

Key issues paper on the German government's Action Programme for Insect Protection
(approved by the German Government 20th June 2018)

A. Introduction

Almost three quarters of all animal species in Germany are insects, including bees, beetles, butterflies, dragonflies, grasshoppers, ants and flies. **Both the total number of insects and the diversity of insect species** have fallen sharply in Germany. The Red Lists and numerous scientific studies confirm this.

Insects are an integral part of biological diversity. They play an important role in our ecosystems. Many insect species provide vital ecosystem services, for example plant pollination, decomposition of organic matter, biological control of harmful organisms, water purification and soil fertility conservation, and they are a food source for other insects and other classes of animals. The decline of these insects and their ecosystem services therefore has direct impacts not only on the environment but also **on humans**.

Pollination by insects, for example, is essential for the conservation of wild plants and for securing the yields and quality of many crops. In addition to the significant loss of biological diversity, a decline in pollination would therefore lead to **major economic risks**. For example, in Germany there are over 560 wild bee species and they play a crucial role in pollination. In many cases, they are more effective pollinators than honeybees because of their species-specific specialisations and adaptations.

Insects are also a **food source** for other insects and animal classes such as birds, small mammals, reptiles, amphibians and fish. Evaluations of bird populations in recent years show a decrease in numbers in bird species, particularly those that primarily eat small insects and spiders during their breeding season.

While recognising that certain insects – like other animals – can pose a danger to the health of humans, animals and plants and that measures will continue to be necessary in future to regulate certain insect species, we nevertheless still have a responsibility to take action to halt the decline in insect numbers and diversity.

There are a number of complex **reasons for this decline**. According to the latest research, the main causes are the loss and deteriorating quality of insect habitats, the loss of structural diversity with a wide range of wild plants, management of nature conservation areas that does not always give sufficient consideration to the needs of insects, the use of pesticides, the input of nutrients and pollutants into soils and water bodies and light pollution. Many additional factors also play a role in the loss of insect habitats or deterioration in their quality. This is why it is important to conserve these habitats and promote their restoration, both in terms of quality and quantity, and to connect them.

Even though there is still considerable need for research on insect decline, the scientific data already available provides adequate evidence and justifies the **urgent need for action** – for precautionary reasons, too. The public is very aware of the drastic decline in insect populations and this issue is the subject of great debate. There are **high expectations on policymakers** to take comprehensive and swift counteraction.

With its Action Programme for Insect Protection, the German government is aiming to improve the living conditions of insects and enhance biological diversity in Germany in order to tackle insect decline. The action programme will be geared to **swift implementation of specific measures** to achieve a trend reversal. This paper outlines areas of action and possible measures for the Action Programme for Insect Protection without predetermining sources of funding.

B. Areas of action

The Action Programme for Insect Protection will aim to improve the conservation and restoration of insect habitats, in terms of both quality and quantity, and to tackle problems where insects are directly harmed. The following areas of action have been determined:

1. Supporting insect habitats and structural diversity in the agricultural landscape

More than half of land in Germany is used for agricultural purposes. This means

that the agricultural landscape plays an important role in providing habitats for insects. Increased management intensity of grassland, the loss of fallow land, the removal of small structures on agricultural land (for example borders, hedgerows, field margins with a diverse range of flowering plants and herbs, wetlands), the increasing homogeneity of cultivated land and the loss of land to non-agricultural uses have affected the conditions for survival of numerous insect species in recent decades. Insect habitats provided by the agricultural landscape are also being lost because of (woodland) succession resulting from a lack of cultivation or because of unfavourable sites being completely abandoned.

This is why the Action Programme for Insect Protection will aim to increase structural diversity in the agricultural landscape, to conserve, expand and restore adequate, high-quality habitats for insects and maintain them in an insect-friendly way. Examples of this include increasing the share of extensively used grassland, ensuring diversity in crop rotation, conserving and restoring hedgerows, field margins and other small structures and preserving and expanding field margins with a diverse range of flowering plants and herbs in order to enrich fields with wild plants. New habitats and ecological corridors will also be created for insects on agricultural land. The action programme will also aim to create and enhance incentives in order to provide greater rewards to farmers for insect protection measures. Nationwide competitions, for example on insect-friendly land management, are one option. As organic farming generally guarantees greater biological diversity, including insect diversity, promoting this type of farming, for example by implementing the "Organic Farming – Looking Forwards" strategy, also contributes to insect protection in agriculture. Many insect protection measures, for example the restrictions on ploughing up grassland that have already been implemented, also have a positive impact for the climate.

2. Restoring and connecting insect habitats in other landscape areas

Numerous insect habitats beyond the agricultural landscape are also in a very poor state or have vanished altogether. A priority task is therefore to restore these habitats. It is also important to take measures to halt a further

fragmentation of habitats that may result, for example, from the transport network and infrastructure projects.

This is why the Action Programme for Insect Protection will also contain measures on restoring and improving the quality of insect habitats. One particular focus will be on promoting the establishment and insect-friendly maintenance of landscape elements and margin structures beyond the agricultural landscape as well as the reconnection of habitats. The restoration of floodplains and flowing waters in order to expand the biotope network also plays an important role. The federal programme "Germany's Blue Belt" will contribute to this. Incentives will be created for a range of relevant stakeholders to improve the quality of insect habitats in open areas, forests, fallow land, water bodies and settlements, create new habitats and connect them, including temporary habitats. Existing funds should be focussed more on insect protection with the launch of model projects and nationwide competitions, for example for insect-friendly municipalities.

3. Enhancing protected areas as insect habitats

Insect numbers and diversity are also in major decline in protected areas. Often, nature conservation targets have not been achieved due to influences from within and outside of these areas.

This is why one of the action programme's goals will be to improve insect protection in protected areas. The new Action Plan on Protected Areas currently being developed with the Länder will raise awareness and provide support. Biosphere reserves as model regions for sustainable development should play a prominent role.

4. Reducing the use of pesticides

Pesticides – plant protection products and biocides – with insecticidal active substances are used to control insects that are harmful to humans, animals, materials or plants. These and other pesticides – even if they have been authorised – can also have negative impacts on non-target insects.

The Action Programme for Insect Protection aims to significantly reduce the harmful impact on insects of all kinds of pesticides, i.e. plant protection products, biocides, etc. According to current EU plant protection law, plant protection products are only eligible for authorisation if they do not have unacceptable impacts on the environment, especially on non-target species, on biological diversity or the ecosystem. The German government has agreed to support an EU-wide ban on certain neonicotinoids. As a result, the outdoor use of such neonicotinoids will be prohibited.

By means of a systematic reduction strategy, the use of plant protection products containing glyphosate is to be significantly restricted, with the goal of completely ending use as quickly as possible. Alternatives will be developed in cooperation with the agricultural sector as part of an arable farming strategy and legal measures will be taken to make the use and application of plant protection products less harmful to the environment and nature. The necessary legal measures will be set out in an EU-compatible framework. Implementation of the arable farming strategy will be underpinned by adequate funding for measures to implement the National Biodiversity Strategy and, in particular, insect protection measures. When developing and implementing the arable farming strategy, it is essential to take due account of the needs of biological diversity and, in particular, the protection of insects.

The Action Programme for Insect Protection will also address the use of plant protection products in areas that are ecologically particularly vulnerable. The use of plant protection products will also be limited to the bare minimum in the transport sector.

The German government will refrain from using pesticides at any of its properties unless there are imperative reasons to do so.

As part of the Action Programme for Insect Protection, a critical assessment will be carried out on the authorisation and use of biocides, which often contain the same active substances as plant protection products, and authorisation and use will be reduced as far as possible. This includes limiting the use of such biocides

by non-experts, combined with restrictive provisions on the sale of biocides, which has not been subject to any controls to date.

5. Reducing inputs of nutrients and pollutants in soil and water

Excessively high inputs of nutrients, especially nitrogen, from agriculture, transport and the energy sector reduce the diversity and quality of habitats and eliminate important food plants for insects.

This is why the Action Programme for Insect Protection will aim to further reduce nitrogen surpluses and nitrogen emissions. The amendments to the fertiliser legislation adopted in 2017 already include a range of measures to lower nitrogen surpluses, which will result in the reduction of nitrate leaching and ammonia emissions. To improve insect protection, the German government is also examining whether a further development of the fertiliser application provisions will be included in the action programme, focussing on grassland, field margins and buffer stripes along water bodies, water bodies in general and nitrogen-sensitive Natura 2000 habitats. Additional measures to mitigate nitrogen emissions from agricultural and other installations as well as from transport must be taken into consideration in the legislation in these areas. In its national air pollution control programme to be drawn up by April 2019 under the new NEC Directive, the German government will describe the measures necessary to meet its emission reduction commitments. The preservation of important (classes of) insects will be taken into account in further actions by the German government to abate nitrogen pollution. Reducing nitrogen surplus also has a positive impact on the climate.

6. Reducing light pollution

Nocturnal insects are drawn to artificial lighting and are then either killed by the light source itself or fall prey to predators. This form of behaviour by insects at light sources – starting with being irresistibly drawn to them and ending with the insect's death – is known as the vacuum effect. Billions of insects leave their

actual habitats as a result of this vacuum effect and are therefore no longer able to search for food or to reproduce.

Against this background, the Action Programme for Insect Protection will aim to reduce light pollution and achieve a switch to insect-friendly lighting. Tools to limit light pollution will be developed, funding options reviewed and recommendations drawn up for insect-friendly lighting for the Länder, municipalities, planners, companies and private individuals. The German government will act as a model.

7. Intensifying research – strengthening knowledge – closing gaps

A sound knowledge base is essential to counteract the decline in insect numbers and diversity. A comprehensive and nationally uniform insect monitoring programme helps identify and quantify the status and changes to insect populations and diversity. This is also the basis for successful monitoring of insect protection measures in future. At the same time, research on insects and their decline needs to be intensified to close existing gaps in knowledge.

The Action Programme for Insect Protection will therefore contain measures on developing, broadening and enhancing targeted research on insects, their distribution, numbers, the quality and quantity of the ecosystem services they provide and the scale and causes of changes in numbers and species diversity. This also covers the analysis of accumulative factors that contribute to decline, the identification of effective countermeasures and the development of new technologies for a monitoring system. Linking and harmonising data will be crucial for effective monitoring. The planned scientific monitoring centre for biodiversity will contribute to this. Additionally, taxonomy training and teaching of expertise on species at universities, schools and in volunteer capacities will be improved.

8. Improving financing – creating incentives

The limited funding available for nature conservation in Germany is also a barrier to insect protection. EU funds play a key role here.

In the negotiations on the future multiannual financial framework (MFF) for the post-2020 period, Germany will advocate stepping up funding for EU nature conservation. When shaping the upcoming EU financing period, consideration should be given to insect protection by means of appropriate eligibility conditions and criteria. As part of this framework, the agricultural sector has to make a greater contribution in future to tackling the challenges facing climate action, environmental protection and biodiversity conservation. The CAP should provide greater rewards for actions by the agricultural sector to protect the environment, climate, biodiversity and natural resources. Furthermore, national funds for insect protection will increase. Improved funding for insect protection measures is also required in areas such as lighting, transport and settlements. Greater support will be given to model projects on insect protection, for example under the German government's Federal Programme for Biological Diversity.

9. Promoting civic commitment

The commitment of a wide range of stakeholders is essential to halting insect decline. This is why the Action Programme for Insect Protection will also address, inform and encourage the active involvement of business associations and companies, the research and education sectors, civil society stakeholders such as nature conservation and environmental associations, churches and religious communities, hunters, farmers, foresters and the public. Action that is already being taken will be linked up and supported by specific measures and services. Additional educational tools and projects focusing on insect protection will be made available to schools and nurseries. Material for teachers and educational material tailored to children and young people made available by the German government online will also contribute to this.

C. Public participation and reporting

In view of the high level of public awareness of insect decline and the high public

expectations on policymakers, civil groups and the public will participate in drawing up the Action Programme for Insect Protection. The 9th National Forum on Biological Diversity in autumn 2018 will be one platform for this.

The German government will report regularly on implementation of the Action Programme for Insect Protection.