



Profile – Investigation / Long-term observation

# 'Agricultural Species and Habitats' Monitoring Programme (ALL-EMA)

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## Description

The 'Agricultural Species and Habitats' Monitoring Programme (ALL-EMA) has been recording the status and development of species and habitat diversity both in the Swiss agricultural landscape and in ecological focus areas since 2015. For this, ALL-EMA collects data on habitats and plants and interprets these together with butterfly data from Biodiversity Monitoring Switzerland (BDM) and bird data from the Common Breeding-Birds Monitoring Programme (MHB) collected at the same time in the same study areas. The results on the status and development of the respective biodiversity indicators are published after the conclusion of a five-year survey cycle. Here, the focus is on five main indicators: Habitat diversity in a landscape; Spatial heterogeneity of habitats in a landscape; Local species diversity; Landscape-scale species diversity; and Habitat-typical species diversity. These are supplemented by six additional indicators: Proportion of sampling areas with invasive neophytes; Landscape-scale species diversity of endangered species; Heterogeneity of plant communities within landscapes; Local nutrient indicator values; Extent of wooded areas in landscapes; and Extent of water bodies in the landscapes.

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## Methodology

Methodology used:

ALL-EMA monitors the habitats and species on utilised agricultural land and in the summer grazing area in 170 survey squares of 1 km<sup>2</sup> each in five-year survey cycles. Every year, one-fifth of all survey squares are studied in the field.

Habitats are surveyed during the main flowering season on a regular 50-metre raster, with more-detailed vegetation surveys being conducted at selected raster points to record plant species. In addition, ecological focus areas are investigated. At the same time, BDM collects butterfly data on a 2.5-km-long transect in the same survey squares seven times a year, whilst the MHB collects breeding-bird data over the entire survey area three times a year.

The sampling selection is considered for all analyses, e.g. disproportionately sampled areas are weighted so that the results correspond to a random selection.

Degree of regionalisation:

The survey squares are distributed over all agricultural zones of Switzerland and all regions of the Agriculture-Related Environmental Objectives. This enables comparable indicator values to be determined for these zones and regions as well as for the whole of Switzerland.

Survey date/ period:

Thanks to the continuous data collection, the state of species and habitats in the Swiss agricultural landscape is reassessed every five years by a complete dataset.

Frequency of publication:

- First survey cycle: 2015–2019, i.e. first dataset fully available from 2020
- Second survey cycle: 2020–2024, i.e. data fully available from 2025
- Third survey cycle: 2025–2029, i.e. data fully available from 2030

Variables used:

- Habitats: Survey of habitat type according to Delarze *et al.* 2008 and of habitat-typical plant species
- Plants: Survey of species, including coverage
- Butterflies: Survey of species
- Birds: Survey of species and abundance
- Biodiversity-promoting structures: Survey of occurrence

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- Wooded areas: Survey of extent
  - Ecological focus areas: survey of extent

Links used:

- Biodiversity Monitoring Switzerland (BDM) (butterflies)
- Common Breeding-Birds Monitoring Programme (MHB) (breeding birds)
- Monitoring the Effectiveness of Habitat Conservation in Switzerland (WBS) (especially dry meadows, pastures and fens)
- In principle, georeferenced data collected at the same site can be linked, e.g. from the Agricultural Policy Information System AGIS

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### Revision policy

Methodological revisions:  
Methodological revisions (e.g. optimisation of the methodology for recording biodiversity, adaptation of the variables collected) are performed where necessary, usually at the start of a new five-year survey cycle.

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### Legal foundations

Federal Act on Agriculture, Art. 185 (SR 910.1)  
Ordinance on the Assessment of the Sustainability of Agriculture, Art. 9 (SR 919.118)  
Federal Act on the Protection of the Environment, Art. 10f (SR 814.01)  
Federal Act on the Protection of Nature and Cultural Heritage, Art. 25a (SR 451)  
Ordinance on the Protection of Nature and Cultural Heritage, Art. 27a (SR 451.1)

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### Organisation

The ALL-EMA monitoring programme is conducted at Agroscope by the 'Agricultural Landscape and Biodiversity' Research Group on behalf of the Federal Office for the Environment (FOEN) and the Federal Office for Agriculture (FOAG).

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