Pollinator Strategy for Scotland
2018 Progress Report
Introduction

The Pollinator Strategy for Scotland was launched in July 2017 along with an accompanying Implementation Plan. These documents identified a range of key objectives and actions to help our pollinators.

This report tracks the progress made towards meeting those objectives and implementing those actions. As outlined in the Implementation Plan, this will be a dynamic process, and will be updated with new priorities and actions as necessary. A timescale is proposed for the core actions: short- (up to 5 years), medium- (5–10 years) or long-term (10 years or more). This timescale is incorporated in the main part of this document, which breaks actions down into individual projects. A traffic light system has been used in the final column of the tables that follow to demonstrate where progress is being made and where resources may need to be allocated: green indicates a complete action, while red indicates that work has yet to be started.

As well as new projects, the document includes others that may have started before the launch of the Strategy. As these are examples of good practice, and are of continuing value, we include them so that they will inspire and perhaps be employed more widely. Hence this document is both a look forward and a reflection on the good work done to date.

The five main objectives identified in the Strategy, however, remain consistent. These are:

1. To make Scotland more pollinator-friendly, halting and reversing the decline in native pollinator populations.
2. To improve our understanding of pollinators and their pollination service.
3. To manage the commercial use of pollinators to benefit native pollinators.
4. To raise awareness and encourage action across sectors.
5. To monitor and evaluate whether pollinators are thriving.

The Strategy, and the work going on to deliver it, aims to ensure that by 2027:

- Action to support pollinators is firmly embedded in relevant strategies, policies and practices across government and the public sector.
- Our understanding of pollinator ecology, status and trends has improved, allowing policies and practices to be informed by the best evidence.
- Regulation of importation of honey bees and bumblebees minimises the risk of introducing new pests and diseases.
- Local bee-based industries are better supported.
- We have a wide understanding of the value of Scotland’s pollinating insects and strong public support for restoring populations and habitats, monitoring populations and researching pollinator biodiversity.
- There is a strong network of good-quality pollinator habitats in place.
- It can be demonstrated that Scotland’s pollinators are thriving.
SNH is working with others to strengthen biodiversity throughout Scotland. The Scottish Government published the Scottish Biodiversity Strategy Route Map in June 2015. This set out the big steps needed to implement the Scottish Biodiversity Strategy 2020 Challenge, which is Scotland’s response to the Aichi Targets set by the United Nations Convention on Biological Diversity to halt the loss of biodiversity and restore essential services that a healthy natural environment provides. The Pollinator Strategy for Scotland contributes to and sits comfortably within those objectives.

Governments, wildlife organisations, local communities and scientists across the UK are collaborating to issue a call to action on behalf of pollinators. The Scottish Pollinator Strategy is joined by the All Ireland Pollinator Action Plan, the National Pollinator Strategy for England and the Action Plan for Pollinators in Wales in ensuring that borders do not hinder this valuable work.

The Nature Conservation (Scotland) Act 2004 placed a statutory duty on all public sector bodies in Scotland to further the conservation of biodiversity. However, as the pages of this Progress Report reveal, Scotland is extremely fortunate to have many public sector bodies that frequently go well beyond any minimum requirement.

Scotland has 32 local authorities, which are responsible for providing a range of public services. One of the aims of this Progress Report is to highlight and share knowledge of the techniques and practices those bodies are adopting across Scotland for the benefit of our pollinating insects. The work of our local authorities and their dynamic and industrious approach is to be applauded, and their combination of awareness-raising and action on the ground is inspirational.

Tackling the issues facing our pollinators is, of course, a Europe-wide concern. To reverse the decline in pollinator numbers, several projects and pollinator plans across Europe aim to research the trends in, threats to and ecological importance of pollinators. Sharing knowledge and good practice across international borders is a vital component of finding solutions to the various challenges ahead.

There are many ways this report could have been written or presented. The format adopted reports against the original Implementation Plan, making room for new developments. Each of the five objectives identified constitutes a separate chapter, and listed at the start of each chapter are those actions identified as necessary to deliver the Pollinator Strategy. The tables that follow break these actions down into specific projects.

With such a large-scale reporting exercise, from time to time it has been necessary to group some activities into concise reports. However, if you feel that something useful has been omitted we would be very happy to hear from you. Compiling this report has indeed revealed a large body of action planned or already under way. Our intention was to acknowledge the actions of everyone who contributes to delivering the Strategy.
and provide an overview of where we are today. It remains a Strategy you can contribute to, and our aim remains to promote the widest possible involvement in delivering the future our pollinators deserve.
Our partners

In December 2015, we launched a consultation inviting views on proposals for pollinator conservation. The responses underlined the need for collaboration across sectors to promote action that would benefit our pollinators.

The resulting Strategy includes action for everyone, from Scottish Government and its agencies to conservation groups, farmers, landowners, managers, gardeners, agricultural businesses, commercial businesses and members of the public.

We are reliant on, and grateful to, the following champions of the Pollinator Strategy for Scotland for their ongoing support and project skills:

- Bee Farmers Association
- Buglife
- Bumblebee Conservation Trust
- Butterfly Conservation Scotland
- Centre for Ecology & Hydrology Edinburgh
- Central Scotland Green Network Trust
- University of Edinburgh
- Forestry Commission Scotland
- Inverclydebuzz (Inverclyde Pollinator Corridor)
- James Hutton Institute
- Keep Scotland Beautiful
- National Farmers’ Union
- Network Rail
- Plantlife
- RSPB (Scotland)
- Royal Botanic Garden Edinburgh
- Science & Advice for Scottish Agriculture
- Scottish Government
- Scottish Environment Protection Agency
- Scottish Land & Estates
- Scottish Beekeepers Association
- Soil Association
- Scottish Farming and Wildlife Advisers’ Group
- Scotland’s Rural College Farm Advisory Service
- Scotland’s 32 local authorities
- ScotRail
- Scottish Wildlife Trust
- Sustrans Scotland
Abbreviations

A number of abbreviations are used in the tables in this Progress Report:

AECS  Agri-Environment Climate Scheme
AHDB  Agriculture and Horticulture Development Board
BBCT  Bumblebee Conservation Trust
BHIP  Bee Health Improvement Partnership
CEH   Centre for Ecology and Hydrology
CSGNT Central Scotland Green Network Trust
FAS   Farm Advisory Service
FIT   flower-insect timed (count)
HLF   Heritage Lottery Fund
IPM   integrated pest management
JHI   James Hutton Institute
JMT   John Muir Trust
KSB   Keep Scotland Beautiful
LBAP  Local Biodiversity Action Plan
NNR   National Nature Reserve
PoMS  UK Pollinator Monitoring Scheme
RBGE  Royal Botanic Garden Edinburgh
RSPB  Royal Society for the Protection of Birds
SASA  Science & Advice for Scottish Agriculture
SBA   Scottish Beekeepers Association
SG    Scottish Government
SNH   Scottish Natural Heritage
SNHBS Scottish Native Honeybee Society
SRUC  Scotland’s Rural College
SWT   Scottish Wildlife Trust
Objective 1: Pollinator-friendly habitats

What we need to do

- Prevent further habitat loss and degradation by maintaining and improving the current diversity of semi-natural habitats
- Promote the restoration and creation of natural flower-rich habitats in the countryside and in urban areas, to support a national ecological network
- Retain connected habitat networks for wild pollinators and extend pollinator habitats to adjacent areas
- Implement measures required to protect and enhance pollinator habitats
- Recognise the importance of brownfield sites and manage these to benefit pollinators and other species.
- Encourage the inclusion of pollinators’ needs in land management, and development planning and Management
- Incorporate green infrastructure in developments, such as green roofs and rain gardens, to provide additional pollinator habitats.
- Support the use and development of pollinator-friendly pest control measures, including integrated pest management, in agricultural and urban areas, building on the principles set out in the EU Directive on the Sustainable Use of Pesticides

<table>
<thead>
<tr>
<th>Project (S – short term, M – medium term, L – long term)</th>
<th>Organisation(s)</th>
<th>Update</th>
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<tbody>
<tr>
<td>Falkirk Pollinator Parks – creating flower-rich habitat for pollinators, and pollinator ‘stepping stones’, within and across urban parks in Falkirk and linking to the John Muir Pollinator Way. Includes bulb planting and meadow enhancement at five sites. (S)</td>
<td>Buglife / Falkirk Council</td>
<td>Due to be completed by spring 2019, with work planned at Ash Park in Banknock and Princes Park in Falkirk. Camelon Public Park and Policy Bing have now been completed.</td>
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<tr>
<td>Inverclydebuzz, through the Inverclyde Pollinator Corridor project, is creating pollinator-friendly areas in Renfrewshire (Blairmore/Belville/King’s Glen School). The recent acquisition of a former public baths site will create a fourth local resource for pollinators. This work recognises the potential value of small urban plots and also the opportunity offered by brownfield sites. (S)</td>
<td>Inverclydebuzz / Inverclyde Council</td>
<td>Two sites have been converted into pollinator-friendly urban meadows. Also, former school grounds in Kilmacolm are providing a short-term meadow and seed source.</td>
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<td>The John Muir Pollinator Way is an inspirational landscape-scale project with considerable pollinator corridor potential. Twenty-five pollinator hotspots will create a connected habitat network along the route, building on the existing 15 sites. (L)</td>
<td>Buglife/CSGNT</td>
<td>£60,000 of funding was provided by the SG and £10,000 was from the Greggs Foundation. CSGNT will be monitoring progress.</td>
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<tr>
<td>Encouraging the inclusion of pollinator needs by creating a pollinator-friendly award recognising community creation of space managed for pollinators. (M)</td>
<td>KSB/SNH</td>
<td>Annual award under the ‘It’s Your Neighbourhood’ scheme run by KSB and funded by SNH.</td>
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<tr>
<td>Encouraging Green Infrastructure Fund grantees to maximise the benefits to pollinators within the design and management of their projects. Battleby demonstration site will house a ‘living wall’ creation to show urban audiences how built-structures can be transformed into biodiversity hot-spots with numerous advantages for pollinators. (L) (M)</td>
<td>SNH Green Infrastructure team</td>
<td>A first phase of green infrastructure projects is under way to being delivered by 2019; several of these include habitat improvements and/or awareness-raising relevant to the Pollinator Strategy. Guidance to applicants for future funding emphasises the importance of incorporating action for pollinators into their project design.</td>
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<tr>
<td>Garnock’s Buzzing is a project to increase the diversity, abundance and connectivity of</td>
<td>North Ayrshire Council/ Buglife / SWT/ SRUC / Garnock Connections (an RSPB initiative)</td>
<td>is part of a 4-year plan to</td>
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<td>Project Description</td>
<td>Organisation</td>
<td>Key Actions</td>
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<td>Create quality habitat for pollinating insects. Funding was approved by HLF with permission given to start in May 2018.</td>
<td>RSPB</td>
<td>Pollen/nectar sources and nesting habitat across the Garnock area through the targeted creation of over 15 hectares of wildflower meadows. Encourages consideration of the needs of pollinators and implements a measure needed to enhance pollinator habitats.</td>
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<tr>
<td>Monthly volunteer events have created a pollinator-friendly area through the removal of scrub and invasive species. The project started in July 2015 and will end in autumn 2018.</td>
<td>Inner Forth Landscape Initiative/Falkirk Council/Buglife</td>
<td>Bridgeness Biodiversity is a project in the Inner Forth area in Bo’ness that will manage a brownfield site and wildflower area for wildlife and people.</td>
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<tr>
<td>This project has been gathering momentum since 2015. It involves habitat management and creation, allied to sympathetic care regimes. Citizen science recording exercises feed into national surveys run by various conservation organisations (RSBP, BBCT, Butterfly Conservation).</td>
<td>Sustrans</td>
<td>The Greener Greenways project enhances traffic-free routes of the National Cycle Network. The aim is to benefit biodiversity through habitat network management and to engage the public and volunteers in citizen science. It involves 11 routes, mainly in the Central Belt. Using Greener Greenways training and workshop sessions to encourage submission of wildlife reports.</td>
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<tr>
<td>SG supports Europe’s precautionary approach to neonicotinoids and the cautious and continuing restrictions on their use.</td>
<td>SG</td>
<td>Encouraging Scottish growers to complete an IPM plan and encouraging local authorities to apply the principles of IPM to ground maintenance and management. Supporting and promoting IPM, and targeted use of pesticides, in agricultural and urban areas. Supporting and complying with approved Europe-wide advice.</td>
</tr>
<tr>
<td>Trialling new seed mixes to expand the benefits of unharvested crops will benefit pollinators as well farmland birds.</td>
<td>RSPB</td>
<td>Farmland Bird Lifeline expansion. RSPB policy teams are working with their advisers to expand the initial objectives of corn bunting recovery scheme work. Seeking to promote the needs of pollinators in land and species management approaches. See @ <a href="https://www.rspb.org.uk/our-work/conservation/projects/corn-bunting-recovery-work-in-north-and-east-scotland/#41sYz1htfSevDsrk.99">https://www.rspb.org.uk/our-work/conservation/projects/corn-bunting-recovery-work-in-north-and-east-scotland/#41sYz1htfSevDsrk.99</a> (S)</td>
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<tr>
<td>4 on-farm events have been held since July 2017 in Caithness, Inverkip, Grantown on Spey and Inverurie reaching 90 farmers.</td>
<td>Soil Association</td>
<td>Farming With Nature, development and hosting of on-farm meetings ‘Buzzing about Grassland’ that promote restoration and management of species-rich grassland and growth of pollinator-friendly mixes on arable land.</td>
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<tr>
<td>Funding awarded to 21 station adopter groups across Scotland, e.g. Dalry station created a wildflower meadow on previously mown grass. Habitat creation for native wild bees and pollinators.</td>
<td>ScotRail / Network Rail</td>
<td>Native planting, ‘bug’ hotels and wildflower meadow creation. (M) Native wildflower planting between Anniesland and Kelvindale railway stations, Over 7000m² was planted, including ox-eye daisies, poppies, bird’s-foot trefoil and white campion. (S)</td>
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<td>Interpretation signage was installed on the trail in summer 2018 and was used for National Meadow Day 2018.</td>
<td>SNH</td>
<td>Battleby wildflower meadow and adjacent pollinator trail. Demonstrates a sympathetic planting and mowing regime to encourage pollinators, while the trail raises awareness of retaining areas suitable for hibernation, nest building and shelter. Promotes the restoration of natural flower-rich habitat in the countryside. (S)</td>
</tr>
<tr>
<td>Flood protection measures incorporate wildflower meadows, trees and shrubs.</td>
<td>Angus Council</td>
<td>Brechin Flood Prevention Scheme. This is a response to increased incidence of flooding in the area. The scheme’s ‘enhanced’ embankments demonstrate taking an opportunity to incorporate new land management approaches. (M)</td>
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<tr>
<td><strong>Habitat creation and connectivity in Greener Greenways context on Alloa–Dollar and Alloa–Tillicoultry routes. Regeneration of contaminated land at Fishcross into wildflower area. (M)</strong></td>
<td>Clackmannanshire Council</td>
<td>Habitat creation for native wild bees.</td>
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<tr>
<td><strong>Fife’s Buzzing. Between June 2014 and June 2017, 20 sites across Fife were transformed into pollinator-friendly habitats. Fife Council are now managing these areas. These will benefit from a land management strategy that will include wildflower planting and relaxed mowing regimes. (S)</strong></td>
<td>Buglife/Fife Council</td>
<td>Funded by HLF and Fife Environmental Trust. Now being routinely managed to provide a local ecosystem that supports pollinators.</td>
</tr>
<tr>
<td><strong>Establishing wildflower grasslands in the grounds of two council offices. This promotes the restoration and creation of natural flower-rich habitats in an urban area which, in turn, supports a national ecological network. (S)</strong></td>
<td>Aberdeenshire Council</td>
<td>Staff involvement has raised awareness of planting regimes and pollinator attraction.</td>
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<tr>
<td><strong>Glasgow City Council has published its own Pollinator Plan, which aims to ensure that the city has a robust, healthy and diverse population of pollinating insects. This plan aims to support the National Pollinator Strategy. Hogganfield Park Local Nature Reserve is now a key pollinator demonstration site for a range of wildflower meadows, orchards, and bee banks, showing the breadth of management of Glasgow’s parks and green spaces. (M)</strong></td>
<td>Glasgow City Council</td>
<td>The Plan lists specific actions and projects that will be carried out to deliver pollinator-friendly outcomes. 65 hectares of wildflower meadows managed for biodiversity and, in particular, pollinators in Glasgow.</td>
</tr>
<tr>
<td><strong>Scottish Wildlife Trust lead on the Irvine to Girvan Nectar Network (IGNN), which will retain connected habitat networks for wild pollinators and extend pollinator habitats to adjacent areas. Likewise, Stevenson, Saltcoats and Ardrossan will be linked with an active travel route that includes wildflower meadows and tree planting. IGCN has over 16 projects running across golf courses, wildlife reserves, parks and cycle routes. (M)</strong></td>
<td>SWT / SNH / North Ayrshire Council / South Ayrshire Council / Dunonald Links / Royal Troon Golf Club and TCV</td>
<td>Creating a habitat network for pollinating insects in an ecological corridor between towns. Using 10kg of kidney vetch seed and considering a plan to add another pollinator corridor on Ayr’s Low Green.</td>
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<tr>
<td><strong>Breaking Grounds project is creating flower meadow habitats, and open space management is embedding relaxed mowing regimes and includes sympathetic seeding of areas that benefit pollinators. (S)</strong></td>
<td>North Ayrshire Council</td>
<td>Mental health project that included creating nectar-rich flower beds for bees and butterflies.</td>
</tr>
<tr>
<td><strong>Greenhall (Blantyre) revised amenity grasslands into a positive development for biodiversity in parks and green spaces. A former golf course at Blairbeth, Cambuslang, is to be taken into council ownership and include wildflower habitats. (S)</strong></td>
<td>South Lanarkshire Council</td>
<td>Amenity planting of appropriate wildflower mix, reduction in mowing frequency and conversion of former golf course into community green space.</td>
</tr>
<tr>
<td><strong>Reducing roadside verge management to ensure that wildflowers are cut only at the appropriate time. Distributing wildflower seed packs to local schools. Upgrading pollinator provision at Hermitage Park (Helensburgh). (L)</strong></td>
<td>Argyll and Bute Council</td>
<td>Wildflower and biodiversity elements embedded in restructuring of the park.</td>
</tr>
<tr>
<td><strong>Kelpies (Falkirk) site improved to attract and provide for pollinators. Roundabout improvements will include planting nectar-rich flowers. (L)</strong></td>
<td>Falkirk Council</td>
<td>Meadow patches and bulb planting on towpath and canal extension path, creating food sources for pollinators.</td>
</tr>
<tr>
<td><strong>‘On the Verge’ is a project taking 35 roadside verges and planting them with native wildflowers to demonstrate the potential value of these transport corridors. Revised public amenity grassland management (M)</strong></td>
<td>Stirling Council</td>
<td>Community groups in Stirling &amp; Clacks work with Stirling Council to exploit potential for pollinators in roadside verges. Amenity grassland benefited from reduced management regimes. Eight orchards planted.</td>
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<tr>
<td>Project</td>
<td>Organisation</td>
<td>Description</td>
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<tr>
<td>Magnificent Meadows manages 9 meadow sites to benefit pollinators in Fife, Falkirk, West Lothian, South Lanarkshire and Edinburgh. This uses the ‘flying flock’ of sheep and herd of rare breed Shetland cattle. (L)</td>
<td>Plantlife / SWT</td>
<td>A long-term commitment which will extend beyond the magnificent meadows and cover other wildlife reserves in Perthshire and Ayrshire.</td>
</tr>
<tr>
<td>Cumbernauld Living Landscape promotes Community Growing Areas working with North Lanarkshire Council to increase the number of allotments and growing spaces. (M)</td>
<td>SWT / North Lanarkshire Council</td>
<td>Growing spaces managed by local community groups to produce food locally and to benefit pollinators. Aiming to reach 30 local community growing spaces.</td>
</tr>
</tbody>
</table>
Objective 2: Understanding pollinators and their pollination services

What we need to do

- Improve our knowledge of plant–pollinator interactions, including the relationship between wild pollinators and habitat size, quality, type and connectedness to other areas of habitat.
- Better understand, through spatial mapping, the resources available to pollinators on a landscape scale.

<table>
<thead>
<tr>
<th>Project</th>
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<th>Update</th>
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<tbody>
<tr>
<td>Butterfly Conservation identification classes and Urban Butterfly Project provides entry-level knowledge of plant–pollinator interactions and contribute to monitoring goals. (S)</td>
<td>Butterfly Conservation</td>
<td>These butterfly identification courses also cover other pollinators and pollination services. By seeking citizen scientist input, they contribute to a greater understanding of our pollinator numbers and spread.</td>
</tr>
<tr>
<td>Whitmuir Farm Pollinator Trail will raise awareness of pollinators and greater understanding of pollinator services among the food and farming industries. (M)</td>
<td>Whitmuir Farm/SNH</td>
<td>The creation of a pollinator trail on a working farm demonstrates the pollination service aspect of the Strategy. The educational materials will further raise awareness and appreciation of pollinators.</td>
</tr>
<tr>
<td>Working with local garden centres to raise awareness of pollinator-friendly plants. (S)</td>
<td>Aberdeenshire Council</td>
<td>This builds on an earlier initiative with banners and leaflets given to libraries and other community facilities highlighting suitable garden plants for pollinators in this region.</td>
</tr>
<tr>
<td>Working with community gardens to offer guidance on creating and managing flower-rich areas for pollinators. (S)</td>
<td>Buglife</td>
<td>This aims to increase the involvement of local communities in these projects.</td>
</tr>
<tr>
<td>Using urban greenspace management practices to improve biodiversity. (M)</td>
<td>University of Edinburgh</td>
<td>Analysing relaxed mowing regimes and planted wildflower meadows to enhance pollinator numbers.</td>
</tr>
<tr>
<td>Working with ScotRail to improve Ladybank and Helensburgh (Upper) stations to benefit pollinators. (S)</td>
<td>ScotRail</td>
<td>Exploring options to further improve these train station grounds.</td>
</tr>
<tr>
<td>Identifying optimum plants and habitat area size for wild pollinators in different management situations. (M)</td>
<td>SRUC</td>
<td>Research projects exploring optimum farm management and landscape-scale measures to protect and promote pollinator populations (see table footnote in blue for details).</td>
</tr>
<tr>
<td>Evaluating methods of management that benefit pollination in field margins and diverse habitat areas at farming and landscape-scale sites. (L)</td>
<td>JHI</td>
<td>Seeking to confirm links between pest control and nearby pollinator-friendly habitats.</td>
</tr>
<tr>
<td>Training courses to develop identification skills regarding various pollinator groups. This will raise awareness of habitat size and connectivity of sites as well as of species. (S)</td>
<td>Local authorities/Buglife</td>
<td>Ranger-run programmes deliver this training, e.g. through Aberdeenshire Council and Buglife.</td>
</tr>
<tr>
<td>FAS and SRUC are committed to promoting IPM plans and delivering knowledge exchange activities on IPM and beneficial insects to key stakeholders. (L)</td>
<td>FAS/SRUC</td>
<td>IPM farm walk in June 2018. Agronomy roadshow featuring both pollinators and IPM in January 2018. Information video on IPM in production.</td>
</tr>
<tr>
<td>PhD to study how to best manage urban greenspaces to best benefit plants, pollinators and people.</td>
<td>University of Edinburgh / NERC / SWT</td>
<td>University of Edinburgh leads on this work, funded by Scottish Wildlife Trust.</td>
</tr>
</tbody>
</table>
Four specific projects are included in this SRUC-led work:

1) Landscape-scale research project exploring how pollinators use different habitats to meet their resource requirements (L). This research is finished. It highlighted the importance that habitat heterogeneity plays in supporting diverse populations and enhancing the stability of foraging resources.

2) Evaluating the relative value of ecological focus areas in providing resources for insect pollinators (L). This research explores a range of nitrogen-fixing crops and catch crops to determine optimum mixtures for pollinators. Optimum management practices are being shown and evaluated on the Soil Association Scotland’s pollinator demonstration farm. In addition, at the EU level, experts are exploring the value of a range of ecological focus areas. This is being carried out by a partnership of SRUC/University of East Anglia/Trinity College Dublin/University of Wageningen.

3) Research project exploring the impact of upland grazing on the complexity of plant–pollinator interactions (L). This large-scale project, established at Kirkton and Auchtertyre Farms, explores the effect of three upland grazing treatments on pollinator–plant interactions.

4) PhD studentship exploring the importance of insect pollination to yields of oilseed rape. This studentship explores varietal differences in oilseed rape with respect to the resources provided for pollinators and dependence on insect pollination. This is carried out in partnership with the University of Edinburgh.
EDINBURGH BIODIVERSITY PARTNERSHIP

Think of Edinburgh and you conjure up charming images of the fabulous built heritage of our world famous capital city. However, Edinburgh also has a great biodiversity story to tell with a range of projects taking place in our capital city to help our vital pollinating insects.

As with many of our Local Authorities, Edinburgh has taken the task of creating habitat for pollinators in our urban parks to heart. A combination of meadow creation and the naturalisation of what were often bland amenity grass areas has gathered pace in the city. The city can now boast at least 70 plots that have been transformed by this approach.

Working with others achieves great outcomes and since 2000 the Council has led the Edinburgh Biodiversity Partnership in delivering the Edinburgh Biodiversity Action Plan. More recently, the Council and a small number of long standing partners have developed the Edinburgh Living Landscape project. The project achieves many things, including actions that ensure grassland habitats develop in a more natural manner. The benefits are well-documented and include reducing the cost of intensively managing grasslands, adding colour and all the health and wellbeing associated with natural public spaces, and reducing the city’s carbon footprint.

Having the ability to influence land use is a key advantage that Local Authorities can, and do, maximise. Edinburgh City Council can point to Waverley Court as a good example. There they have been able to plant wildflowers and implement a new mowing regime on the green roof of the Council HQ – the upshot is a patch of land that is attractive to people using the building and a valuable stepping stone for pollinators moving about the city.

Edinburgh is internationally recognised for its academic background. Recently the University of Edinburgh published a report which confirmed that cities play a useful role in building up populations of pollinators. By studying pollinating insects at urban (including Dundee, Glasgow and Edinburgh), farmland and nature reserve sites they were able to show that cities can compete with farmland and nature reserves in the number and range of insects visiting flowers.

These findings sat comfortably in a city which has Design Guidance in its Planning Department, which includes a requirement for habitats to support pollinators and promotes use of a specific ‘Edinburgh seed mix’. This attention to detail is vital as creating urban meadows is more complex than many of us initially realise or appreciate.

Selecting seeds which are of local provenance, wherever possible, improves the chances of success, but so too does a management regime which is in harmony with local conditions and built around local knowledge.

Of course, it’s not only improving habitats that has captured the imagination in Edinburgh. Species work is also high on the agenda. Projects such as ‘creating a square metre’ for butterflies under the Edinburgh Living Landscape ‘banner’ in partnership with Butterfly Conservation have hit the mark and includes roof gardens as well as sites on ‘terra firma’. A variety of local community groups have taken up the challenge of building bug hotels and using moth traps to record the variety and number of species is increasingly popular.

One particularly welcome development, given the efficiency of bumblebees as pollinators, has been monitoring of pollinators in planned transect surveys, which are fed into Bumblebee Conservation Trust and thus contribute to creating a national, as well as a local, picture.

In a city famous for culture, education, law and politics, it’s good to know that biodiversity and pollinators are joining that list.
GLASGOW CITY COUNCIL

As our largest city, with a rich industrial history, you may not immediately think of Glasgow as a place for pollinators. However, make no mistake, when it comes to managing the public greenspaces that Glasgow owns the City Council has a great story to tell.

Take their commitment to meadow creation and management, for instance. This is a huge bonus for our pollinating insects. Not only is this vital habitat being created across the city, but by taking some of the seed production for this work ‘in house’ the team in Glasgow can be confident of the provenance of their seeds and be masters of their own destiny when it comes to the composition and scheduling of their meadows.

It takes real effort and considerable skill to manage seed production and in Glasgow this is done under Glasgow’s Flower Power banner. The flower nursery is based at the beautiful and tranquil Pollok Country Park — it’s an exciting project and a radical departure for a city that was internationally recognised as a byword for heavy industrial settings not so long ago.

They say that many hands make light work and the Flower Power initiative benefits from welcome input from volunteer groups who play a key part in delivering this work, thus helping to enhance local greenspace and biodiversity.

Visitors who want to see some of Glasgow’s fabulous urban wildflower meadows are spoiled for choice on locations to visit. Local Nature Reserves at Hogganfield Park and Robroyston Park are fine examples, along with Ruchill Park and Alexandra Park.

Creating a wildflower meadow is one thing. Making it widely popular is another, especially when it involves a change in land use. Glasgow City Council tackled this challenge head on and have very sensibly created signage that raises awareness of the value of wildflower meadows and explains why a shift from regularly mown amenity grassland to seemingly wild areas is something that the public should enjoy and value in the knowledge that they are helping biodiversity. And rest assured that in a football-mad city like Glasgow there is room for both football pitches and wildflower meadows on council lands.

Having created and promoted the value of a wildflower meadow, the next step is to manage the site thereafter. On a practical level Glasgow’s meadows are cut by different teams. On a larger scale meadow a contractor, who will be well-briefed, carries out the work, while Glasgow City Council and volunteers deal with the smaller meadows. In addition to these organised teams, there are lots of groups involved in wildflower planting across the city to improve habitats for wildlife and pollinators.

There are several strands to the management of Glasgow’s parks and greenspaces – and a stack of opportunities. There isn’t space in a short article to do them all justice, but bee banks have been created at Alexandra Park and Cardowan Moss (to name but two sites) and the Council works with Butterfly Conservation to carry out surveys at various city sites to monitor the status of these often unsung pollinators.

Glasgow City Council staff value their pollinators – a lot – and that’s why the city produced a Glasgow Pollinator Plan which aims to support the National Pollinator Strategy with local action. It’s that foresight and sense of connection that typifies the sound approach Glasgow takes to its biodiversity commitments.

The health benefits of nature in city settings are clearly increasingly recognised. The role that urban areas can play in providing habitats for species is equally seen as incredibly valuable. On that basis, Glasgow has much to be proud of and is very much ‘Still Game’ when it comes to improving the lot of people and nature.
BUTTERFLY CONSERVATION

You may know that Butterfly Conservation run popular and regular identification workshops. But did you know that they also make a major contribution to our monitoring of insects.

The Community Garden at Ninewells Hospital was the scene for one of their identification and monitoring classes. We met in late May on a glorious summer morning. Sarah Griffiths extended a warm welcome in the one-acre garden in Dundee, which has been designed to provide visitors with an accessible, sheltered sanctuary. Garden features include herbaceous borders; vegetable, sensory and physic gardens; a small orchard with wildflowers; picnic areas; and wildlife habitats. In short, this was a venue with something good for both people and nature.

Introductions over, Anthony McCluskey of Butterfly Conservation took the reins and gave a couple of fascinating talks in the morning. These provided an insight into both the world of butterflies and their complex life cycle; through to a tailored talk that focussed on how best to identify the species we’re most likely to see.

The setting of the Community Garden in Ninewells was ideal. The talks stressed not only the world of butterflies but the value of enjoying nature for the very health and wellbeing benefits it delivers. A few quirky facts here and there gave a humorous angle to a really informative morning.

A quick lunch-break in the garden was followed by heading out with the sweeping net to see what we could find. The Green-veined white was certainly about, but paled a little beside the star of the afternoon – the small copper. The small copper had taken up residence on a mound and after proving a little camera shy it eventually made a grand appearance in the middle of our group. There were plenty of bumblebees around too and of course the soothing sound of woodland birds was a constant backdrop.

It’s worth saying a little about the impressive Ninewells Community Garden. Volunteers help keep this in great fettle and given that it is close to both the hospital and the renowned Maggie’s Centre it is a much appreciated and a real ‘natural health service’ resource.

The day wound down with a good session on the value of citizen science. Anthony asked if we could commit to three visits per year to a site (which could be your own garden) to help contribute to the recording that is so vital to monitoring the status of Scotland’s butterflies. The task isn’t onerous and boils down to simply noting the date, location and numbers of butterflies spotted – using the easy to follow i.d. guides that Butterfly Conservation have.

Finally, Anthony explained the value of the Urban Butterfly project. Urban areas are increasingly havens for butterflies and Butterfly Conservation would love the help of anyone who can spare a little time to log what species are living in our towns and cities. Valuable information of this nature will help improve conservation work no end.

So a huge thumbs up to Butterfly Conservation and Anthony McCluskey and the wonderful volunteers and team at Ninewells Community Garden. A green oasis in the midst of a potentially stressful environment is a shining example of how nature can benefit us all.
Sometimes a name catches the eye. Our colleagues at the Centre for Ecology & Hydrology (CEH) managed to pull off a ‘double whammy’ with their PoMS and FIT work recently.

The Pollinator Monitoring and Research Partnership (PMRP) are analysing existing insect records alongside new systematic survey data to measure how insect pollinator populations are changing.

CEH are the lead partners and are coordinating the gathering of new figures through two surveys which form a UK Pollinator Monitoring Scheme (PoMS).

The message is simple. Pollinators are vital for nature. We can help pollinators not only by providing food and shelter but by monitoring their numbers. In doing so, we provide information for scientists who assess population trends and bee behaviour.

The first part of the PoMS work is the FIT Count. The FIT stands for Flower-Insect Timed. All they asked was that individuals give up a little time to get involved with a 10-minute flower-insect count at any site where there were pollinating insects. Counts took place between the beginning of April and the end of September, and it was recommended that participants selected dry and reasonably warm weather. The only requirement of the location was that it contained a target flower species from a suggested list of flowers.

Whilst essentially a simple survey, it was systematically carried out and engaged a wide range of volunteers who were asked to contribute to collecting data on abundance and flower visitation of pollinators to the target flower species.

During 2017 CEH ran their FIT Count across a variety of urban and rural locations, and they expanded this for wider involvement in 2018.

Gathering the information is one thing, collating it is equally important. For each FIT Count that a member of the public carried out, they were asked to add their results to an online recording form. The results are eagerly awaited.

The second part of the PoMS work was the 1km square surveys, which was a survey of pollinators and floral resources with a core set of 75 monitoring sites on either cropped or non-cropped land across England, Wales and Scotland.

The site network and baseline surveys were set up by CEH surveyors, and there were opportunities for volunteers to ‘adopt’ the squares and help carry out the surveys.

PoMS’s intention was to integrate data from across these different monitoring approaches to deliver key metrics on pollinator population status and trends, including updates of the UK Pollinator Indicator at species and country-level resolution.

These activities will be coupled with ongoing links with the wider research community to facilitate use of the data in research, conservation and survey planning.

Bees and hoverflies are the key pollinators in these studies given that they provide a high proportion of the pollination service to crops and wildflowers. But the samples will provide information on a wide range of other flower-visiting insects.

This is a collaborative project funded by Defra, JNCC, Welsh Government, Scottish Government and project partners.
Scottish Natural Heritage – Battleby grounds

Our Battleby office stands in beautiful grounds. These can be a great education resource and with our wildflower meadow going from strength to strength we recently added a Pollinator Trail. The intention was to raise awareness of our pollinators and the marvellous service they provide.

Visitors to our grounds can start the trail from the car park at the western end of our building. There they will see a large panel that details the flowers that flourish on the meadow during spring and summer. A detailed photograph and a short explanation of plants including bird’s-foot trefoil, red clover, common knapweed and great yellow rattle (amongst others), ends with an invitation to enjoy the Pollinator Trail.

The Trail has seven points and each has a story to tell.

First up is the red-tailed bumblebee. An explanation of what identification characteristics to look for is followed by tips on which flower they are likely to be seen on and an insight into the nesting habits.

The trail then heads on to look at large pile of logs, which rather than being simply that is in fact a good example of a potential nesting and hibernation spot. There is a brief explanation of the typical spots that bumblebees look for when seeking shelter and nesting sites.

Point number three focuses on hoverflies, which in the summer of 2018 appeared to be around in huge numbers. The panel here explains feeding preferences and highlights the fact that there are over 270 species of hoverfly in the UK and draws attention to their role as a natural pest controller in your garden.

It was only as recently as 2013 that the tree bumblebee made an appearance in Scotland and it is the subject of point four on the trail. This point stops beneath an old oak tree and we know that this tree has a cavity which has been home to nesting blue tits and wild honeybees. Given the behaviour of tree bumblebees there is a chance that they will in course make use of this tree as a nesting site.

When the trail reaches the open grassland and orchard in the Battleby grounds it comes to the red mason bee hotel we erected this spring. And with some delight on our part it was immediately occupied. The panel here looks at the life cycle of this charismatic little pollinator and a removable drawer with a glass lid allows the visitor to see the neat arrangement of eggs in the chambers which the red mason bee creates.

A few yards away is point six where the role of pollinators in our orchard comes under the spotlight. Insect pollination is crucial to our food and farming industries and this panel neatly highlights the value and diversity of pollinators providing this vital service.

The trail ends with a stroll downhill, past the Battleby entrance and on to the south lawn where we find the final panel. Unusually, this takes a view on what you don’t see at this site; for here we have a chance to talk about how pollinators need something much ‘richer’ than a neat lawn. It’s a chance to talk about mining bees and their need for bare earth.

Convincing and persuading our visitors to make a little space for pollinators lies at the heart of our approach to promoting pollinators. And our Pollinator Strategy for Scotland, and indeed this report, throws a spotlight on the many actions taking place or planned to help make Scotland more pollinator friendly.
INVERCLYDEBUZZ

Inverclydebuzz is a group of beekeepers and concerned residents in the Inverclyde area doing their bit to help bees and pollinators. Laura Reilly is part of that group and project manager of the Belville Biodiversity Garden in Greenock. We met there to talk about how a pro-active approach helps our pollinators.

“We recently persuaded Inverclyde Council to hand over the site of the old Hector McNeil Memorial Baths to Inverclydebuzz. The site was empty for around two decades, and it will, in time, be transformed into an urban meadow, which will ultimately offer much-needed food and shelter to bees, butterflies and other invertebrates.

“It won’t be the first time our group has transformed an urban site and brought it back into use. The former baths site will join three others sites in the Renfrewshire area – the former King’s Glen School in Kilmacolm Road, Blairmore Crescent, and Belville Street – which collectively form part of the ambitious Inverclyde Pollinator Corridor.

“The Belville Biodiversity Garden is a shining example of what can be achieved. Looking out over the Firth of Clyde to the spectacular Argyll hills, it offers wild flowers and a fantastic urban green environment, as well as a community garden. The community garden offers space to grow fruit and vegetables on raised-beds. This was prompted by locals enjoying the improved view and realising the benefit of crop growing from increased pollinator numbers.

“Our group look for patches of derelict and vacant land with a view to creating meadows and generally improving greenspace in Inverclyde. Belville was offered to us by River Clyde Homes. Although a challenge, on a site that previously has high-rise housing, it presented a wonderful opportunity to create a biodiversity garden and engage the local community. There is a community volunteer garden club here who manage the site weekly, keep it clear of litter and take away the risings from the annual cut. You can develop a site like this really cheaply. We tapped into the Tesco Bags for Life fund and were helped by the Royal Horticultural Society too.

“The thing we are most proud of is promoting pollinators locally, seeing a rise in their numbers, engaging the local community and creating a safe green haven.

“Inverclydebuzz have another site at Blaimore Crescent. This was an old landfill site. Owned by the Council, it sits on formerly contaminated land. This was tricky, but we worked with the Inverclyde Council Contaminated Land Officer to ensure best practice was followed. Given a free hand, we opted to create a bee and butterfly glade under the trees. We sowed different mixes from Scotia Seeds and these came up at different rates, so last year the flowers were different to those visible in 2018. The Council consult Inverclydebuzz about when it would be best to mow, and are happy to remove the risings at the end of the season.

“I’m delighted with the increased number in pollinators visible here now. If you compare what we have in the glade to the adjacent closely mown grass, you can see that just a few yards can make a huge difference for our vital pollinators.

“If I were asked about offering advice based on our work at Belville Biodiversity Garden, I’d say have a good look at your potential site before doing anything. Often charities like Buglife, or the local council environmental officer, can help with wise advice. Development agencies may be looking for a site in which people can work on too, so that is a huge potential help. Publicise it in your local community. Finally, the SNH website has some great tips on what’s good for biodiversity.”

Why not give it a go in your community?
Buglife

Founded in 2002, Buglife is devoted to conservation of invertebrates and their aim is to halt invertebrate extinctions and achieve sustainable populations of invertebrates. They do this through a mixture of projects and campaigns that put habitats and species at the centre of their work, but increasingly they have earned a reputation as an organisation that very successfully connects people and nature.

Picking highlights from the vast range of excellent projects that Buglife are involved in isn’t easy.

However, one highlight is surely their work around the John Muir Way. The John Muir Pollinator Way is an inspirational landscape scale project mapping Scotland’s first B-Line to highlight opportunities for reconnecting fragmented habitats across the central belt of Scotland from Dunbar to Helensburgh.

That’s a considerable undertaking. The John Muir Way stretches 134 miles across Scotland, and boasts a network of good quality pathways, including cycleways, canals and even disused railways, which pass through nine different local authority areas.

What Buglife have been doing is creating a ‘B-Lines’ opportunity map that doesn’t just include the route of the John Muir Way but includes the areas 3km either side of the route. This map can therefore identify where wildflower forage and nesting habitats for pollinators could be created, enhanced and managed. Of course, this throws up a range of opportunities in a variety of sites and so far school grounds, golf courses, cemeteries and public parks have been included.

It follows that through this mapping exercise Buglife have worked closely with local communities and local authorities that the route passes through to identify sites where wildflower meadow creation will provide the biggest benefits to their community.

It’s an inspired approach and was recently awarded funding of up to £60k by Scottish Government and £10k from Greggs Foundation to help and support the Central Scotland Green Network to create a further 25 pollinator hotspots along the 134 mile route.

To date, Buglife can proudly point to 10 locations where sites have been enhanced with native wildflower seed and plug plants with the help of school pupils and local communities.

While the John Muir Way work involves many partners, Buglife’s work in Falkirk is much more locally focused. There Buglife, with funding from SNH, Falkirk Council and Falkirk Environment Trust, have been transforming amenity grassland into colourful meadows. So far they have significantly enhanced 6 areas in Falkirk that are called Falkirk’s Pollinator Way and these link with the John Muir Pollinator Way. In the Year of Young People, it is particularly pleasing to note that local schools were involved with some of these sites.

The selected parks in Falkirk are close enough together to form a series of stepping stones, which pollinators and other wildlife can use to move and mix between. These parks will be known as ‘Pollinator Parks’ and will be transformed by sowing a native and diverse seed mix, planting native wildflower plug plants and bulbs, leaving grassland uncut and managing the parks appropriately for wildlife.

When it comes to creating pollinator-friendly sites and connecting people with nature Buglife are certainly on top of their game.
BUMBLEBEE CONSERVATION TRUST

Bumblebees are an important and cherished component of our biodiversity, they are also probably our most popular and successful pollinators. Bumblebee Conservation Trust (BBCT) have long recognised this and they aim to ensure that populations of these species have a long-term future in the UK.

Bumblebees contribute significantly to our economy through the ecosystem service that their pollination of crops provides. Pollination is vital for many of the nation’s wild plants and it helps to maintain affordable five-a-day fruit and vegetables. Bumblebees also support the wider ecosystem through pollinating a diversity of wild plant species. Bumblebee Conservation Trust aims to halt and reverse declines in the UK’s bumblebees.

Bumblebees are arguably one of the most popular signs of the British summer, but they’re in trouble. Bumblebees are declining across the country, and, to better understand the reasons why, we need data – lots of data – on where we can find the remaining bees, how many there are and what they’re doing.

That’s where Bumblebee Conservation Trust’s BeeWalk comes in. BeeWalk is a national recording scheme run by the organisation to monitor the abundance of bumblebees on transects across the country. These transects would be impossible without volunteers, who identify and count the bumblebees they see on a monthly walk along a set route from March to October.

Anyone can become a BeeWalker – all you need is a spare hour or so every month to walk a fixed route of about a mile (you choose where it goes), and send us your sightings. The information collected by BeeWalk volunteers is the key to monitoring how bumblebee populations change through time, and it allows the Trust to pick up early warning signs of population declines. All data collected contributes to important long-term monitoring of bumblebee population changes. And these changes can often be related to changes in land-use and climate change, and, ultimately, to informing how we manage the countryside.

One of Bumblebee Conservation Trust’s most valuable resources is their land management factsheets. These guides are housed on their website and help a range of audiences provide a pollinator-friendly landscape. Included are factsheets specifically for meadows, orchards, field margins, quarries, brownfield areas and moorlands.

In terms of finding out all about bumblebees, theirs is the ‘go to’ website. All the species you will see in Britain are featured and there is a stunning range of images and tips to help you get the most out of watching bees while creating havens for these vital pollinators.

Bumblebee Conservation Trust’s ambitions are considerable. They contribute to habitat management, our understanding of species, and connect with schools, communities and individual gardeners. Given the vital pollination service that our bumblebees provide – not to mention their contribution to our health and well-beeing (sorry) – it is little wonder that this organisation goes from strength to strength.

The Bumblebee Conservation Trust was established by Dave Goulson in 2006 and some twelve years later it has gone from strength to strength to become one of our leading conservation bodies.
Objective 3: Manage commercial use of pollinators to benefit native pollinators

What we need to do

- Ensure the process of screening commercial honey bees, and imported/managed bumblebees, for pests and diseases continues to safeguard our wild pollinators.
- Review biosecurity measures for imported bees, particularly bumblebees, aiming to support healthy populations of pollinators in the wild.
- Ensure that practical advice is available to reduce the potential for pest and pathogen transfer, and disease impacts on wild pollinators.
- Reduce the reliance on imported bees for commercial pollination.
- Encourage and support ways to increase the use of naturally occurring pollinators.

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<tr>
<th>Project</th>
<th>Organisation</th>
<th>Update</th>
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<tbody>
<tr>
<td>Supporting and sustaining a healthy honey bee population and beekeeping industry in Scotland through continuing to implement the measures set out until 2020 in the Honey Bee Health Strategy for Scotland. (S)</td>
<td>SG/SASA/SRUC/Bee Farmers Association/SBA</td>
<td>Science and beekeeping workshop in planning stage. Minutes of meetings and relevant documents are on SG website <a href="http://www.gov.scot/Topics/farmingrural/Agriculture/animal-welfare/bee/strategy">http://www.gov.scot/Topics/farmingrural/Agriculture/animal-welfare/bee/strategy</a></td>
</tr>
<tr>
<td>Identifying actions required to minimise the risks of managed bees (imported and locally produced) to native pollinator species. Reviewing the pathways by which commercially produced pollinators enter Scotland to determine the current scale and biosecurity risks. (S)</td>
<td>SASA</td>
<td>Import inspections continue at a higher level than required; work is under way to improve capability for novel pathogens. Review of pathways, scale and risk to be completed after project below.</td>
</tr>
<tr>
<td>SASA project looking at a suite of tests and a standardised process to assess bumblebee boxes. Work will examine importing licences and destruction of used bumblebee boxes. (M)</td>
<td>SASA</td>
<td>This project aims to feed into action above – the long-term aim is to add bumblebees to import inspections list.</td>
</tr>
<tr>
<td>Encouraging the enhancement of local populations of native pollinators so that Scotland can become less reliant on imports and so reduce the risk of introducing pests, pathogens and invasive species. (L)</td>
<td>SNH/SNHBS</td>
<td>Guidance on how people can help reduce competition between honey bees and native pollinators. Monitoring areas before and after honey bees are introduced to identify changes in native pollinator numbers.</td>
</tr>
<tr>
<td>Providing practical advice for beekeepers to reduce disease burden and impact. Annual beekeeper disease recognition workshops, talks, science and beekeeping workshop to engage Scottish scientists who have an interest in bees and engage/share with beekeepers. (L)</td>
<td>SASA/SG/SRUC/University of Aberdeen/Bee Farmers Association/SBA (and affiliated beekeepers’ associations)</td>
<td>Annual workshops and talks are part of regular BHIP schedule. Science workshop is at planning stage.</td>
</tr>
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</table>
Objective 4: Raise awareness and encourage action

What we need to do

- Ensure that the value and vulnerability of plants and their pollinators is widely recognised.
- Increase awareness within key sectors and among the public of opportunities to help pollinators and their habitats.
- Support and raise awareness of schemes and organisations that encourage people to identify and record pollinating species.
- Support initiatives by local and national environmental groups that increase the diversification and connectivity of flower-rich habitats in the countryside and urban areas.
- Encourage and support land managers to restore or create native flower-rich habitats to enhance pollinator abundance and diversity. Work together to carry out management at a landscape scale, including urban green space and urban fringe areas.

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<tr>
<th>Project</th>
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<tr>
<td>Glasgow City Council’s Flower Power project ensures that plants used across the council’s parks and gardens are, wherever possible, locally grown and encourage community involvement. Managing parks and gardens in a manner that is sympathetic to the needs of pollinators in terms of both food requirements and habitat creation. (M)</td>
<td>Glasgow City Council</td>
<td>Wildflower nursery at Pollok Country Park increasingly provides plants used in Glasgow’s parks. Signage highlights value of managing parklands with provision for pollinators, incorporating their nesting, shelter and food requirements.</td>
</tr>
<tr>
<td>Downloadable guides on the Garden for Life Forum offering tips and encouragement for wildlife-friendly gardening (S) (<a href="http://www.gardenforlife.org.uk">www.gardenforlife.org.uk</a>).</td>
<td>KSB</td>
<td>Includes the section ‘Bedding plants for pollinators’ (<a href="http://www.keepscotlandbeautiful.org/local-environmental-quality/community-projects/garden-for-life/resources/">www.keepscotlandbeautiful.org/local-environmental-quality/community-projects/garden-for-life/resources/</a>)</td>
</tr>
<tr>
<td>The Royal Botanic Garden Edinburgh highlights the presence and role of pollinators. The Garden’s internationally recognised botanical expertise ensures that the value of pollinators is routinely highlighted. (S)</td>
<td>RBGE</td>
<td>There were several pollinator-related activities on offer at the RBGE in the run-up to summer, including a bioblitz and the ‘Connecting with Nature’ writing festival.</td>
</tr>
<tr>
<td>Providing regular updates, news and features on pollinator-related activity through the Scotland’s Pollinator blog (<a href="https://scottishpollinators.wordpress.com">https://scottishpollinators.wordpress.com</a>) . (S)</td>
<td>SNH</td>
<td>Publishing blogs, social media posts and infographics. Sharing and cross-promoting these materials. Investigating options to ‘place’ pollinator stories in the press.</td>
</tr>
<tr>
<td>Continuing to develop guidance, tailored to a range of audiences (farmers, councils, schools, gardeners), on practical action to help pollinators. This increases awareness of the value of assisting and recording pollinator species. (S)</td>
<td>BBCT /Buglife / Butterfly Conservation</td>
<td>A range of land management factsheets are available to download from the BBCT website (with others in development). These are geared towards helping to stabilise and increase pollinator numbers.</td>
</tr>
<tr>
<td>Working with partners, including policy makers and those with practical skills in the management of habitats, to raise public awareness and understanding of the needs and status of pollinator populations. Video guidance and information for farmers. (S)</td>
<td>FAS / AHDB / SRUC / Soil Association</td>
<td>Two FAS practical guides – Why and How to Increase Pollinators on Your Farm and Pollinator Types and Food Sources on Small Units – both available online. Video on promoting pollinators on agricultural land is in preparation. This will outline how to identify and monitor pollinators guidance and how farmers can promote pollinators on their farms.</td>
</tr>
<tr>
<td>Developing regionally relevant species advice to assist public support of pollinators in both urban and rural areas. (M)</td>
<td>Aberdeenshire Council</td>
<td>‘Five Steps for Pollinators’ leaflet gives advice and links to help foster pollinators in gardens.</td>
</tr>
<tr>
<td>80% of crops grown in Scotland rely on</td>
<td>SNH</td>
<td>Agri-environment funding for pollinators is being</td>
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</tbody>
</table>
insect pollination. Acting as a partner in delivering the Agri Environment Climate Scheme, under the SRDP, SNH has helped deliver £150million to over 2000 farmers with many actions, particularly in the arable sector, specifically targeted to pollinator needs. (L) accessed via this scheme.

<table>
<thead>
<tr>
<th>Using redesigned SNH website (nature.scot) to provide a ‘one-stop-shop’ or central hub for pollinator information. (S)</th>
<th>SNH</th>
<th>SNH’s pollinator web pages were completed in spring 2018 and continue to grow. (<a href="https://www.nature.scot/scotlands-biodiversity/scotlands-pollinator-strategy">https://www.nature.scot/scotlands-biodiversity/scotlands-pollinator-strategy</a>).</th>
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<tr>
<td>Graduate placement working with construction and planning industries to produce guidance for developers on the benefits for people and pollinators of incorporating pollinator-friendly approaches into new developments. (L)</td>
<td>SNH</td>
<td>Will seek to embed pollinator provision into planning submissions and guidance, thus ensuring that creating pollinator-friendly habitats in new developments is mainstreamed.</td>
</tr>
<tr>
<td>Weeds – promote importance of ‘weeds’ for pollinators. Ensures that a key range of plants are harnessed for their pollinator-friendly value. (S)</td>
<td>Buglife</td>
<td>Highlighting the range of pollinators found on brownfield sites and comparing numbers with those at more managed sites to explore potential considerations when contemplating brownfield reclamation.</td>
</tr>
<tr>
<td>There is increasingly recognition that, in some areas, roadside verges are now wildlife refuges, acting as ‘wildlife corridors’ that form an intricate habitat network. Supporting the increase in the diversification and connectivity of these flower-rich habitats is advantageous. (M)</td>
<td>Angus Council/Tayside Biodiversity Partnership</td>
<td>Consulting with public via Angus Council to establish the location of wildflower verges and examine management approaches. Encouraging others to follow suit.</td>
</tr>
<tr>
<td>Enhancing biodiversity integral to development sites in local development plan. (S)</td>
<td>Aberdeenshire Council</td>
<td>A guidance note explains how to ensure that new development benefits species and habitats. This aspiration is incorporated into supplementary guidance in the Aberdeenshire Local Development Plan and covers all types of development, from new to altering existing buildings. Includes wildflowers in verges, green roofs, and the use of nectar-rich species.</td>
</tr>
<tr>
<td>Pollinator Pledge &amp; Square Metre for Butterflies – Edinburgh Living Landscape aims to increase the number of people improving their gardens, office sites and allotments for wildlife. The square metre work to include roof-top gardens. (M)</td>
<td>SWT /RBGE / Butterfly Conservation</td>
<td>Areas of Edinburgh targeted to encourage people to sign up to these projects. Green roofs have been planted on publicly-owned properties by private business and employees monitoring success.</td>
</tr>
<tr>
<td>Raising awareness of the Asian hornet through the Asian hornet contingency plan and associated guidance on BeeBase. (M)</td>
<td>SG</td>
<td>Revisiting the 2017 blog highlighting this issue and published on SNH’s Scotland’s Nature blog, and providing an update.</td>
</tr>
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## Objective 5: Evidence – monitor and evaluate whether Scotland’s pollinators are thriving

### What we need to do

- Gather and analyse data to better understand pollinator population trends, habitat availability and connectivity to ensure that the correct actions are being taken for pollinators and habitats.
- Support monitoring and recording schemes for key species, notably bees, hoverflies, moths, butterflies and wild plants.
- Encourage citizen science and other volunteer projects that add value to existing monitoring initiatives to help deliver the National Pollinator Monitoring Scheme.

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<tr>
<th>Project</th>
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<tbody>
<tr>
<td>Completing regular LBAP monitoring reports and obligatory Biodiversity Duty reports. These increasingly highlight specific pollinator-friendly actions. (L)</td>
<td>Local authorities</td>
<td>These regular and detailed reports will be of considerable help in building a clearer picture of the state of our pollinators.</td>
</tr>
<tr>
<td>Publishing regular updates on the status of bumblebees, and their habitats, to support wider understanding of the need for pollinator-friendly action. BeeWalk is a long-term national recording scheme to monitor the abundance of bumblebees on fixed routes and transects across the country. (L)</td>
<td>BBCT</td>
<td>The annual BeeWalk organised by BBCT is a standardised bumblebee-monitoring project that has been active since 2008. This report contributes significantly to our knowledge of bumblebee population trends.</td>
</tr>
<tr>
<td>Using objectives outlined in the Pollinator Implementation Plan to monitor achievements and direct future efforts. (L)</td>
<td>SNH</td>
<td>An Annual Progress Report will ensure current information and projects are highlighted to help to inform future Implementation Plan actions.</td>
</tr>
<tr>
<td>Pollinator Demonstration Farm (Lochend of Barra in Aberdeenshire) provides a platform to explore and demonstrate means of enhancing pollinators in intensive arable farming systems. (L)</td>
<td>Soil Association/SRUC</td>
<td>Three-year demonstration site to assess plant mix and habitat size implications for pollinators. Farm demonstration event in July 2018.</td>
</tr>
<tr>
<td>UK-wide large-scale farm experiment covering margins that bisect crop fields. (L)</td>
<td>CEH</td>
<td>Management method under observation.</td>
</tr>
<tr>
<td>Mapping crop coverage and associated use of pesticides in arable farming. (L)</td>
<td>JHI/University of Dundee</td>
<td>Maps will facilitate analysis of trends and impacts on pollinators.</td>
</tr>
<tr>
<td>Supporting the National Pollinator Monitoring Scheme in Scotland. (S)</td>
<td>CEH/SNH/SG</td>
<td>Support of PoMS work and promotion of FIT count along with 1km square surveys.</td>
</tr>
<tr>
<td>Developing a Scottish monitoring programme through bioblitz surveys. (L)</td>
<td>JHI</td>
<td>Using the JHI estate and surrounding farms to assess pollinator species and their numbers.</td>
</tr>
</tbody>
</table>