

Science for Environment Policy

Birds could provide a simple means of identifying high nature value farmland

New research from central Italy shows that high nature value farmland in the region can be accurately identified by the presence of just four bird species. Once such groups of species have been identified for different regions, they can provide a quick and inexpensive tool for assessing the ecological value of farmland, the researchers say.

Agriculture is a major **land use** across Europe and farmland that provides habitat for wildlife is vital to prevent further decline of **biodiversity**. Such 'high nature value' (HNV) farmland is defined in Europe as one of three types¹: (i) farmland with a high proportion of semi-natural vegetation, (ii) farmland dominated by low intensity agriculture, (iii) farmland supporting rare species or a high proportion of European or global populations. Identifying farms and farming practices that can protect and enhance natural habitats is key to designing policy measures to halt biodiversity decline.

In this study, researchers set out to identify a species, or group of species, whose presence could be used as an indicator of HNV farmland, i.e. if these birds are seen at a site, it can be assumed that the site is likely to be HNV. The study site, an agricultural area in the Marche region of central Italy, covers 65 000 hectares encompassing a wide variety of farming practices. The researchers selected 160 sites, which they classified as either HNV or non-HNV on the basis of habitat types and features, such as hedgerows and trees, found over a three hectare area at each site. They then visited each site between May and June 2011 at least twice to record all species of bird seen or heard over a 10 minute period.

The results demonstrated that the presence of just four species together indicated HNV farmland with an accuracy of 82%. These were: two generalist birds, the blackbird (*Turdus merula*) and the Italian sparrow (*Passer italiae*), and two specialist birds, the common whitethroat (*Sylvia communis*) and the corn bunting (*Emberiza calandra*).

This group of species can be used to quickly and easily identify HNV farmland in the region and could be valuable as an ecological assessment tool to evaluate the success of policies and measures such as agri-environmental schemes, the study's authors say.

Furthermore, they could also be used as a monitoring system. If one or more species disappears from a site, this would act as an alarm bell for ecological degradation. The researchers note that different regions and countries are likely to require different groups of species. However, once identified, they could provide a quick and inexpensive tool to assess the conservation potential of farmland. Further research in this area could provide more information on this potentially valuable tool.

The results also support findings from previous studies which have shown enhanced species richness in HNV areas. Overall, 34% of the sites studied (54 of the 160) were classified as HNV and the analysis showed that the numbers of bird species in these areas were statistically significantly higher (an average of 16.8 species) than at non-HNV sites (which had an average of 14.5 species).

Hedgerows were the most important habitat feature, with five common species significantly more likely to be recorded at sites with hedgerows. Other important features included shrubs, trees and uncultivated areas, such as field margins.



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Contact:
federico.morelli@uniurb.it;
l.jerzak@wnb.uz.zgora.pl;
piotr.tryjanowski@gmail.com

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1. Developing a High Nature Value Indicator, report for the European Environment Agency. See: http://www.ieep.eu/assets/646/Developing_HNV_indicator.pdf