



A Consultation on the Pollinator Strategy for Scotland

RESPONDENT INFORMATION FORM

Please Note this form **must** be returned with your response to ensure that we handle your response appropriately.

1. Name/Organisation

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Permissions:- I am responding as...

Individual

Please cross as appropriate

Group/Organisation

- (a) Do you agree to your response being made available to the public (in Scottish Government library and/or on the Scottish Natural Heritage web site)?

Please cross as appropriate Yes No

- (b) Where confidentiality is not requested, we will make your responses available to the public on the following basis

Please cross ONE of the following boxes

Yes, make my response, name and address all available

or

Yes, make my response available, but not my name and address

or

Yes, make my response and name available, but not my address

- (c) The name and address of your organisation **will be** made available to the public (in the Scottish Government library and/or on the Scottish Natural Heritage web site).

Are you content for your **response** to be made available?

Please cross as appropriate Yes No

- (d) We may share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again in the future, but we require your permission to do so. Are you content for SNH/ Scottish Government to contact you again in relation to this consultation exercise?

Please cross as appropriate Yes No

INTRODUCTION

Scottish Natural Heritage, with Scottish Government, has drafted a Pollinator Strategy for Scotland. It highlights the importance of our pollinators, sets out why action is needed and the steps required to safeguard them. This includes elements of research and awareness-raising.

We are interested in your views on these proposals. We have identified a few specific points on which we would particularly welcome your feedback but any comments you may have in relation to the future conservation and management of our pollinators would be appreciated. Please use the form below to give us your views.

A Pollinator Strategy for Scotland Consultation Document Consultation Questions

Are the aim and vision for the strategy appropriate?

The British Ecological Society Scottish Policy Group welcomes Scottish Natural Heritage's recognition of the environmental, economic and cultural value of pollinators and the services they provide. We support the ambition to deliver a strategic approach to combating pollinator decline.

While the broad ambition of the strategy is appropriate, the distinction between the aim and the vision is unclear, and does not align with the models that have been adopted in England (National Pollinator Strategy), Wales (The Action Plan for Pollinators in Wales) and Ireland (All-Ireland Pollinator Plan). Each of these strategies establishes a positive, engaging vision for the future state of pollinator populations (for example, "creating an Ireland where pollinators can survive and thrive") supported by a suite of specific objectives to drive the activities required to achieve this vision. The current "aim" of the draft Strategy (p2) could be repurposed as an inspiring vision, with the "strategy vision" adapted to form more specific objectives.

Some of the context-setting information underpinning the aim and vision should be updated to include the latest published evidence. The most recent estimate of the global financial value of pollination services is considerably higher than the £132 billion specified, at US\$232-577 billion (equivalent to £163 - £406 billion; Lautenbach *et al*, 2012 <http://bit.ly/1TZApVx>).

The statement that "the domesticated honeybee is believed to be responsible for most agricultural pollination worldwide" is not supported by the latest evidence, which highlights the important contribution of other wild pollinators (Rader *et al*, 2015 <http://bit.ly/1OXC9GM>; Garibaldi *et al*, 2013 <http://bit.ly/1QG71hp>). The risks of relying on a single species for pollination should be acknowledged; crop pollination spread across multiple species enhances the resilience of ecosystem service delivery.

Have we identified the main areas of concern for pollinators in Scotland?

The four main areas of concern, or threats, to pollinators identified in the draft Strategy – habitat loss, degradation and fragmentation, pesticides, diseases, and climate change – are appropriate.

However, the supporting evidence provided as to the state of our knowledge about these threats is in places out of date, and should be updated. On the whole the Strategy would benefit from clearer reference to key literature, in order to ensure traceability of the evidence-base being used. In particular, the supporting evidence for Defra's National Pollinator Strategy (Vanbergen *et al*, 2014 <http://bit.ly/1nrxFsz>), published as "Status and value of pollinators and pollination services"

offers a UK perspective on the drivers of pollination decline.

In the draft Strategy the evidence for declines in pollinator abundance and diversity is presented as: “it is not clear whether these apparent changes in pollinator diversity are related to population sizes although there is evidence that species richness of bees and hoverflies is also in decline”. This statement is ambiguous, and could be clarified by reference to the key points presented in Vanbergen *et al*, which can be summarised as:

- There are reported declines in the sizes of many butterfly and moth populations;
- There are documented contractions in the ranges of several bumblebee species;
- From this data we have been able to detect changes in species richness of different pollinator taxa;
- The direction, degree and scale of these changes in species richness varies across taxa and with time period;
- There has been a general homogenisation of pollinator communities.

Specific improvements are suggested below.

Habitat loss, degradation and fragmentation

The impact of urban expansion on pollinator populations is more complex than presented. Whilst initial urbanisation may be damaging, the impact depends on what habitat is being replaced, and on the quality of the resulting urban habitat, which is highly variable. The Urban Pollinators Project, led by the University of Bristol, has shown that urban areas can provide valuable habitat for bees (Baldock *et al*, 2015 <http://bit.ly/1U7CaPe>).

Pesticides

The statement that “the majority of pesticide use in Scotland comprises herbicides and fungicides because our cooler climate generally leads to reduced insect pressure” should be qualified to avoid implying that herbicides present no risk to pollinators. Herbicides can erode the nutritional basis of pollinator health and populations by reducing wildflower abundance.

The section on neonicotinoids should be updated to include the latest evidence, namely the summary paper by Godfray *et al* (2015, <http://bit.ly/1iQHIUT>), and the most recent field trial (Rundhof *et al*, 2015, <http://bit.ly/1R0iaZA>). This study found that field level exposure to neonicotinoids demonstrated negative effects on wild bee density and production of bumblebee reproductives, but no effect on honeybee colony strength.

Diseases

The statement that “whilst there is some evidence that [these] diseases may already be present in our wild pollinator populations, there are currently no statistics from Scotland clarifying the level of pathogen spill-over from these commercial colonies or the routes of transmission” needs to be updated to reflect the most recent evidence. This shows an association and potential for pollinator community epidemiology (Furst *et al*, 2014, <http://bit.ly/1M2Zbw5>; McMahon *et al*, 2014 <http://bit.ly/1UNmnWn>).

We recommend separating the issue of the importation of commercial bees from diseases to create a fifth area of concern. Commercial bees are not the only source of disease, yet represent a clear threat to wild pollinators, and should be accorded due prominence in the Strategy. Importing

pollinators from outside of Scotland presents a risk of importing novel pests and/or pathogens, either exotic or different genotypes with enhanced virulence, representing a serious spillover risk into other pollinator species.

Climate change

The latest evidence suggests that there has been a contraction in the ranges of bumblebee species across the northern hemisphere (Kerr *et al*, 2015, <http://bit.ly/24M9Oiz>).

Do these proposals adequately address the concerns for pollinators?

Overall, the proposals outlined in Section 6 of the Strategy lack specific, well-defined actions with measurable outcomes. These actions should be SMART (specific, measurable, assignable, realistic and time-bound), and should correspond in a logical manner to the vision of the Strategy and the headline objectives. This will provide a clear framework for the Implementation Plan.

A key issue cutting across the five themes for action is the need for better interaction and integration between different policy sectors, government departments and agencies in order to ensure efficient delivery of the Strategy.

The Nature Conservation (Scotland) Act places a biodiversity duty on all public bodies, and the need for an integrated approach to sustainable land use is core to the second Land Use Strategy for Scotland. More specifically, the Scottish Biodiversity Strategy highlights integration and co-ordination as a key intended outcome, with mechanisms in place to initiate and co-ordinate action across different branches of government. However, it is not clear that this has yet been achieved, especially with regard to key sectors such as agriculture and energy.

In order to mitigate this problem, the Pollinator Strategy should be explicit about the actions SNH will take to improve connectivity between different policy sectors, and use the existing policy frameworks mentioned above to drive action for pollinators across government. The Strategy should be clearer about which sectors of government are required to take action, for instance highlighting the specific roles of the Scottish Government and local authorities. It should also be clearer about how this action will be funded.

Theme 1: Address the impacts of habitat loss and fragmentation, promoting the restoration of semi-natural and flower-rich habitats

The emphasis on the need for a landscape-scale approach to address the impact of habitat loss and fragmentation is welcome. However the current mechanism available through the Scottish Rural Development Programme (SRDP), the Environmental Co-operation Action Fund, is inadequate in its provisions for pollinators. The ECAF identifies only two pollinators – the great yellow bumblebee and the marsh fritillary – as “vulnerable priority species” for which targeted funding can be obtained to deliver landscape-scale habitat management.

Furthermore, under the current SRDP, appropriate landscape scale action is difficult to achieve due to the significant demands that developing complex collaborative funding applications places on land managers. Part of the advice and support package of the Pollinator Strategy should be focussed on overcoming this barrier.

In the longer-term, the integration of pollinator supportive interventions into Pillar 1 of the Common Agricultural Policy would be more effective in delivering landscape-scale habitat creation and restoration. The Strategy should be explicit about what measures to support

pollinators could be included in Pillar 1 or Pillar 2 following the next round of CAP reform. One approach could be bundling of agri-environment options (e.g. pest control, pollination, water management, soil fertility) to achieve multifunctional outcomes.

Further research investment is required to support the aims of the Strategy and ensure that landscape scale action is targeted effectively. This includes improving monitoring to support the prioritisation and selection of areas for interventions, and improving our understanding of what constitutes a functioning habitat network for pollinators, and how this might be implemented through measures such as the SRDP. Recent research has demonstrated that four plant species (marsh thistle, white clover, bell heather, common heather) provide over half of the UK's nectar resource, and emphasised the importance of linear features such as hedges, watersides and roadsides (Baude *et al* 2016, <http://bit.ly/1QIeIZU>).

In addition to the translation of information about the biodiversity benefits of different land management options into an accessible format for farmers and other audiences, as identified in Theme 2, there is a need to more actively improve knowledge transfer, for instance through agronomists and training opportunities for farmers. Training could include information on how to best target interventions and assure they succeed in delivering their aims (e.g. creation of floral resource).

Theme 2: Develop, and implement, better evidence-based plans for pollinator-friendly management

Guidance for pollinator-friendly management should also highlight opportunities to save money and deliver co-benefits. For example, changes to the management of public lands, including urban parks and transport infrastructure, to reduce intensive grass cutting and encourage plant biodiversity can also reduce maintenance costs and deliver wellbeing benefits to people.

Management guidance should be based on the latest ecological science, for example the collated evidence on bee conservation freely available from www.conservationevidence.com, which outlines the strength of evidence for the effectiveness of a wide range of management interventions. A recent study by Pywell *et al* (2015, <http://bit.ly/1RwMuLK>) demonstrated the compatibility between wildlife friendly management and increased crop yields.

Theme 3: Management of disease risks

The draft Strategy is very weak on this theme, only specifying existing legislation with no information about how this is enforced. Concrete actions to improve the management of disease risks and the spread of non-native invasive species are required.

Theme 4: Addressing climate change impacts

Similarly to Theme 3, this theme only includes information about existing strategies, with no additional actions identified.

Theme 5: Increase public involvement in recording and monitoring wild pollinators

In order to improve our understanding of the status and trends of pollinator populations, to assess the success of the Pollinator Strategy, and inform future interventions, it is essential to develop and implement a sustainable, systematic and standardised long term monitoring programme.

This programme should build on the recommendations of the ongoing Defra-funded project to develop and test options for a National Pollinator Monitoring Scheme. Importantly, public

engagement must be adequately supported through the maintenance of the professional taxonomic skill base that underpins effective citizen science monitoring schemes.

Do you feel you can contribute to the success of the strategy and if so how?

The British Ecological Society Scottish Policy Group (<http://www.britishecologicalsociety.org/public-policy/scottish-policy-group/>) are a group of scientists who promote the use of ecological knowledge in Scotland by highlighting its value to decision makers, acting as a focal point for policy makers to access the ecological community, and facilitating knowledge exchange.

Our members possess expertise in a wide range of relevant areas, including pollinator conservation, ecosystem services, agri-environment schemes, monitoring, and analysis of GIS data on ecosystem health and biodiversity.

We are willing to facilitate further involvement of ecological scientists in the development of the Pollinator Strategy, review of the evidence base, and design of the implementation plan.

Any other comments

As highlighted in our answer to question 3, the Strategy and the accompanying implementation plan must include specific, well-defined actions with measurable outcomes, following a SMART approach. Section 7 specifies that progress under the Strategy will be monitored and reviewed in 2020, but it is not clear how this will be achieved without measurable, timebound targets.

As Scotland will be the final country of the UK to create a Pollinator Strategy, opportunities to work collaboratively and share knowledge and best practice with England, Wales and Ireland should be identified.

Please save and return your response to pollinator.strategy@snh.gov.uk by 14 March 2016

Thank you for your contribution.