored each year:

| | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|
| Number of populations monitored | 37 | 103 | 150 | 159 |
| Number of different taxa monitored | 25 | 53 | 78 | 87 |




Most taxa monitored in the scheme are Near Threatened




54 taxa are represented by one single population. Those taxa with most individual populations being monitored are: Fly Orchid (12 pops), Frog Orchid (10) and Sea-kale (8)

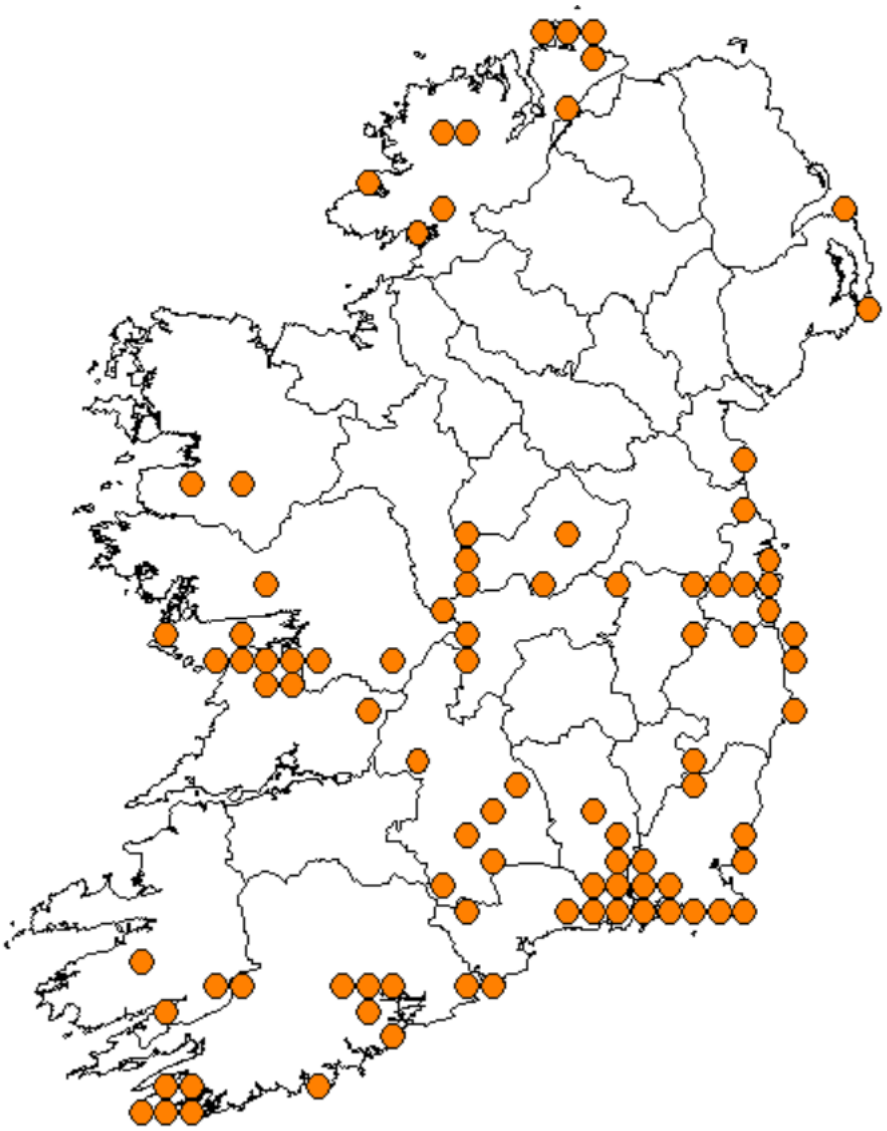
**Some quick facts:**
25 populations have been monitored each year since 2017
59 populations have been monitored each year since 2018
111 populations were monitored in both 2019 and 2020
41 new populations were added to the scheme in 2020

**The current master dataset contains 211 populations across 95 taxa**. This means that 211 populations have been monitored at least once since the scheme started in 2017.

| Species | No. pops | Species | No. pops |
|---|---|---|---|
| Achillea maritima (Cottonweed) | 1 | Ligusticum scotium (Scots Lovage) | 1 |
| Agrimonia procera (Fragrant Agrimony) | 1 | Linum bienne (Pale Flax) | 3 |
| Ajuga pyramidalis (Pyramidal Bugle) | 3 | Lithospermum officinale (Common Gromwell) | 3 |
| Allium ampeloprasum var. babingtonii (Babington's Leek) | 1 | Logfia minima (Small Cudweed) | 1 |
| Alopecurus aequalis (Orange Foxtail) | 2 | Lotus subbiflorus (Hairy Bird's-foot-trefoil) | 1 |
| Althaea officinalis (Marsh-mallow) | 1 | Lycopodiella inundata (Marsh Clubmoss) | 1 |
| Anacamptis morio (Green-winged orchid) | 6 | Mertensia maritima (Oysterplant) | 2 |
| Anthriscus caucalis (Bur Chervil) | 1 | Neotinea maculata (Dense-flowered Orchid) | 3 |
| Arenaria norvegica (Arctic Sandwort) | 2 | Neottia cordata (Lesser Twayblade) | 1 |
| Artemisia absinthium (Wormwood) | 1 | Neottia nidus-avis (Bird's-nest Orchid) | 1 |
| Asparagus prostratus (Wild Asparagus) | 3 | Oenanthe fistulosa (Tubular Water-dropwort) | 2 |
| Asplenium obovatum (Lanceolate Spleenwort) | 1 | Oenanthe pimpinelloides (Corky-fruited Water-dropwort) | 1 |
| Ballota nigra (Black Horehound) | 1 | Ophioglossum vulgatum (Adder's-tongue) | 1 |
| Betonica officinalis (Betony) | 5 | Ophrys apifera var chlorantha | 1 |
| Campanula trachelium (Nettle-leaved Bellflower) | 2 | Ophrys apifera var flavecens | 1 |
| Cardamine impatiens (Narrow-leaved Bittercress) | 1 | Ophrys apifera var fusca | 1 |
| Carex divisa (Divided Sedge) | 1 | Ophrys apifera var trolli | 1 |
| Centaurium pulchellum (Lesser Centaury) | 2 | Ophrys insectifera (Fly Orchid) | 12 |
| Centunculus minimus (Chaffweed) | 1 | Papaver argemone (Prickly Poppy) | 1 |
| Cephalanthera longifolia (Narrow-leaved Helleborine) | 6 | Parentucellia viscosa (Yellow Barsia) | 3 |
| Chaerophyllum temulum (Rough Chervil) | 1 | Pseudorchis albida (Small White Orchid) | 1 |
| Clinopodium acinos (Basil Thyme) | 3 | Puccinellia fasciculata (Borrer's Saltmarsh Grass) | 2 |
| Clinopodium ascendens (Common Calamint) | 1 | Pyrola media (Intermediate Wintergreen) | 1 |
| Coeloglossum viride (Frog Orchid) | 10 | Pyrola rotundifolia (Round-leaved Wintergreen) | 1 |
| Colchium autumnale (Meadow Saffron) | 4 | Pyrola rotundifolia subsp. maritima | 1 |
| Crambe maritima (Sea-kale) | 8 | Rumex pulcher (Fiddle Dock) | 3 |
| Cuscuta epithymum (Dodder) | 3 | Salvia verbenaca (Wild Clary) | 6 |
| Cynoglossum officinale (Hound's-tongue) | 1 | Sarcocornia perennis (Perennial Glasswort) | 1 |
| Dactylorhiza incarnata subsp. pulchella (Early Marsh Orchid) | 1 | Saxifraga granulata (Meadow Saxifrage) | 2 |
| Dactylorhiza traunsteinerioides (Narrow-leaved Marsh-orchid) | 1 | Scilla verna (Spring Squill) | 3 |
| Epipactis dunensis | 1 | Scleranthus annuus (Annual Knawel) | 1 |
| Epipactis palustris (Marsh Helleborine) | 1 | Scrophularia umbrosa (Green Figwort) | 1 |
| Epipactis phyllanthes (Green-flowered Helleborine) | 3 | Silene gallica (Small-flowered Catchfly) | 1 |
| Eriocaulon aquaticum (Pipewort) | 4 | Silybum marianum (Milk Thistle) | 1 |
| Euphorbia exigua (Dwarf Spurge) | 1 | Sisyrinchium bermudiana (Blue-eyed Grass) | 1 |
| Festuca altissima (Wood Fescue) | 1 | Sorbus hibernica (Irish Whitebeam) | 1 |
| Filago vulgaris (Common Cudweed) | 2 | Spiranthes romanzoffiana (Irish Lady's-tresses) | 1 |
| Galeopsis angustifolia (Red Hemp-nettle) | 3 | Spiranthes spiralis (Autumn Lady's-tresses) | 7 |
| Gentianella campestris (Field Gentian) | 2 | Teucrium scordium (Water Germander) | 2 |
| Geranium pratense (Meadow Crane's-bill) | 1 | Torilis nodosa (Knotted Hedge-parsley) | 1 |
| Geranium purpureum (Little-Robin) | 6 | Trichomanes speciosum (Killarney Fern) | 2 |
| Geranium rotundifolium (Round-leaved Crane's-bill) | 1 | Trifolium glomeratum (Clustered Clover) | 1 |
| Glaucium flavum (Yellow Horned-poppy) | 7 | Trifolium ornithopodioides (Bird's-foot Clover) | 1 |
| Gnaphalium sylvaticum (Heath Cudweed) | 1 | Verbena officinalis (Vervain) | 2 |
| Hordeum secalinum (Meadow Barley) | 4 | Viola persicifolia (Fen Violet) | 1 |
| Huperzia selago (Fir clubmoss) | 1 | **Total** | **211** |
| Hypericum hirsutum (Hairy St John's-wort) | 1 | | |
| Hypopitys monotropa (Dutchman's pipe) | 4 | | |
| Lamiastrum galeobdolon subsp. montanum (Yellow Archangel) | 3 | | |
| Lathraea squamaria (Toothwort) | 3 | | |

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

## Map showing the hectads within which rare plants have been monitored at least once between 2017-2020



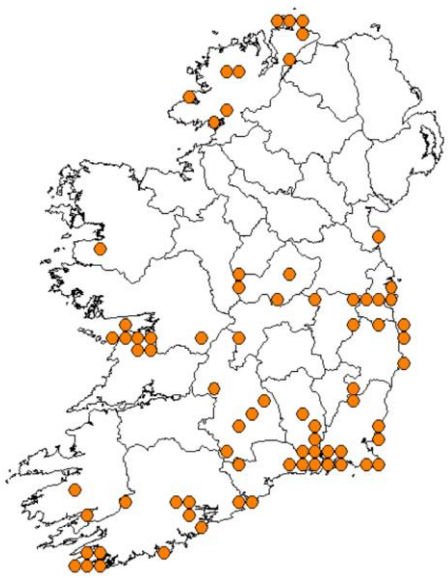
**Thank you to all the volunteers who have monitored rare plant populations between 2017-2020**:

Amanda Browne, Amanda Pedlow, Ann Trimble, Anne Harrington-Rees, Anne Marie Byrne, Bill Brazier, Aoife Hughes, Brendan McSherry, Brendan Sayers & John 'Jackie' O'Connell, Brian Moran , Carol Gilroy, Chris Huxley, Damaris Lysaght, Darren Reidy, David Rees, David Thompson, Deirdre Morrissey, Eamonn Twomey, Emer Magee, Eoin McGreal, Finola Finlay, Geoff Newell, Gonçalo Santos, Hammy Hamilton, Isobel Abbott, Jacintha Cloney & Margaret Scally, Jamie O'Neill, Jim Hurley, John Conaghan, John Fogarty, Jonathan & Martine Derham, Julie Kendall, Laurence Laide, Leon van der Noll, Lynn Stringer & Jacky van Zyl, Margaret Brennan, Marie de Lacy Clancy, Mary Howard, Mary Mahoney, Oisín & Mairead Duffy, Oonagh Conway, Patricia O'Leary, Paul Green, Paul Murphy, Paul O'Flaherty, Paula O'Meara, Rachel McKenna, Ralph Sheppard, Rodney Daunt, Sam Connolly, Saorla Kavanagh, Therese Kelly, Úna FitzPatrick, Valerie Pedlow, Vera Roche Murphy, Zoe Devlin.

## Special thanks to those of you who managed to monitor in 2020

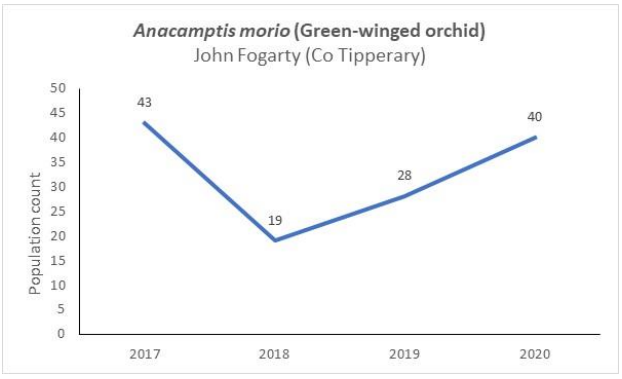
We express our enormous thanks to all those who contributed to the scheme in 2020. We know that many of you were unable to visit your populations due to the COVID-19 pandemic and associated restrictions. In a long-term scheme like this that is no problem, and hopefully many of those can be revisited again in 2021.

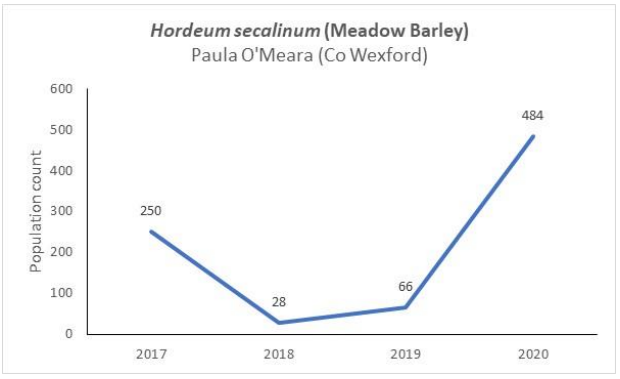
### Map showing the hectads within which rare plants have been monitored in 2020

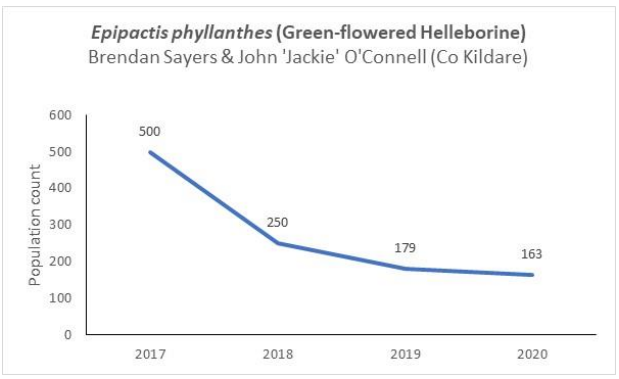


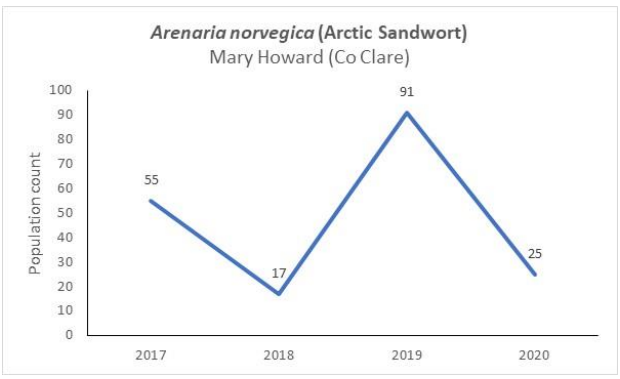
### Graphs showing counts in some of the populations that have four years of data

What these 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.



# Rare Plant Monitoring Scheme Workshops 2020




In 2020, the National Parks and Wildlife Service provided funding to employ Paul Green (expert botanist) to carry out six 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 six participants and adhered to social distancing rules and the Centre's Covid-19 policy. As a result of the pandemic, and to minimise staff travel they were focussed on the South East (Waterford, Wexford, Carlow, Wicklow, Kilkenny).

- ✓ Thirty-six volunteers attended across the 6 workshops. This allowed upskilling of these new volunteers in monitoring rare plant populations and provided them with a focus for their recording efforts.

- ✓ Twenty-six new rare plant populations were monitored across the 6 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 2020 and in particular to those who have now adopted one of the populations visited:** Adrian Allen, Áine Ryan, Brian Power, Catherine McLoughlin, Ciara O'Brien, Deirdre Burns, Lynda Weekes, Mary Fitzsimons, Miriam O'Regan, Shona MacDonald

## 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 8). 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.

## Future plans

It is hoped to continue the scheme again in 2021 and to try to increase the number of rare plant populations monitored. It is the intention to slowly develop a high quality data steam in this way over the coming years.

## Can I monitor other species?

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

*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:**