EU Pollinators Initiative Revision

Response prepared by the European Habitats Forum

1. Summary

1.1. Wild insect pollinator declines are continuing, and may even be accelerating, posing a grave risk to food security and environmental health.

1.2. Bumblebees, solitary bees, hoverflies, moths, butterflies and other insects all play a role in crop and wild flower pollination and their conservation needs to be improved.

1.3. The EU Pollinators Initiative has been a qualified success.

1.4. The qualification is that it has not resulted in a sufficient reduction of the drivers of insect decline - in particular there has been no improvement to the pesticide approval regime or to the area and quality of pollinator habitats or therefore to the recovery of insect population abundance and resilience.

1.5. A significant stepping up of the aims, engagement and resources is now urgently required to avoid further ecological breakdown - this WILL require new funding.

1.6. Habitat loss, fragmentation and mis-management, eutrophication, and pesticides continue to cause pollinator declines - habitats must be restored, and these pressures reduced. Stricter protection of grassland habitats for pollinators and more effective management and restoration of Protected Areas, including Natura 2000 sites, is vital.

1.7. In addition, new evidence has highlighted that climate change, acting on the fragmented landscape, is already driving species extinctions and population declines, and the evidence of the scale of the impacts of light pollution have been better understood - it is therefore imperative that focussed action is taken to improve wildflower-rich habitat connectivity and to reduce light pollution.

1.8. Many pollinator species are in crisis and require immediate urgent attention if in the future they are to be capable of benefiting from landscape-scale improvements.

1.9. Pollinator decline is a global problem and the provision of pollination and pest control services in the EU depends in part on the environmental conditions for pollinators in neighbouring regions - it is important that pollinator protection is incorporated into EU trade policy and practice.

1.10. To succeed the revised Pollinators Initiative will need to secure adequate monitoring of pollinator abundance and scientific research, particularly into emerging risk factors and the efficacy of solutions.

1.11 In order to reverse pollinator declines it is essential to secure full participation in the Initiative from all relevant EC DGs and Member States, to significantly increase the resources available within the EC to drive the required change, and to make more resources available externally to deliver the outcomes on the ground.

2. Purpose of the EU Pollinators Initiative

The purpose of the revised EU Pollinators Initiative must be to put in place a framework of actions and commitments that will realise the EU Biodiversity Strategy 2030 target to reverse the decline in wild pollinators by 2030 and beyond that to accelerate the transition to support their recovery. This is essential for Europe's food security and as a vital contribution to the EU vision for restoration of ecosystems and their services by 2050.

The scale of the threat is vast and food supply crises and ecological breakdown can now only be avoided by significant new investment in promoting and achieving the aims of the Initiative.

The Initiative must mobilise resources and secure action commitments and investments at EU and Member State levels on a scale and with an urgency that will halt pollinator losses by 2030. It is essential to re-equip natural, semi natural, agricultural, forest and urban environments with pollinator friendly breeding, feeding and nesting places, and with connecting corridors of flower rich habitat stepping stones across landscapes. Whilst also making the environment safer for insects by protecting them from pollution and harm, including protecting habitats from negative influences from the surrounding landscape.

The EU Pollinators Initiative must contain the pollinator specific measures that are required immediately to underpin pollinator recovery, but it must also contain firm commitments to make the necessary long-term changes to agricultural and landscape management policies that will be needed if the rapid declines are to be reversed. Hence the Initiative should be tailored to run until 2030, with the aims and commitments being revisited in 2027 to ensure that specific metrics and targets are in place and are adequately resourced to meet the 2030 target.

3. Update on Pollinator Declines and Causes

When we responded to the original Pollinators Initiative consultation in 2018 (here[1]) we set out the evidence available at that point of dramatic loss of pollinator abundance and alarming levels of extinction risk for species, as well as outlining the evidence for the factors implicated in driving the observed declines, and indeed the profound implications for humanity and the environment if the declines in pollinators were not addressed. Four years later that analysis is just as relevant, so we will not repeat it here.

However, there are some significant updates to our knowledge that should be noted.

On status there has been new data from Denmark[2], Germany[3] [4], the Netherlands[5] and the UK,[6] all indicating that the abundance of insects, particularly flying insects, is still declining at a rate of more than 30% per decade.

Butterfly monitoring data shows that grassland butterfly species - abundance across 16 EU countries and 17 species - fell by 39% between 1990 and 2017.[7]

On causes, analysis has placed greater emphasis on the role of climate change, acting in concert with habitat fragmentation as being an overarching cause of insect population declines[8]. Indeed, the resulting localised extinctions are now also implicated in the decline in abundance, as complex specialist ecological niches are inefficiently filled by the smaller number of widespread generalists who still have enough habitat connectivity to be able to respond to climate change. The responses of society and pollinator action plans have been

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[1] http://www.europarc.org/wp-content/uploads/2018/04/EU_Pollinator_Initiative_Position.pdf

[2] Møller, A.P. (2019) Parallel declines in abundance of insects and insectivorous birds in Denmark over 22 years. Ecol. Evol. 9, 6581–6587. https://onlinelibrary.wiley.com/doi/pdf/10.1002/ece3.5236

[3] Seibold, S., Gossner, M.M., Simons, N.K. et al. Arthropod decline in grasslands and forests is associated with landscape-level drivers. Nature 574, 671–674 (2019). https://doi.org/10.1038/s41586-019-1684-3

[4] Hallmann, C. A. , Ssymank, A. , Sorg, M. , de Kroona, H. , & Jongejans, E. (2021). Insect biomass decline scaled to species diversity: General patterns derived from a hoverfly community. PNAS, 118(2). https://www.pnas.org/doi/pdf/10.1073/pnas.2002554117

[5] Hallmann, C.A., Zeegers, T., van Klink, R., Vermeulen, R., van Wielink, P., Spijkers, H., van Deijk, J., van Steenis and W., Jongejans, E. (2019) Declining abundance of beetles, moths and caddisflies in the Netherlands. Insect Conservation and Diversity, vol. 3 (2), 127-139. https://resjournals.onlinelibrary.wiley.com/doi/pdf/10.1111/icad.12377

[6] Ball, L., Still, R., Riggs, A., Skilbeck, A., Shardlow, M., Whitehouse, A. & Tinsley-Marshall, P. (2022) The Bugs Matter citizen science survey: counting insect 'splats' on vehicle number plates reveals 58.5% reduction in the abundance of flying insects in the UK between 2004 and 2021. Buglife and Kent Wildlife Trust, UK. https://cdn.buglife.org.uk/2022/05/Bugs-Matter-2021-National-Report.pdf

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[8] Platts, P. J., Mason, S. C., Palmer, G., Hill, J. K., Oliver, T. H., Powney, G. D., Fox, R. & Thomas, C. D. (2019) Habitat availability explains variation in climate-driven range shifts across multiple taxonomic groups. Scientific Reports volume 9, Article number: 15039 www.nature.com/articles/s41598-019-51582-2

criticised for their failure to directly address the need for corridors in which habitat connectivity is being dramatically improved[9].

Evidence has further implicated pesticides as ongoing contributors to the reduction in insect abundance[10] [11] [12]. The failure of the EU pesticide risk assessment and management process to effectively protect pollinators and food security from pesticides has been further highlighted[13]. A particularly concerning gap relates to the ingredients that are included in pesticides that do not go through the approval process as the companies selling them do not declare them to be 'active' substances, yet they can be both biochemically active and implicated in harm to wild insects[14]. Of greatest concern are the alcohol ethoxylates which napare now directly implicated in field level impacts on bumblebee survival[15]. Also commonly used herbicides could be causing ecologically significant sublethal effects on butterflies[16] and bumblebees[17].

Light pollution is already impacting on pollination rates, and has been further implicated as a high-level driver of insect population decline[18]. With research has shown that street lighting can cause a 50% reduction in local moth abundance[19].

Further evidence has confirmed that the Chernobyl incident caused massive long-term reductions in insect populations, with numbers of flying insects still being 2.5x higher in

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[10] Møller A.P. (2021a) Abundance of insects and aerial insectivorous birds in relation to pesticide and fertilizer use. Avian Research, (12)43, https://link.springer.com/article/10.1186/s40657-021-00278-1

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unpolluted areas[20]. Combined with previous evidence of population impacts[21], and new evidence of mutations being correlated with the locations of nuclear power plants[22] [23], the profound risk that ionising radiation pollution presents to insects becomes evident.

The potential for electromagnetic radiation, particularly that associated with 5G, to harm the environment was given the highest possible risk rating by the EC's own Scientific Committee on Health, Environmental and Emerging Risks in 2018[24], further reviews of the topic by the Eklipse programme and independent scientists have confirmed that EMF is a factor that is credibly capable of damaging insect populations[25]. However, as yet there has been no risk assessment done of the environmental risks of 5G roll-out and more effort needs to be expended to better understand the nature and degree of the risk so that, if necessary, that risk can be effectively managed or mitigated.

Invasive alien species have been shown to harm pollinators through increased competition, by disrupting interactions between species, affecting pollinators' role in native plant communities and by vectoring diseases and pathogens[26]. The impact of Harlequin Ladybirds (*Harmonia axyridis*) on wildlife, has resulted in calls for stricter regulation of potentially invasive non-native insects as pest controls[27] and the growing use of insects as a novel food has raised concerns about lax biosecurity relating to insect farming[28]. Invasive plant species have also been shown to impact on pollinators, outcompeting native plants and changing native plant communities with subsequent knock-on effects[29].

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While most species of pollinating insects are localised and site faithful, there is a functional group, including several species of generalist butterflies, moths and hoverflies that migrate in huge numbers over hundreds of miles to provide significant amounts of pollination and pest control services in countries in which they did not originate. The significance of this migration to the health of the continent's ecology is now better understood[30] [31].

The most recent assessments indicate that the economic value of pollinating insects to crop production in the EU is around EUR 3.7 billion/yr[32], but already 50% of the land cultivated with pollinator-dependent crops faces a pollination deficit[33]. Meanwhile, on average insectivorous birds in Europe and North America are declining, by 13% in the EU between 1990 and 2015, while omnivores or species not dependent on insects are stable or increasing[34] [35].

4. Aim for the Initiative

The aim of the revised Pollinators Initiative should be to halt the decline of insect pollinators by 2025 and significantly restore populations and habitats by 2030.

5. Conservation and Policy Outcomes to Attain

By 2025

- Halt downward trend in wild pollinating insect abundance in natural, semi-natural, agricultural and urban areas.
- Significantly reduced losses of wild pollinator habitats and recovery started.
- A robust network of standardised pollinator monitoring in place across the EU.

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ien-plant-species-habitat-types-important-for-pollinators-and-the-possible-risks-in-the-european-union/@@download/file/Report_on_IAS_pollinators.pdf

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- Measurements and metrics established for the extent, quality and connectivity of flower rich habitats, and for light pollution.
- Research underway capable of clearly defining risk posed to pollinator populations from emerging threats.
- An EU Pollinator indicator is fully operational and contributing to informing the impact of the Common Agricultural Policy (CAP) on biodiversity protection (Indicator I.20 of the CAP Strategic Plans regulation).
- An assessment of the CAP contribution to halting insect pollinator decline has been performed and the European Commission has issued recommendations to the Member States to increase incentives for pollinator recovery and phase out harmful farming practices.
- Have captured in EU policy the fundamental link between biodiversity and soil productivity and pollinator habitats, recognising the importance of low fertility soil and substrates to sustainable ecological landscapes in view of land ethics and evolving charters for soil and biodiversity, in ecological project work and in public landscaping programmes.

By 2027

- Measured recovery of pollinator populations in more regions and habitats.
- Measured improvements in the extent, quality and connectivity of key pollinator habitats - with delivery of outcomes for pollinators on track in the CAP programmes of every Member State.
- Improvements in the Conservation status of all Habitat Directive listed butterflies, moths and pollinating beetles.
- Effective action in place to reduce Nitrogen emissions adversely affecting habitats.
- EU wide pollinator monitoring baseline established and targets set for restoration of pollinator populations.
- EU wide habitat extent, quality and connectivity and light pollution baselines established/adopted.
- EU wide and Member State targets set for restoration of pollinator populations and habitats and the reduction of light pollution.
- New tiered tests for wild bees and other pollinators (non-target arthropods) in operation in the pesticide approval process.
- 25 EU pollinator species recovery plans written.
- Research commissioned capable of guiding the management of risks posed to pollinator populations from emerging threats.
- Farm subsidies in the CAP strategic plans supporting farming practices which harm pollinators are fully removed and incentives for pollinator recovery are strengthened.

By 2030

- Increase of 10% in wild pollinator populations at scale across the urban and rural landscapes against 2020 baseline (‘decline in pollinators is reversed’ EU Biodiversity Strategy).
- Measured improvements in abundance and resilience of diverse pollinator populations across all EU Biogeographic regions.
- Improvements in the Conservation status of all Habitats Directive listed pollinators.

- Conservation Objectives and management plans for ‘typical’ pollinator species in all Protected Areas funded and implemented.
- Measured improvements in the extent, quality and connectivity of key pollinator habitats.
- Measured reduction in light pollution levels and Nitrogen emissions
- The use and risk of chemical pesticides and of more hazardous pesticides all reduced by 50%, as set by the Farm to Fork and Biodiversity Strategies, including at Member State level.
- More than 40 endangered pollinator species being conserved through the implementation of at least 25 EU level species recovery plans.
- Risk assessment completed for emerging risks and any recommended mitigation being implemented.
- Significant climate change mitigation and adaptation in place.

6. Actions and Commitments to Achieve Outcomes

6.1 General Priorities

The lessons of the first Pollinators Initiative must be addressed. Pollinator declines remain rapid and, if anything, are getting worse, therefore a significant increase in effort and coordination is required to avoid environmental calamity.

In 2019 the EU Parliament passed a motion[36] recognising the “added value of the EU Pollinators Initiative in setting strategic objectives and a series of urgent actions”, but identifying that the Initiative “fails to sufficiently address the many causes of pollinator decline”, the Parliament concluded that the EC should “ transform the aims of the initiative into a full-scale action programme for pollinators, earmarking sufficient resources to this end”. More recent reviews undertaken by the European Court of Auditors[37] and by the EC itself[38] confirm that while there has been good progress on many of the actions, on the key issue of addressing the causes of decline the progress has been inadequate and the resources insufficient. The ECA and EC reviews contain many sound recommendations that, if applied and resourced, would improve the effectiveness of the relaunched Initiative.

Europe’s NGOs, many individuals, some companies, farmers and landowners and volunteers across Europe already act for pollinators and demonstrate what can be achieved. However, they are often severely resource limited, action now needs to be scaled up and additional horizontal measures are required to reduce the pressures contributing to declines.

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[36] https://www.europarl.europa.eu/doceo/document/B-9-2019-0233_EN.html

[37] ECA (2020) Protection of wild pollinators in the EU: Commission initiatives have not borne fruit. Special report No 15/2020, European Court of Auditors.
https://www.eca.europa.eu/Lists/ECADocuments/SR20_15/SR_Pollinators_EN.pdf

[38]EC (2021) Report From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions - Progress in the implementation of the EU Pollinators Initiative https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0261

While in theory endangered species not listed in the Directive could be provided for in LIFE funded projects, the European Court of Auditors found that no project to conserve unlisted threatened bees or butterflies had ever been funded. LIFE funding is burdensome and works best at large scale, action to conserve pollinators does not fit well into the current scheme, because it is often small to medium in scale, relies on small expert or local NGOs and has very limited access to match funding sources[39].

Regrettably, despite the inclusion of a headline target in the EUBDS 2030, to reverse the decline in pollinators, the opportunity was missed to fully incorporate the needs of pollinators into the EU Biodiversity and Farm to Fork strategies. While the target "to reduce by 50% the overall use of – and risk from – chemical pesticides by 2030 and reduce by 50% the use of more hazardous pesticides by 2030" is important and may considerably assist pollinator populations, it does not provide for the bespoke pre-approval protection measures for pollinators required if we are to avoid repeating the processes that led to damage to pollinator populations from neonicotinoid pesticides. In addition the target to increase the area of protected habitats to 30% of the EU should significantly benefit pollinators, but unless this is combined with corridors of stepping-stones of flower rich habitat (B-Lines[40]) the mitigation of climate change as a driver of insect extinction will not be adequately addressed.

It therefore remains the case that the commitments that the EU makes in the revised Pollinators Initiative will be the bedrock for achieving the objective of reversing pollinator decline - the necessary action will not otherwise emerge from pre-existing plans, strategies or work streams.

New and resolute action to reverse the decline of pollinators and the pollination services they provide are needed as part of European efforts to restore ecosystems and their services, reverse the loss of biodiversity, secure food security and implement the Sustainable Development Goals.

EU level and MS level actions are needed to support longer-term transformation in approaches through increasing knowledge, supporting capacity building (including in EU, national and regional administrations and NGOs) and engaging farmers, foresters, landscape architects, citizen scientists and young people in action for pollinators

6.1.1 General actions

6.1.1.1. Improve governance, establishing clear roles and responsibilities for, and ownership of, the Initiative by DG Agriculture, DG Sante, DG Environment, DG Trade, the European Committee of the Regions and Member State Institutions, before 2023.

6.1.1.2. Ensure that the Initiative is costed and that sufficient new resources are made available to secure delivery, before 2023.

[39] https://ec.europa.eu/environment/archives/life/publications/lifepublications/lifefocus/documents/invertebrates.pdf

[40] https://www.buglife.org.uk/our-work/b-lines/

6.1.1.3. Increase capacity in EU Administrations and Member States to support implementation of the Initiative, from day 1.
6.1.1.4. Increase capacity among public bodies to address pollinator issues.
6.1.1.5. Support growth and build capacity of Pollinator NGOs across Europe.
6.1.1.6. Set up a small grant scheme to support action for pollinators by individuals and NGOs by 2023.
6.1.1.7. Require Member States to develop pollinator recovery plans, including species recovery plans for their Habitats Directive listed and other most endangered pollinator species, and resource their implementation, by 2025.
6.1.1.8. Develop an EU list of pollinating insects typical of HD Annex 1 habitats and include and fund measures for their conservation in Natura 2000 management plans.
6.1.1.9 Raise the profile of pollinators and their importance to food security.
6.1.1.10 Increase the capacity and engagement of citizens , farmers and policy makers in action for wild pollinators.

6.1.2 General commitments

6.1.2.1. Take any action required to ensure that the EC is urgently coordinating joint action across its remit to achieve the full range of outcomes and commitments in the Initiative and increase synergy with other environmental goals.
6.1.2.2. To keep progress under review and to release more resources for delivery in 2027 if it appears that the aim of the Initiative is at risk of failure.

6.2 Habitat Restoration Priorities

Historic habitat destruction has left the European landscape highly fragmented. When overlain by climate change this now means that most species are failing to track their climate envelopes and are going extinct in the southern parts of their range, while simultaneously being unable to adapt by moving north due to habitat fragmentation.

Most pollinators do not have a resting phase and cannot temporarily relocate if a habitat becomes momentarily unsuitable, so localised extinctions are frequent. The norm is therefore that they exist in ‘meta-populations’ that rely on multiple sites within a reasonable dispersal distance of each other. Due to the limited dispersal capacity of many invertebrate species they are more immediately vulnerable to the combined effects of climate change and habitat fragmentation than for instance plants or birds.

Firstly habitat loss must be addressed - EIA processes on land use change need to be tightened up so that uncultivated habitats are retained, while pollinator habitat losses caused by building and development must be eliminated.

Agricultural over-intensification of pollinator habitats continues - ploughing, fertilisation, pesticides, and drainage, leading to losses of pollinator habitat area and quality. Generally insect populations appear to be most reduced in areas of the continent with the most intensive agriculture.

To date the implementation of the CAP has not resulted in the sufficient uptake of pollinator measures to support the recovery of the wild populations of pollinators[41]. The devolution of decision making on environmental options to Member States, especially as the Commission did not include the protection of pollinators or pollination services explicitly in the objectives of the CAP and its eco-schemes, makes it less likely that uptake of pollinator options will be improved in the future. As the ECA said “As far as the CAP is concerned, the auditors consider that it is part of the problem, not part of the solution”.

Habitats for pollinators, on Natura 2000 sites and in the countryside and urban areas, must be well managed for the diversity of insect pollinators, including vulnerable specialist species. Key habitat management issues needing to be addressed include:

- Maintaining and restoring flower-rich open grassland, heathlands and coastal habitats.
- Maintaining bare ground for nesting and basking.
- Restoring flower-rich open habitats, edges and canopy breaks in forests and woodlands, thus increasing floral nectar resources and breeding niches for pollinators.
- Restoring semi natural grassland which has been abandoned through lack of extensive grazing and mowing, leading to scrub encroachment and loss of pollinator larval food resources and niches.
- Maintain and adapt grazing in high elevation grasslands that are considered a hotspot of diversity and an important refugia for wild pollinators at risk from climate change.
- Ensure an altitudinal and latitudinal gradient as well as a dry vs wet range of habitats since they host different pollinator communities.
- Actively notice and embrace new habitat areas that become colonised and used by pollinators, for instance, temporary grasslands in rapid turnover forestry[42].
- Expand natural grazing by wild and semi-wild herbivores wherever domestic livestock cannot provide the required micro-habitats for wild pollinators (see results from LIFE 18 PRE/NL002: https://grazelife.com/)

To date discussions around the EU nature restoration targets provide hope that pollinator habitat loss, and restoration of habitat extent may be significantly delivered through the new legal mechanism. It is important that the resulting legal framework will result in suitable quality of restored habitat to reduce the extinction risks facing specialised endangered species, and provide for the improvements in connectivity in flower rich habitats that will be necessary if pollinator species are to be able to respond to climate change by tracking their climate envelopes.

[41] European Commission, “Evaluation of the impact of the CAP on habitats, landscapes and biodiversity”, November 2019. https://ec.europa.eu/info/sites/default/files/food-farming-fisheries/key_policies/documents/ext-eval-biodiversity-final-report_2020_en.pdf

[42] Ram, D., Å. Lindström, L. B. Pettersson, and P. Caplat. 2020. Forest clear-cuts as habitat for farmland birds and butterflies. Forest Ecology and Management 473. https://www.sciencedirect.com/science/article/pii/S0378112720310082

6.2.1 Habitat restoration actions

6.2.1.1. Intensify action to achieve the EU target to reverse declines in wild pollinators through effective implementation of the new EU Nature Restoration Law and targets, including urgent targeted plans and funded actions for restoration of pollinators start now, complete by 2027.
6.2.1.2. Incentivise farmers and landowners to protect and restore pollinator abundance and diversity across the farmed landscape, including through sustaining landscape features.
6.2.1.3. Set up and implement effective, soundly based Eco schemes and targeted Agri Environment climate measures for pollinator recovery by 2027.
6.2.1.4. Develop an EU pollinators indicator to monitor the performance of the CAP overall, and of the CAP Strategic Plans at Member State level.
6.2.1.5. Ensure that wildflower rich habitat connectivity improves - establish metric and target - facilitate the creation of a B-lines network across Europe by 2024.
6.2.1.6. Increase knowledge and provide training in pollinator ecology, identification and habitat restoration for Farm Advisors and farmers, foresters, land managers and landscape planners by 2027.
6.2.1.7. Fund a pilot project with Farm Advisory Services, ecologists and farmers to improve knowledge of wild pollinator ecology and conservation and improve access to this for all farmers and landowners by 2024.
6.2.1.8. Significantly increase awareness of the importance of pollinators to food security.
6.2.1.9. EU and Member States to resource and manage existing N2K and Protected Area networks better, especially for semi natural grassland sites and other pollinator habitats, start in 2022 to complete by 2027.
6.2.1.10. Protect and restore semi natural grasslands and manage them effectively for a herb rich sward (through better support for natural grazing by wild or semi-wild herbivores, extensive grazing by domestic livestock or mowing).
6.2.1.11. Add pollinator resources, including larval food plants for butterflies and moths, nectar across the year and nesting niches for bees in rural and urban areas across the landscape and integrate actions into EU Cohesion programmes and regional and local development plans by 2027.
6.2.1.12 Encourage adaptation of forestry practises to build upon pollinator use of nectar, larval host plant, and nesting site resources in clear-cuts that follow as a consequence of climate-driven shortened forest harvest cycles and a greater proportion of open habitat in production forests.
6.2.1.13. Mitigate any reduction in pollinator resources resulting from the temporary CAP derogation allowing planting crops in Ecological Focus Areas[43].

6.2.2 Habitat restoration commitments

6.2.2.1. An assessment of the CAP contribution to halting insect pollinator decline has been performed and the European Commission has issued recommendations to the Member States to increase incentives for pollinator recovery and phase out harmful farming practices.

[43] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32022D0484

6.2.2.3. Review implementation of Protected Area targets with regard to connectivity and, if no progress by 2027, bring forward legal mechanisms to secure landscape scale habitat connectivity and B-lines across Europe.
6.2.2.4. Improve management of Natura 2000 and other wildlife sites.

6.3 Pesticide Safety Priorities

The ECA concluded that "EU pesticides legislation is a main cause of wild pollinator loss".

While decisions to ban the use of neonicotinoid insecticides (including sulfoxaflor) due to their proven harm to bees were welcome, more broadly progress to make the pesticide approval process safe for pollinators has been frustrated. The pesticide industry has successfully campaigned to delay the implementation of measures to protect wild pollinators, and the new approval guidance and tests that were drafted by EFSA[44] to provide protection for solitary and bumble bees in 2013 seem little closer to being implemented now than at any other time during the last nine years.

The Honeybee (*Apis mellifer*a) elements of the EFSA guidance has been watered down by the industry and Member States such that each pesticide approved may cause a 10% impact on the colony strength of Honeybees.

It is essential that when the Guidance and test criteria are agreed for solitary bees and bumblebees they enshrine stronger and tighter protection, wild bees are not as robust or resilient as Honeybees and if 10% of their population is impacted this is a direct effect as they do not have the long-term stored reserves that enable Honeybees to recover, in addition, due to the short periods of active foraging short-term, sub-lethal effects can quickly result in population level long-term effects for wild bees.

Many species of wild bees are also impacted by chemicals in their nesting areas and materials - particularly pesticides, fertilisers and heavy metals - this needs to be considered in the pesticide approval process and in research priorities.

In the case of non-target arthropods, including all pollinators other than bees, the risk assessment is still based on the obsolete 2002 scheme, and there is no new draft guidance available.

The EC has already agreed that protection should be extended to cover other non-target arthropod groups, but this needs to be commissioned soon, given we know that the pesticide industry can obstruct implementation for long periods through their national lobbying.

Meanwhile, concerns grow about the loopholes in the approval process. The over-reliance on acute toxicity tests, while ignoring chronic, sub-lethal, indirect, cumulative and synergic effects, means the risk assessment is inadequate. Also, this process is focused on the active

[44] https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2013.3295

substance, while other pesticide ingredients remain untested but can be just as harmful - see section 3 for references.

6.3.1. Pesticide safety actions

6.3.1.1. Implement strong pre-approval guidance, tests and protection for wild bees, based on the 2013 EFSA guidance - every pesticide should be tested for toxicity to solitary bees and bumblebees, and field and semi-field tests should be undertaken if the laboratory tests indicate any potential unacceptable risk, by 2024.
6.3.1.2. Commission and implement new EFSA pre-approval guidance on assessing the environmental risks of pesticides to non-target arthropods - this guidance must, as a minimum, include tiered tests on hoverflies, butterflies, moths and ground beetles, by 2023.
6.3.1.3. Commission a review (ECHA or EFSA?) of the risk to bees and other insects from alcohol ethoxylates in pesticides, regulate as required to avoid unacceptable harm, by 2023.
6.3.1.4. Improve the scientific evidence base for assessing the relative toxicity of pesticides (not just insecticides) to bees and other pollinators so that the harm reduction targets are meaningful by 2027.
6.3.1.5. Ensure that the risks to bees and pollinators from chronic, sub-lethal, indirect, cumulative and synergic effects (e.g. the impact of herbicide use on the availability of flowers for pollinators) in the environment and of coformulants and adjuvants in pesticides are assessed and managed.
6.3.1.6. Introduce a routine process that examines Member State's justifications for emergency use pesticide derogations, including in particular whether sufficient effort has been expended to find alternative solutions and their results, and disallow any repeat of derogations that do not meet basic standards in the first instance.
6.3.1.7. Reform the procedures of the 'Standing Committee on Plants, Animals, Food and Feed - Section Phytopharmaceutical' to ensure that the decision making meets Aarhus Convention standards, including, for instance, making papers available, involving the public and making the votes of Member States publicly available, by 2027.
6.3.1.8. Collate and make available annual and regionally split statistics on the area of every crop in the EU to which each active ingredient is applied, by 2027.

6.3.2. Pesticide safety commitments

6.3.2.1. Ensure that the pesticide and pesticide harm reduction targets in the Biodiversity and Farm to Fork strategies are delivered.
6.3.2.2. Ensure that Sustainable Use Directive National Action Plans are succeeding in driving the reductions necessary to achieve the EU targets.
6.3.2.3. Review progress in 2027 and, if the target is at risk, introduce new measures to drive the necessary changes.
6.3.2.4. Produce and enforce a soil directive that includes soil pollution control measures to protect ground nesting and breeding pollinators from pesticides and heavy metals.

6.4 Pollution Priorities

Nitrogen emissions are causing eutrophication of semi-natural grassland, damaging pollinator habitats and pushing endangered species towards extinction; ozone and other byproducts of burning petrochemicals mask flower scent, reducing pollinator effectiveness; and heavy metal and pesticide soil pollution is impacting on solitary bees.

Not all pollution challenges are chemical - light pollution is a major driver of insect declines; electromagnetic radiation affects insects, although the population level effects have not been determined; nuclear radiation from Chernobyl has had a massive impact on insect populations; and biological pollution in the form of invasive species and insect diseases incidentally vectored by humans are further causes of harm to pollinator populations.

The EU Zero Pollution Action Plan includes an important 2030 commitment to reduce "by 25% the EU ecosystems where air pollution threatens biodiversity". This will considerably help by reducing nitrogen deposition in many areas, although whether this target is sufficient to prevent the eutrophying pollution from causing continuing declines in pollinator populations is debatable. Reductions in nitrogen deposition and fossil fuel burning should incidentally help to reduce the impacts of ozone pollution on insect populations. However, the Zero Pollution Action Plan only refers to light pollution as an 'emerging issue' a characterisation that we believe is strongly refuted by reference to the scientific literature, so as yet there are no EU targets for reducing light pollution levels.

Establishing an EU wide light pollution metric that can be broken down by region and country is an easy task to achieve with satellite data. It is clear that policy changes can result in nations reducing their light pollution levels[45]. The EU must drive the agenda to reduce light pollution, and support countries such as Germany who have recently introduced light pollution reduction laws[46]. If progress is not achievable by voluntary action, then a regulatory approach will be necessary.

There has been little progress on the importation and transportation of invasive species in soil, or the biosecurity of insects in trade (see section 6.6 for further actions).

The EU has taken an active role in promoting insects as a future food source, and increasingly insects are being bred in captivity in factory operations and marketed or exported for protein production, pet food, crop pollination and pest control. It is well established that insect diseases are often prevalent in the resulting livestock and can be transmitted to wild insects. In America this has caused the extinction of native pollinator species. While EU regulations are relevant to the control of disease in captive bees,

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[45] Gaston, K.J., Bennie, J, Davies, T.W., Hopkins, J. (2013) The ecological impacts of nighttime light pollution: a mechanistic appraisal. Biological Reviews 88 912–927
https://onlinelibrary.wiley.com/doi/full/10.1111/brv.12036

[46] https://leap.unep.org/countries/de/national-legislation/act-protection-insect-diversity-germany-and-amendment-other

bumblebees and other insects, particularly Regulation (EU) 2016/429 on transmissible animal diseases, it is not clear that measures are being taken to apply this to preventing the vectoring of insect diseases to wild insect populations, or controlling the movement of insect livestock. This should be considered by EFSA when assessing risks for each insect species prior to deciding if it can be permitted as a ‘novel food’.

6.4.1 Pollution actions

- 6.4.1.1. Establish a light pollution metric and adopt baselines at EU, Member States and regional levels, by 2025.
- 6.4.1.2. Set EU and national light pollution reduction targets, by 2025.
- 6.4.1.3. Include light pollution in Net Zero initiatives.
- 6.4.1.4. Strengthen action to reduce Nitrogen emissions adversely affecting grasslands important for pollinators in Western Europe.
- 6.4.1.5. Progress and introduce ECHA biocide guidelines to assess risks to key pollinator groups, by 2024.
- 6.4.1.6. Undertake a review of the measures taken and operating standards applied by Member States to limit the risk of spreading disease from insect livestock to wild insects, by 2024.

6.4.2 Pollution commitments

- 6.4.2.1. If light pollution levels are not declining significantly by 2027 introduce legislation to drive light pollution reduction.
- 6.4.2.2. Monitor progress to reduce levels of nitrogen and ozone pollution and if these are not on track to reach levels that would cause minimal harm to pollinator populations, take further action to tighten permitted pollution levels and drive reductions in emissions.
- 6.4.2.2. Take any appropriate measures to ensure that wild insects are protected from disease by rigorous biosecurity measures applied in commercial insect livestock facilities, by 2027.

6.5 Species Recovery Priorities

We must recognise that the pollinator crisis cannot be fixed only by changing how we manage landscapes and pollution. Under the headline statistics are hundreds of individual species, many of which are in severely threatened situations and in danger of extinction. Often these species are functionally extinct, they have already gone too far to benefit from actions that will address the overarching problems, they require bespoke action to restore specific habitat features, to encourage or facilitate the colonisation of sites, and to generate the data and knowledge that will enable pollution issues to be identified and addressed or landscape restoration to deliver the features that those species will one day need to survive. Until the landscape is in better condition and pollution is addressed increasing numbers of species will require remedial action to prevent their extinction in the intervening period.

The Habitats Directive is not sufficient to address threats to pollinator species, for instance there are no bee species listed in the Directive. It is therefore important that the Pollinators Initiative also includes additional measures needed to conserve rare and threatened pollinator species, particularly those on the EU red list.

Progress with developing EU species plans for pollinators has been slow, the three draft and proposed plans look promising, however there is not currently the resources or funding available to develop sufficient plans or to provide for their implementation.

However, the draft EU pollinator species plans exemplify the need and the tailored actions that have to be identified, promoted and implemented. All the evidence is that this action is not happening currently, and that existing funding streams are too demanding in terms of administration and match-funding to be accessible to the organisations in the field.

6.5.1. Species recovery actions

6.5.1.1. Member States to include recovery of Habitat Directive butterflies, moths and other wild pollinator habitats in Member States' pledges to implement EU BDS 2030 protected area and Species Status Improvement targets by 2023.
6.5.1.2. Member States to pledge new protected areas for butterflies, moths and other wild pollinators especially Red Listed species by 2024.
6.5.1.3. EU with Member States and experts to develop a list of wild pollinators 'typical'/ characteristic of N2K habitats, set Conservation Objectives for them and for listed butterflies and moths of European Importance, include them in N2K management plans and implementation plans, by 2027.
6.5.1.4. Continue an active programme of undertaking IUCN Red List reviews for EU pollinators, ensuring that assessments are as comprehensive and up to date as possible (reviews every 10 years are recommended). A 2023-30 work programme should be set out and funded. The conservation status and trends of Red Listed wild bees, hoverflies, butterflies and moths should be updated and tracked against conservation measures.
6.5.1.5. Develop 25 EU species action plans, covering at least 40 endangered pollinator species, with at least 10 being actively delivered by 2027. Implementation of all plans active by 2030.
6.5.1.6. Set up a small grant scheme, on a full-cost recovery basis, accessible to NGOs and individuals to support local and regional actions for pollinators, by 2025.

6.5.2. Species recovery commitments

6.5.2.1. If IUCN Red List assessment indicates that the status of a group of pollinators is worsening, increase funding for action and consider legislative protection.
6.5.2.2. If insufficient resources are available in 2027 and going forwards to deliver on the species plans, increase the level of funding available.

6.6 Trade Policy Priorities

The EU's stance and policy on trade is pertinent to the global problem of insect declines. We should learn the lessons from CO2 mitigation efforts, there is a real risk that efforts to better protect pollinators in the EU will off-shore biodiversity damage to other parts of the continent and the world. This would be irresponsible as it would negatively impact on global food security and reduce environmental sustainability and living standards for people across the planet. In addition, pollinator populations are to a significant extent continental in nature. In spring vast masses of a small number of abundant pollinators fly north, arriving in Southern Europe from North Africa and in Scandinavia from central Europe. Then in the autumn they make the return journey south. The health of both pollination and pest control (e.g. hoverflies and ladybirds) services within the EU is therefore to a significant extent dependent on how well those populations are looked after while they are in the UK, North Africa, Switzerland, Ukraine, Norway, etc.

The EC has the opportunity to promote the integration of pollinator conservation considerations and measures into international trade policy, in particular in relation to the use of bee harming pesticides on crops that are then imported into the EU. In countries neighbouring the EU the use of neonicotinoids will significantly damage continental populations of migratory hoverflies, moths and butterflies. However, there has been no apparent progress with extending pollinator action into the EC's international trade policy.

There has been little progress on reducing peat use - a form of direct pollinator habitat destruction. The EC has just started to revise the EU Ecolabel criteria for 'growing media, soil improvers and mulch', and this must ensure that the revised criteria address the need to conserve pollinators. For example, the criteria could include safeguards to ensure that soil used for potted plants and gardening products is not sourced from pollinator habitats, or that mineral extraction does not cause the degradation of pollinator habitats.

Soil, including soil in potted plants, is a very common pathway for invasive species into and around the EU. There are many species that are being and could be imported through this route that would be directly harmful to pollinators, but the inflow of agricultural pests through this route is an additional threat to pollinator populations as they create an added motivation for the widespread use of insecticides and other pesticides. In addition to ongoing work to prevent the spread of the Asian Hornet (*Vespa velutina*), the importation and internal transfer of soil should be much more tightly controlled.

6.6.1 Trade policy actions

- 6.6.1.1. Prevent the importation of agricultural products produced using any pesticide banned in the EU due to potential unacceptable harm to pollinators, by 2027.
- 6.6.1.2. Use trade policy to promote cross-border pollinator conservation activity and to protect pollinator migration.
- 6.6.1.3. Set targets for peat use to reach zero in 2030.
- 6.6.1.4. Introduce new biosecurity measures to ensure that soil transported into the EU and between Member States is free from living organisms, by 2025.

6.6.2 Trade policy commitments

6.6.2.1. If peat does not decline towards zero in 2030 introduce trade restrictions or other legislative mechanisms to bring an end to the use of the habitat for fuel, as a growing media, as packing, or any other use.

6.6.2.2. Take action to phase out trade in soil over internal or external EU borders if it does not prove possible to ensure that trade is biosecure, by 2027.

6.7 Monitoring Priorities

It is essential that pollinator population data gathering, flow, analysis and publicity is improved. We must deepen knowledge, understanding, data and trends of pollinators and their habitats and raise the profile, capacity and engagement of citizens, farmers and policy makers in taking effective action.

Improved monitoring and the establishment of adequate metrics and baselines is essential to enable progress towards saving our pollinators.

EU level and MS level actions are needed to monitor the abundance and diversity of wild pollinators and to evaluate policy, conservation and restoration effectiveness.

Governments should support citizen science and NGO led monitoring programmes, but should also establish and implement sufficient pollinator abundance monitoring to enable comparative metrics. The EU must ensure that consistent data is gathered in Member States to enable an overview and comparative learning.

6.7.1 Monitoring actions

6.7.1.1. Require Member States to implement standardised or intercallebrated pollinator abundance and diversity monitoring, and evaluate action effectiveness, by 2025.

6.7.1.2. Set binding requirement on Member States to monitor wild bees, hoverflies, moths and butterflies (2022/2023).

6.7.1.3. Roll out EU Pollinator Monitoring Scheme across EU Member States, building on EU Expert Group's work and experience of implementation of EU Parliamentary Preparatory Action Project SPRING start now for completion before 2030.

6.7.1.4. Ask member states to support coordination and data management of complementary citizen science European Butterfly Monitoring Schemes (eBMS) across the EU, increasing butterfly transects, monitoring rare and threatened species and real time reporting technology; and expanding citizen science moth monitoring, supported by automatic image recognition technology start 2023, complete by 2030.

6.7.1.5. Include Woodland Butterfly Indicator in the EU Dashboard for evaluating EU BDS 2030 implementation, by 2023.

6.7.2 Monitoring commitments

6.7.2.1. Continuous development and strengthening of the Pollinator Indicator, with support of the EU Expert Group.

6.8 Research Priorities

While several causes of pollinator decline are well understood, there are a number of emerging issues about which scientific knowledge needs to be improved. In some areas such as pesticides and pollutants there are very complex challenges to pollinators that evolve as new toxins or diseases become prevalent in the environment. This requires flexible funding to enable pertinent research to be undertaken. Research about pollinators species and plant interactions across altitudinal and latitudinal gradients needs to be funded. Science should also be applied to monitoring and understanding the success of existing and planned pollinator conservation and restoration measures. This work should build on existing work such as the VOODOO project in the BiodivERsA framework.

6.8.1 Research recommendations

6.8.1.1 Increase funding available for researching pressures on pollinator populations and understanding the success of conservation action, by 2025.

6.8.1.2 Ensure that funds are available to better understand the effects of pesticide co-formulants, cocktails and indirect effects on pollinators (see also 6.3.1.4.).

6.8.1.3 Research commissioned capable of clearly defining risk posed to pollinator populations from EMF radiation associated with 5G roll out, by 2023.

6.8.1.4 Map wild pollinators' pollination services as part of the EU Monitoring and Assessment process improvements, by 2025.

6.8.1.5 Bring together research results and knowledge on conservation effectiveness for pollinators and develop interactive tool for land managers and farmers to use to develop effective actions by 2027.