



## Further Information

[www.all-ema.ch](http://www.all-ema.ch)

ALL-EMA, the 'Agricultural Species and Habitats' Monitoring Programme, captures the state of and change in species and habitats in the Swiss agricultural landscape, including the summer grazing area. ALL-EMA enables the evaluation of biodiversity-promoting areas and supplies data for answering practice-oriented research questions.

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This leaflet is also available in German, French and Italian.

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**Agroscope**  
Federal Office for Agriculture FOAG  
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# Agricultural Species and Habitats – Capturing Diversity in the Agricultural Landscape



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## ALL-EMA – ‘Agricultural Species and Habitats’ Monitoring Programme

In order to produce sustainably, agriculture is dependent upon an intact environment. Bees pollinate crops, and other beneficial insects control pests. Conversely, countless wild species are dependent upon habitats in the agricultural landscape. Agriculture has recognised these connections, and has taken measures to preserve and promote agricultural biodiversity.

How do biodiversity and habitats develop in the Swiss agricultural landscape?

How effective are biodiversity-promoting areas?

Answers to questions such as these are provided by ALL-EMA, the ‘Agricultural Species and Habitats’ monitoring programme.

### Aims:

1. Monitoring of species and habitats
2. Evaluation of biodiversity-promoting areas
3. Answering practice-oriented research questions

Enshrined in the agri-environmental monitoring programme of the Swiss Federal Office for Agriculture, ALL-EMA supplements already existing national biodiversity-monitoring programmes of the Federal Office for the Environment. ALL-EMA collects data on vegetation in the agricultural landscape, and uses faunistic data from the Swiss Biodiversity Monitoring Programme.

Agroscope, the Swiss Federal Institute for Forest, Snow and Landscape Research WSL and the Swiss Biodiversity Monitoring Programme as well as numerous other experts are partners in development and implementation.

### ALL-EMA Phases:

#### 2015 to 2019: First Survey Cycle

Mappings are carried out between April and August. Every year, one-fifth of the 170 sampling areas spread across Switzerland are mapped.

#### 2020: Comprehensive Analyses on the State of Biodiversity

The results will be published.

#### 2020 to 2024: Second Survey Cycle

Statements on changes will be possible after completion of the Second Survey Cycle in 2025.



## Measuring Diversity

The monitoring of species and habitats involves more than observing trends in species numbers. Where what particular quality of habitats exists and how the quality develops is also important. ALL-EMA calculates five different indicator groups: the diversity of habitats and structures; their biological quality; biodiversity; the quality of species; and the quality of biodiversity-promoting areas.

### 1 Diversity of Habitats and Structures

How great is the habitat diversity of the agricultural landscape? Is this diversity being preserved, promoted and developed? How intensively is the agricultural landscape used?

### 2 Biological Quality of Habitats and Structures

The same habitat types can differ greatly in terms of their quality. How do we assess the biological quality of habitats? Are suitable habitats available in the necessary quality for the furtherance of selected species?

### 3 Biodiversity

Does agriculture preserve and promote biodiversity on farmland? What are the impacts of various forms of agricultural use?

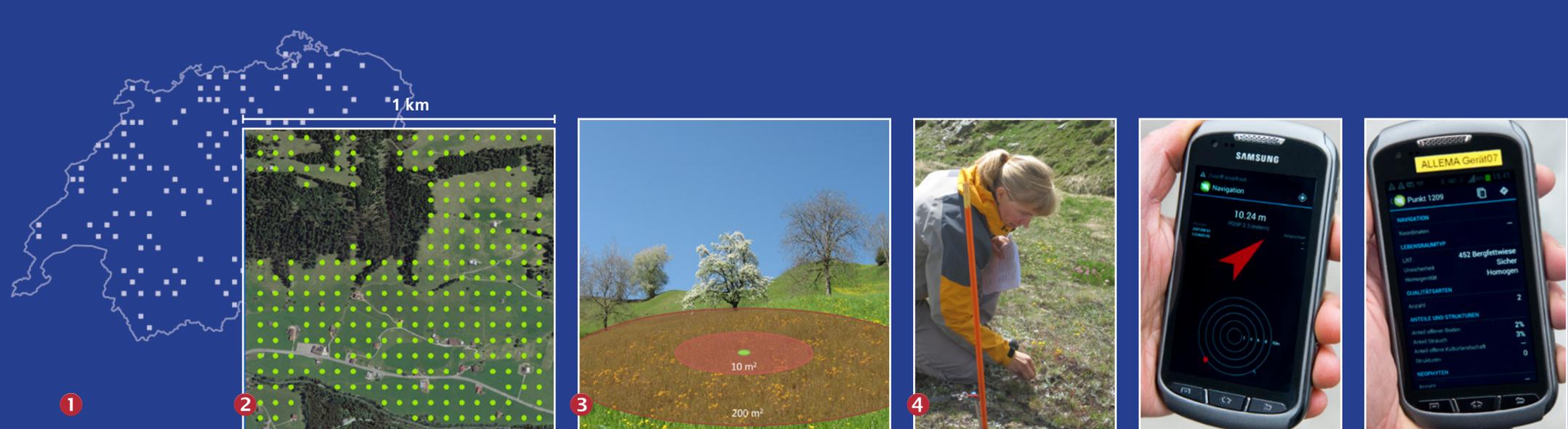
ALL-EMA relies on biodiversity-monitoring data for calculating indicators for breeding birds and butterflies.

### 4 Quality of Species

Agri-environmental targets define plant and animal species that serve as quality indicators. How are these represented in the agricultural landscape? Are there changes in their occurrence?

### 5 Quality of Biodiversity-Promoting Areas

What is the state of the quality of biodiversity-promoting areas, and how are the latter changing? Can the diversity and quality of habitats, structures and species be preserved and encouraged through biodiversity-promoting areas?



## ALL-EMA survey method

- 1 Data collection takes place in 170 landscape segments with an area of one square kilometre each. Habitat types, the quality of the plant communities and biodiversity-promoting structures are all ascertained.
- 2 Within these one-square-kilometre plots, studies are carried out every five years on a regular fifty-metre sampling raster. Only plots which form part of the agricultural landscape are studied.

- 3 The habitat type and its biological quality are determined every 50 metres on a 10-square-metre area. On a 200-square-metre area, agricultural-landscape structures such as hedges, tall trees and bodies of water are recorded.
- 4 Within each square kilometre all plant species are determined on twenty selected plots of ten square metres each.



Top/left: The areas studied are located by means of a GPS device.

Top/right: Data is entered directly into the smartphone.

Left: Agroscope has developed a key for ALL-EMA which enables the determination of habitats in the open agricultural landscape. This key distinguishes 86 habitats, e.g. rich mountain pastures, rich plain pastures and nutrient-rich herbaceous margins.