

## AUSTRIA

### Biodiversity's restoration, preservation & enhancement

#### Location

Austria – Nationwide

#### Programming period

2014 – 2020

#### Priority

P4 – Ecosystems  
management

#### Measure

M10 - Agri-environment-  
climate

#### Funding (EUR)

Total budget ≈ 567 mil  
EAFRD ≈ 289 mil  
National/Regional ≈ 278 mil

#### Project duration

2015 – 2020

#### Project promoter

50 392 farmers in 2018

#### Contact

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#### Website

<https://www.bmlrt.gv.at/>

Supporting this environmentally sound and biodiversity-promoting management action is one of the most successful operations of the Austrian Agri-Environmental-Climate Scheme.

### Summary

Over the last decades, agricultural land in Austria has suffered from a continuous decline in biodiversity.

The primary objective of Operation M10.1.1 - Environmentally sound and biodiversity promoting management is to extensively preserve and enhance the country's plant and animal biodiversity.



Any farmer who meets the minimum criteria may participate in this operation which includes such activities as the maintenance of landscape elements, crop rotation, the preservation of grassland, the establishment of biodiversity buffer strips and compulsory education and training.



### Results

In 2018, 47% of all agricultural land in Austria participated in Operation M10.1.1 (excluding mountain pastures). In terms of arable land only, around 52% of the area participated in this Operation and biodiversity strips covered 4% of all arable land in Austria.

The establishment of buffer strips on arable land has had a verifiably positive influence on farmland birds, on species diversity and on single species (for example skylark, whitethroat, partridge and shrike).

In terms of indicator species such as locusts and butterflies, biodiversity strips are significantly richer in species diversity than the surrounding arable land. More biodiversity strips at landscape level increases the biodiversity of indicators species on each single strip.

### Lessons & Recommendations

- ❑  From a biodiversity perspective, the success of this specific Operation rests on two aspects: the immediate nationwide acceptance of the Operation; and the fact that biodiversity buffer strips with at least four insect-pollinated plants were implemented at landscape level on arable land.
- ❑  To ensure the wide acceptance and implementation of such an operation, it is essential to put in place an effective and comprehensive system of advisory services as well as a level of premia that is sufficient to incentives uptake.

## Context

Over the past decades, agricultural landscapes in Austria have recorded a continuous decline in the diversity of habitats and species. This development has particularly impacted the diverse and species-rich agroecosystems.

Between 2007 and 2018 the proportion of high nature value farmland of type 1 (HNVF1 = farmland with a high proportion of semi-natural vegetation) decreased by about 4%. In 2007, the proportion of HNVF1 areas in agricultural land amounted to 14%. By 2018 this proportion had decreased to 10%. On the whole, this decrease in HNVF1 can be explained by the fact that, in recent years, areas of extensively used grassland were either abandoned or subject to intensification.

This development is also reflected in the farmland bird index (FBI) for Austria. Between 1998 and 2018, the farmland bird index showed a 40% loss of the population. This decrease appears to have stabilised between 2014 and 2018.

The main reasons for the negative development of biodiversity indicators (HNVF and FBI) are the continuing intensification of land use practices, as well as the abandonment of endangered grassland-habitats, and the removal of landscape-structures such as hedgerows, single trees, or stone walls.

Landscape elements and biodiversity buffer strips are crucial features to ensure species-richness. They also represent transitional biotopes for migratory species. For these reasons, political interventions are needed to preserve the proportion of HNVF on agricultural land, to stabilise the FBI and secure extensively utilised grasslands.

## Objectives

Operation M10.1.1 covers around 47% of the agricultural land in Austria and is the best-accepted operation within the agri-environmental-climate scheme. Its objectives include:

- Securing a positive and extensive impact on biodiversity by promoting the conservation of landscape elements and making it compulsory to establish biodiversity buffers strips;
- Enhancing the ecological value of agricultural land to provide habitats and refuges for animals and plants; and
- Contributing towards the preservation of a traditional and diverse cultural landscape.

## Activities

All farmers can participate in Operation M10.1.1, as long as they meet the minimum farm size criteria; more than 1ha of permanent crops and special cultures such as fruit, herbs, or more than 2ha of arable fields and/or grassland, and/or permanent crops and special cultures and grazing land on mountain pastures.

Operation M10.1.1 includes commitments on arable and grassland, as well as permanent/special crops and protected crops in the case of payments for landscape elements. Farmers participating in the operation must comply with those rules for a minimum period of five years. This is essential since ecological interventions need time to be successful, effective and sustainable (for example to ensure the return of plants and wildlife).

Farmers participating in M10.1.1 must agree to implement the following compulsory commitments:

- Maintaining landscape elements;
- Practising crop rotation without leguminous crops;
- Preserving the grassland;
- Establishing biodiversity-flower strips and
- Taking part in compulsory education and training.

In terms of meeting the policy objectives (comprehensive and positive effects on biodiversity on agricultural land), the ongoing evaluation of the Austrian Rural Development Program (RDP) clearly showed that the commitments to establish biodiversity-flower strips on arable land were the most successful.

Biodiversity-flower strips are established on arable land or on grassland and have to cover at least 5% of the total farmland. They are created from a seed mixture with at least four insect-pollinated plants and are kept for at least two vegetation periods. If the total area of arable land on a farm is larger than 15 ha, at least 5% of arable land has to be cultivated as biodiversity-flower strips. If the total area of arable land is less than 15 ha, biodiversity-flower strips are located either on arable land or on grassland.

No herbicides, pesticides or fertilisers are allowed on the flower strips. Flower strips are subject to a number of management restrictions: no strip till, at least one cutting per year and no chopping or grazing before the first cutting. Optionally, the flower strips may be replaced with flowering crops, medicinal plants or aromatic spices.

Biodiversity-flower strips are essential refuge habitats for (pollinating) insects, migrating wildlife and plants, particularly in regions of intensive arable farming. The north east region of Austria is one example. According to a national evaluation, in 2018 this region had the highest proportion of biodiversity flower strips (depending on the district, between 6% and 9% of the total arable land was turned into biodiversity buffer strips). These figures suggest a reasonably efficient targeting policy for biodiversity buffer strips in Austria. This is thanks to the district's Chamber of Agriculture, which played an important role in building awareness and providing counselling and advisory services to farmers. The Chambers of Agriculture were also responsible for the entire implementation process of Operation M10.1.1.

A good-practice approach for the optimal distribution of biodiversity buffer strips on arable land can be found for example, in the municipality of Wienerherberg (Lower Austria). There, the spatial distribution of buffer strips was planned and implemented in cooperation with hunters and farmers (this made best use of local knowledge on the wildlife's retreat and migratory behaviour in the region). The prescribed number of insect-pollinated plants was mostly exceeded (the evaluation studies show that the number and diversity of blooming plants is directly linked to the insect-diversity and population of the area). As well as supporting biodiversity, a positive side effect of the buffer strips is that, thanks to the many blooming fields, the local population now flock to the area for walks and hikes.

### Main Results

Operation M10.1.1 has been well accepted. In 2018, 47% of all agricultural land participated in M10.1.1 (excluding mountain pastures). In terms of arable land only, around 52% of the area participated in this operation and biodiversity strips covered 4% of all arable land in Austria. Crucial to the successful and nationwide implementation of the operation was a level of premia that was sufficient to incentives uptake, together with the counselling and advisory services provided by the districts' Chambers of Agriculture.

From a biodiversity perspective, Operation M10.1.1 was a success on arable land. National evaluation studies show that the general and ongoing decline in biodiversity was halted on the participating farms at many different levels

(programme-specific indicators were calculated for structural-, plant-, insect- and bird-diversity).



On average, arable land within M10.1.1 had smaller fields than non-participating arable land. Between 2015 and 2018, the size of fields of arable land not participating in M10.1.1 had, on average, increased faster than those fields which were participating. This development can mainly be attributed to the establishment of biodiversity strips under measure M10.1.1.

In addition, the obligation under M10.1.1 of maintaining landscape elements profited punctual landscape elements (single trees, bushes) which grew in number and size, in contrast to the landscape elements (single trees, bushes) on farms which were not participating in M10.1.1.

The establishment of buffer strips on arable land had a verifiably positive impact on farmland birds, species diversity and on single species (for example skylark, whitethroat, partridge, shrike).

In terms of indicator species, locusts and butterflies, biodiversity strips are significantly richer in species diversity than the surrounding arable land. Having more biodiversity strips at the landscape level also increases the biodiversity of indicator species on each single biodiversity strip.

### Key lessons

From a biodiversity perspective, the key to the success of this specific operation is its high uptake and nationwide acceptance, together with the implementation of biodiversity buffer strips with a minimum of four insect-pollinated plants, at a landscape level on arable land.

The two crucial elements to increased acceptance and effective implementation are an effective and comprehensive system of advisory services as well as a level of premia that is sufficient to incentivise uptake.

Evaluation studies show that the general and ongoing decline of biodiversity on arable land could be halted at different levels on participating farms. Given the continuous decline of biodiversity on agricultural land over the past decades, this intervention can be considered a success.

Nevertheless, to avoid the biodiversity losses experienced in the past, future programming periods will need to ensure that biodiversity is not only preserved but also enhanced.

As one of the most successful operations in the Agri-Environmental-Climate Scheme in Austria in terms of biodiversity preservation, it is important to maintain the M10.1.1 approach. In particular, the commitments to implement a high proportion of biodiversity strips on arable land should be continued.

In order to increase the positive effects on biodiversity, buffer strips should in future:

- Cover an even higher proportion of agricultural land (a proportion of 8% of buffer strips on arable land is recommended for indicator species of locusts and butterflies and a proportion of 7-10% is recommended for farmland birds);
- Induce, stimulate or require a higher number of different insect-pollinated-plants on buffer strips (evaluation studies show the link between the number of blooming plants in biodiversity strips and the diversity of insects); and
- Optimise the planning of the spatial distribution of buffer strips according to the behaviour of wildlife and taking into account the integration and connectivity of other habitats (for example landscape elements and forests).



### Additional sources of information

National evaluation report (in German: Nationaler\_Datailbericht\_2019\_OePUL):

[www.bmnt.gv.at/land/laendl\\_entwicklung/evaluierung/evaluierungsberichte/Evaluierungsbericht-fuer-den-Duchfuehrungszeitraum-2019.html](http://www.bmnt.gv.at/land/laendl_entwicklung/evaluierung/evaluierungsberichte/Evaluierungsbericht-fuer-den-Duchfuehrungszeitraum-2019.html)

Evaluation reports on the effects of the Austrian agri-environmental-climate measures on the indicator species: birds, locusts and butterflies (in German):

[www.bmnt.gv.at/land/laendl\\_entwicklung/evaluierung/Evaluierungsstudien/Biodiversit%C3%A4t-Boden-Wasser-Klima.html](http://www.bmnt.gv.at/land/laendl_entwicklung/evaluierung/Evaluierungsstudien/Biodiversit%C3%A4t-Boden-Wasser-Klima.html)

Special directive concerning the implementation of the Austrian agri-environmental-climate scheme (in German):

[www.bmnt.gv.at/land/laendl\\_entwicklung/foerderinfo/sonderrichtlinien\\_auswahlkriterien/srl\\_oepul.html](http://www.bmnt.gv.at/land/laendl_entwicklung/foerderinfo/sonderrichtlinien_auswahlkriterien/srl_oepul.html)