

Science, Innovation and Technology Committee

Insect decline and UK food security: Government Response

Second Special Report of Session 2024–25

HC 717

Science, Innovation and Technology Committee

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Second Special Report

On 7 March 2024 the Science, Innovation and Technology Committee published its Second Report of Session 2023–24, [Insect decline and UK food security](#) (HC 326). The Government Response was received on 23 May 2024 and is appended to this Report.

Appendix: Government Response

Introduction

Defra is grateful to the Science, Innovation and Technology Committee for its report on insect decline and UK food security. The responses to the Committee's 16 recommendations set out the range of policies and programmes in place to tackle insect decline and offer support for more nature friendly approaches to farming. As biodiversity policy is devolved, this response relates to policies, programmes and actions within England only.

One example of how we are tackling insect decline is through Defra's work to implement the National Pollinator Strategy. Pollinators are an essential part of our environment and play a crucial role in food production, and the National Pollinator Strategy sets out actions to address key pressures on insect populations, such as habitat loss and fragmentation, invasive species, pests and disease, including pest management, and climate change.

We are tackling these risks by restoring and creating habitat for wild and managed pollinators to thrive; addressing pressures including by supporting Integrated Pest Management (IPM); raising awareness across society so that people can act themselves; and supporting monitoring and research.

The National Pollinator Strategy also emphasises the importance of pollinators and promotes actions to support them. We aim to raise awareness of the importance of pollinators, and share ideas, actions and activities that highlight ways everyone can help pollinators to thrive. We promote the ‘5 Simple Actions’ which everyone can do to help pollinators. Defra also runs the annual Bees’ Needs Champion Awards, which recognise and celebrate examples of exceptional initiatives undertaken to support pollinators.

Integrated Pest Management (IPM) lies at the heart of our approach to minimise the potential environmental impact of pesticides. Within the forthcoming National Action Plan for the Sustainable Use of Pesticides (NAP) we will set out our policies to increase the uptake of IPM by farmers and growers.

Through our new environmental land management schemes, farmers and land managers will play an essential role in halting the decline in species, including insects, by 2030, alongside food production. The ELM schemes will offer a range of support for more nature friendly approaches to farming, and creation or restoration of habitats in appropriate areas.

Science, Innovation and Technology Committee recommendations

Science, Innovation and Technology Committee recommendations are below, followed by the government response to each one.

Insect population trends (recommendations 1–2)

- 1. The Government and its agencies like UKRI should produce a clear strategy for sustaining long-term insect monitoring research. This involves not only maintaining existing projects but also initiating new studies that can address insect data gaps. Funders should commit to the longer-term funding, which is needed for insect monitoring projects, extending beyond the usual five-year cycle of research grants and ensure that these studies have clear channels for the incorporation of data collected by amateur groups.**

Defra agrees that long term monitoring of pollinators is crucial to building our understanding of the actions we need to take to protect them. We have recognised this as one of the 4 priorities of the current National Pollinator Strategy, ‘strengthening the evidence base’, and contains several commitments to improve this area. For example, we committed

to sustaining a long-term monitoring programme to better understand pollinators' status and the causes of any declines, and to assess the population-level impacts of management actions on pollinators.

One of the key sources of monitoring data we have is generated by volunteer-led activities. One example of how we've harnessed this is through setting up the UK Pollinator Monitoring Scheme (PoMS) which is working on developing annual trend estimates. PoMS was established in 2017 by the Pollinator Monitoring and Research Partnership (Defra, Devolved Administrations, research institutes and volunteer organisations) and delivers standardised approaches to monitoring pollinators across Great Britain.

PoMS has delivered two large-scale surveys since 2017: the Flower-Insect Timed Count (FIT Count) using a downloadable app, and a 1 km square survey, which uses pan-traps to capture samples of insects from a set of 95 1km squares across the UK.

Overall, since 2017 a total of 12,187 FIT Counts have been submitted under the scheme, representing 2,031 hours of observation undertaken by 1,456 recorders (volunteer and professional) across the UK.

There is a clear channel for data collected by amateur groups to be incorporated and used. Step by step instructions on how to complete and share the results of FIT counts are included on the [PoMS website](#).

As a relatively young initiative, PoMS's data and trends are still developing and not ready to feed into "official statistics". However, the team is working on enhancing modelling and metrics to ultimately supply data for national indicators, maintaining collaboration with Defra throughout this process.

Subject to continuation of funding, the ambition is to:

- 1) Have annually produced PoMS statistics showing change over time for pollinators (available by 2027, and then looking to become approved as official statistics).
- 2) Ensure PoMS data are incorporated into national Biodiversity Indicators by 2030. This allows up to three years to go through the process of getting PoMS statistics approved as official statistics and to develop analytical methods that combine PoMS with other data sources.

PoMS also has ambitions to expand on the range of insect groups for which species-level data can be generated, beyond the bees and hoverflies, using high-throughput DNA sequencing on both archived and future samples. This would require additional funding to develop and then routinely implement.

PoMS will complement longer-running insect monitoring carried out by citizen scientists including the UK Butterfly Monitoring Scheme (UKBMS), which began in 1976 and provides UK-wide annual statistics showing trends in 58 of the 59 regularly occurring butterfly species. UKBMS is organised and funded through a partnership between Butterfly Conservation, UK Centre for Ecology and Hydrology, British Trust for Ornithology, and the Joint Nature Conservation Committee.

2. The Government and its agencies should consider ways in which to communicate not only the reality of insect decline but also the attainable steps that can be taken to tackle it.

Defra agrees that communicating the reality of insect decline is essential for tackling it. Pollinators, and other beneficial insects, are a key part of our statutory Environment Act targets and Defra are already working to both address and communicate effectively about the decline in our insect populations.

To engage the public, Defra established and coordinates Bees' Needs Week, an annual event working alongside many partners to raise awareness of the steps we can all take to protect pollinators. A key part of this campaign is 'five simple actions' that gardeners and landowners can take to help pollinators and other biodiversity. Defra also works in partnership with the NFU to celebrate examples of best practice in all areas of pollinator work, through our annual 'Bees' Needs Champions Awards'. The awards recognise and celebrate exceptional initiatives undertaken by local authorities, community groups, farmers and businesses to support pollinators.

Defra also co-ordinates and chairs the Pollinator Advisory Steering Group, which is a group of academics and specialists who meet every quarter. PASG meetings provide a useful forum to share knowledge on pollinator related issues, including issues around insect decline, amongst members.

As described above, in collaboration with research institutes and volunteer organisations, Defra and the Devolved Administrations have established the Pollinator Monitoring and Research Partnership to gather data, improve our understanding of the status of pollinators and communicate these learnings publicly. This partnership provides clear instructions on how to conduct and how to get involved in different types of insect counts. UK Pollinator Monitoring Scheme (PoMS) data is published annually which will help spread awareness of the changes in insect numbers.

The importance of insects for UK Food Security (recommendations 3–8)

- 3. We commend the success of the National Pollinator Strategy and eagerly await the 2025–2035 update that we expect to be published by September 2024. There is scope to build on the work of the strategy by creating a complementary ‘National Invertebrate Strategy’ that would include provisions for invertebrates that carry out other important ecological roles. As seen in the creation of the National Pollinator Strategy, the National Invertebrate Strategy should include the publication of an implementation plan, containing accountability targets, linked to the strategy every five years for non-pollinating, agriculturally beneficial, invertebrates.**

Defra agrees that ecologically important invertebrates including pollinators, are a group worthy of provision, and government resources are currently focused on reviewing the Pollinator Strategy’s latest Action Plan. Working with the Pollinator Advisory Steering Group, a Defra-led review is underway to both assess the progress made on actions in the current plan and to look at what the key priorities should be for pollinator protection beyond the end of the current strategy and action plan in 2024.

Provisions for invertebrates will be included in our new Environmental Land Management schemes. Farmers and land managers will play an essential role in halting the decline in species, including invertebrates, by 2030. The schemes will offer a range of support for more regenerative approaches to farming, and creation or restoration of habitats in appropriate areas. In Defra’s [Agricultural Transition Plan update of January this year](#) premium payments were announced for 21 high priority actions that will achieve greater environmental benefits, supporting habitats and species. For example, this included payment uplifts for creating scrub and open habitat mosaic, managing species-rich floodplain meadows, and managing riparian habitats.

Delivery of the [Environment Act targets](#) for species abundance and species extinction will also deliver benefits for a range of invertebrates. The indicator for the species abundance target includes 1,177 species across a range of species groups which, between them, depend on the majority of habitats found in England. Improvements to these habitats will benefit all the species that depend on them, including those not included in the indicator. The indicator for the species extinction target comprises over 8,200 taxa and includes species from the majority of terrestrial and freshwater invertebrate groups. Some invertebrate groups are not represented in these indicators due to lack of available data - please see response to Recommendation 11 for more details.

- 4. The UK Government should use its position in international forums to advocate for and address the issues highlighted in this report on a global scale. Collaborative efforts are essential to mitigate the challenges posed by insect decline and to secure sustainable and resilient food systems worldwide.**

Defra fully acknowledges the importance of international collaboration to achieve global biodiversity targets. As a Party to many international environmental agreements, the UK already advocates for global efforts to address insect decline and food security and will continue to do so.

For example, the recently agreed Global Framework on Chemicals contains targets for Governments to implement policies and programmes to increase support to safer and more sustainable agricultural practices, and by 2035, to have taken effective measures to phase out highly hazardous pesticides in agriculture where the risks have not been managed and where safer and affordable alternatives are available.

Further, the [Kunming Montreal Global Biodiversity Framework](#) adopted by Parties to the Convention on Biological Diversity at COP15 contains targets aimed at halting and reversing the loss of biodiversity and supporting the sustainable use of nature by 2030. There are multiple targets that aim to address the issues that are known to be major drivers of the decline of insect populations, including climate change (Target 8), land use change (Targets 1-3), invasive species (Target 6), and pollution (Target 7). Parties including the UK are currently revising their National Biodiversity Strategies and Action Plans to set out their national commitments towards meeting these global targets. The majority of Environmental Improvement Plan 2023 (EIP23) covers England-only policy as the environment is primarily a devolved matter.

- 5. Defra should expand the remit of the National Bee Unit, to include a focus on wild bee health. This should include both developing internal expertise and fostering collaboration with entomology experts and producing biennial reports, as part of the National Pollinator Strategy update previously recommended in this report. The Unit should also produce guidance to keepers about the potential impacts of over densification of hives on wild pollinator species.**

The National Bee Unit (NBU, part of the Animal and Plant Health Agency) includes 60 Bee Inspectors who deliver the Bee Health Programmes on behalf of Defra and wider government. Expanding the role of the NBU to include a focus on wild bee health would significantly widen the remit and require legislative changes. Bee Health Inspectors have specific responsibilities for the statutory control of notifiable diseases of honey bees which is covered in The Bees Act 1980, the Bee Diseases and Pests Control (England) Order 2006 and the Bee Diseases and Pests Control (Wales) Order

2006. Honey bees are defined as a minor food producing animal species so the principles and processes for controlling honey bee pests and diseases are similar to those used for other farmed animals. The NBU carry out surveillance, take contingency action against exotic threats and control pests and diseases. This is important for both reducing the spread to other honey bee colonies and wild pollinator species. The Pollinator Action Plan lists the actions that will be taken to deliver the National Pollinator Strategy. This includes an action for government and stakeholders to work in partnership to support both managed honey bee and wild pollinator health under the Healthy Bees Plan 2030 led by the NBU.

The density of honey bee hives has long been a concern for both beekeepers and people who want to conserve wild pollinator species. Beekeepers fear that other beekeepers who introduce new hives into the locality will reduce the amount of forage available and lead to pest and disease spread. Many beekeepers appreciate that there should be sufficient forage available in an area for all pollinators. It is important for beekeepers to evaluate the local density of honey bee hives, wild pollinators present and forage availability before putting new hives in an area. However it can be difficult to find information which is up to date and specific enough to make such an assessment. In 2023 the NBU published a map on BeeBase which provides a heat map of hive density within 10 km squares. This allows beekeepers to assess the number of hives in an area. Some beekeeping groups also encourage beekeepers to be mindful of other hives when considering apiary sites, and also raise awareness of competition with other hives and wild pollinators.

- 6. In its response to this report, the Government should set out how it intends to facilitate nationwide access to external teaching resources offered by public bodies. This access, available through online platforms and educational visits, can significantly enhance the educational experience. The Government should also outline details of how it can make it easier to enter specific careers in entomology whether through vocational routes including collaborations with the Chartered Institute of Ecology and Environment Management or through academic streams.**

Oak National Academy

The Government has also established Oak National Academy as an Arm's Length Body in September 2022 to create, develop and support the use of free, optional, high quality full curriculum packages that are available to teachers and pupils through a robust, accessible digital education platform. Oak began to make its first new materials in science and

geography available from Autumn 2023. Full materials in science and primary geography will be available by Autumn 2024, with full materials in secondary geography available by Autumn 2025.

Careers

The National Careers Service provides high quality, free and impartial careers advice, information and guidance, available to anyone aged 13+. The [National Careers Service website](#) features a range of role profiles, across all industry sectors. – the role profiles for Biologist, [Ecologist](#) and Zoologist include information about what these roles entails, academic and vocational learning routes, and links to further information from relevant professional bodies (including the Chartered Institute of Ecology and Environmental Management). The Service supports Green Skills Week (which takes place in November) by highlighting suitable role profiles and case studies.

Later in 2024, Government will publish the Green Jobs Plan which will outline government and employer actions and solutions to deliver the UK workforce needed to deliver net zero and environment targets and ambitions.

Vocational Routes

Where there is a genuine occupational gap not met by an existing apprenticeship or technical education qualification, employers can work with the Institute for Apprenticeships and Technical Education (IfATE) to develop a high-quality apprenticeship or qualification to meet their needs.

IfATE has been liaising with the Chartered Institute of Ecology and Environment Management (CIEEM) to consider a non-degree pathway into Ecology.

- 7. The Government should ensure that it promotes access to the new Natural History GCSE when it is launched, with particular focus on schools that may not currently have easy access to the natural environment.**

We agree with this recommendation. The Department for Education is currently developing subject content for the new Natural History GCSE and aims to launch a public consultation on proposed subject content shortly. Our intention is that the Natural History GCSE will appeal to students from a variety of different backgrounds and will provide them with the opportunity to study and observe the natural world regardless of where in the country they live.

The GCSE will give students the opportunity to work towards a rigorous qualification that is internationally recognised and accepted in school and college performance tables. Our intention is that the GCSE will support students to progress to further academic and vocational study, training or employment. Study of the GCSE will particularly complement study of biology and geography GCSEs, which form part of the English Baccalaureate (EBacc) suite of GCSEs.

The Department for Education have been actively engaging with stakeholders to encourage them to support schools and colleges to deliver the GCSE.

- 8. Citizen science projects, especially those supported by public funding, should implement strategies to enhance inclusivity, ensuring the involvement of people from urban and disadvantaged backgrounds. This broader participation not only facilitates the collection of data from areas such as urban environments but also allows more people to experience the mental health benefits associated with engaging with nature.**

Inclusivity in green sectors, including in citizen science and other volunteering opportunities is key to achieving our biodiversity targets. Employer led initiatives are driving change. For example, the Wildlife and Countryside Link's [route map towards greater ethnic diversity](#) sets out steps to address barriers to minority ethnic people becoming a greater part of the environmental sector, whilst Groundwork's [New to Nature](#) initiative aims to improve access to careers in the sector through paid traineeships. Through the Green Jobs Delivery Group government are working with employers to champion increasing equality of opportunity across green sectors.

The Environmental Improvement Plan 2023 sets out that spending time in the natural environment can improve our mental health and feelings of wellbeing. It can reduce stress, fatigue, anxiety and depression and can help boost immune systems, encourage physical activity and may reduce the risk of chronic diseases. Defra recognises the importance of providing access to the outdoors for people's health and wellbeing and is working to ensure this is safe and appropriate. We committed in our Environmental Improvement Plan published in January 2023 to work across government to help ensure that everyone lives within 15 minutes' walk of a green or blue space and to reduce barriers to access with various programmes.

The cross-government 'Preventing and tackling mental ill health through Green Social Prescribing' programme, led by Defra, was established in October 2020 to examine how to increase use and connection to the natural environment through referral to green and/or blue social prescribing services within communities in England to prevent and tackle mental ill health. The programme achieved around 8,500 referrals to nature-based

activities and gathered a wealth of evidence showing the effectiveness of green social prescribing and how best to implement it. A full programme evaluation report will be made publicly available and the green social prescribing partnership, including Defra, DHSC, NHSE, NE, Sport England and NASP, remains active and firmly committed to progressing this agenda.

Foundational environment education starts in schools. DfE's 2022 Sustainability and Climate Change Strategy advocated a whole systems approach to teaching and empowering children to tackle environmental issues. Alongside launching a new Natural History GCSE by 2025, the strategy introduced the National Education Nature Park, supported by an online hub with teaching resources on nature recovery and climate resilience. Educational institutions nationwide can take advantage of the free resources offered which will empower children and young people to make a positive difference to both their own and nature's future.

In November 2023, we announced £2.5m of new funding to connect disadvantaged young people to nature, building on the legacy of the Generation Green programme. Through new jobs, training, volunteering roles, residential and outdoor and online learning experiences, the Generation Green programme has already provided more than 115,000 opportunities to connect young people to nature – many for the first time – and to cultivate a sense of care for the natural environment.

The £16 million Access for All programme, which is a package of targeted measures in our protected landscapes, national trails, forests, and the wider countryside to make access to green and blue spaces more inclusive. More than £3.5m has already been spent on making our protected landscapes more accessible, including:

- resurfacing paths;
- replacement of stiles with accessible gates;
- new benches and resting stops;
- accessible viewing platforms;
- provision of new all-terrain trampers to support disabled people to access the countryside.

Pesticides and agri-environmental policies (recommendations 9-16)

- 9. The Government, in response to this report, should outline its plans to establish a monitoring and evaluation programme for ELMS. Such a programme should incorporate mechanisms to feed data on specific**

outcomes - such as insect abundance back into long-term monitoring programmes. The Government should publish annual reports detailing: insect decline and UK food security, ELMS uptake levels, including a breakdown for each standard within the Sustainable Farming Incentive and how the schemes are combined by participants;

a) implemented actions following scheme uptake;

b) the influence of farmers' feedback on ELMS development; and

c) the environmental impacts of the schemes including impact on beneficial insect species

Defra posts regular updates on Gov.uk regarding the monitoring and evaluation of its Farming and Countryside Programme schemes. There is an established monitoring and evaluation strategy and programme that builds on the investment made in environmental land management scheme (ELMS) evaluation over the last few decades of Pillar 2 (e.g. Environmental and Countryside Stewardship) of the Common Agricultural Policy.

Monitoring the impact of ELMS on species populations, including insect abundance is included in the ELMS monitoring and evaluation strategy. Theme, scheme and programme level monitoring and evaluation reports will continue to be published on Gov.uk. This will continue to include updates on scheme uptake and how we are continuing to learn and adapt our ELMS during the Agricultural Transition.

- 10. We support the work of the Voluntary Initiative in disseminating advice to farmers on implementing Integrated Pest Management strategies. However, there is scope to extend the scheme to incorporate a peer-to-peer advisory network to provide farmers with access to a range of advice for developing and implementing their own strategies. The Government should also support the development of new IPM technologies through research funding and other mechanisms. Once these technologies are demonstrated as effective, the Government should encourage farmers to implement them by incorporating their use as specific actions into the Environmental Land Management Schemes (ELMS).**

Defra agrees that Integrated Pest Management (IPM) plays an important role in minimising the potential environmental impact of pesticides. Within the forthcoming National Action Plan for the Sustainable Use of Pesticides (NAP) we will set out our policies to increase the uptake of IPM by farmers and growers. We will work with stakeholders, including the Voluntary Initiative to implement them.

We have recently commissioned a package of research projects that will bring together scientific evidence underpinning IPM and look at ways of further encouraging its uptake. This work will support farmers' access to the most effective IPM tools available and ensure that we understand changing trends in pest threats across the UK.

One example includes the IPM NET project [IPM NET | ADAS](#) which started last year and aims to create a network of farmers utilising IPM and collecting both agronomic and economic data from their farms to share with the community. It also encourages knowledge exchange between farmers and benchmarking of their data compared to their peers.

Defra has committed £103 million so far through the £270 million Farming Innovation Programme for industry-led research and development in agriculture. This programme aims to drive innovation that will transform the productivity, profitability and environmental sustainability of farming in England.

Farmers can now sign up for four paid Integrated Pest Management (IPM) actions within the Sustainable Farming Incentives (SFI) scheme. Three paid actions on precision application of herbicides will also be available later in 2024.

- 11. Revised versions of Natural England's 'Red List' and the 'biodiversity indicators' used to measure changes in abundance should include a minimum of one species per family, which would result in a significant increase in invertebrate representation. In response to this report, the Government should set out what steps it is taking to gain approval from members of the Statutory Nature Conservation Bodies, so that data from species excluded from the 2022 Red List can be included in future iterations. Additionally, a detailed breakdown of how current data from the monitoring of excluded invertebrate species influence both the interim and final statutory biodiversity targets, should be published routinely. This should be in the form of an alternative 'Baseline List' to include species where the availability of data does not pass the threshold for inclusion in the 'Red List', but where evidence is available to determine a baseline conservation 50 Insect decline and UK food security status. This 'Baseline List' should include as many excluded insect species as possible, to act as baseline statistics from which all future interim and final progress reporting for the biodiversity targets will be made.**

Defra acknowledges this recommendation. The species abundance and extinction risk indicators were both developed using the best available data at the time. Although the indicators have been designed to represent wider species and habitats as much as possible, the taxonomic coverage is limited by data availability. The species abundance indicator was published for

the first time as an Official Statistic in Development on 3 May 2024, and the publication will outline further development work that has been undertaken since the draft versions published in the Biodiversity Targets Consultation detailed evidence report. As this is an indicator in development, we will also be continuing to assess how we can improve it, including seeking feedback from stakeholders. More detailed information on each of the indicators is provided in the sections below.

It is important to note just because a species is not included in the species abundance or extinction risk indicators, this does not mean that we will not be taking steps to conserve it. In addition, the species abundance and extinction risk indicators are not intended to be used in isolation to assess the status of species or the environment in England. The indicators should be considered within the wider context in which the targets exist, and they will be reported as part of the wider process under the Environmental Improvement Plan. We have a suite of biodiversity indicators that utilise different types of species data, including those reported under the England Biodiversity Indicators and the Outcome Indicator Framework. For example, England Biodiversity Indicator 10 (Status of Pollinating Insects) reports the change in distribution of 158 species of bee and 236 species of hoverfly in the UK. We will continue to review new data as it becomes available, to consider whether it meets criteria for incorporation into our suite of biodiversity indicators, in line with best practice guidance set out in the Code of Practice for Statistics.

Species extinction

The extinction risk indicator published in 2022 (D5: Conservation status of our native species) was based on the Statutory Nature Conservation Body approved Red Lists available at that time. Although the index comprises over 8,200 taxa, spanning hundreds of families and an estimated 20% of England's native macro-species, we recognise that there are taxonomic gaps in coverage. The majority of terrestrial and freshwater invertebrate groups are represented in the indicator (for example, a high proportion of English beetles, true flies and true bugs are in the indicator). However, some groups are not represented, including numerically large groups such as moths, lice and the hymenoptera (e.g. ants, bees, wasps, and sawflies).

Under Natural England's rolling Red Listing programme, a Hymenoptera Red List is currently in preparation, as are plans for other new Red Lists. We will continue to review this new data as it becomes available.

Even with these additional Red Lists, the concept of using a species from each family native to England is currently unachievable because groups have either not yet been Red List assessed or are too data poor for such

assessment¹. For example, we have little idea of the true population sizes and distributions of tardigrades, rotifers, nematodes, fleas, and mites. As a new parallel 'baseline list' would be limited to data that is potentially unreliable or has not been quality assured or peer reviewed, this is inadvisable.

Species abundance

The indicator for the species abundance targets has been designed to be as representative as possible of wider biodiversity in England. The indicator includes a range of species groups which, between them, depend on the majority of habitats found in England. This means that action to deliver the abundance target will need to focus on the recovery of a broad range of habitats in line with the Environment Act target to restore or create in excess of 500,000 hectares of a range of wildlife-rich habitat outside protected sites by 2042, compared to 2022 levels. Improvements to these habitats will benefit all species that depend on them, including those not included in the indicator.

Species coverage of the indicator is determined by the availability of abundance data from existing monitoring schemes. Much of the data on species abundance is collected through volunteer-based recording schemes, many of which are run through partnerships between government bodies, NGOs and research organisations. Defined criteria were used to assess whether data were suitable for inclusion in the indicator. These ensure that abundance data come from schemes with standardised approaches, and with sufficient spatial replication across England, to provide confidence that the trends accurately reflect the national status of each species. During indicator development, we completed several reviews of the available datasets to expand the species coverage and representativeness of the indicator. These reviews led to the inclusion of bumblebees, as well as a range of other species. However, we recognise that there remain taxonomic gaps in the indicator. As noted above, we will continue to review on an ongoing basis any additional abundance data that becomes available and could, for example, improve the representativeness of the indicator.

- 12. The Government should invest in the monitoring of landscapes surrounding protected areas to collect evidence on how these areas impact the quality of protected sites. This data should be included in the Sites of Special Scientific Interest (SSSI) condition assessments. Details of how to mitigate external influences on SSSI conditions should also**

¹ Under the IUCN red listing system, species that are classed Data Deficient are excluded from the baseline Red List Index.

be considered as an ‘action to achieve favourable conditions’, which in accordance with the Environmental Improvement Plan should be reported in 2028.

SSSI condition assessments currently capture the pressures impacting on site condition, including those occurring outside the boundaries of the SSSI.

The Environmental Improvement Plan set two interim targets for protected sites.

- By 31 January 2028, all SSSIs must have an up-to-date condition assessment.
- and 50% of SSSIs must have actions on track to achieve favourable condition.

These interim targets work together to ensure that key pressures are identified, and the necessary actions are taken to address them, including the actions needed to tackle off site pressures. Updates on both these targets will be included in the Environmental Improvement Plan annual reports.

We are developing tools to address offsite pressures, which include:

- Protected Site Strategies (PSS) which will include actions to tackle offsite pressures in the wider catchment. Five pilots are currently underway and will provide the evidence base for PSS rollout.
- Local Nature Recovery Strategies which seek to help improve the condition of SSSIs by identifying opportunities for the creation or improvement of habitat outside SSSIs to buffer, enhance and increase resilience of protected sites.

13. We echo the Environment, Food and Rural Affairs Select Committee’s recommendation that the Government should publish the National Action Plan for Sustainable Pesticide Use no later than May 2024.

Government are working on publishing the National Action Plan.

The work is wide ranging and complex, reflected in the number of responses we received following consultation in 2021 (over 38,500). We have therefore needed time to get our policies right, to ensure that we deliver on our ambitions.

However, we have not waited for the publication of the NAP to move forward with work supporting sustainable pest management. Farmers can now sign up for four paid Integrated Pest Management (IPM) actions within the Sustainable Farming Incentives (SFI) scheme. Three paid actions on precision application of herbicides will also be available later this year.

We are also supporting research into pest management and IPM, including through the £270 million Farming Innovation Programme. This work will help farmers access the most effective pest management tools available and ensure that we understand changing trends in pest threats across the UK.

14. The Government should outline how the ‘Proposals for Terrestrial Environmental Monitoring of Plant Protectant Products’ will be incorporated into the National Action Plan for Sustainable Pesticide Use. Furthermore, the Government should consider how it could use its powers to increase respondents to the Fera’s pesticide usage survey.

Defra is funding projects to monitor and understand the effects of pesticides on wildlife in order to meet our commitments under the Environmental Improvement Plan (EIP). These include projects looking at potential indicators of the effects of pesticides on insects and birds, and potential methods to better understand the ways in which pesticides may impact wildlife.

Defra already supports a number of recommendations made within the report ‘Proposals for Terrestrial Environmental Monitoring of Plant Protectant Products’ commissioned by Natural England. For example, Defra fund the analysis of honey samples collected through UK CEH’s National Honey Monitoring Scheme aimed at assessing levels of pesticides in honey across England. This provides an estimated level of honey bee exposure to pesticides and explores the potential risk of this exposure.

We will continue to support the monitoring of pesticides in both the terrestrial and aquatic environments, for example through funding and active engagement with the H4 indicator programme. The H4 indicator is one of a suite of indicators within the Outcome Indicator Framework (OIF) of the EIP and is specifically focused on understanding and tracking the exposure and adverse effects of chemicals on wildlife in the environment.

The Pesticide Usage Survey (PUS) is accredited as a national statistic. The surveys are carefully planned to ensure data acquired is representative and can be reliably scaled up to regional and national estimates. The government are working with the regulator to identify any improvements that could be made to the surveys. All users of professional pesticide products are required to keep records of their pesticide usage that are subject to inspection.

In addition, the Official Controls (Plant Protection Products) Regulations 2020 enable Defra and the Governments in Scotland and Wales to take a proactive approach to understanding how pesticides are being sold and used, and to support businesses and organisations to comply with existing pesticides legislation. The 2020 Regulations create a registration requirement for businesses across the supply chain, from manufacturers of pesticides to professional users, to retailers.

- 15. The updated National Action Plan for Sustainable Pesticide Usage should include targets for reducing pesticide use in urban and suburban areas and to improve best practice for use by amateurs. The Government should work with stakeholders such as the Royal Horticultural Society, to stimulate the phasing down of pesticide use in the domestic horticultural sector.**

It is for each local authority to decide the best way of delivering effective and cost-effective weed control in its operations without harming people or the environment. There is a legal requirement to minimise the use of pesticides along roads and in areas used by the public.

We want to work with a wide range of stakeholders in all sectors, including amenity and amateur to encourage uptake of integrated pest management (IPM) approaches to minimise risks that pesticides can pose.

For amenity use, we have commissioned a research project to better understand the availability and quality of evidence and guidance within the amenity sector on integrated pest management. This includes the targeted use of pesticides and alternative pest management methods.

For amateur use, we recognise the good work already being done by organisations such as the Royal Horticultural Society with their 'Guide to controlling pests and diseases without chemicals' who are part of Defra's Pollinator Action Steering Group (PASG).

While we have significant data on pesticides usage in agriculture, we recognise that in both amateur and amenity, data collection and publication could be significantly improved. We are considering options for improving this data and will want to work closely with stakeholders, as we do this.

- 16. The Government should adopt an evidence-based strategy in formulating pesticide legislation, promoting the development of new plant pesticides with heightened target specificity. This approach would aim to mitigate the dual risks of pest resistance development and adverse off-target effects on beneficial insects. Any alterations to the regulatory framework should include ongoing monitoring of the impact on nontarget species in field environments, where approved active**

substances are employed. Moreover, there should be an expansion in the range of non-target species for which data is collected to assess a chemical's impact prior to regulatory approval. The Government should outline in its response to this report, how it intends to support the development, regulation, and practical application of pesticide alternatives, including, but not exclusive, to biopesticides, hormones and mRNA technologies. The Government should set out how it intends to adapt the current regulatory systems to accommodate innovative pesticide alternatives so that regulatory approval for these technologies can, where possible, be expedited.

Defra acknowledges this recommendation. The Government's first priority with regard to pesticides is to ensure that they will not harm people or pose unacceptable risks to the environment. Now that we have left the EU, and operate an independent GB pesticides regime, we will continue to base decisions on the use of pesticides on careful scientific assessment of the risks. This provides a high level of protection for people and the environment, while improving agricultural production.

A pesticide may only be placed on the market in Great Britain if the product has been authorised by our expert regulator, the Health and Safety Executive (HSE), following a thorough scientific risk assessment that concludes all safety standards are met. Pesticides that pose unacceptable risks are not authorised.

All authorised plant protection products have statutory conditions of use that must be followed, and our strict, science-based regulation is supplemented with policies to encourage safe and minimal use.

We will continue to support the monitoring of pesticides in both the terrestrial and aquatic environments, for example through funding and active engagement with the H4 indicator programme. The H4 indicator is one of a suite of indicators within the Outcome Indicator Framework (OIF) of the EIP and is specifically focused on understanding and tracking the exposure and adverse effects of chemicals on wildlife in the environment.

As well as lower risk/more targeted pesticides, other innovative approaches can reduce risks both to operators and to non-target species. Recent years have seen advances in technology that allows the more precise and targeted application of pesticides. This includes low-drift nozzles, spot sprayers and weed wipers supported by GPS, cameras and computer recognition. In certain situations, drones could also help apply pesticides safely in hard-to-reach areas. As we develop our policies and regulation, we will ensure that they support this type of innovation.

Currently, biopesticide applicants in the UK are supported via the Biopesticide Scheme. Support provided through the scheme includes dedicated HSE biopesticide champions, free pre-submission advice, and capped fees for biopesticide active substance approval.

The term “biopesticide” covers a diverse group of substances with very different modes of action. This makes them more complicated to regulate than conventional pesticides. Additionally, biopesticides often, but not always, have a lower risk profile than conventional pesticides.

We are considering where approvals and permissions for biopesticides might be made simpler and faster without compromising the environment or human health standards. This would aim to reduce the burden for manufacturers and bring more biopesticides to the market.