Pollinator protection in the European Union

The relation between biodiversity obligations for pollinators and environmental objectives in the regulation of Plant Protection Products

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List of Abbreviations

CBD	Convention on Biological Diversity
ECA	European Court of Auditors
EEA	European Environment Agency
EFSA	European Food Safety Authority
EU	European Union
NAPs	National Action Plans
NGO	Non-governmental organization
PPPs	Plant Protection Products
PPP Regulation	Plant Protection Products Regulation
SACs	Special Areas of Conservation
SPGs	Special Protection Goals
SUD	Sustainable Use of Pesticides Directive
SUR	Sustainable Use of Pesticides Regulation
TFEU	Treaty on the Functioning of the EU

1. Introduction

1.1 Problem identification

1.1.1 Pollinators - backbone of biodiversity

In recent decades wild pollinators have dramatically declined in abundance and diversity in Europe. In Germany, researchers have found a 76% decrease in insects over 27 years.[1] Also in the Netherlands, researchers have found a significant insect population decline.[2] The decline of pollinators severely impacts ecosystems, because pollination is an essential ecosystem service in nature.[3] An estimated 87.5% of the world's flowering plants are dependent on pollinators.[4] Without pollinators, many plant species will deteriorate and disappear. This is already happening, as recent research shows that the Netherlands is losing insect-pollinated plants, likely due to the decline in pollinators.[5]

Pollinators are not only of utmost essence for nature, their services are also imperative for agriculture and food security.[6] Yet, one of the main pressures on pollinators is the use of pesticides in intensive agriculture.[7] Pesticides reduce food resources and have direct toxic effects by contaminating plants and flowers.[8] Their use leads to a decline in pollinators, especially in simplified landscapes with intensive agriculture.[9] It also negatively affects biodiversity in protected nature areas.[10] As evidence shows that pesticides are one of the primary drivers of the pollinator decline, it is urgent to reduce their use.[11] However, pesticide sales in the EU have remained stable at around 360,000 tonnes annually.[12]

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[1] Hallmann et al., 'More than 75 percent decline over 27 years in total flying insect biomass in protected areas' (2017) 10, *PLoS One*

[2] Kleijn et al., *Achteruitgang insectenpopulaties in Nederland: trends, oorzaken en kennislacunes* (Wageningen Environmental Research 2018)

[3] Geiger et al., 'Persistent negative effects of pesticides on biodiversity and biological control potential on European farmland', (2010)11, *Basic Appl. Ecol.*, 97

[4] Ollerton et al., 'How Many Flowering Plants are Pollinated by Animals?' (2011), *Oikos* 120, no. 3

[5] Kaixuan et al., 'Dutch landscapes have lost insect-pollinated plants over the past 87 years' (2024), *Journal of Applied Ecology* (61(6))

[6] Vysna et al., *Accounting for ecosystems and their services in the European Union* (Publications office of the European Union 2021).

[7] DG Environment, *Pollinators: importance for nature and human well-being, drivers of decline and the need for monitoring* (Science for Environment Policy 2020) 32

[8] Ibid

[9] Kleijn et al. (n 2). Siviter et al., 'Protecting pollinators and our food supply: understanding and managing threats to pollinator health' (2023)70, *Insect. Soc,* 5

[10] Köthe et al., 'Recommendations for effective insect conservation in nature protected areas based on a transdisciplinary project in Germany' (2023)35, *Environ Sci Eur,* 102

[11] EEA, 'Pesticides: what are the risks to our health and to the environment?', via: www.eea.europa.eu/en/newsroom/editorial/pesticides-what-are-the-risks

[12] Heinrich-Böll-Stiftung et al., *Pesticide Atlas* (2022)

1.1.2 A new deal for pollinators

The EU Pollinators Initiatives were the first-ever EU frameworks to specifically address the decline of pollinators.[13] Together with the EU Biodiversity strategy for 2030, they have set a non-binding commitment to reverse the decline of pollinators. The Nature Restoration Regulation[14] will strengthen this commitment by introducing legally binding provisions. For the first time, Member States will be obliged to take measures aimed at improving pollinator biodiversity to reverse the pollinator decline by 2030 and achieve an increasing trend thereafter. These new legal obligations raise many questions regarding the legal consequences and coordination with other EU legislation, such as how pollinators are protected under the Habitats Directive.

1.1.3 The regulation of pesticides

As one of the main drivers of pollinator decline, it is essential that the legal framework regulating pesticides, or Plant Protection Products (PPPs), is sufficiently aligned with the biodiversity objectives and obligations regarding pollinator protection. The current toolbox for the EU and Member States to regulate PPPs can be found in Regulation 1107/2009 concerning the placing of PPPs on the market (PPP Regulation).[15] The PPP Regulation must ensure a high level of protection of the environment and is underpinned by the precautionary principle. Nevertheless, controversial substances associated with negative effects on pollinators, such as glyphosate, are commonly (re)authorized.[16] The Sustainable Use of Pesticides Directive (SUD) aims to reduce the risk and impact of PPP use.[17] It was to be replaced by the Sustainable Use of Pesticides Regulation (SUR)[18], but this proposal was recently withdrawn.[19]

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[13] Commission, 'EU Pollinators Initiative', COM (2018) 395 final. Commission, 'Revision of the EU Pollinators Initiative: A new deal for pollinators', COM (2023) 35 final

[14] See Commission, 'Proposal for a Regulation of the European Parliament and of the Council on nature restoration', COM (2022) 304 final and see Council of the EU, 'Nature restoration law: Council gives final green light', (17 June 2024), via: www.consilium.europa.eu.

[15] Commission, Regulation (EC) No 1107/2009 of the European Parliament and of The Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC

[16] Battisti et al., 'Is glyphosate toxic to bees? A meta-analytical review' (2021) 767, *Science of The Total Environment*

[17] Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides (SUD)

[18] Commission, Proposal for a regulation on the sustainable use of plant protection products, COM(2022) 305 final.

[19] Commission, 'Letter announcing the withdrawal of the proposal by 31 March 2024' (21 February 2024) OJ EU C/2024/3117

That the current legal framework for PPPs is not able to prevent negative effects on pollinators, illustrated by their alarming decline, raises the question how environmental objectives, specifically regarding pollinators, are integrated within the PPP legislation and how these objectives relate to the biodiversity obligations regarding pollinators under the Habitats Directive and the Nature Restoration Regulation. Consequently, it may be necessary for Member States, in order to reach the obligations, to implement stricter measures and it must be assessed to what extent Member States are able to do so. Therefore, this thesis aims to address how pollinators are and will be protected under the EU's biodiversity legal framework, as well as how these legal obligations relate to the environmental objectives in the PPP legislation and how Member States can or must implement stricter measures.

1.2. Research questions

The main research question of this thesis is:

How are pollinators protected in the EU in biodiversity legislation, how do these obligations relate to the environmental objectives in the legislative framework on Plant Protection Products and how can or must Member States implement stricter measures to reach the pollinator obligations?

The sub-questions of this thesis are:

1. *What are the current obligations regarding the protection of pollinators in the Habitats Directive?*
2. *What are the forthcoming obligations regarding the protection of pollinators in the Nature Restoration Regulation?*
3. *How are PPPs regulated in the EU and how are environmental objectives, in particular regarding pollinators, currently embedded in the PPP legislation?*
4. *How do the pollinator protection obligations in biodiversity legislation relate to the environmental objectives in the PPP legislation?*
5. *How can or must Member States implement stricter measures under the PPP legislation to reach the pollinator obligations?*

1.3. Structure

In the second chapter, the first research question will be answered by outlining legal obligations for pollinators under the Habitats Directive. In the third chapter, the second research question will be answered, by outlining the legal obligations in the Nature Restoration Regulation relevant to pollinators. In the fourth chapter, the third research question will be answered, by outlining the PPP legislation and discussing how environmental objectives, in particular regarding pollinators, are integrated into the framework. In the fifth chapter, all previous findings will be taken into account in order to answer the fourth research question and evaluate the relationship between the pollinator obligations in biodiversity legislation and the environmental objectives in the legislative framework on PPPs. In the same chapter it will be discussed if and to what extent the legal framework leaves room for Member States to implement stricter measures regarding PPPs, answering the fifth research question. The seventh chapter contains the conclusion.

1.4. Methodology

1.4.1 Qualifications of questions

This thesis qualifies as a doctrinal legal research. The research focuses on analyzing and interpreting legislation, case law, literature and other relevant documents such as guidelines. The main research question of this thesis is a combination of a descriptive and evaluative question. The first three sub-questions qualify as descriptive, as I present an overview of the relevant legal framework for pollinators and PPPs. The fourth sub-question is evaluative, as I evaluate the relationship between the framework on pollinators and PPPs, but also contains normative elements, as I discuss how the regulation of adverse effects of PPPs on pollinators is most effectively achieved. The fifth sub-question is a combination of descriptive and evaluative, because I describe and assess how Member States can implement stricter measures under the legislative framework on PPPs.

1.4.2 Scope

Regarding the scope, this research is primarily aimed at the environmental objectives and in particular regarding pollinators within the regulation of PPPs. Nevertheless, while this thesis will not discuss the protection of human health or other environmental aspects such as water quality, the considerations, such as the implementation of stricter measures, are relevant to other objectives as well. In addition, I will only discuss the application of the precautionary principle within the PPP legislation, but it the precautionary principle plays an important role

in (international) environmental law and other fields and has been extensively researched. Furthermore, this thesis focuses primarily on the legislation on EU level, but in the fifth chapter I will also discuss how Member States may implement measures on a national level.

1.4.3 Relevance

In this thesis, I will research what the legal obligations are regarding pollinators within the Habitats Directive, the Nature Restoration Regulation and the PPP-legislation. A major research gap exists regarding pollinator protection under the Habitats Directive and the Nature Restoration Regulation. As well as that, the regulation of PPPs is an under-researched topic in environmental law. While the attention for pesticides is increasing due to scientific insights on negative effects on the environment and human health, this has only recently commenced. Moreover, there is an extensive body of literature regarding the precautionary principle in environmental law, but this is rarely specifically focused on pesticides or on pollinators. All in all, this topic deserves to be researched more extensively.

2. Pollinator protection in the Habitats Directive

What are the current obligations regarding the protection of pollinators in the EU under the Habitats Directive?

2.1 Introduction

The Habitats Directive[20] is, together with the Birds Directive[21], the foundation of European biodiversity policy. Its aim is to ensure Europe's biological diversity by maintaining or restoring natural habitats and species of wild fauna and flora of common interest within the European territory at favourable conservation status.[22] Despite significantly contributing to nature conservation, the Habitats Directive has thus far failed to reverse the decline of biodiversity, including pollinators, in Europe.[23] This chapter will give an overview of legal obligations in the Habitats Directive regarding pollinators, particularly focusing on the question to what extent pollinators are protected for their pollination services.

2.2 the Habitats Directive

2.2.1 Systems of protection

To reach the objective of conserving biological diversity, the Habitats Directive requires Member States to implement two systems. The first system relates to the conservation of natural habitats and habitats of species, through the designation of protected areas under the Natura 2000-network.[24] The areas are also called Special Areas of Conservation (SACs). The areas are protected due to the occurrence of habitat types or species listed in Annexes I and II.[25] Article 6 is the key provision regarding the SACs, as it requires conservation and protection measures and authorisation of plans and projects.[26] The second system concerns the protection of species.[27] Under this system, Member States are required to take necessary measures to establish a system of strict protection for animal- and plant species listed in

[20] Directive (EC) 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora *(Habitats Directive)*
[21] Directive (EC) 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds *(Birds Directive)*
[22] Article 2 Habitats Directive
[23] EEA, *State of Nature in the EU: Results from reporting under the nature directives 2013-2018,* 2020.
[24] Articles 3–11 Habitats Directive
[25] Article 3 Habitats Directive
[26] Commission, *Managing Natura 2000 sites – The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC,* COM(2018)7621 *(Article 6 Guidance),* p. 8.
[27] Articles 12–16 Habitats Directive

Annexes II and IV and to, inter alia, prohibit the deliberate capture or killing of animals or the deliberate destruction of plants.[28]

2.3 Pollinators under the Habitats Directive

The Habitats Directive lists 52 pollinator species in Annexes II and IV.[29] Despite the large number of species listed, it is incorrect to assume that pollinators are therefore adequately protected under the Habitats Directive. Almost all (42) of the listed species are butterfly species, the rest moths and beetles. None of the species belonging to the most prominent pollinator groups or the most important pollinators of crops are listed, neither are any of the (critically) endangered bee species.[30] Only a fraction of pollinator species are listed, and only species that are relatively rare.[31] Presumably, the intention behind the listing of certain rare species was to have an umbrella effect, meaning that conservation efforts targeted at certain species benefit a wider range of co-occurring species.[32] However, most of the listed species have not been strategically chosen and their potential as umbrella species has never been tested.[33]

Furthermore, Annex I lists various habitat types which are considered important for pollinators including certain grasslands, heaths and scrubs, wetlands, and forest habitats.[34] These habitat types are associated with a high species richness of pollinators. Their conservation and restoration therefore indirectly benefits pollinators.[35] However, the Commission considered that the Habitats Directive does not sufficiently protect pollinators, because habitat types important for pollinators are largely absent in the wider landscape and it does not cover actions addressing pollinator decline in the wider landscape.[36]

[28] Article 12 and 13 Habitats Directive
[29] European Court of Auditors, *Special Report Protection of wild pollinators in the EU — Commission initiatives have not borne fruit* (European Union 2020) 19
[30] European Court of Auditors (n 9).
[31] Commission, *Impact Assessment accompanying the proposal for a Nature Restoration Regulation* (2022)
[32] Morán-López et al., 'The umbrella effect of Natura 2000 annex species spreads over multiple taxonomic groups, conservation attributes and organizational levels' (2020)(23(4)., *Animal Conservation.* Fleishman et al., 'A new method for selection of umbrella species for conservation planning' (2000)10(2), *Ecol. Appl.*
[33] Hochkirch et al., 'How much biodiversity does Natura 2000 cover?' (2013)6 *Conserv. Lett.* 470
[34] Kudrnovsky et al., *Report for a list of Annex I habitat types important for Pollinators* (2020), *ETC/BD Technical Paper, Report to the EEA.*
[35] Olmeda et al., *EU Habitat Action Plan habitat type 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates* (2020). Olmeda et al., *EU Habitat Action Plan habitat type 4030 European Dry Heaths* (2020)
[36] Commission (n 30).

2.4 Indirect protection of pollinators

2.4.1 Pollination services

Considering the previous findings, pollinators are not a particular focus of the Habitats Directive.[37] In general, pollinators benefit from the protection of habitat types. The protection of pollinators is mainly linked with the protection of habitat types that are associated with a high pollinator' species richness, which is highlighted by the action plans.[38] In other words, habitat types are protected because pollinator' species are dependent on them. However, taking into account the important ecosystem services that pollinators provide and the critical role they play in any terrestrial ecosystem, it is remarkable that the focus has been primarily on the protection of habitat types because they are important for pollinators, and not vice versa.

If the pollinator decline continues, a substantial proportion of the world's flora will be lost.[39] Recent scientific research has found that Dutch landscapes are losing wild insect-pollinated plant species, likely due to the decline in pollination services.[40] In general, 90% of wild flowering plants depends on pollination services.[41] Without insect-pollination approximately one third of insect-pollinated plants would produce no seeds and half would suffer over 80% reductions in seed production.[42] A decline in wild pollinators likely causes a deterioration in insect-pollinated plants, with potential negative consequences for the functioning of entire ecosystems.[43]

Although more research needs to be done into which habitat types and species are dependent on pollination services[44], based on aforementioned research, it can be asserted that there is an important link between wild pollinators and wild plants.[45] This raises the question if, when the decline of insect-pollinated plants jeopardizes the objective of the Habitats Directive to reach a favourable conservation status for habitat types and species, a legal obligation for the protection of pollinators can be derived from the area protection system.

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[37] Also pointed out by the Commisison, ibid.
[38] Olmeda et al. (n 34).
[39] Ollerton et al. (n 4)
[40] Kaixuan et al. (n 5)
[41] Tong et al., 'New calculations imply that 90% of flowering plant species are animal-pollinated' (2023), *National Science Review.* Rodger et al., 'Widespread vulnerability of flowering plant seed production to pollinator declines' (2021), *Science Advances,* 7(42).
[42] Ollerton et al. (n 4). Rodger et al.(n 41).
[43] Josephine et al., 'Invertebrate Decline Leads to Shifts in Plant Species Abundance and Phenology' (2020)11, *Frontiers in Plant Science*.
[44] Such dependency has been established for certain habitat types, see for example Valneva et al., 'Assessing the biodiversity and the impact of pollinators on carob production' (2023)18/10, *Plos One*.
[45] Ollerton et al. (n 4) Kaixuan et al. (n 5) Tong et al. (n 40) Rodger et al (n 41). Josephine et al. (n 42).

2.4.2 Conservation measures

Under Article 6(1) of the Habitats Directive, Member States shall establish the conservation measures necessary to maintain or restore, at favourable conservation status, natural habitat types and species present in the SACs. The measures must correspond to the ecological requirements of the natural habitat types and species listed in Annexes I and II, which are present in the SAC.[46] Habitat types include different vegetation types or plant species. A key question is, therefore, what exactly constitutes a habitat type and falls within the scope of protection. For example, the interpretation manual describes the habitat type 'mesobromion grasslands' as 'characterised by their rich orchid flora'.[47] This raises the question to what extent the 'orchid flora' are protected as well.

Habitat types are defined as 'habitat types within the European territory which are in danger of disappearance, have a small natural range or present outstanding examples of typical characteristics of one of the biogeographical regions'.[48] The conservation status of a natural habitat is defined as 'the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species'.[49] The 'structure and functions' parameter refers to the physical components and ecological processes and relies on the conservation status of the 'typical species'.

Member States have discretion in selecting typical species, as long as the selection reflects the favourable structure and functions.[50] The 'characteristic species' listed in the interpretation manual may be used, but typical species can be drawn from any species group and the choice is not restricted to the species listed in the Annexes.[51] Member States must designate SACs in a clear and transparent way, which often occurs in a legally binding document which describes and characterizes the habitat types and species which are significantly present on the site. For example, in the Netherlands, in the 'Natura 2000 profile document' it is explicitly stated for all habitat types which vegetation types do or do not form part of a habitat type.[52] Therefore the protection of a habitat type includes the typical species that form the structure and functions.

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[46] *Article 6 Guidance*, 16.
[47] Commission, *Interpretation Manual of European Union Habitats - EUR28* (2013), 69.
[48] Article 1(c) Habitats Directive
[49] Article 1(e) Habitats Directive
[50] Commission (2013) (n 46), 69
[51] Commission, *Reporting under Article 17 of the Habitats Directive: Guidelines on concepts and definitions, Reporting period 2019-2024* (2023) (Brussels), 92
[52] LNV, *Natura 2000-area documents – reading guide* (2006).

Nevertheless, the protection of habitat types is not only directly focused on typical species, but on habitat conditions as a whole. Conservation measures must correspond to all ecological needs, including both abiotic and biotic factors, which are deemed necessary to ensure the conservation of the habitat types, including their relations with the physical environment.[53] This equally applies to (the habitats of) species. Thus, while most pollinators are not listed as a species on Annex II, pollinators can be indirectly protected through the protection of habitat types and species, if pollination is an ecological requirement necessary for their conservation.

Since under Article 6(1) of the Habitats Directive, Member States shall take the conservation measures necessary to maintain or restore the habitat types and species present in the SAC, these measures should aim at the conservation of necessary ecological requirements, including pollination, for habitat types, including their typical species, and habitats of species. It is important to note that this obligation may reach beyond measures for individual SACs, but may encompass measures of a broader scope which nevertheless contribute to site-specific conservation.[54]

2.4.3 Non-deterioration obligation

It follows from Article 6(2) of the Habitats Directive that Member States shall take appropriate steps to avoid, in the SACs, the deterioration of habitat types and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such deterioration or disturbance is significant in relation to the objectives of the Habitats Directive. The Court of Justice of the EU (the Court) has interpreted the requirement to 'take appropriate measures to prevent the deterioration of habitats' as an obligation to 'do what is necessary'.[55] Deterioration refers to any form of degradation of a habitat. All environmental influences must be considered. If these influences worsen the habitat's conservation status, deterioration has occurred.[56] Regarding the typical species, the Commission has stated that local loss and recolonization of species are natural processes, provided there is a long-term balance. However, if several typical species are threatened with

[53] Article 6 guidance, 20
[54] Article 6 Guidance, 19
[55] C-117/00 *(Commission v. Ireland)* [2002] ECR I-05335, par. 32. C-96/98 *(Commission v. France)* [1999], ECR I- 8548, par. 35
[56] *Article 6 Guidance*, 29

extinction at the national or biogeographical level, the status of the habitat type cannot be regarded as favourable.[57]

Thus, if several typical species within a habitat type deteriorate, the conservation status of the habitat type also deteriorates. If all insect-pollinated plants, some being typical species of a habitat type, deteriorate, the conservation status of a habitat type deteriorates as well. As Member States are required to take appropriate measures to avoid, in the SACs, the deterioration of habitat types for which the areas have been designated, this suggests a legal obligation under Article 6(2) for Member States to, if this can be established to be the cause, address the decline of pollinators.

It is, however, important to note that not every temporary or minor deterioration is prohibited, but that Article 6(2) must be interpreted as meaning any disturbance or deterioration that has relevance in light of objectives of the Habitats Directive and the conservation objectives of the site in question, which relate to specific habitat types and species.[58] The deterioration must also be assessed on the basis of the ecological characteristics of the site that led to it being selected.[59] Additionally, it must be noted that the scope of Article 6(2) is limited to the habitat types and species 'for which the areas have been designated'.[60] The Court has recognized that activities outside the SACs potentially affect the habitat types and species within the SAC as well.[61] This is important because pressures on pollinators, such as pesticide use, also take place outside SACs.

Thus, under Article 6(2) Member States are obliged to take appropriate measures, both in- and outside the SAC, to prevent the significant deterioration of natural habitat types and habitats of species occurring within SACs for which the areas have been designated. This obligation may extend to appropriate measures to address the decline of pollinators, when it can be established for a SAC, that, due to a decline in pollination services, typical species of a habitat type deteriorate and as a result the conservation status of the habitat type also significantly deteriorates, which must be assessed on the basis of the conservation objectives and ecological characteristics.

[57] Commission (n 49) 91
[58] C-127/02 *Waddenzee* [2004]
[59] Article 6 Guidance, 29
[60] Article 6 Guidance, 26.
[61] C-98/03 *Commission v Germany* [2006] ECR I-00053. C-404/09 *Alto Sil* [2011] ECR I-11853.

2.4.4 Plans and projects

2.4.4.1 Appropriate assessment

Under Articles 6(3) and 6(4) of the Habitats Directive Member States are required to authorize plans or projects that are likely to have a significant effect on the SAC. Any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the SAC in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects.[62] Article 6(3) integrates the precautionary principle, as the absence of adverse effects must be demonstrated rather than their presence.[63]

Permission for plans and projects can only be granted if the appropriate assessment provides assurance that the plans and projects will not affect the characteristics of the SAC. The assessment must be made in light of the natural characteristics and specific environmental conditions of the area concerned by such a plan or project.[64] The ecological characteristics of a site and characteristics connected to the presence of a habitat type are deemed crucial.[65] The Commission has emphasized that 'whilst the focus should be on the species and habitats that have justified the site designation, it should not be forgotten that these also interact with other species and habitats, as well as the physical environment in complex ways.'[66]

If the appropriate assessment shows that significant effects cannot be excluded, the authorisation of the project or plan is only possible under strict conditions of Article 6(4) Habitats Directive, requiring that there are no alternatives, imperative reasons of overriding public interest and compensation occurs.[67] These provisions also relate to plans and projects situated outside SACs that could have significant effects, regardless of their distance from the site.[68]

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[62] C-127/02 *Waddenzee* [2004] par. 39–44 Backes et al., *Natuurbeschermingsrecht* (Sdu Uitgevers the Hague 2017), 121-123
[63] C-157/96 *The Queen v Ministry of Agriculture* [1998] ECR I-02211, para 63
[64] C-258/11 *Sweetman* [2013] par. 30 and case law cited.
[65] Ibid. C-308/08 *(Commission v Kingdom of Spain)* [2010] par. 2.10
[66] Article 6 Guidance, 48.
[67] Article 6(4) Habitats Directive
[68] Article 6 Guidance, 43.

2.4.4.2 The use of pesticides

An important question is if the use of pesticides, one of the main pressures for pollinators, constitutes a project under Article 6(3). Pesticides are used either outside SACs, but carried into the site through air or water, or even inside SACs, as approximately 40% of SACs are in agricultural use.[69] Evidence shows that pesticide use negatively affects biodiversity in neighboring conservation areas.[70] Nevertheless, under the Habitats Directive the use of pesticides has been largely overlooked, evidenced by only one case before the Court. In *Commission v Slovak Republic*, the Court ruled that Slovakia had failed to take appropriate steps to prevent deterioration, as pesticide use caused the significant decline of a protected (bird) species in twelve SACs.[71]

While it has been recognized that pesticides can affect SACs, thus far the implementation of Article 6(3) has largely excluded it from the authorisation of projects. Generally, Member States do not require a permit for the use of pesticides in or close to a SAC.[72] However, under Article 6(3), the meaning of a 'project' should be broadly interpreted and covers 'interventions' in the natural environment.[73] The size of the project is not relevant, as it does not in itself preclude the possibility that it is likely to have a significant effect on a protected site.[74] According to the Court, farming practices (grazing, manuring) can qualify as projects, if they potentially have a significant effect on an area.[75] Thus, also the use of pesticides can constitute a project in the sense of Article 6(3).

Nevertheless, even if it is acknowledged that the use of pesticides is a project, it is commonly excluded from the permit requirement. In the Netherlands, provinces have repeatedly argued that a permit for pesticide use in or close to a SAC is not required.[76] It is their view that, because the Dutch authority (Ctgb) assesses the effects of pesticides on the environment and a pesticide is only considered permissible if there are 'no unacceptable effects' on the environment, it can be assumed that there are also no significant effects on the

[69] Olmeda et al., *Farming for Natura 2000, Guidance on How to Support Natura 2000 Farming Systems to Achieve Conservation Objectives, Based on Member States Good Practice Experiences,* European Commission 2018
[70] Köthe et al. (n 9), 102.
[71] C-661/20 *Commission v Slovak Republic* [2022], para 111.
[72] Only Sweden, see PAN, *Monitoring EU SUD compliance in Sweden, Denmark, Poland, Germany, Italy and the Netherlands: PAN's suggestions for better future auditing and implementation* (PAN 2018), 15.
[73] Article 6 Guidance, p. 36. Joined Cases C-293/17 and C-294/17 *(Mobilisation for the Environment)* [2018].
[74] Joined Cases C-293/17 and C-294/17 *(Mobilisation for the Environment)* [2018], para 244
[75] Ibid, para 73
[76] The Court of Noord-Nederland, ECLI:NL:RBNNE:2021:2483 (18 June 2021). Also see RTV Oost, 'Pesticides in Natura 2000 areas: what will the Court of Zwolle rule', 25 April 2024 via: <https://www.rtvoost.nl/nieuws>

SAC.[77] This is incorrect. As will be discussed more extensively in the fourth chapter, the assessment relating to the authorisation of pesticides does not guarantee that their use is also considered to have no significant effects on SACs, especially considering that the condition 'no unacceptable effects' constitutes a different test than 'no significant effects' and the latter must always be assessed in light of the natural characteristics and specific environmental conditions of the area.[78] In 2021, the Court of Noord-Nederland has ruled accordingly that the use of pesticides in question constituted a project in the sense of Article 6(3) and that the assertion that pesticides are examined by the national authority for effects on the environment, is not sufficient to also conclude that there are no significant effects on a SAC.[79] Therefore, it should be assessed in an appropriate assessment if the use of pesticides significantly affects the site.

Recently, the Court of Overijssel ruled that there was no permit requirement for the use of pesticides next to a SAC, because the management plan mentioned that, under conditions of use, no significant negative effects on the conservation objectives were expected.[80] Since the use of pesticides is in accordance with the management plan, it is excluded from the permit requirement and the applicant could not raise arguments against the management plan.[81] This conclusion is based on the national provision which states that the permit requirement does not apply to projects described and realized in accordance with the management plan, if an appropriate assessment of the management plan has been carried out, which has provided assurance that the project described in the management plan will not adversely affect the natural characteristics of the SAC.[82]

It can be called into question if this assurance has been reached, as the management plan simply states 'that the use of pesticides is governed by legal frameworks. The effects of these agents on the environment have been taken into account in drafting these legal frameworks. (…) Therefore based on the conditions under which pesticides may be applied, no significant adverse effects on conservation objectives are expected.'[83] Again, there is an assumption that the existing legal framework on the authorisation (and use) of pesticides is sufficient to conclude that significant negative effects can be excluded. Again, this is

[77] Ibid.
[78] C-258/11 *Sweetman* [2013] par. 30 and case law cited.
[79] The Court of Noord-Nederland, ECLI:NL:RBNNE:2021:2483 (18 June 2021), par. 1.3 and 4.3.2
[80] The Court of Overijssel, ECLI:NL:RBOVE:2024:2943 (5 June 2024), para. 8.3
[81] Ibid, par. 8.5
[82] Article 2.9 Nature Protection Act. Also see Backes et al., *Natuur in de Omgevingswet* (Boom Juridisch the Hague 2024), 114
[83] The Court of Overijssel, ECLI:NL:RBOVE:2024:2943 (5 June 2024), para. 8.3

incorrect, firstly, because the legal frameworks contain a different test and secondly, because the appropriate assessment must be made in light of the natural characteristics and specific environmental conditions of the SAC.

2.5 Conclusion

Considering the vital pollination services pollinators deliver, it is remarkable that the narrative on the protection of pollinators under the Habitats Directive focuses primarily on the protection of habitats for their benefit to pollinators and not vice versa. As the decline of pollinators leads to a loss of wild flora, the obligations in Articles 6(1) and 6(2) to take conservation measures and measures to prevent significant deterioration may also extend to measures aimed at pollinators. Furthermore, as the use of pesticides can constitute a project under Article 6(3), if it could significantly affect the SAC, it must be subjected to an appropriate assessment. It is, however, incorrectly assumed by competent authorities that the authorisation of pesticides ensures that there are no significant effects on SACs. In conclusion, whilst establishing clear legal obligations for pollinators under the Habitats Directive is challenging, obligations under Article 6 may also extend to measures aimed at protecting pollinators.

3. Pollinator protection in the Nature Restoration Regulation

What are the forthcoming obligations regarding the protection of pollinators in the Nature Restoration Regulation?

3.1. Introduction

Following the growing body of scientific knowledge on the alarming decline of pollinators, as well as the importance of their pollination services, pollinators have been included in several European legislative and policy efforts. For a long time, specific targets for the protection and conservation of pollinators were only included in non-binding policy documents, such as the Biodiversity Strategies and the Pollinator Initiatives. This would change under the forthcoming legislation on nature restoration, as the proposal for a Nature Restoration Regulation introduces a legally binding provision specifically dedicated to the restoration of pollinators. This chapter will give an overview of the policy goals and future legal obligations.

3.2. Policy background

3.2.1 The Biodiversity Strategies

In 2002, the EU, as one of the parties to the Convention on Biological Diversity (CBD)[84], made the commitment to achieve a significant reduction of the current rate of biodiversity loss at a global, regional and national level by 2010. In order to fulfill its obligations under the CBD, the EU adopted the EU Biodiversity Strategy 2020.[85] The strategy included six targets to halt the loss of biodiversity and the degradation of ecosystem services. Pollinators were not explicitly mentioned, but different targets were considered beneficial to them, such as the target to fully implement the Habitats Directive and to increase agricultural biodiversity.[86] None of the six targets were fully achieved and progress was limited, partially due to the non-binding nature of the targets.[87]

The Biodiversity Strategy for 2030 contains an updated framework of actions and it includes a target specifically aimed at pollinators: the commitment to reverse the decline of

[84] Convention on Biological Diversity, Rio de Janeiro, 5 June 1992.
[85] Commission, 'Our life insurance, our natural capital: an EU biodiversity strategy to 2020', COM (2011) 244 final.
[86] Commission, 'Evaluation of the EU Biodiversity Strategy to 2020' COM (2022), 24
[87] Ibid 24, 157

pollinators by 2030.[88] Whilst the strategy is non-binding, two core legislative proposals regarding pollinators were tabled under it: the Nature Restoration Regulation and revised rules for the sustainable use of pesticides. After the Commission was called on to move away from voluntary commitments, it announced legally binding nature restoration obligations in a Nature Restoration Regulation.[89] Furthermore, the Commission announced a legal implementation of the objective to 'take action 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'.[90] The Commission also announced a Pollinator Monitoring Scheme.[91]

3.2.2 The EU Pollinators Initiatives

In 2018, the Commission published the EU Pollinators Initiative: the first coordinated EU action to address the decline of pollinators through an integrated approach.[92] The initiative acknowledged the severe decline in the biodiversity of pollinators and the need to take action. It set out a list of actions based on three priorities: improving knowledge about pollinator decline, addressing the causes of decline, and raising awareness. In 2020, the initiative was massively criticized by the European Court of Auditors (ECA), which argued that the Commission had not taken a consistent approach in protecting pollinators.[93] The ECA held that the majority of actions had a limited added value, as they constituted already existing policies or had already been carried out.[94] Other weaknesses included the Commission's failure to establish clear roles and responsibilities, monitoring and reporting procedures, and precise targets or criteria to measure any progress on the actions. It was recommended to better integrate the protection of pollinators in other legislation and improve the pesticide risk assessment.[95]

The revised EU Pollinators Initiative, or 'a new deal for pollinators,' was introduced in 2023.[96] It sets out a framework of actions and aims to improve the initial initiative.[97] Again it

[88] Commission, 'EU Biodiversity Strategy for 2030 – Bringing Nature Back in to Our Lives', COM (2020) 380 final
[89] European Parliament, 'Resolution of 9 June 2021 on the EU Biodiversity Strategy for 2030: Bringing nature back into our lives', 2020/2273 (INI).
[90] Commission (n 85)
[91] Ibid 17
[92] Commission, 'EU Pollinators Initiative', COM (2018) 395 final.
[93] European Court of Auditors, *Special Report Protection of wild pollinators in the EU — Commission initiatives have not borne fruit,* Special Report (2020) 15.
[94] Ibid 16
[95] Ibid 39
[96] Commission, 'Revision of the EU Pollinators Initiative: A new deal for pollinators', COM (2023)
[97] 35 final. Commission, 'Report on progress in the implementation of the EU Pollinators Initiative' COM (2021) 261 final.

can be criticized for lacking novel or transformative measures, as many actions are vague, such as 'the Commission will assess options' or 'the Commission will continue to monitor'. This raises the question whether the revised initiative sufficiently addresses the ECA report's recommendations on responsibilities, monitoring, and clear targets for progress.[98]

This is however intended to be solved by the Nature Restoration Regulation, which aims to strengthen the Pollinators Initiative by setting a legally binding target, yet providing Member States flexibility in how to achieve it.[99] As well as that, the Commission recalls its commitment to reduce the risk and use of pesticides by 50% by 2030, announcing the implementation of this target in the Regulation on the Sustainable Use of Plant Protection Products (SUR).[100] Thus, also in the revised Pollinators Initiative, the core proposals for pollinators are the Nature Restoration Regulation, which will be discussed in the following paragraph, and revised rules for the sustainable use of pesticides, which will be discussed in chapter four.

3.3. the Nature Restoration Regulation

3.3.1 Introduction

In June 2022, the Commission published the proposal for a Regulation on nature restoration with the objective of strengthening the legal framework for nature restoration in the EU.[101] In the interinstitutional negotiations an agreement was reached, which weakened several provisions.[102] In February of 2024, the European Parliament adopted the agreement.[103] On the 17th of June 2024, the Nature Restoration Regulation was formally adopted by the Council, completing the legislative process.[104] The Nature Restoration Regulation will be directly applicable in all Member States after it has been published and has entered into force.

The Nature Restoration Regulation complements the existing legislation regarding biodiversity, water and climate change and forms the legal implementation of the Biodiversity Strategy 2030 and the CBD.[105] The main objectives are the restoration of degraded ecosystems in Europe, achieving the climate change objectives and the international

[98] See actions 6.1, 6.2, 6.3. Commission (n 95)
[99] Ibid
[100] Ibid
[101] Commission, 'Proposal for a Regulation of the European Parliament and of the Council on nature restoration', COM (2022) 304 final *(Proposal)*
[102] General Secretariat of the Council, 'Final compromise text', COD (2022) 0195 *(Final text)*
[103] European Parliament, legislative resolution of 27 February 2024 on the proposal for a regulation of the European Parliament and of the Council on nature restoration COM (2022) 0304
[104] Council of the EU, *Nature restoration law: Council gives final green light (*17 June 2024), via: www.consilium.europa.eu
[105] Article 1 Final text

commitments.[106] It establishes a framework within which Member States shall put in place effective and area-based restoration measures which together shall cover, by 2030, at least 20% of the Union's land and sea areas and, by 2050, all ecosystems in need of restoration.[107]

3.3.2 Content

To achieve the main objectives, the Nature Restoration Regulation sets multiple restoration-oriented binding targets and obligations for six different ecosystems: terrestrial, coastal- and freshwater systems, marine ecosystems, urban ecosystems, rivers and related floodplains, agricultural ecosystems and forest ecosystems. In addition, the proposal includes a binding target to reverse the decline of pollinators. The Nature Restoration Regulation sets targets, deadlines and monitoring obligations, but does not dictate to Member States where and how they should meet the targets. Member States shall develop their own national restoration plans that describe, inter alia, the areas to be restored and the recovery measures that will be implemented.[108] The national restoration plans allow Member States to take into account the specific circumstances on their own territory. Member States will submit the plans to the Commission, which will assess their adequacy and effectiveness and address observations which the Member States shall take account of.[109]

3.3.3 Obligations for pollinators

3.3.4.1 Introduction

The Nature Restoration Regulation is the first legislation introducing a legally binding obligation explicitly dedicated to pollinators. Member States are to reverse the decline of pollinator populations by 2030. Furthermore, Member States must monitor the abundance and diversity of pollinator species. Moreover, obligations regarding agricultural ecosystems will have to be measured using the Grassland Butterfly Index. The Nature Restoration Regulation is also the first legislation including definitions for 'pollinators' and 'pollinator decline'. A pollinator is defined as 'a wild insect which transports pollen from the anther of a plant to the stigma of a plant, enabling fertilization and the production of seeds.'[110] This

[106] Article 1(1) Final text
[107] Article 1(2) Final text
[108] Article 14-15 Final text
[109] Article 17 Final text
[110] Article 3(12) Final text

definition includes insects such as bees, hoverflies, butterflies and moths.[111] The decline of pollinator populations is defined as a 'a decrease in abundance or biodiversity, or both, of pollinators.'[112] The next section will set out the obligations and provisions in the Nature Restoration Regulation that are relevant for pollinators.

3.3.4.2 Reversing the decline

Article 10 of the Nature Restoration Regulation has been dedicated to the restoration of pollinators.[113] Article 10(1) states that 'Member States shall, by putting in place in a timely manner appropriate and effective measures, improve pollinator diversity and reverse the decline of pollinator populations at the latest by 2030 and thereafter achieve an increasing trend of pollinator populations, measured at least every six years from 2030, until satisfactory levels are achieved, as set in accordance with Article 14(5).' Compared to the Commission proposal, the wording of this provision has been slightly altered as the phrase 'by timely putting in place appropriate and effective measures' has been added.[114] The new formulation raises the question if the provision constitutes an obligation of conduct rather than an obligation of result. Nonetheless, the text still clearly states that Member States shall (improve pollinator diversity and) reverse the decline of pollinator populations. In my view, this should still be interpreted as an obligation of result.

Article 14(5) indicates that Member States shall set by 2030 at the latest 'the satisfactory level' through an open and effective process and assessment, based on the latest scientific evidence. Member States are free to decide what constitutes the satisfactory level, but the margin of discretion is not entirely unlimited as it must be supported by recent scientific evidence. The Commission also intends to adopt guiding frameworks for setting the satisfactory level, but guiding frameworks are not binding.[115]

Taking into account that it is an obligation of result, Article 10(1) can be viewed as rather strict, considering that reversing the alarming decline of pollinators might constitute a significant challenge. However, considering the overall aim to *restore* nature, reversing the decline is the absolute minimum required. In addition, as Member States have discretion in setting their own satisfactory level, the obligation is not exceptionally strict. The Commission

[111] Commission (n 30)
[112] Article 3(3) Final text
[113] Article 10 Final text
[114] Article 8 Proposal
[115] Article 20(11) Final text

considers this target feasible, as well-established restoration actions are available.[116] Member States are also free to decide how to reach the target, as it is up to them to decide which measures to implement when and where. The Commission considers that reaching the target will require sufficient increases in pollinator-friendly habitats and actions to reduce pressures, such as pesticide use. These actions will synergise with and complement actions under other obligations relating to terrestrial and agricultural ecosystems.[117]

3.3.4.3 Restoration of agricultural ecosystems

In addition to Article 10, the inclusion of the Grassland Butterfly Index in the obligations regarding the restoration of agricultural ecosystems in Article 11 is also relevant.[118] The Grassland Butterfly Index is an existing monitoring system, considered to be one of the status indicators on biodiversity in Europe. It measures population trends of 17 butterfly species in 19 Member States.[119] Between 1991 and 2018, the Grassland Butterfly Index showed a significant decline of 25%.[120] The Grassland Butterfly Index is included in Article 11 because grasslands are a major land-cover type in agricultural areas and key habitats for butterflies, and butterflies are excellent indicators of habitat quality and biodiversity.[121] As pollinators, butterflies support wild plant conservation, crop production, and the survival of animals.

Article 11(1) requires Member States to put in place restoration measures necessary to enhance biodiversity in agricultural ecosystems, taking into account climate change, the social and economic needs of rural areas and the need to ensure sustainable agricultural production in the Union. Article 11(2) states that Member States shall put in place measures which shall aim to achieve an increasing trend at national level of at least two out of the three of the following indicators in agricultural ecosystems, until the satisfactory levels are reached.[122] One of the indicators is the (a) grassland butterfly index. The other two indicators are (b) stock of organic carbon in cropland mineral soils and (c) share of agricultural land with high-diversity landscape features. The latter can also be considered beneficial to pollinators. The satisfactory levels are identified in accordance with Article 14(5). Equal to Article 10(1), Member States are free to set their own satisfactory level through an open

[116] Impact Assessment
[117] Ibid
[118] Article 11 Final text
[119] Impact assessment
[120] EEA, 'Grassland butterflies – population index 1991-2018' via: https://www.eea.europa.eu/data-and-maps
[121] Impact Assessment. Also see Thomas et al., 'Comparative losses of British butterflies, birds, and plants and the global extinction crisis.' (2004) 303 *Science*, 1879
[122] Article 11 Final text

and effective assessment process and based on the latest scientific evidence. The Commission may adopt implementing acts to specify the methods for monitoring the indicators.[123]

Article 11(2) has been weakened compared to the Commission proposal, as it was first required to achieve an increasing trend in all three indicators, and now only two out of three. It is possible that Member States choose not to achieve an increasing trend in the Grassland Butterfly Index. Nevertheless, in practice, it can be expected that Member States will implement measures which are directed at all three indicators. However, as will be discussed in the next paragraph, Member States are also only required to monitor two out of three indicators and can thus decide to completely neglect the Grassland Butterfly Index.

3.3.4.4 Monitoring and coordination

Although the Habitats Directive requires periodic surveying and reporting on the condition of the habitats, no Member State currently surveys pollinator species.[124] Article 10(2) of the proposal states that the Commission is empowered to adopt delegated acts by establishing and updating a science-based method for monitoring pollinator diversity and pollinator populations. Article 10(3) elaborates that the monitoring method shall provide a standardized approach for collecting annual data on the abundance and diversity of pollinator species and for assessing pollinator population trends and the effectiveness of restoration measures.[125] This refers to the monitoring method that is being developed under the Pollinators Initiative, which was intended to be in place by 2024. Article 10(4) states that the monitoring data should come from an adequate number of sites to ensure representativeness across their territories and that the use of citizen science should be promoted.[126] Article 20 of the proposal sets out all monitoring obligations. Under Article 20(1) Member States shall monitor the abundance and diversity of pollinator species, in accordance with Article 10(2) and the indicators of biodiversity in agricultural ecosystems.[127]

An important addition compared to the Commission proposal, is Article 10(5), which states that 'the Commission and the relevant Union agencies, in particular the EEA (European Environment Agency), the EFSA (European Food Safety Authority) and the ECHA (European Chemicals Agency), shall, in accordance with their respective mandates, coordinate their activities concerning pollinators and provide information to support Member

[123] Article 20(11) Final text
[124] Impact Assessment
[125] Article 10(4) Final text
[126] Article 10(4) Final text
[127] Article 20(1)(c) and 20(1)(g) Final text

States in the fulfilment of their obligations under this Article upon their request.'[128] To this end, the Commission shall set up a dedicated task-force and disseminate in a coordinated manner relevant information and expertise to the Member States. This coordination obligation is extremely important, as the EU has been criticized for not sufficiently integrating pollinator protection in other policies, such as the pesticides risk assessment, which is the responsibility of the EFSA. Article 10(5) essentially includes an obligation for the Commission and other EU agencies to improve pollinator protection in all their activities, thereby supporting Member States in achieving the obligations under Article 10(1).

3.4 Conclusion

The EU has been criticized for not taking a consistent approach to protect pollinators. The revised Pollinators Initiative intends to address the identified issues and improve the protection of pollinators. The core proposals to reach the objective to reverse the decline of pollinators by 2030 are the Nature Restoration Regulation and revised rules for the sustainable use of pesticides. The Nature Restoration Regulation introduces for the first time legally binding obligations specifically addressed at the protection of pollinators. The three most important provisions for pollinator protection are the legal obligation for Member States to reverse the decline of pollinators by 2030, the obligations regarding the monitoring of pollinators and the obligation for the Commission and European agencies to coordinate their activities concerning pollinators.

[128] Article 10(5) Final text

4. Pollinator protection in the regulation of PPPs

How are PPP regulated in the EU and how are environmental objectives, in particular regarding pollinators, currently embedded in the PPP-legislation?

4.1. Introduction

The EU has been criticized for its inconsistent approach in the protection of pollinators, especially regarding pesticides, or Plant Protection Products (PPPs). Despite the recurring goal to reduce the impacts of pesticides on the environment through an overall reduction[129], pesticide sales in the EU have remained stable and environmental harm persists.[130] As a growing number of scientific studies indicate that pesticides negatively impact pollinators' biodiversity, the question can be raised why this is not prevented by the legislation on PPPs that is supposed to ensure a high level of protection for the environment.[131] This chapter will discuss how PPPs are regulated in the EU, focusing on the two main legislations currently in place, the PPP Regulation[132] and the SUD[133], and how environmental and biodiversity objectives are currently embedded in PPP legislation, particularly regarding pollinators.

4.2. the PPP Regulation

4.2.1 Subject, legal basis and aim

In the EU, PPPs can only be authorised and placed on the European market following risk assessments in a dual approval process. First, the active substance in the product is approved at EU level and second, the final product is authorised at Member State level. At both stages, a risk assessment must show that a PPP meets the approval requirements. This process has been laid down in Regulation No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market (PPP Regulation). The PPP Regulation has a dual objective: first, it aims to ensure a high level of protection of both human and animal health and the environment, and second, it aims to improve the functioning of the internal market through the harmonisation of rules concerning

[129] *Sixth Environment Action Programme,* Decision No 1600/2002/EC [2002], OJ L 242.
[130] Heinrich-Böll-Stiftung et al. (n 11) 14. Geiger et al. (n 3).
[131] Geiger et al. (n 3). Ollerton et al. (n 4). Rodger et al. (n 41).
[132] Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC *(PPP Regulation)*
[133] Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides *(SUD).*

the placing on the market of PPPs, while improving agricultural production.[134] The legal basis of the PPP Regulation is the implementation of the internal market, a common agricultural policy, and the protection of human health.[135] Within the PPP Regulation it is important to differentiate between the risk assessors, such as the EFSA, and the risk managers, such as the Commission. Risk assessors provide the scientific grounds to inform the decision-making process of risk managers.

4.2.3 Active substances

4.2.3.1 Approval of active substances

In the approval process, first, the active substance must be approved at EU level. These are substances having 'a general or specific action against harmful organisms or on plants'.[136] Article 4 sets out the requirements and conditions for approval. An active substance shall be approved if it may be expected, in the light of current scientific and technical knowledge, that, taking into account the approval criteria of Annex II, the product containing the active substance meets the requirements provided for in paragraphs 2 and 3.[137] Annex II contains requirements relating to the assessment, for example that the scientific evaluation is based on scientific principles, and the content of the dossier applicants must deliver, such as that it must contain tests on ecotoxicology.[138] Articles 4(2) and 4(3) contain various conditions that the residue and the PPP containing the active substance are required to comply with, inter alia that it shall not have any harmful effect on human health and environmental considerations, which will be discussed in paragraph 4.2.2.3.

Under Article 4(3), the PPP is tested according to the application consistent with good practice and realistic conditions of use. The approval may be subject to conditions and restrictions of use, for example regarding the manner and conditions of application, categories of users or designation of areas where the use is allowed.[139] Accordingly, the approval of an active substance may be subject to restrictions to permit substances which do not fulfil the approval requirements, when the restrictions can exclude problematic uses. This must be established beyond a reasonable doubt.[140]

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[134] Article 1(3) PPP Regulation
[135] Articles 114, 43, 168 TFEU. Pallemaerts, *Toxics and Transnational Law: International and European Regulation of Toxic Substances as Legal Symbolism* (Hart Publishing Oxford 2003) 600.
[136] Article 2(2) PPP Regulation. C-616/17 *Blaise* [2019], para 54
[137] Article 4 PPP Regulation
[138] Annex II 3.6, 3.7 and 3.8 PPP Regulation
[139] Article 6 PPP Regulation
[140] Joined cases T-429/13 & T-451/13 *Bayer CropScience AG and Others* [2018] C 231/18, par. 131. T-229/04 *Sweden v Commission* [2017], par. 169-170.

4.2.3.2 Procedural rules for approval

The application for the approval of an active substance is submitted by the applicant to a Member State. The applicant delivers a complete dossier, demonstrating that the active substance fulfils all criteria.[141] One rapporteur Member State examines if the application contains all the elements and starts the full assessment.[142] The rapporteur makes an independent, objective and transparent assessment in light of current scientific and technical knowledge.[143] It submits a draft report to the Commission and the EFSA, which adopts a conclusion on whether the active substance can be expected to meet all approval criteria.[144] The Commission takes a decision based on EFSA's opinion, and may take into account 'other factors legitimate to the matter under consideration' as well as the precautionary principle.[145] The Commission represents a review report in which it adopts an approval or non-approval or sets conditions of use.[146] The first approval is given for a period not exceeding 10 years, but the approval may be reviewed at any time, if there are indications that the active substance no longer satisfies the approval criteria.[147]

4.2.4 PPPs

4.2.4.1 Authorisation of PPPs

After the approval of the active substance, a PPP cannot be placed on the market yet. A second stage of approval at Member State level is necessary because a product contains various substances that may have different effects together than the active substance alone.[148] Again, the applicant must demonstrate that the PPP meets the approval criteria. Under Article 28(a) a PPP shall not be placed on the market or used, unless it has been authorised in the Member State concerned, with the exception of certain situations laid down in Article 28(b). Article 29 states that a PPP shall only be authorised where it complies with the requirements that inter alia (a) its active substances, safeners and synergists have been approved. Article 29(1)(e) also states that it can only be approved if in the light of current scientific and technical knowledge, the PPP complies with the requirements provided for in Article 4(3). Consequently, the same requirements apply for PPPs as for active substances.

[141] Articles 7-8 PPP Regulation
[142] Article 9(3) PPP Regulation
[143] Article 11 PPP Regulation
[144] Article 12 PPP Regulation
[145] Article 13 PPP Regulation
[146] Article 13 PPP Regulation
[147] Article 21 & 5 PPP Regulation
[148] de Vries-Stotijn, 'De Europese gewasbeschermingsmiddelen verordening', in: *Milieuproblemen in de landbouw: Falend omgevingsrecht en mogelijke oplossingen* (Boom Juridisch 2019) 179.

4.2.3.2 Procedural rules for authorisation

The authorisation of PPPs takes place via a zonal system, dividing Member States into three zones.[149] The applicant submits the application to all Member States where the PPP is intended to be placed on the market, but only one rapporteur Member State carries out the assessment for the entire zone.[150] Again, the rapporteur makes an independent, objective and transparent assessment in light of current knowledge.[151] National authorities need to apply the harmonised requirements, which set out how the effects need to be assessed and evaluated. The other Member States in the zone shall not conduct their own assessment, but shall grant or refuse the authorisation based on the conclusions of the rapporteur, with certain exceptions.[152] Additionally, under the mutual recognition procedure, Member States shall authorize a PPP, as appropriate regarding the circumstances in its territory, under the same conditions as a Member State which has previously examined the application.[153] Thus, the authorisation of a PPP must, in principle, be accepted by the other Member States within the zone.

4.3 Environmental considerations in the PPP Regulation

4.3.1 A high level of protection

In general, on the basis of Article 191(2) TFEU, all EU environmental policy shall aim at a high level of protection of the environment. The legal basis of the PPP Regulation is, however, not the protection of the environment. Nevertheless, it follows directly from Article 1 of the PPP Regulation and the preamble that the purpose is 'to ensure a high level of protection of both human and animal health and the environment'.[154] Moreover, the Court has confirmed that 'the provisions of the PPP Regulation are based on the precautionary principle, which is one of the bases of the policy of a high level of protection pursued by the EU in the field of the environment.'[155] Therefore, the objective of a high level of protection for the environment does apply. It is not further specified in the PPP Regulation which level of protection is desired. The Court has ruled that the level does not necessarily have to be the highest level that is technically possible, but should nevertheless be high.[156]

[149] Annex I PPP Regulation
[150] Articles 35 and 36 PPP Regulation
[151] Ibid.
[152] Article 36 PPP Regulation. This will be further discussed in the fifth chapter.
[153] Articles 40-41 PPP Regulation
[154] Preamble 8 PPP Regulation
[155] C-162/21 *Pesticide Action Network Europe ASBL and Others v. État belge* (2023), para 46-47
[156] C-341/95 *Bettati v Safety Hi-Tech* (1998), para 47.

4.3.2 The precautionary principle

The precautionary principle plays a key role in PPP legislation. It follows from the preamble and Article 1(4) of the PPP Regulation that it is underpinned by the precautionary principle in order to ensure that active substances or products placed on the market do not adversely affect human or animal health or the environment.[157] In addition, Member States shall not be prevented from applying the precautionary principle where there is scientific uncertainty as to the risks posed by the PPPs to be authorised in their territory.[158] All decisions adopted on the basis of the PPP Regulation are *ipso jure* founded on the precautionary principle.[159]

The precautionary principle is codified in Article 191(2) TFEU.[160] Therefore all European institutions are legally obliged to base their policies on the precautionary principle in order to ensure a high level of environmental protection.[161] When a Member State acts in a field covered by European legislation explicitly incorporating the precautionary principle, such as the PPP Regulation, it must also give effect to the precautionary principle.[162] The Court has defined the precautionary principle as meaning that "where there is uncertainty as to the existence or extent of risks (…), the institutions may take protective measures without having to wait until the reality and seriousness of those risks become fully apparent."[163]

4.3.3 Conditions of approval

In order to reach a high level of protection, environmental considerations have been embedded in the conditions of approval. Article 4(2) states that the residues of a PPP, consequent on application consistent with good practice and having regard to realistic conditions of use (a) shall not have any harmful effects on human health, animal health or on groundwater and (b) shall not have any unacceptable effect on the environment. Furthermore, Article 4(3) contains an extensive list of requirements for the PPP itself. Following consequent application consistent with good practice and realistic conditions of use, under Article 4(3)(e) the PPP shall not have any unacceptable effects on the environment. Particular regard should be had to the following considerations where the scientific methods to assess

[157] Preamble 8 PPP Regulation
[158] Article 1(2) PPP Regulation
[159] Joined cases T-429/13 *Bayer CropScience AG* and T-451/13 *Syngenta Crop Protection AG*, [2018] C 231/18, para 339
[160] 191(2) TFEU
[161] Douma, *The precautionary principle – its application in international, European and Dutch law* (University of Groningen 2003), 39.
[162] Ibid 39. C-127/02 *(Wadden Sea)* [2004].
[163] C-616/17 *(Blaise)* [2019], para 43

such effects are available: (i) the fate and distribution of the PPP in the environment and in particular contamination of water, (ii) the impact on non-target species, including on behaviour and (iii) its impact on biodiversity and the ecosystem. Because article 4(3)(e) states that 'where the scientific methods (…) are available', there is a possibility that scientific methods are non-existent and therefore scientific knowledge is incomplete.[164] Article 29, regarding the rules of the authorisation of PPP, states that a PPP can only be approved if it complies with the requirements in Article 4(3). Thus, in both stages, the risk assessment should prevent active substances and PPPs that are considered to have unacceptable effects on the environment from being authorised. Consequently, the legal requirement for a PPP is that it shall have no unacceptable effects on the environment. What this means exactly is not defined in the PPP Regulation.

4.4. Pollinator protection in the PPP Regulation

4.4.1 Special protection goals

According to the EFSA the requirement of no unacceptable effects constitutes a generic protection goal, which must be translated into specific protection goals (SPGs).[165] The EFSA has established SPGs using a methodology based on ecosystem services. SPGs are then linked to the risk assessment schemes in EFSA's guidance documents, which verify the compliance of substances or PPPs with the SPGs.[166] The SPGs support the risk managers in their decision-making about what needs to be protected and to which extent.

SPGs for pollinators were first defined in the 2013 Bee Guidance, in consultation with Member States.[167] The Bee Guidance also contain information on how to execute laboratory tests and semifield trials, with the aim to better incorporate the effects on bees into the risk assessment of PPPs. The SPGs define the magnitude of effects that must be met to preserve the ecosystem services pollination, the production of hive products and biodiversity, and thus for the effects to be considered acceptable.[168] In the 2013 Bee Guidance, the SPGs for honeybees have been defined in a percentage of a colony size affected, corresponding to a value of 7% as the maximum permitted level of colony size reduction following pesticide

[164] Illustrated by EFSA, 'Peer review of the pesticide risk assessment of the active substance glyphosate'(26 July 2023), *EFSA Journal* containing significant gaps regarding the effects on wild pollinators and accumulative effects as these risk assessments were not available.
[165] EFSA, 'Guidance to develop specific protection goals options for environmental risk assessment at EFSA, in relation to biodiversity and ecosystem services' [2016] 14(6), *EFSA Journal*, 1–50 *(Guidance SPGs)*
[166] Ibid
[167] EFSA, 'Guidance on the risk assessment of plant protection products on bees (Apis mellifera, Bombus spp. and solitary bees)' [2013] 11(7):3295, *EFSA Journal,* 1-268 *(Bee Guidance 2013)*
[168] Guidance SPGs

exposure.[169] This is considered to be a negligible effect. In the revised 2023 Bee Guidance, the SPGs for honeybees were weakened to 10% of colony size reduction.[170]

For wild bees there is 'undefined threshold approach' because of the absence of robust evidence.[171] Honeybees are used as surrogates for wild bee species, although it is not possible to read across from honeybees to other species of bees.[172] Also the requirements for assessing ecotoxicology only relate to honeybees.[173] NGO's have argued that the maximum reduction level of 10% is too high. Especially for wild pollinators the acceptable level should be closer to 0%.[174] In general, these SPGs are criticized for failing to sufficiently safeguarding wild pollinators, because there is an underlying assumption that PPPs that individually pass the tests and comply with the SPGs are deemed "safe" for the environment, even though there is no guarantee that there will still be considerable adverse effects.[175]

However, a major issue is that both Bee Guidance have never been fully endorsed by Member States, which have taken the position that they are too strict and unworkable. The Commission stated in 2019 regarding the 2003 guidance that it cannot rely on it for decisions of authorisation or approval, until it is endorsed by Member States.[176] As a result, a 2002 guidance on ecotoxicology, based on outdated science, has remained the basis for conducting the risk assessments.[177] Thus, whilst the meaning of the legal requirement of no unacceptable effects has been filled in by SPGs setting a certain colony size reduction percentage, the guidance containing the SPGs are non-binding and it is uncertain to what extent they are used.

4.4.2 Current scientific and technical knowledge

An important question is to what extent current scientific and technical knowledge must be taken into account. Both Article 4 and Article 29(e) contain the phrase 'in the light of current scientific and technical knowledge'. Article 36(1) furthermore states that 'Member States

[169] Bee Guidance 2013, 101
[170] EFSA, 'Revised guidance on the risk assessment of plant protection products on bees (Apis mellifera, Bombus spp. and solitary bees)' [2023] 21(5):7989, *EFSA Journal*, 1-133 *(Bee Guidance 2023)*
[171] Bee Guidance 2013, 98 and Bee Guidance 2023, 71.
[172] Bee Guidance 2013, 12
[173] Annex II 3.8.3 PPP Regulation
[174] Letter on the definition of the level of Specific Protection Goals and risk assessment of pesticide effects on bumble bees and solitary bees, via https://www.pollinis.org/admin/wp-content/uploads/2022/07/20220706
[175] Brühl & Zaller, 'Biodiversity Decline as a Consequence of an Inappropriate Environmental Risk Assessment of Pesticides', (2019)7:177, *Front. Environ. Sci.* Nicholson et al., 'Pesticide use negatively affects bumble bees across European landscapes' (2024)628, *Nature*, 355
[176] Response to Greenpeace and others from Commissioner Vytenis Andriukaitis (2019), Ref. Ares(2019)1023655, via: https://www.greenpeace.org/response-commissioner-andriukaitis-bees-pesticides.pdf
[177] Commission, 'Guidance Document on Terrestrial Ecotoxicology Under Council Directive 91/414/ EEC', SANCO/10329/2002-rev. 2 final (17 October 2002) *(Ecotoxicology Guidance 2002)*

shall make the assessment in the light of current scientific and technical knowledge using guidance documents available at the time of application.' The recent case *PAN Europe (Closer)* highlights the practical implementation of these provisions. The Ctgb, the Dutch risk manager, extended the authorisation for a PPP, which was assessed in 2016 on the basis of the 2002 guidance.[178] The PPP was considered dangerous to (bumble)bees, but was authorised under restrictions of use. PAN Europe argued that the authorisation should have been refused due to the disregard of the 2013 guidance, but the Ctgb argued that this guidance was not 'available' within the meaning of Article 36(1), since it has yet to be formally adopted.[179] The Court had to consider if under the PPP Regulation, Member States are required to only take into account guidance documents that have been officially adopted, or if Member States must take into account all scientific and technical knowledge, including that which is not contained in guidance documents.[180]

The Court ruled that it follows from both Article 29 and Article 36(1), that it is the duty of the competent authorities to take account of the most reliable scientific data available and the most recent results of international research.[181] Nowhere does the PPP Regulation indicate that only certain categories of scientific or technical knowledge, according to the source thereof or the time when that knowledge became available, must be taken into account.[182] The reference in Article 36(1) to 'guidance documents available' does not lead to the inference that Member States must limit the risk assessment to available guidance documents, where they consider that such documents do not sufficiently reflect current scientific and technical knowledge.[183] Even in the complete absence of guidance documents, Member States must still be able to carry out a risk assessment, using the most recent information and research available.[184]

According to the Court, this is not only borne out of the objective of the PPP Regulation, but also the precautionary principle.[185] While the Court does not go as far as saying this, it can be considered in conflict with the precautionary principle if the national authorities disregard the most recent guidance, as the precautionary principle militates in

[178] C-308/22 *PAN Europe (Closer)* [2024], para 33
[179] Ibid para 36-37
[180] Ibid para 43
[181] Ibid para 90
[182] Ibid para 91
[183] Ibid para 93
[184] Ibid para 94
[185] Ibid para 102

favour of taking into account all available scientific and technical knowledge.[186] It is anticipated that this ruling will drastically alter how national authorities assess PPPs.

4.4.3 The socially acceptable risk approach

Essentially, as the SPGs are non-binding, it is up to the risk managers to define the meaning of unacceptable effects. As the meaning of 'unacceptable' is highly subjective, it raises the question 'acceptable to whom or what?'. The environment and its non-human components are not able to accept or reject an effect. Acceptance of effects is something only humans can do.[187] Therefore, the acceptability of an effect clearly involves societal values and is a social construct.[188] Deciding which effects or which level of risk of certain effects is acceptable is eminently a political responsibility, requiring a political decision instead of a decision purely based on objective scientific considerations.[189] The concept of no unacceptable effects thus implies a political decision and a judgment.

Leonelli calls this the 'socially acceptable risk approach'.[190] This approach is deeply reflected within the PPP Regulation. It is also illustrated by the fact that the Commission, in its final decision of approval of active substances, may take into account other factors legitimate to the matter under consideration and the precautionary principle.[191] The risk manager must weigh the risk against other factors such as the public perception of risk, sustainability goals and consumer protection.[192] The Commission has sufficient legal grounds to refuse the approval, regardless of the scientific outcome of the risk assessment.

The approach can also be found within the precautionary principle, as is illustrated in the neonicotinoids case. In 2013, the Commission reviewed and restricted three active substances, also called neonicotinoids, basing its decision on the precautionary principle.[193] In the case *Bayer CropScience,* after analyzing the risk assessment and the decision, the Court concluded that the Commission was fully entitled to adopt precautionary measures,

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[186] also see Opinion A-G, para 74
[187] Crane & Giddings, ''Ecologically acceptable concentrations' when assessing the environmental risks of pesticides under European Directive 91/414/EEC' (2004)10 *Human and Ecological Risk Assessment,* 1-15
[188] Ibid
[189] Leonelli, 'The glyphosate saga and the fading democratic legitimacy of European Union risk regulation' (2018) 25(5), *Maastricht Journal of European and Comparative Law,* 601
[190] Ibid
[191] Article 13(2) PPP Regulation
[192] Leonelli (2018) (n 186)
[193] Commission, 'Commission Implementing Regulation (EU) No 485/2013 of 24 May 2013 amending Implementing Regulation (EU) No 540/2011, as regards the conditions of approval of the active substances clothianidin, thiamethoxam and imidacloprid, and prohibiting the use and sale of seeds treated with plant protection products containing those active substances', (2013), OJ L 139/12

without having to wait for certain conditions to be established.[194] According to the Court, on the basis of the precautionary principle, the responsibility for determining the level of risk which is deemed unacceptable for society lies with the institutions responsible for the political choice of determining an appropriate level of protection for society.[195]

Consequently, it is up to them to determine the critical probability threshold for adverse effects on public health, safety and the environment and for the degree of those potential effects which, in their judgment, is no longer acceptable for society and above which it is necessary, in the interests of protecting public health, safety and the environment, to take preventive measures in spite of the existing scientific uncertainty.[196] The ruling of the Court also confirms the view of the Commission, which held that deciding the acceptable level of risk for society is an eminently political responsibility. The institutions must take all factors into account, which might also result in the conclusion that the right answer is to refrain from action.[197]

Indeed, even in situations where there is no scientific uncertainty that environmental damage will occur or a quantifiable risk exists and where actually the prevention principle applies, it is still a political decision whether or not to prevent this damage.[198] Consequently, also when the precautionary principle applies, a political decision remains. However, this political decision is not entirely unlimited. In determining the level of risk deemed acceptable or unacceptable for society, the institutions are bound by their obligation to ensure a high level of protection of the environment.[199] More importantly, where there exist legal obligations that indicate that this particular type of environmental harm is to be avoided, a different conclusion must be reached.[200] In parallel, this applies to the requirement of unacceptable effects. If legal obligations indicate that a particular type of environmental harm is to be avoided, such effects are deemed unacceptable. This will be further discussed in the next chapter.

[194] Joined cases T-429/13 *Bayer CropScience AG* and T-451/13 *Syngenta Crop Protection* AG, [2018] C 231/18, para 101, 500
[195] Ibid para 122
[196] Ibid para 122
[197] Commission, Communication on the precautionary principle, Brussels COM(2000) 1 final, 3
[198] Douma (n 159) 241
[199] Joined cases T-429/13 *Bayer CropScience AG* and T-451/13 *Syngenta Crop Protection AG,* [2018] C 231/18, para 122
[200] Douma (n 159) 241

4.5. The Sustainable Use of Pesticides Directive

4.5.1 The SUD

Next to the authorisation and entrance to the market, also the use of PPPs is regulated. In 2009, simultaneously with the PPP Regulation, Directive 2009/128/EC establishing a framework for Community action to achieve the sustainable use of pesticides (SUD) entered into force. The legal basis for the SUD is Article 192 of the TFEU, which empowers the European Union to take action to preserve, protect and improve the quality of the environment and to protect human health. The subject of the SUD is to achieve a sustainable use of pesticides by reducing the risks and impacts of pesticide use on human health and the environment and promoting the use of integrated pest management (IPM) and alternative approaches, such as non-chemical alternatives.[201]

4.5.2 Environmental considerations

While the SUD does not directly address pollinators, it does contain measures to reduce the effects on the environment in general. The most important legal provisions are Article 4, 12 and 14. Article 4 of the SUD requires Member States to adopt National Action Plans (NAPs) for the establishment of quantitative objectives, targets, measures and timetables aimed at reducing the risks of PPPs. Article 12 requires that the use of pesticides is minimized or prohibited in certain specific areas, which includes inter alia areas such as public parks, gardens, sports- and school grounds and the protected areas as defined in the Birds and Habitats Directives. Article 14 requires Member States to take all necessary measures to promote low pesticide-input pest management, giving wherever possible priority to non-chemical methods. Accordingly, professional users of pesticides should switch to practices with the lowest risk to the environment, which is available.

It follows from this that the SUD contains important environmental objectives, regarding protected areas and promoting the most environmental friendly practices. However, evaluations of the SUD have pointed to its limited success in achieving the main objectives of a reduction in pesticide use and the promotion of low-risk alternatives.[202] There has been limited progress in measuring and reducing the risks of PPPs, enforcement is weak and

[201] Article 1 SUD
[202] Helepciuc et al. 'Towards Sustainable European Agriculture? Assessing the EU's Progress in Limiting the Negative Ecological Effects of Agriculture on Aquatic Environments' (2023)15(4), *Diversity*

compliance checks are limited.[203] Moreover, the majority of NAP's lack ambition and fail to define ambitious reduction targets.[204]

4.5.3 Proposal SUR

As the SUD has been ineffective in reducing the risk and impact of PPPs, it was intended to be replaced by the proposed Regulation on the sustainable use of plant protection products (SUR). [205] The SUR would require Member States to contribute collectively to achieving a 50% EU-wide reduction in both the use and risk of chemical PPPs and the use of more hazardous PPPs by 2030, compared to the average of 2015, 2016 and 2017.[206] Each year, the Commission would calculate EU and national 2030 reduction targets trends and publish them.[207] In addition, the use of PPPs would be prohibited in sensitive areas and within 3 metres of those areas, with a possibility to establish larger buffer zones.[208] This obligation would be stricter than the provision in the SUD, which requires Member States to 'minimize or prohibit' PPPs in certain areas. It would extend to 'ecologically sensitive areas', including areas that would be designated in the future for the monitoring of pollinators, sustaining one or more pollinator species that the European Red Lists classify as being threatened with extinction.[209] The monitoring obligation under Article 10 of the Nature Restoration Regulation would help identify these areas, which would likely overlap with other ecologically sensitive areas.[210]

The SUR would significantly contribute to reducing the use and risk of chemical pesticides on the environment, and therefore pollinators. However, in February 2024, the Commission announced the withdrawal of the SUR.[211] The reason for the withdrawal is that no agreement was foreseeable, in view of the rejection of the proposal by the European Parliament and the lack of progress of the discussions in the Council.[212] With the withdrawal

[203] ECA, *Sustainable use of plant protection products: limited progress in measuring and reducing risks* (2020), 15, 30.
[204] European Commission, *Report on the Experience Gained by Member States on the Implementation of National Targets Established in their National Action Plans and on Progress in the Implementation of the SUD*, COM(2020) 204 (20 May 2020), 5.
[205] Commission, *Proposal for a Regulation on the sustainable use of plant protection products* (COM(2022) 305) *(Proposal SUR).*
[206] Article 4 Proposal SUR
[207] Article 7 Proposal SUR
[208] Article 18 Proposal SUR
[209] Article 3(16) Proposal SUR
[210] Commission, 'Response to the Council decision requesting a study complementing the impact assessment of the proposal on the sustainable use of plant protection products' (5 July 2023), 167. Commission, 'Non-paper on the definition and scope of provisions on sensitive areas' (November 2022), 5
[211] Commission (n 18)
[212] Ibid

of the SUR, also the legal basis for the commitment to reduce the risk and use of pesticides by 50% by 2030 has fallen away.

4.6 Conclusion

The PPP Regulation aims to ensure high levels of protection for human, animal, and environmental health. In order to achieve a high level of protection for the environment, PPPs shall not have ‘any unacceptable effects’ on the environment. The EFSA has established SPGs to define acceptable effects for pollinators in guidance, but these have not been formally adopted. Ultimately, deciding which effects are unacceptable or what level of environmental risk for society is considered acceptable requires a political decision. This political decision is limited by the obligation to ensure a high level of protection of the environment and other legal obligations which indicate that a particular type of environmental harm is to be avoided. In addition to the PPP Regulation, the SUD aims to reduce the risks and impacts of pesticide use on human health and the environment, for example through requiring the promotion of alternatives. Nevertheless, the SUD has been ineffective in attaining its objective and a proposed improvement has been withdrawn.

5. Relationship between biodiversity obligations and PPP legislation

How do the obligations regarding pollinator protection relate to the objectives in the PPP legislation, and how can or must Member States implement stricter measures?

5.1 Introduction

The legal framework for the protection of pollinators is diverse. In short, EU biodiversity law requires Member States to take measures to protect natural habitat types and species, but also to reverse the decline of pollinators. The PPP-regulation requires that there are no unacceptable effects on the environment and the SUD encourages a more sustainable use of PPPs. As these legal instruments exist side by side, Member States must comply with all legal obligations. In this chapter it will be discussed how the obligations in the Nature Restoration Regulation and the Habitats Directive regarding pollinators relate to the PPP legislation and to what extent Member States are able to opt for stricter measures or aim for a higher level of environmental protection.

5.2 The biodiversity obligations for pollinators and the PPP legislation

5.2.1 Biodiversity legislation

As the decline of pollinators leads to a loss of wild flora, the obligations in the Habitats Directive to take conservation measures and measures to prevent significant deterioration may also extend to measures aimed at the protection of pollinators. In addition, the use of pesticides can qualify as a project under the Habitats Directive. The assumption that the legal framework regulating PPPs ensures that there are no significant effects on a SAC is incorrect. Thus, if it cannot be excluded on the basis of objective information that significant negative effects may occur, the use of pesticides will have to be assessed in an appropriate assessment on a case-by-case basis. The Nature Restoration Regulation sets an obligation of result for Member States to reverse the decline of pollinators by 2030, setting a clear target for Member States to achieve. Member States are free to decide how to reach the target, but it will require actions to reduce the effects of PPPs. Accordingly, it will not be possible for Member States to achieve this target it without addressing the authorisation and use of PPPs. If the authorisation and use of PPPs do not sufficiently incorporate the protection of pollinators, Member States will ultimately fail to reverse the decline of pollinators by 2030.

Therefore, to clarify the relationship between the Habitats Directive and Nature Restoration Regulation on one side, and the PPP Regulation and SUD on the other side, it is possible to categorize the legal framework regulating the negative effects of PPPs on pollinators into three tracks. The first track is the regulation of the *authorisation* of PPPs, which can be seen as regulating at the 'front-end'. If the regulation of the authorisation of PPPs is not sufficient to ensure a high level of protection for the environment, and PPPs which have a considerable adverse effects still enter the market, it is necessary to further regulate the *use* of PPPs, either through stricter conditions of use but mainly through other measures such as a prohibition in certain areas or quantitative reduction targets. This is the second regulatory track. However, if both the authorisation and use of PPPs are not sufficiently adequate to ensure a high level of protection for the environment, then, regulation must shift to the 'back-end', the third regulatory track. This consists of the measures required to mitigate the effects, either under the Habitats Directive to protect habitat types and species or under the Nature Restoration Regulation because PPPs cause a decline in the population of pollinators.

It is far more effective to regulate the authorisation and use of PPPs at EU or Member State level than to take site-specific measures and assess plans and projects. However, it must also be recalled that the conservation measures may, instead of being site-specific, involve measures of a broader scope which nevertheless contribute to site-specific conservation and are adapted to the ecological requirements of protected habitats and species. Actually, this broader scope of taking conservation measures is considered crucial for compliance with the Habitats Directive. Thus, this coincides with a stricter regulation of PPPs.

By ensuring that through regulating the authorisation and use of PPPs the harmful effects on pollinators and the environment in general are limited as much as possible, also the possibility that significant negative effects occur in SACs becomes more limited. Similarly, without adequately regulating the authorisation and use of PPPs, it will be extremely challenging, if not impossible, to reach the obligations in the Nature Restoration Regulation. Therefore, it is crucial to ensure the first two regulatory tracks provide high environmental protection. Thus, aligning the PPP legislation, particularly the PPP Regulation, with the Habitats Directive and Nature Restoration Regulation, is necessary.

5.3 Regulating the authorisation of PPPs

5.3.1 Aligning the definition of unacceptable effects

As discussed, the PPP Regulation centralizes a socially acceptable risk approach, reflected in the requirement of 'no unacceptable effects' and the precautionary principle. This leaves the political decision to determine an appropriate level of protection for society to the risk manager. This political decision is, however, limited by other legal obligations which indicate that this particular type of environmental harm is to be avoided.[213] The legal obligations to prevent this type of environmental harm could be derived from the Habitats Directive, as environmental harm relating to pollinators which causes a deterioration of habitat types and habitats should be avoided and are deemed unacceptable. More explicitly, these legal obligations can be derived from Article 10 of the Nature Restoration Regulation, setting a target to reverse the decline of pollinators. As a result, this type of environmental harm must be avoided. Therefore, the Nature Restoration Regulation will give rise to a new interpretation of unacceptable effects, as any effects which accumulatively cause the decline of pollinator populations and therefore conflict with legal obligations, are considered unacceptable.

While Article 10 is primarily aimed at Member States, it also requires the Commission and the EFSA to coordinate their activities with the obligation. The EFSA has stated previously that 'for the development of robust and effective risk assessment procedures, it is crucial to know what needs to be protected, where to protect it, and over what period of time.'[214] Therefore, it is required that the SPGs are reviewed to be in line with the objective to reverse the decline of pollinators and are tailored to wild pollinators and not just honeybees. Accordingly, Member States must either fully implement revised SPG's set by the Commission or set national SPGs, also taking account of the satisfactory levels they aim to achieve.

5.3.2 Stricter measures

Even if Member States set a stricter threshold regarding unacceptable effects, it means little unless they also have the ability to act on it. It must therefore be answered to what extent Member States are allowed to take stricter measures and deviate from the PPP Regulation, in order to aim for a higher level of protection for the environment. It follows from the preamble

[213] Douma (n 159) 241
[214] Joined cases T-429/13 *Bayer CropScience AG* and T-451/13 *Syngenta Crop Protection AG*, [2018] C 231/18, para 237

that the PPP Regulation aims to lay down harmonized rules.[215] Consequently, the PPP Regulation gives limited discretion for national interpretation.[216] As well as that, Member States have no competence in the authorisation of active substances, which is exhaustively decided at Union level. However, there is a margin of discretion regarding the authorisation of PPPs on the territory of the Member States, which also allows taking account of environmental considerations.[217]

5.3.2.1 Deviate from conclusion

As stated before, within a zone, Member States shall not conduct their own assessment, but shall grant or refuse the authorisation based on the conclusions of the rapporteur.[218] Under Article 36(3) of the PPP Regulation, a Member State, when its concerns cannot be controlled by the establishment of mitigation measures, can only refuse to authorize a PPP if, due to its specific environmental or agricultural circumstances, it has substantiated reasons to consider that the PPP still poses an unacceptable risk. A Member State may in particular refuse authorization if it substantiates this by evidence which was not taken into account in the assessment.[219] The phrase 'specific circumstances' refers to situations that are particular, exceptional or unusual and that distinguish the situation of the Member State from that of other Member States[220], which is a very difficult condition to meet. For example, when Austria introduced a ban on all glyphosate-based PPPs, the Commission objected by stating that 'problems linking pesticides to biodiversity decline are not unique to Austria'.[221] Another condition is that Member States are required to first take mitigation measures. Only if these measures have proven to be insufficient, may a Member State refuse authorisation.[222] These conditions are difficult to meet and therefore the leeway for Member States to deviate is quite restricted.

However, in the case that the PPP has already been authorised, a Member State may refuse its renewal or withdraw the authorisation under Article 43 of the PPP Regulation,

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[215] Recital 9 PPP Regulation
[216] Recital 10 PPP Regulation
[217] de Braal, 'National Responses to Great Uncertainty in EU Authorisation of Pesticides and Industrial Chemicals' (2023)16/3, *Review of European Administrative Law,* 45, 50. Leonelli, 'The Glyphosate Saga Continues: 'Dissenting' Member States and the European Way Forward' (2022), *Transnational Environmental Law*.
[218] Article 36(3) PPP Regulation. This will be further discussed in the fifth chapter.
[219] C-308/22 *PAN Europe (Closer)* [2024], para 70
[220] Joined Cases C-439/05 and C-454/05 *Upper Austria* [2007], para 64. Opinion A-G para 109.
[221] Wax, 'EU Blocks Austria's Planned Glyphosate Ban, Rejecting Claim that Weedkiller Harms Human Health' (2020) *Politico*, via: https://pro.politico.eu
[222] Leonelli (2022) (n 217).

provided that it no longer meets the requirements of Article 29, i.e. no unacceptable effects. This also applies to Article 44, allowing the review of authorisations. Remarkably, since the strict conditions of Article 36(3) do not apply, refusing a renewal or withdrawing an authorisation is more feasible than refusing an authorisation. Recently, the Court has clarified that it cannot be required that a Member State must authorize the PPP if there is scientific or technical knowledge identifying an unacceptable risk, if the Member State does have the possibility to withdraw the authorisation on the basis of the same grounds.[223] The Court also stated that Member States are ultimately responsible for the risk management on their own territory and that the objective of protecting health and the environment should take priority over the objective of improving plant production.[224] Accordingly, there seems to be more leeway for Member States to deviate from the conclusions of the rapporteur then initially thought.

5.3.2.2 Prohibiting an active substance

Article 44 of the PPP Regulation has been invoked by Luxembourg to withdraw all authorisations of all glyphosate-based PPPs, indirectly banning an active substance.[225] Notably, the Commission has not rejected the decision of Luxembourg, which can be explained by that, unlike Austria, which tried to ban the introduction of glyphosate-based PPPs by law, Luxembourg has simply withdrawn the authorisations and informed the Commission.[226] Thus, it seems possible to indirectly ban an active substance. However, as Article 44 only refers to one singular 'authorisation', its intention was to enable Member States to withdraw authorisations on a case-by-case basis of specific formulations, and not the withdrawal of a whole class of PPPs without providing specific scientific justifications for each PPP. Clearly, Luxembourg considers glyphosate as an active substance not safe for any use or in any formulation, but this is a decision that, according to the PPP regulation, can only be decided at Union level. Thus, it can be questioned if the strategy of Luxembourg is in compliance with the PPP Regulation. The only strategy for a Member State wishing to ban a

[223] C-308/22 *PAN Europe (Closer)* [2024], para 67
[224] Ibid para 62, 68.
[225] Administrative Tribunal of Luxembourg, case no 44377 (15 July 2022). Court of Appeal of Luxembourg, , case no 47873C (31 March 2023). See. Donati, 'The Glyphosate Saga in Luxembourg: The Annulment by the Judiciary of the Legislative Ban of Glyphosate-Based Products – A Breach of European Union Law?' (2023), *Cambridge University Press.*
[226] Question parlementaire n. 2742 de l'honorable Députée Madame Martine Hansen (2020), Ref: 436/2020. Leonelli (2022) (n 217), 17-18.

certain active substance, that appears compatible with the PPP Regulation, is reviewing the authorisations of all glyphosate-based PPPs on a case-by-case basis.[227]

In addition, it is important that the PPP Regulation explicitly states in Article 1(4) that Member States shall not be prevented from applying the precautionary principle. The Brussels Capital Region have banned the use of glyphosate-based PPPs on the basis of the precautionary principle.[228] Despite the Commission's stance that the precautionary principle cannot justify banning a class of PPPs without individual risk assessments, and that Member States cannot invoke general abstract safety concerns about an active substance under this principle, it has not taken any further action.[229]

5.4 Regulating the use of PPPs

5.4.1 The SUD

In addition to the regulation of the authorisation of PPPs, regulation of the use of PPPs is also possible under the SUD. These measures may include setting a quantitative reduction target or banning the use of PPPs in certain sensitive areas. This is necessary to further limit adverse effects because, it is unlikely that all environmental effects of PPPs can be avoided through the authorisation procedure. The less adequate the authorisation risk assessment, the more PPPs will enter the market which have adverse effects and the more the use of PPPs must be regulated. While some Member States have already implemented stricter measures, often arguments have been raised against these measures that they are in conflict with the authorisation procedure or that there is no sound legal basis in PPP-legislation. Therefore it will be discussed to what extent these arguments are correct.

5.4.2 Legal basis of the SUD

As the legal basis of the SUD is Article 192 TFEU, it follows from Article 193 TFEU that Member States shall not be prevented from maintaining or introducing stricter protective measures.[230] It is up to the Member States to examine whether it is appropriate to extend the level of protection, as long as the measures respect harmonized rules and are compatible with Treaty law.[231] The SUD is not aimed at harmonization regarding the use of PPPs, but leaves

[227] Leonelli (2022) (n 217), 17-18.
[228] Article 1(4) PPP Regulation.
[229] PAN Europe, 'Banning active substances and plant-protection products in Member-States: is EU law a "barrier" to national prohibitions?' via: www.pan-europe.info
[230] Articles 192 and 193 TFEU
[231] Kramer, *EC Environmental law* (London 2006), 127.

discretion to the Member States, as it merely encourages them to adopt measures aimed at the sustainable use of pesticides. Article 2(3) SUD also states that the provisions shall not prevent Member States from applying the precautionary principle in restricting or prohibiting the use of pesticides in specific circumstances or areas.[232]

5.4.3 Relationship SUD and PPP Regulation

Several Member States have adopted measures based on the SUD. An argument that has been invoked against these measures, is that implementing measures regarding the use of PPPs is in conflict with the harmonized authorisation procedure under the PPP Regulation.[233] This argument builds on the premise that the PPPs are already subject to the risk assessment which verifies their safety, and the PPP Regulation does not allow stricter national rules as its purpose is to remove barriers to trade. It is important to differentiate between the authorisation and use of PPPs. While it may be correct that the PPP Regulation has brought about harmonization with an exhaustive regulation in respect of which the Member States are not free to extend the obligations set out therein, this harmonization relates only to the conditions of the authorisation.[234] It follows explicitly from the preamble of the PPP Regulation that it is not an exhaustive regulation concerning the determination of the use of PPPs.[235] Measures under the SUD regarding the use of PPPs, therefore do not interfere with the PPP Regulation, as long as the measures do not introduce stricter procedural rules regarding the authorisation.

5.4.4 Article 12 and 14 SUD

Based on Article 12 SUD, Member States shall ensure that the use of pesticides is either minimized or prohibited in certain areas. Member States have used this provision as a legal basis to prohibit pesticide use in certain areas.[236] Another relevant provision is Article 14 SUD, which requires Member States to take all necessary measures to promote low pesticide-input pest management, giving wherever possible priority to non-chemical methods. Sweden has even used this provision to reject an application for re-authorisation of a PPP, arguing

[232] Article 2(3) SUD
[233] Court of the Hague 16th January 2019, ECLI:NL:RBDHA:2019:115, para 3.2
[234] Ibid para 4.19-4.20. Schebesta, *Juridisch onderzoek glyfosaathoudende gewasbeschermingsmiddelen* (Wageningen University 2022), 10-13
[235] Consideration 36 preamble PPP Regulation
[236] See for example https://www.kemi.se/en/pesticides-and-biocides/plant-protection-products/current-topics-on-plant-protection-products

that widely used non-chemical methods are available. These provisions are an important legal basis for stricter protection protection measures.

Before the Dutch Supreme Court, it was discussed if the Dutch government was allowed to introduce a prohibition of the professional use of PPPs outside agriculture and horticulture.[237] The ban was based on Articles 12 and 14 of the SUD, the national transpositions and Article 193 TFEU. Two manufacturers argued that the ban lacked a legal basis as the SUD does not provide a basis for a general ban on professional use. [238] It was argued that the ban lacked a statutory basis, as Article 14 SUD concerns the *reduction* of pesticide use and Article 12 SUD only relates to *specific areas*. Therefore a full ban on professional use could not be based on these Articles.[239] The Dutch Supreme Court ruled that Article 14 SUD can be the legal basis, as it follows from the phrase 'all necessary measures' that this may include a prohibition, provided that the scope of the prohibition is not wider than is consistent with the objectives of the SUD. [240] In my view, this interpretation is also how the European legislature intended it. All necessary measures implies that there is a wide margin of discretion for Member States. Therefore, article 14 SUD can be a sound legal basis for various measures.

5.5 Conclusion

The regulatory framework for managing negative effects of PPPs on pollinators can be divided into three tracks: the authorization of PPPs, the use of PPPs, and the effects on biodiversity. If the authorization and use of PPPs are insufficiently regulated, under the Habitats Directive site-specific measures and appropriate assessments may be required for each project or plan and achieving the Nature Restoration Regulation obligations becomes an unsalvageable task. It is therefore imperative to align the PPP legislation with other legal obligations. These legal obligations should give rise to a new interpretation of the requirement of unacceptable effects in the PPP Regulation.

Under the PPP Regulation, Member States may refuse authorizations of PPPs if there is scientific evidence identifying an unacceptable risk. Member States can also withdraw authorisations or refuse renewals, potentially even completely regulating an active substance. Under the SUD, Member States can further regulate the use of PPPs. These measures do not conflict with the PPP Regulation, because it harmonizes the authorization procedure but does

[237] Royal Decree of March 9, 2016 Official Journal 2016, no. 112
[238] Court of the Hague 16 January 2019, ECLI:NL:RBDHA:2019:115, para 4.27-4.30
[239] Court of Appeal of the Hague 8 July 2022, ECLI:NL:GHDHA:2020:2173, para 5.3-5.8
[240] Supreme Court, 25 January 2022, ECLI:NL:HR:2022:1032. para 3.1.5 Schebesta (n 231).

not exhaustively regulates the use. While Article 12 SUD introduces a legal basis for a prohibition in certain areas, ‘all necessary measures’ in Article 14 SUD grants Member States a wide margin of discretion to implement measures, provided that the scope is consistent with the SUD’s objectives.

6. Conclusion

The alarming decline of pollinators and their pollination services, resulting in significant loss of biodiversity, calls for strong EU action to address the use of pesticides. This thesis aimed to address how pollinators are protected under the EU's legal framework on biodiversity, how these legal obligations relate to the environmental objectives in the PPP legislation and how Member States can or must implement stricter measures. In this conclusion, I will summarize the most important findings.

Pollinator protection under the Habitats Directive mainly relates to the protection of habitat types for their benefit to pollinators, but pollinators provide essential pollination services which habitat types and habitats depend on. From this perspective, the obligations to take necessary conservation measures and measures to prevent significant deterioration may also extend to measures aimed at pollinators. Additionally, the use of pesticides, can be considered a project and should, therefore, be subjected to an appropriate assessment, unless it can be excluded that it will have significant effects on a SAC. The assumption that the authorization of PPPs, requiring them to have 'no unacceptable effects' before they enter the market, ensures that the use of pesticides has no significant effects, is incorrect. These are different tests, and a significant effect must always be evaluated based on the SAC's natural characteristics and specific environmental conditions.

It has proven quite challenging to establish unequivocal direct obligations for pollinator protection under the Habitats Directive. Therefore, it can be considered that the Nature Restoration Regulation, which will for the first time introduce a legal obligation specifically aimed at protecting and improving the biodiversity of pollinators, is a milestone for pollinators. The three most important provisions for pollinators in the Nature Restoration Regulation are the legal obligation for Member States to reverse the decline of pollinators by 2030, which is an obligation of result, the obligations regarding the monitoring and the obligation for the Commission and other European agencies to coordinate their activities concerning pollinators.

The current legal framework for PPPs fails to prevent negative effects on pollinators, despite aiming for a high level of environmental protection and aiming to prevent PPPs with unacceptable effects on the environment from entering the market. The non-binding SPGs for bees in the guidance are easily cast aside. Member States rely on outdated scientific information, despite the requirement to assess the effects in light of current scientific and

technical knowledge. Ultimately the issue is that determining what constitutes ‘unacceptable effects’ always comes down to a political decision. Also on the basis of the precautionary principle, deciding the acceptable level of risk for society is also considered a political responsibility. However, the political decision must be limited by the obligation to ensure a high level of protection of the environment and other legal obligations which indicate that this particular type of environmental harm is to be avoided.

Such legal obligations can be derived from the Habitats Directive and the Nature Restoration Regulation. These legal obligations should give rise to a new interpretation of the requirement of unacceptable effects in order to align the PPP legislation with other legal obligations. Therefore, it is highly recommended that the SPGs, especially for wild pollinators, are strengthened, endorsed and implemented. This might require them to become legally binding. Otherwise, if the authorisation and use of PPPs are not adequately regulated, measures are still required under the Habitats Directive and the Nature Restoration Regulation. Under the PPP Regulation, Member States may refuse and withdraw authorizations if there is scientific or technical evidence of an unacceptable risk. It is therefore advisable that risk managers adopt a more proactive approach in the collection and application of the latest scientific findings. Also under the SUD Member States have a wide margin of discretion to implement stricter measures. In order to reverse the alarming decline of pollinators, Member States must implement these measures and aim for a higher level of environmental protection.

On a final note, while the adoption the Nature Restoration Regulation is a milestone in the protection of pollinators, it must now also be adequately implemented in Member States and integrated in the PPP legislation in order to ensure a flourishing future.

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