

Thematic Group on Enhancing Biodiversity on Farmland for Improved Resilience

Background Paper

September 2024



Funded by
the European Union

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1. Introduction and context

Food production and farming practices can have both positive and negative impacts on biodiversity. The interactions between farming and biodiversity therefore play a critical role for the resilience of food production and sustainable resource management. This can be the case through supporting the pollination of crops and the control of pests and diseases, contributing to productive soils, nutrient and carbon cycles, water quality as well as improving the resilience of farming systems to climate change through helping mitigate the effects of droughts and floods. However, biodiversity continues to decline, particularly on farmland.

The recently agreed Nature Restoration Law (NRL) has an overarching legally binding requirement to restore at least 20% of the EU's land (and 20% of sea areas) by 2030 and all ecosystems in need of restoration by 2050. There are requirements on Member States to put in place agricultural measures to demonstrate increasing trends in various indicators by the end of 2030 (grassland butterfly index, share of agricultural land with high diversity landscape features, stock of organic carbon in cropland mineral soils) to achieve quantified increases in the farmland bird index as well as reversing the decline in pollinator populations and measures to restore drained agricultural peatlands and to ensure adequate strategies are in place to manage, restore, and recreate species rich grasslands (Habitat Directive grasslands). Delivering on this will be critical to meet the EU's global commitments under the [Kunming-Montreal Global Biodiversity Framework](#), agreed in December 2022.

The Common Agricultural Policy (CAP) is a major source of funding to support the management and restoration of biodiversity in rural areas and the CAP Strategic Plans (CSPs) are an important vehicle for achieving the NRL requirements in Member States. However, despite the fact that incentives have been in place for farmers to improve biodiversity on farmland for many decades, this has not been sufficient to achieve the scale of improvements required.¹

The Thematic Group on enhancing biodiversity on farmland will share experiences, good practice examples, barriers and opportunities and innovative ideas on how to improve scheme design and implementation to encourage greater uptake by farmers of the right practices in the right places and at the landscape scale, for example through

¹ Although the NRL does not legally require Member States to revise their CSPs, they do have the option to review measures and targets and make adjustments to meet the needs of their national nature restoration plan.

greater spatial coordination of actions for habitats and species, including improving the connectivity between farmland and the wider countryside

This background paper provides an overview of the state of biodiversity, some of the options for scheme design to improve biodiversity outcomes on farmland and the role the CAP can play. It draws on information available to date in the public domain and information from the expressions of interest (Eols) submitted for this Thematic Group.

2. State of biodiversity

Agricultural landscapes, which make up 38% of the EU's land area (2020 data)², are characterised by a wide range of ecological conditions and differ considerably in terms of their biodiversity depending on *inter alia* soil condition, water availability, climate, slope, and management factors, for example type, intensity, and scale of use³.

The EU's 2020 State of Nature report showed that biodiversity is declining at an alarming rate, with agriculture being the main driver of this decline⁴. There are many causes of biodiversity declines on farmland. These include the dramatic reduction in extensive farming systems, essential for the maintenance of semi-natural habitats with diverse fauna and flora (through both intensification and abandonment), changes in landscape structure (e.g., removal of field edge habitats, drainage, large monocultures), habitat degradation (e.g., reduction in soil organic matter, loss of permanent pastures), the pollution of soil, water and air through the use of chemical inputs such as fertilisers and pesticides, the introduction of invasive species, as well as the loss of genetic diversity of plant and animal species^{5,6}. A key issue is that natural elements within agricultural landscapes are becoming increasingly fragmented, which can lead to reduction or loss of habitat, changes in food availability for fauna, reduced connectivity, and disruption of seasonal migratory pathways⁷.

² Eurostat. (2022). [Farms and farmland in the European Union – statistics](#).

³ M. Emmerson, M.B. Morales, J.J. Oñate, P. Batáry, F. Berendse, J. Liira, T. Aavik, I. Guerrero, R. Bommarco, S. Eggers, T. Pärt, T. Tschardtke, W. Weisser, L. Clement, J. Bengtsson. (2016). Chapter Two - How Agricultural Intensification Affects Biodiversity and Ecosystem Services, In *Advances in Ecological Research*, Vol. 55: 43-97. <https://doi.org/10.1016/bs.aecr.2016.08.005>.

⁴ EEA (2020) [State of Nature in the EU: Results from reporting under the nature directives 2013-2018](#).

⁵ Santos, J. L., Moreira, F., Ribeiro, P. F., Canadas, M. J., Novais, A., & Lomba, A. (2021). A farming systems approach to linking agricultural policies with biodiversity and ecosystem services. *Frontiers in Ecology and the Environment*, 19(3), 168-175. <https://doi.org/10.1002/fee.2292>.

⁶ COM/2020/635 final. [The state of nature in the European Union Report on the status and trends in 2013 - 2018 of species and habitat types protected by the Birds and Habitats Directives](#).

⁷ EEA (2011) [Landscape fragmentation in Europe](#), Joint EEA-FOEN report, EEA report No 2/2011.

Conversely, biodiversity loss has a considerable impact on agriculture by disrupting important ecosystem services such as pollination, natural pest control and maintenance of soil fertility, often leading to increased dependence on synthetic inputs and reduced crop yields. Promoting sustainable agricultural practices that prioritise biodiversity conservation can help mitigate these negative impacts, while enhancing the long-term resilience and productivity of agricultural systems^{8,9}.

Incentives to support the maintenance, restoration and recreation of species and habitats on farmland as well as extensive farming systems that are beneficial for biodiversity have been in place for over 30 years. However, their focus has predominantly been on the management of single farms and single parcels. Despite widespread uptake and some localised successes, evaluations have shown that overall they have not managed to stimulate the changes in management necessary to improve the biodiversity performance of more intensive systems or secured the maintenance and restoration of semi-natural systems at the larger spatial scale required¹⁰.

For example:

- The population of wild common birds in the EU27 has declined by 37.5% since 1995 (2022 figures)¹¹.
- 77.2% of agricultural grassland habitats protected under Annex 1 of the Habitats Directive are in unfavourable condition¹² (2018 data) - although the situation differs by country, only one EU country had over 50% of their agricultural grassland habitats in favourable condition in 2018 (Romania at 95%).
- Pollinators are also decreasing significantly - it is estimated that 50% of land in the EU cultivated with crops dependent on pollinators are already facing a pollination deficit. In addition, at least 10% of bee and butterfly species in

⁸ Rockström, J., Edenhofer, O., Gaertner, J., and F. DeClerck, F. 2020. [Planet-proofing the global food system](#). *Nature Food* 1: 3-5.

⁹ EEA (2024), [European Climate Risk Assessment](#). EEA Report No 1/2024.

¹⁰ Alliance Environnement (2020) [Evaluation of the impact of the CAP on habitats, landscapes, biodiversity](#). Alliance Environnement (IEEP and Oréade-Brèche), Brussels; A factsheet summarising the findings and approach taken can be found here: [Evaluating the Impact of the CAP on Habitats, Landscapes and Biodiversity in Europe: Highlights from the Approach | EU CAP Network \(europa.eu\)](#)

¹¹ See [CAP Context Indicator 35](#)

¹² 42.6% were in unfavourable-bad condition and a further 34.6% were in unfavourable-inadequate condition – see [CAP Context Indicator 36](#)

Europe are on the verge of extinction, and at least 33% of them are in decline¹³, although this is likely to be a significant underestimate of the actual threat status of bee species^{14, 15, 16}.

Findings from past evaluations of the CAP show that well-designed agri-environmental schemes can be effective in achieving positive biodiversity effects for species on the parcel or farm that is the focus of the scheme. However, there is limited evidence of more sustained population-level impacts in the local area, or at larger scales. For habitat restoration, such as restoring ecological or hydrological function across a landscape, including the rewetting of peatlands and restoration of other habitats, collaboration through multiple adjoining agreements across a large area is required as well as over a significant time period (e.g. 10 – 20 years) and agri-environmental schemes are often not set up to enable this.

3. Options for scheme design

As highlighted above, the majority of agri-environmental schemes in the EU operate via individual agreements, with each land manager signing up to a specific set of actions on their farm.

Improved biodiversity outcomes could be achieved by encouraging greater spatial coordination of action at the landscape scale to enable larger areas of land to come

¹³ EC (2022), Farm to Fork: [New rules to reduce the risk and use of pesticides in the EU](#), available at:

¹⁴ This is due to the fact that 70% of the EU red list of bee species, on which part of this statistic was based, was classified as 'status unknown'.

¹⁵ The 2017 German study of trends in insect populations in German nature reserves showed a showed very high declines over a 27 year period – see Hallmann, C A, Sorg, M, Jongejans, E, Siepel, H, Hofland, N, Schwan, H, Stenmans, W, Müller, A, Sumser, H, Hörren, T, Goulson, D and de Kroon, H (2017) More than 75 percent decline over 27 years in total flying insect biomass in protected areas. *PLoS ONE* No 12 (10), e0185809.

¹⁶ See also, Warren, M. S., Maes, D., Van Swaay, C. A., Goffart, P., Van Dyck, H., Bourn, N. A., Wynhoff, I., Hoare, D., & Ellis, S. (2021). The decline of butterflies in Europe: Problems, significance, and possible solutions. *Proceedings of the National Academy of Sciences*, 118(2), e2002551117. <https://doi.org/10.1073/pnas.2002551117>; Ghisbain, G., Thiery, W., Massonnet, F. *et al.* Projected decline in European bumblebee populations in the twenty-first century. *Nature* 628, 337–341 (2024). <https://doi.org/10.1038/s41586-023-06471-0>

under agreement and improve the connectivity of different habitats as well as encourage mosaics of different habitats throughout the landscape¹⁷.

This can be achieved in a number of ways, but common to these approaches is facilitating greater collaboration and coordination of action between farmers at a larger spatial scale.

The most effective approach to take will depend on the biodiversity outcomes that need to be achieved. For example, to increase species numbers of birds or pollinators may require specific management practices to be concentrated within a defined area and/or greater habitat connectivity to allow species to move through the landscape more easily. This could still be achieved through individual agreements, however there would need to be a critical mass of uptake in the area as well as coordination in terms of the types of management practices adopted and their location. Habitat restoration, on the other hand, for example to raise water levels for peatland restoration, may require contiguous agreements to be in place across a large area, with land managers carrying out coordinated actions and over a longer time-frame than the usual five-year agreement span.

Various means are available to incentivise action at the landscape scale. At one end of the spectrum are agglomeration bonuses, where an additional payment is made if individual land managers' habitats are spatially connected or if a certain level of uptake of certain actions is secured within a defined area¹⁸. At the other end of the spectrum is collaborative agreements where land managers make joint applications with their neighbours to a scheme, often facilitated by a third party, such as an NGO or a funded facilitator. Between these two extremes are other options for facilitating collaboration between farmers in terms of their involvement in schemes within an area, but still through individual agreements.

Given the limited application of landscape scale approaches to date, pilot projects are likely to play an important role in working out which scheme design options work best

¹⁷ See for example: Nguyen, C, Latacz-Lohmann, U, Hanley, N, Schilizzi, S and Iftekhhar, S (2022) Spatial Coordination Incentives for landscape-scale environmental management: A systematic review. *Land Use Policy* No 114, 105936; Rotchés-Riblata R, Ó hUallacháin D (2018) Agri-Environment Scheme Design: the importance of landscape-scale, paper prepared for the 166th EAAE Seminar, Sustainability in the Agri-Food Sector.

¹⁸ This approach is currently used in Switzerland, where bonus payments are made for the quality of the habitat (quality bonus) and for spatially connecting habitats with other farmers (network bonus).

in different locations for the biodiversity outcomes to be achieved. Investment in scheme monitoring will also be important, as will sharing information between Member States on what has worked well and lessons learned.

Box 1: Examples of landscape scale approaches in the EU

Ireland’s Agri-Climate Rural Environment Scheme (ACRES) consists of two complementary elements: ACRES-General and ACRES-Co-operation. Funded from the ENVCLIM intervention, they aim to improve biodiversity, climate, air and water quality outcomes on farmland. ACRES-Co-operation is available to farmers in eight high-priority geographical areas, which comprise (forage and commonage) land parcels identified as high nature value. All forage and commonage land within the area is classified according to three main habitat types: grassland, peatland, and woodland/scrubland, for each of which a corresponding scorecard is used to assess the ecological integrity of the habitat. To increase scores over time, farms may use non-productive investments (NPIs) and/or implement the landscape/cooperation actions which are set out in a Local Action Plan for each area. The payments received by the farmer are differentiated according to the habitat score received, thereby incentivising a shift towards improved management over time.

Source: Department of Agriculture (2023)

EIP-AGRI pilot project on Waddensee island (Netherlands): The seven dairy farmers on the island have drawn up a joint target for 2030, together with the NGO [Natuurmonumenten](#) and other parties. The collaboration is in response to the need for them to substantially reduce their ammonia emissions by reducing livestock numbers. The farmers will jointly implement measures to make agriculture on the island more biodiverse, such as strip cultivation. They are implementing joint management of manure flows and other biomass cuttings, and joint management of the waterways.

Source: <https://www.europarc.org/news/2022/08/cooperating-for-biodiversity-the-case-of-schiermonnikoog-in-the-netherlands/>

4. Role of the CAP

The CAP is one of the key sector policies and funding instruments to contribute to the delivery of biodiversity and environmental objectives and targets in agriculture.

Of the ten CAP specific objectives (SOs), SO6 specifically focusses on biodiversity: ‘to contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes’.

Within the CAP there is a range of rules and tools that Member States can use to deliver biodiversity outcomes. These include mandatory practices farmers must adhere to in order to receive other area-based payments (conditionality) as well as interventions such as eco-schemes, environment-climate commitments (ENVCLIM), compensation for area-specific disadvantages (e.g. relating to Natura 2000 or the Water Framework Directive), as well as green and non-productive investments, knowledge exchange and cooperation. Member States are required to make eco-schemes and agri-environment-climate schemes available for farmers and land managers. Otherwise, they have the freedom to choose which interventions they want to use and design them in a way that addresses their needs.

Of the range of interventions available to Member States, overall, the CAP Strategic Plans (CSPs) use nine different interventions to support biodiversity under SO6 in the 2023-27 period, although most of the plans use just three – eco-schemes, agri-environment payments and non-productive investments (European Commission 2023). The other interventions are far less used, despite the significant potential that the cooperation and knowledge exchange interventions have for supporting cooperation and collaboration and disseminating information on sustainable practices that promote biodiversity, as well as the use of the ASD intervention for supporting landscape scale initiatives within Natura 2000 areas.

For the 2023-27 programming period:

- 96 billion euros has been allocated to SO6 (the majority of which is also supporting the achievement of other objectives).
- The share of UAA predicted to come under supported commitments for supporting biodiversity conservation or restoration (result indicator 31) ranges from between 5-15% in (BE-FI, BG, HR, CY, RO, ES) to over 60% in EE, FI, NL.
- In relation to the share of UAA predicted to come under agreement to manage landscape features (result indicator 34), the highest target value is 15.8% in Greece, followed by 8% in AT, 4.7% in IE, 4.2% in DE and 3.6% in the NL. The target value for this indicator is 0.5% or under in BE-FI, HR, EE, FR, HU, IT, PT, and ES.

5. Issues and potential questions for discussion

There are a number of issues and potential questions about how CSPs can enable, encourage and support EU farmers to realise the full contribution that the suite of CAP interventions could make to the EU biodiversity and nature restoration targets, and to the long-term resilience and productive capacity of farm businesses, particularly to unlock the potential to design schemes that take a landscape scale approach.

The main issues identified by a range of stakeholder groups, including Managing Authorities to date as part of the Expression of Interest (EoI) process for this Thematic Group¹⁹ are set out in the table below. The issues are ordered in terms of the frequency with which they were identified. Generally, it is a combination of issues that limit cooperation and the application of landscape scale approaches.

Table 1: Overview of issues identified in Expressions of Interest for the Thematic Group

Issue	Specific comments received
Limited information provision, awareness and knowledge exchange	<ul style="list-style-type: none"> • Limited access to relevant training and advisory services • Need to improve the knowledge of the benefits of biodiversity actions and sustainable farming practices – not just for farmers, but also advisers and policy makers
Administrative burden & complexity	<ul style="list-style-type: none"> • Simpler rules required to reduce administrative burden • Administrative burden disproportionate for smaller farms • Focus on results to allow greater flexibility at farm / parcel level • Concerns about sanctions and controls can put farmers off engaging in environmental schemes
Limited funding & financial incentives	<ul style="list-style-type: none"> • Insufficient funding available for biodiversity purposes • Lack of security of funding for the long-term – the funding available for one policy cycle does not match the longer-term commitment and effort needed to achieve meaningful biodiversity improvements • Difficulty with providing sufficient incentives for more intensive farmers to take up biodiversity actions
Scheme design – lack of tailor-made, context-specific, landscape-scale schemes	<ul style="list-style-type: none"> • Flexibility required to suit the diversity of local, regional and landscape contexts to increase the adaptability and applicability of schemes • Place a greater emphasis on results

¹⁹ 146 Eols from 25 Member States incl. EU level organisations

	<ul style="list-style-type: none"> • Should not assume that schemes targeted at individual farms can achieve results at the landscape level • Consider more of an holistic, integrated approach to the use of interventions • Longer-term schemes are required to reflect the timescales required to generate results, particularly where land-use change is required (e.g. peatland rewetting)
Improvements needed for monitoring & evaluation	<ul style="list-style-type: none"> • Need for suitable definitions of the baseline situation – with implications for data collection (including GIS) • Use monitoring information to adapt schemes and policy approaches where necessary • Development of suitable indicators to inform greater use of results-based approaches • Use M&E information to inform targeting of schemes as well as targets for uptake
Overcoming farmers' reluctance to adopt biodiversity measures	<ul style="list-style-type: none"> • Continued perceived dichotomy between food production / productivity and environmental sustainability • Need to find the right balance between producing agricultural commodities and producing nature • How to overcome situations where farmers prioritise economic stability, productivity, and perceive the introduction of new approaches as financial risk or a disruption to their traditional productive activity? • Traditional local cultures may be less tolerant of wildlife on farmland • The availability of time, labour and machinery for biodiversity management may be limited
Limited stakeholder involvement	<ul style="list-style-type: none"> • Importance of involved all relevant stakeholders in the design of schemes to understand the various stakeholder interests and use the different expertise, knowledge and perspectives to overcome conflicts and find solutions

Disclaimer

This document has been developed as part of the work carried out by the CAP Implementation Contact Point under the EU CAP Network to support the activities of the Thematic Group (TG) on the Design and Implementation of Eco-schemes in the new CAP Strategic plans. The information and views set out in this document do not necessarily reflect the official opinion of the European Commission.

