Pollinator Strategy for Scotland

2017–2027 Information and advice resources

Scottish Natural Heritage
Dualchais Nàdair na h-Alba
All of nature for all of Scotland
Nàdair air fad airson Alba air fad

The Scottish Government
Riaghailt na h-Alba

July 2017
Pollination and pollinators

The UK Insect Pollinators Initiative (IPI) website contains much information about threats and pressures to pollinators and ecosystem services.

Defra's report: Status and value of pollinators and pollination services.

The Royal Horticultural Society's Pollinators: decline in numbers is a summary of evidence and actions.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has produced a comprehensive report on pollinators, pollination and food production.

The sites from the Food and Agriculture Organisation (FAO), Pollination Services for Sustainable Agriculture, and the Convention on Biological Diversity (CBD) pollinators, summarise the current information on the economic value of pollination, pollinator decline, its causes and its impact on pollination services.

Xerces Society, a USA-based organisation devoted to insect conservation, is a good source of information on pollinator management and conservation.

The United States Department of Agriculture (USDA) Insects & Pollinators and the Pollinator Partnership inform about health of pollinators, food, ecosystems, conservation, education and research.


**Habitat management**

IPI's Policy and Practice Notes cover causes of decline in pollinating insects; managing pollinators for crop production; protecting pollinators from pesticide risk; pests and diseases; managing urban areas and farmed landscapes for insect pollinators; land use change and pollinator conservation; managing the landscape to optimise pollinator nutrition.

The Centre for Ecology & Hydrology (CEH) has produced a practical guide: Habitat Creation and Management for Pollinators.

The Wildlife Trusts Bees’ needs: pollinator advisory sheets give advice on agriculture, gardens, industrial sites and green space, transport corridors, urban environment and woodlands.

Buglife provided Farmland advice on farmland bee boxes; pollinators and farming; helping pollinators at a field-scale, farm-scale and landscape-scale; grazing marsh; heathland; wood pasture; grassland; ponds and ditches; hedgerows and cereal margins; woodland.

Buglife’s advice and guidance in creating urban meadows and ‘Buzzing Business Pack’, give advice on creating opportunities for pollinators on unused patches of land. Buglife has also produced guidance on how to make a community meadow.

Buglife’s B-Lines is an initiative aimed at creating linear wildflower-rich habitats that would function as pathways running though our countryside and towns. B-Lines Leaflets provide guidance on habitat corridors at gardens, allotments and community green spaces.

Bumblebee Conservation Trust's Managing your land for bees covers wildflower meadows and pastures; grassland restoration and creation; wildflower seed; hedges and edges; field margins; traditional orchards; brownfield and industrial land; quarries; moorland.

The Pollinator Exchange is a portal with information on pollinators in towns and cities.

The All Ireland pollinator plan has supplied useful resources in the form of 'how to' guides.

Two booklets provide technical advice to farmers: a guide to pollinator management for farm business from The Campaign for the Farmed Environment, and Improving Profits through Pollination: A guide for Farmers and Growers, by The Bee Farmers’ Association.

The Green infrastructure action plan for pollinators in South-east Wales was designed to help the management of public land, including ground maintenance and assessment of the value of a site for pollinators.

Urbanbees, a LIFE + Biodiversity European Programme, provided a management guide on wild bees in urban and peri-urban spaces.

The Integrated Crop Pollination Project, sponsored by the USDA, collects technical information and advice on several aspects of crop pollination.

Conservation Evidence: summaries from the scientific literature about the effects of conservation interventions on pollinators. Topics covered: restore/create species-rich, semi-natural grassland; plant nectar flower mixture/wildflower strips; management intensity on permanent grasslands; restore species-rich grassland vegetation; plant grass buffer strips/margins around arable or pasture fields; restore heathland; reduce grazing intensity on grassland; plant parks and gardens with appropriate flowers.
Gardening and pollination

Buglife's Gardening for bumblebees and Gardening with bugs in mind contain much information on good practices, pollinator species and recommended plant species.

BBCT’s Bee kind tool helps gardeners to evaluate whether the flowers in their garden are bee-friendly.

The Royal Horticultural Society's Perfect for Pollinators page provides lists of recommended nectar and pollen plants for bees and other types of pollinating insects.

RSPB has produced Garden Advice on homes for insects; wildlife stack; building insect homes; helping bees, hoverflies and solitary bees and wasps; pollinator species.

The Wildlife Trusts offer a range of wildlife gardening information and guidance.

The Wildlife Gardening Forum provides practical advice from different sources.

RSPB's A to Z of a wildlife garden is a compilation of information on our gardens’ flora and fauna.

Natural England leaflet Help save the bumblebee provides concise information about helping bumble bees in our gardens.

Pollinator species

The British Beekeepers Association compiled much information on the honey bee and about beekeeping.

Bumblebee Conservation Trust's identification guide for bumble bees.

Bees Wasps and Ants Recording Society (BWARS) produced information sheets on a variety of bee species and gardening for bee species in general.

Buglife’s Species management sheets on tormentil mining and nomad bees, shrill and brown-banded carder bees, large garden bumble bees and the long-horned bee.

Steve Falk’s ID page on Flickr is an excellent aid for pollinator identification, with an extensive photo library of all described bee species in the UK as well as many pollinating flies, hoverflies, wasps, etc.

The Wildlife Trusts Guide to Solitary Bees in Britain is a very good introduction to this group of pollinators.

Scottish Natural Heritage’s Wild bees of Scotland is an identification guide for common solitary bees in Scotland.

Sustainable Agriculture Research and Education (SARE) has summarised information on solitary bees and their management in farming environments.

Conservation Evidence: summaries from the scientific literature about rearing, managing and the effects of artificial nest sites for solitary bees.

All About Hoverflies offers a good introduction about the biology and ecology of these pollinators.

ukmoths - A guide to the moths of Great Britain and Ireland.
Butterfly Conservation Scotland has identification guides and information on species and habitats.

ARKive is a catalogue of film, photographs and audio recordings of thousands of animals, plants and fungi. ARKive has the backing of many conservation and academic organisations.

**Citizen science projects and activities**

**BeeWalk** is a national recording scheme to monitor the abundance of bumble bees across the UK.

The Royal Horticultural Society is carrying a public survey to identify pollinator-friendly plants.

**iSpot**, a Citizen Science project run by The Open University to encourage the public to help with various surveys.

**Polli:Nation**: a project of educational activities and surveys involving 260 schools. Survey pack includes a Survey Booklet and a Habitat, Plant and Pollinator Identification Guide.

The University of Bristol Urban Pollinators Project is a source of much information.

Buglife's **John Muir Pollinator Way Pollinator Survey**.

The International Bee Research Association (IBRA) has produced a pack to introduce the life of bees and their activities to school children.

Outdoor Learning Directory gathered resources that relate to spaces or activities: Bees and pollination lesson plan.

**The Garden For Life** forum has the range of resources for wildlife friendly gardening and examples of community projects.

**Biodiversity begins with a bee** is a short video that could support other learning resources.

Wild About Gardens provided instructions of how to build a bug mansion.

**Pollinator Health**

Animal and Plant Health Agency’s (APHA) has a Healthy Bees Plan.

The website BeeBase compiled several advisory Leaflets, Training Manuals & Fact Sheets.

The Science and Advice for Scottish Agriculture (SASA) Bee Health is a source of information about bee health in Scotland and the role of bee inspectors.

The Scottish Government aims to achieve a sustainable and healthy population of honey bees for pollination and honey production in Scotland through a Honey Bee Health Strategy.

Defra and APHA have compiled advice on several aspects of beekeeping, controlling honey bee pests and diseases, and importing or moving bees into the UK.

Bee Health, supported by the USDA, has information on honey bee diseases, hive management, pollination, and more.
Prevention of honey bee colony losses (COLOSS) is an international association focussed on improving the well-being of bees.

The Organisation for Economic Co-operation and Development (OECD) gathers policies and guidance relating to pesticides and risk management tools for insect pollinators.

The European Academies' Science Advisory Council (EASAC) has produced a report on Ecosystem services, agriculture and neonicotinoids.

**Ongoing strategies**

National pollinator strategy for bees and other pollinators in England.

National Pollinator Strategy 2014 to 2024: implementation plan.

Welsh action plan for pollinators.

All-Ireland Pollinator Plan 2015-2020.

International pollinator initiatives.
Photography:

Cover: Suzanne Burgess/Buglife, Andrew Philpotts, Dave Goulson/Bumblebee Conservation Trust, Adam J. Vanbergen, Suzanne Burgess/Buglife, Mike Edwards, Dan Chapman, Lorne Gill/SNH.

P2 Alison Edwards, P6 Mike Edwards.