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Wales Threatened Bee Report Summary



Wales supports some of the UK's most important populations of threatened bee species, however many of these species continue to disappear from our countryside. The Wales Threatened Bee Report has found that a number of our bee species have been lost from much of their former range, and continue to decline. Worryingly, 7 species have already become extinct in Wales, with a further 5 species at a high risk of extinction. This report is a call to action. Through a combination of targeted species conservation action and a more general approach to improving the condition of our countryside for bees and other pollinating insects, we hope that we can reverse the severe declines highlighted in this report and prevent extinctions of some of our most threatened species.

There is widespread concern over the status of pollinators, as many insect groups including bees, butterflies, moths and hoverflies have declined dramatically in the UK and globally both in their abundance and diversity. With regards to bees in the UK, whilst some species have undergone a range expansion, the majority are suffering drastic declines. Alarmingly, 3 of our 25 bumblebee species have already gone extinct, with a further 8 suffering major range contractions. Two-thirds of our moths and over 70% of our butterflies are also in long-term decline.

The conservation of pollinators is essential for the health of our countryside and our future health and prosperity. An estimated 85% of all wildflower and flowering crop species depend upon insect pollination; effective pollination is crucial for human nutrition and food security. Insect pollination of crops is of considerable economic importance, estimated at £440 million per annum in the UK and \$215 billion per annum globally. Pollinators should also be recognised for their intrinsic value and contribution to our well-being through enjoyment of the natural environment.



Shrill carder bee (*Bombus sylvarum*) © Steven Falk.



Armed nomad bee (*Nomada armata*) © Steven Falk.

There are many potential threats and drivers of pollinator declines and rarely do these drivers act in isolation. These include the loss of wildflower-rich habitats to agricultural intensification and urban development, habitat fragmentation and degradation, climate change and the resulting unpredictable and extreme weather, increased use of harmful pesticides, and disease transfer from managed honeybees.



Effective pollination is crucial for human nutrition and food security



Wales is home to nationally rare and threatened species and for some, such as the Large mason bee (*Osmia xanthomelana*), Wales supports the last known populations in the UK. Surrounded by sea on three sides, Wales has extensive and varied coastlines which are an extremely important habitat for many bee species, as well as for other insects. Wales also has extensive grasslands, heaths, moorland, coastal dunes and brownfield habitat which at a landscape scale result in unique habitat mosaics. Areas of particular importance for our threatened bees are the South Wales Valleys, Gwent Levels, Glamorgan Coast, Pembrokeshire Coast National Park, Snowdonia National Park, dunes of Cardigan Bay, Anglesey, Llŷn Peninsula, and brownfield sites of Denbighshire and Flintshire.

Wales supports important UK populations of bee species such as the Shrill carder bee (*Bombus sylvarum*), which is particularly abundant on the Gwent Levels. Other species such as the dune-loving Vernal colletes bee (*Colletes cunicularius*), which may be genetically distinct from those found in England, also has a high proportion of its population

within Wales. The Wales Threatened Bee Report is the first time the status of threatened bees has been assessed at a county level across Wales. Whilst we know that the species assessed have declined at a UK and in some cases the national level, such high level assessments can obscure trends at more local scales as can be seen from the results of our analysis.

The Wales Threatened Bee Report has looked at 26 bee

species considered to be at risk in the UK, and which are present in Wales. We examined the status of these species using data collated by the Bees Wasps and Ants Recording Society (BWARS), the four Local Environmental Records Centres (LERCs) in Wales, and the National Biodiversity Network (NBN) Atlas.

Our analysis has revealed some alarming species losses in Wales at a national and local (i.e. vice-county) level.

Vice-county	Number of target bee species historically present	Number of target bee species with recent (post-1990) records	Number of target species lost
Anglesey	10	8	2 (20%)
Breconshire	4	3	1 (25%)
Caernarvonshire	16	7	9 (56%)
Cardiganshire	13	8	5 (38%)
Carmarthenshire	10	9	1 (10%)
Denbighshire	8	7	1 (13%)
Flintshire	3	1	2 (67%)
Glamorgan	29	19	10 (34%)
Merionethshire	13	8	5 (38%)
Monmouthshire	12	10	2 (17%)
Montgomeryshire	7	6	1 (14%)
Pembrokeshire	18	16	2 (11%)
Radnorshire	5	3	2 (40%)

Our analysis indicates range contractions for the majority of the 26 target species in Wales – for example, the Large garden bumblebee (*Bombus ruderatus*) has been lost from 5 vice-counties and is now restricted to Pembrokeshire. We found that 7 bee species have already become extinct in Wales. These include the Great yellow bumblebee (*Bombus distinguendus*) which has been lost despite being previously recorded across much of Wales in Caernarvonshire, Cardiganshire, Glamorgan and Monmouthshire. A further five bee species are at risk of extinction in Wales: Long-fringed mini-mining bee (*Andrena niveata*), Large garden bumblebee (*Bombus ruderatus*), Silver-sided nomad bee (*Nomada argentata*), Large mason bee (*Osmia xanthomelana*) and Spined blood bee (*Sphecodes spinulosus*). Worryingly, bee losses are evident across the whole of Wales with Caernarvonshire and Glamorgan exhibiting among the worst bee declines having lost nine and ten target species respectively.

Whilst we know that these species have declined at a UK level, by looking more closely at Wales an even sharper decline is revealed. Over the past 50 years we have seen the local extinction of many of Wales's special bee species. Our hope is that by highlighting these losses we can raise awareness of the importance of Wales in conserving our declining bee species, and stimulate conservation action on the ground. Our report highlights conservation actions for the species and for groups of species that share the same habitats – for example 13 of the 26 target species are found on brownfield sites in Wales.



Large garden bumblebee (*Bombus ruderatus*) queen
© Steven Falk.



Silver-sided nomad bee (*Nomada argentata*) © Steven Falk.

The Action Plan for Pollinators in Wales (2013) sets the strategic vision, outcomes and areas for action to improve conditions for pollinators and works to halt and reverse their decline in Wales. The Wales Threatened Bees Report identifies our most threatened bee species in Wales and recommends a series of actions to support their conservation and is therefore a means to support delivery of the outcomes listed within the APP.

The declines in our pollinators can be reversed by restoring lost flower-rich habitats and connecting up those that remain, helping bees, butterflies, hoverflies and other wildlife to move through our landscape. Buglife's B-Lines initiative is doing exactly that by creating and restoring permanent wildflower-rich habitat, creating important 'stepping stones' for pollinators. B-Lines have now been mapped across all of Wales and are a resource to be used by everyone to prioritise and target action on the ground.

Through a combination of targeted species conservation action and a more general approach to improving the condition of our countryside for bees and other pollinating insects, we hope that we can reverse the severe declines highlighted in this report. This is a call to action – we need local authorities, NGOs, businesses, Welsh Government and local communities to work with us to get Wales buzzing!

Further reading

The **Wales Threatened Bee Report** can be downloaded at:
<https://www.buglife.org.uk/wales-threatened-bee-report-0>

Action Plan for Pollinators in Wales can be found at:
<https://gov.wales>

Further reading on **B-Lines** can be found at:
www.buglife.org.uk/b-lines-hub/wales

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