

BirdWatch - A service to measure and improve biodiversity using satellite data for monitoring, evaluation and optimization of CAP greening initiatives

Policy Brief: Protecting farmland birds in Germany

January, 2026

Short summary

Farmland birds have long been negatively impacted by high-intensity agriculture. At the same time, they have the potential to serve as indicators for the success of agri-environmental policies. Aiming for an improvement in farmland bird habitats can thus provide a means to guide the design and evaluation of policies, such as the EU Nature Restoration Regulation or the setup and monitoring of agri-environmental area- or result-based payment schemes, implemented under the EU Common Agricultural Policy. This opportunity is being addressed within the EU Horizon Europe Project *BirdWatch*.

Across the EU the decline in farmland birds can be traced back to the reduction, degradation and fragmentation of suitable habitats along with the intensification of agricultural and land use practices¹. In Germany, reasons for the loss of suitable farmland bird habitats additionally include the increasing mechanization of agriculture and larger fields leaving smaller areas available for structurally diverse habitats, such as field margins, hedges and tree rows or islands, or fallow land. Large-scale monocultures don't provide enough room for wild herbs or insects while species-rich meadows have often been ploughed into arable land or drained and fertilized so they can be mown frequently, thus making them unsuitable for birds to breed. At the same time, farming on less fertile soils such as heathland or very sandy soils is often abandoned entirely, also leading to the loss of millennia-old cultural habitats in Germany². The newest issue of the national Red List of Breeding Birds³ states that almost half of the native breeding bird species are threatened, 43 percent of the 259 native bird species that regularly breed in Germany had to be included.

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<https://www.eea.europa.eu/en/analysis/indicators/common-bird-index-in-europe>

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<https://www.nabu.de/tiere-und-pflanzen/voegel/gefaehrden/27503.html>

3

<https://www.nabu.de/tiere-und-pflanzen/voegel/artenschutz/rote-listen/roteliste-2021.html>

Despite numerous protection and conservation initiatives, there is no sign of a reversal in the respective population declines. Especially on agricultural land, population decline of almost all breeding bird species has not been stopped despite various efforts by implementing agri-environmental measures backed by EU policies. Currently, 33 species, or nearly 13 percent of Germany's breeding bird species, are threatened with extinction⁴. At the same time, researchers also observe changes in the bird species occurring in Germany, with an increase of species which benefit from raising temperatures related to the changing climate⁵. Germany already missed its policy targets of bringing 30% of all endangered species into good conservation status in 2010 and 2020 and might continue to do so in 2030. According to the German NGO NABU, a reversal of this trend must begin with a nature-friendly agricultural policy and increased efforts to protect insects, the main food source of many endangered species. Likewise, the "National Committee for the Red List of Birds" calls on actors in politics and civil society to finally initiate and implement consistent measures to combat the decline in bird species. The committee explicitly demands to prioritize Germany's agricultural areas in terms of intensity and area size, and

⁴ <https://www.nabu.de/news/2021/06/30195.html>

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https://www.dda-web.de/downloads/publications/statusreports/vid_bestandssituation_2025.pdf

comprehensively address land management, the availability of diverse vegetation structures in open landscapes, and the impact of excess nutrients and pollutants in the soil, stating that a comprehensive German bird protection program is necessary.

Existing Policies and Roadmap

Existing policies

In Germany, the protection of wild birds and their habitats is anchored in the **Birds and Habitat Directives**. The Birds Directive is realised via Germany's Federal Nature Conservation Act, or *Bundesnaturschutzgesetz*. According to the conservation act, the preservation and restoration of a favorable conservation status for the bird species and their habitats listed in Annex 2 is to be ensured in the bird protection areas. The measures required for this are determined by the respective nature conservation authorities in the management plan for the Natura 2000 sites. The associated national bird conservation report, issued every six years, summarises, e.g., information on population sizes and distribution of over 304 bird species breeding and 125 wintering bird species in Germany, and their short- and long-term population trends.

On top of the management plans there are also **species-specific conservation programmes** (*Artenhilfeprogramme*) which differ between the individual German federal states and which require these states to determine the population size, breeding success, habitat requirements, and to analyze threat factors to the species. In 2022, Germany has initiated an additional **national species conservation programme**, to support species which are affected by the expansion of renewable energies⁶.

A policy which addresses biodiversity more generally is Germany's **Federal Action Plan on Nature-based Solutions for Climate and Biodiversity** (Aktionsprogramm Natürlicher Klimaschutz, ANK). Among the ten fields of action to protect the climate and biodiversity, five specifically target the protection of ecosystems and biodiversity, accompanied by respective action plans that detail measures and goals. For example, the policy describes measures to protect wilderness and protected areas as well as to conserve forest ecosystems. With measures for protected areas and forests, Germany aims to expand the covered areas, in line with the EU Biodiversity Strategy for 2030.

Apart from the Federal Nature Conservation Act and the Federal Action Plan on Nature-Based

⁶ <https://www.bfn.de/thema/nationales-artenhilfsprogramm>

Solutions, there is also the **National Strategy for Biodiversity**, which includes around 330 goals and 430 measures concerning biodiversity.

Focusing on agriculture, the so-called **agri-environmental programs**, which are part of the **EU's Common Agricultural Policy (CAP)**, have been the central instrument for promoting more sustainable agriculture since the 1990s. The funding programs focus on measures for preserving biodiversity, protecting water, soil and climate, and promoting organic farming, including measures for erosion control, grassland extensification, fallowing, and much more. Due to Germany's federalism, a complex system has developed over the years, varying significantly from one federal state to another. Only with the introduction of the eco-schemes at the start of the new CAP funding period in 2023 has a nationwide funding instrument been added.

The CAP's agri-environmental programs are co-financed through the CAP's second pillar, meaning part of the funding comes from the European Agricultural Fund for Rural Development (EAFRD) and part from the budgets of the federal states, resulting in significant differences between programs: wealthier states can afford more extensive and diverse programs with higher subsidy rates, while less affluent states offer more limited

options. The programs also differ in content and structure. This is partly due to historical reasons: each state has developed its own systems, definitions, and policy elements. Additionally, the natural environments and agricultural structures vary significantly. For instance, in Lower Saxony, there are programs supporting migratory birds in winter and during migration, while in Bavaria, alpine grassland use ("alms") is supported. The commitments for implementing agri-environmental measures usually last five years, which, on the one hand, reduces operational flexibility, on the other increases financial security, by providing access to a fixed premium. Participation is voluntary and decided by the farm managers. In contrast, eco-schemes are financed through the first pillar, are uniform across the country, and the commitment lasts for one year. These programs influence both current and future land use. Even though only a few program components are explicitly tailored to specific bird species or groups, many affect habitat quality—for example, the share of fallow land, crop types, and grassland use intensity. The extent of their impact—such as how many farmers in a region participate in a given program—depends not only on the program content and funding level but also on other factors. Whether participation is attractive for a farm depends on revenues (e.g., grain or milk prices) and production costs (e.g., lease, fertilizer). Long-term forecasts are

therefore difficult, and the strong regionalization makes the situation particularly complex in Germany.

There are also a few other policies which can indirectly be of benefit for farmland birds, mainly by *aiming to improve the environmental conditions surrounding them*.

In 2023, the Federal Ministry of Food and Agriculture published its **Organic Farming Strategy 2030** in 2023, aiming to achieve 30% organic farming by 2030. This strategy includes extensive measures such as promoting biological and genetic diversity in the agricultural landscape, crops, and livestock.

In 2019, Germany passed the **Federal Climate Change Act**, forming the legal framework for climate policy. The act makes climate targets legally binding, defining both overall climate action goals and annual emission limits for individual sectors. The **Climate Action Plan 2050**, introduced in 2016, is Germany's long-term climate protection strategy that outlines the federal government's climate policy goals and principles, encompassing environmental, economic, and social dimensions, addressing the following sectors: energy, building and transportation, industry, and agriculture and forestry. On top of that, the **Climate Protection Program 2023** proposes specific measures for the energy, building,

industry, transportation, and agriculture sectors, such as the expansion of organic farming and climate- and animal-friendly livestock practices. To fight drought and water pollution, Germany has also introduced the **National Water Strategy of 2023**, which also focuses on ensuring the responsible use of available water resources.

Germany does not have a separate national strategy to address soil pollution which is another factor impacting birds. The federal government, however, acknowledged the need for European soil protection, thereby supporting the EU's soil strategy for 2030⁷, which aims to support sustainable soil management practices, restore degraded soils, and achieve long-term soil health.

Policy developments

As one crisis is following another, budgets are becoming increasingly contested. An initial draft of the EU's Multiannual Financial Framework for the period of 2028-2034 indicated that the agricultural sector might have to compete with the EU's increased focus on competitiveness and security, being subsumed under the **“European Fund for economic, social and territorial cohesion, agriculture and rural, fisheries and maritime, prosperity and**

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https://environment.ec.europa.eu/topics/soil-health/soil-strategy-2030_en

security” as well as under the “**The European Competitiveness Fund**” which includes funding for Horizon Europe; resilience and security, defence industry and space; clean transition and industrial decarbonisation; digital leadership; and health, biotech, agriculture and bioeconomy. Climate and the environment are not explicitly addressed in the five specific objectives underlying the EU Funds⁸.

The bottom-line is that food security and competitiveness are becoming an increasingly dominant factor, displacing concerns for the environment and ecological integrity. Therefore, the remaining available budget for agri-environmental measures needs to be disbursed in a targeted and impactful manner.⁹

Greater hope rests on the **EU Nature Restoration Regulation** (NRR; Regulation (EU) 2024/1991), which sets legally binding targets to restore degraded ecosystems on land and at sea. It requires Member States to set up national restoration plans (NRPs), which align with the environmental aspects of the EU's existing policies, i.e., the Biodiversity Strategy, European Green Deal, the EU Climate Regulation, the EU Forest Strategy, the CAP and Farm-to-Fork Strategy, the Marine Strategy

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<https://ieep.eu/wp-content/uploads/2025/08/Review-of-CAP-proposal-IEEP-2025.pdf>

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https://ec.europa.eu/commission/presscorner/detail/en/rea_d_26_50

Framework Directive, the Water Framework and Floods Directives as well as the Urban Greening and Soil agendas. Specific targets of the NRR address peatland rewetting, forest condition, agricultural ecosystem features, free-flowing rivers and urban green–blue infrastructure, under the accompanying assumption of multi-fold net benefits (e.g., public health, avoided damages, resilience, recreation, carbon). These benefits, referred to as ecosystem services, promise the support of important processes societies rely on, including pollination, pest control, nutrient cycling, soil formation and water regulation¹⁰.

Direct and indirect support for birds, including those relying on agricultural land, can be found in several of the NRR's 28 articles¹¹. With respect to agriculture, measures such as enhancing crop diversity, planting and maintaining field margins, flower strips, and other permanent edge habitats or restoring grasslands can imply benefits for farmland birds, at least depending on individual species' needs. The reduction in the use of pesticides, replacing them in part with biological controls, also has high potential to support healthier bird habitats.

¹⁰ <https://www.austriaca.at/?arp=0x004126f8>

¹¹

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32024R1991&qid=1722240349976>

According to the European Academies Science Advisory Council¹², the NRR can become a cornerstone of Europe's climate and biodiversity strategy if it:

1. recognises and **finances** nature's strategic assets, valuing measurable public-good outcomes;
2. delivers **cross-sectoral policy coherence** and governance, aligning incentives and institutions; and
3. mainstreams **preventive restoration**, investing ahead of crisis to secure resilience, fair transition and autonomy.

It thus relies on the Member States, and thus also Germany's willingness to steadfastly enforce the targets of the NRR, to avoid that the NRR will meet a similar fate as the previous environmental policies.

How can BirdWatch play a part?

BirdWatch provides a decision-support system for spatial planning at the landscape level, to

help **define, monitor, evaluate and report on policy targets.**

BirdWatch merges habitat assessments, enabled via satellite remote sensing, with spatial optimisation to evaluate the habitat suitability for farmland breeding birds and to identify practicable agri-environmental measures, taking into account budgetary, policy and operational constraints. It, therefore, represents a **spatially-explicit planning, monitoring and evaluation tool** which uses species-specific habitat suitability as an indicator for habitat quality which can be used, e.g., to evaluate the performance of agri-environmental policies and identify the potential for adjustments, to determine conservation and restoration priorities or to monitor the success of implemented biodiversity measures.

The spatial optimisation approach thereby allows to take spatial conflicts into account, thereby **supporting a coherent, ecologically consistent implementation of policies.**

In addition, the combination of habitat modeling with the exploration of the climatic niche of species in conjunction with climate scenarios can support the assessment of the **impact of changes in the climate** on species. This can, for example, be useful for the evaluation or design of protection zones, which

¹² <https://www.austriaca.at/?arp=0x004126f8>

have been shown to not always fully account for the community impact of changes in climate¹³.

As such, BirdWatch can support the EU's Nature Restoration Regulation with the establishment of National Recovery Plans and support linked monitoring and reporting activities. It also provides an indicator which can be associated with concrete measures on the ground, thereby offering an input for both area- and result-based payment schemes. As BirdWatch's operates on landscape- and regional scale, it is particularly suitable for supporting collaborative, spatially coordinated agri-environmental, restorative and conservational measures.

Project information

BirdWatch - a Copernicus-based service for the improvement of habitat suitability of farmland birds via satellite-enabled monitoring, evaluation and optimisation of CAP greening measures

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<https://www.vlaanderen.be/inbo/publicaties/interactions-between-climate-warming-and-management-actions-determining-bird-community-change-in-protected-areas>