Abstract

Farmland bird populations in Europe have been in decline for a long time. Agricultural intensification and growing a large share of crops that provide suboptimal breeding habitat could be the main causes of the observed decline. To explore these possible drivers, I focused on population trends of farmland bird species in different habitats in the Czech Republic over the periods 1982–1990 and 1990–2010. Specifically, I focused on the variability in trends within each species in respect to the differences in landscape management between the lowlands and mid-altitude areas before and after 1990. The expected effect of intensive farming in the lowlands until 1990 was reflected by a strong decline in populations of Northern Lapwing and Yellowhammer. The influence of less intensive farming in mid-altitude areas causing moderate population decline was confirmed rather by shrubs and trees species than farmland specialists. After 1990, less intensive farming in the lowlands should reduce the decline, which may have occurred, but compelling comparison of population trends between the two time periods was not possible for most species due to the lack of data. On the contrary, more intensive population decline in mid-altitudes after 1990, which should be the response to arable land abandonment, was not confirmed. Populations were stable or increasing, both for farmland specialists and shrubs and trees species.

In the field research I found the influence of vegetation height and crop type (spring vs. autumn-sown) on change in the density of farmland birds during the breeding season 2011. Autumn-sown crops hosted more individuals in the early season whereas, according to the international studies, spring-sown crops should be more favoured later in the breeding season. But the expected shift from autumn-sown crops was not directly confirmed. It is probably caused by a similar temporal development of bird abundance at autumn and spring cereals – both types hosted large numbers of individuals at the beginning of breeding season.

Keywords: farmland birds, bird population trends, population dynamics, agriculture