

Agriculture has a responsibility for bird conservation

The federal government has defined target and characteristic species that merit special conservation efforts in agricultural environments. Despite the government objectives, these species have undergone a marked decline. The available instruments such as biodiversity promotion areas and habitat connectivity projects are suitable, but need to be implemented much more rigorously.

Like in most European countries, the pressure on biodiversity in Switzerland is particularly intense in agricultural habitats. Many species have declined significantly since the 1950s, and so the number of farmland breeding birds on the Red List is particularly high^{RLCH}. Great Grey Shrike and Woodchat Shrike, two typical farmland species, have gone completely, and Grey Partridge and Ortolan Bunting are on the verge of disappearing.

Biodiversity promotion areas

In the past decades, the federal government has made several instruments available to stop the decline and pave the way for positive trends. Since the 1990s, farmers have received direct payments only if they adhere to certain ecological requirements. These regulations require farmers to allocate at least 7 % of farmland to biodiversity promotion areas (for special crops such as wine or vegetable growing the requirement is only 3.5 %). These are areas managed at low intensity to promote species diversity. They most frequently consist of low-intensity meadows (no fertiliser, late mowing), traditional orchards, and hedgerows. Biodiversity promotion areas are classified into two quality levels determined either by the occurrence of certain indicator plants (e.g. in the case of low-intensity meadows) or by habitat structures (e.g. in the case of traditional orchards and hedgerows). Farmers receive direct payments for designating biodiversity promotion areas. Since 2000, they can earn

additional subsidies if they establish these areas according to a regional concept. These habitat connectivity projects define quantitative targets regarding the number and quality of the various types of biodiversity areas. In 2016, farmers on average registered 17.6 % of their farmland as biodiversity promotion areas⁷. On the Central Plateau, this corresponds to 20 000 ha of high-quality sites (quality level II plus wildflower plots and rotational fallows). However, back in 1995, the Swiss Landscape Concept declared a target of 65 000 ha of high-quality habitats on the Central Plateau⁸. That means that two thirds of the desired high-quality areas are still missing today.

Typical farmland species under pressure

The objective of biodiversity promotion areas is to enhance species diversity. The farmland species selected for special protection are listed in the federal government's «Environmental Objectives in Agriculture» (EOA)². Among breeding birds, 29 species are classified as target species and 18 as characteristic species. Target species populations are to be conserved and promoted in their natural area of distribution – the efforts thus focus on direct conservation measures. The populations of characteristic species are to be supported by providing sufficiently large and well-distributed areas of suitable, high-quality habitat². Characteristic species are thus considered representatives of an ecological community.



Distribution in 2013–2016 of 47 breeding bird species included in the «Environmental Objectives in Agriculture» (EOA). The map combines all species maps.

The combined distribution map of all EOA species in 2013–2016 shows that the largest number of species are found in the western part of the Central Plateau, especially in the Champagne genevoise and the Seeland BE/FR. Biodiversity promotion areas have repeatedly been proven to have a positive impact on local biodiversity^{11, 13, 17}. Birds also benefit, especially from high-quality areas^{1, 2, 4, 14, 15, 16, 19, 20}. While certain species such as Red Kite, Eurasian Green Woodpecker, Common Kestrel and Common Stonechat have increased in large parts of the country since 1990, there has been an overall decline of EOA species since 1993–1996, as the map illustrating occurrence change since 1993–1996 shows. Gains have only been recorded in certain locations, such as the Orbe plain VD and the Ajoie JU. Interestingly, positive changes have also been reported in farmland areas that have undergone extensive ecological restorations in the past decades, such as the Geneva region^{3, 12}, the Seeland^{5, 6} and the Klettgau SH¹⁶. Species that benefit from such measures include Common Whitethroat, Stonechat, Red-backed Shrike and Yellowhammer. In contrast, the occurrence change maps show that ecologically enhanced grassland areas (e.g. Wauwiler Ebene LU^{9, 10} or the Rhine Valley in the Canton of St. Gallen¹⁸) do only slightly better than the surrounding areas.

Further efforts are necessary

Overall, the decline of farmland birds has continued throughout the country. We are a long way from achieving the federal conservation goal for EOA species. Nevertheless, several positive examples demonstrate that the conservation of EOA species is achievable using the available instruments (biodiversity promotion areas, habitat connectivity projects etc.). We have failed to do so in large parts of the country because the importance of reaching quality level II on biodiversity promotion areas has been underestimated, and because the connectivity projects are insufficiently oriented towards the needs of target species.

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Wildflower plots are especially effective biodiversity promotion areas when it comes to the conservation of birds. The picture shows a four-year-old, richly structured area in the foreground. The tall stems serve as song perches for the Common Stonechat. Further in the background, poppies dominate the patchier, one-year-old plant growth.

¹ Aschwanden et al. (2005); ² BAFU & BLW (2008)/OFEV & OFAG (2008); ³ Birrer & Oppermann (2012); ⁴ Birrer et al. (2013a); ⁵ Birrer et al. (2013b); ⁶ Birrer et al. (2016); ⁷ BLW (2016)/OFAG (2016)/UFAG (2016); ⁸ BUWAL (1995); ⁹ Graf (2016); ¹⁰ Graf (2017); ¹¹ Herzog et al. (2005); ¹² Jenny et al. (2002a–b); ¹³ Kampmann et al. (2012); ¹⁴ Martinez & Birrer (2017); ¹⁵ Martinez et al. (2017); ¹⁶ Meichtry-Stier et al. (2014); ¹⁷ Roth et al. (2008); ¹⁸ Rudin et al. (2010); ¹⁹ Zellweger-Fischer et al. (2018); ²⁰ Zollinger (2017); ²¹ Zollinger et al. (2013)

Species

pages 102, 266, 286, 302, 312, 317, 318, 426, 480, 554, 558

Number of species/km²



In Switzerland, farmland birds are among the most vulnerable species: distribution change since 1993–1996 of EOA species. The map is a combination of distribution change maps for 35 species (not including Corncrake, Eurasian Curlew, Common Snipe, Common Barn-owl, Eurasian Scops-owl, Northern Long-eared Owl, Common Hoopoe, Woodchat Shrike, Marsh Warbler, Collared Flycatcher, Western Yellow Wagtail and Ortolan Bunting, for which no maps are available).