



Agriculture, policy and farmland birds

August 2020

Mark Avery did a remarkable job summarising agriculture-related issues over the last 50 years (*BB eye, Brit. Birds* 113: 310–312). I birdwatched from the mid 1960s, worked on pests of field crops in the Government's agriculture advisory arm (NAAS/ADAS) from 1970, and witnessed at first hand the huge agricultural changes taking place at that time. Our view of farmland bird trends is often framed in the last 25 or, as in Mark's article, an admirable 50 years, using CBC and BBS data. However, there were big changes happening in agriculture and wildlife before that, albeit poorly documented. Four of these changes are worth highlighting, as they set the context for those that came in the 1970s.

Firstly, the universal introduction of tractors in the twentieth century brought rapid mowing of the then species-rich grasslands that dominated the UK. The speed of cutting is well known to have effectively removed the Corn Crake *Crex crex* from most of the UK and must have caused similarly dramatic losses in other animals, for example Orthoptera. I have witnessed the mortality and injury caused by mechanical cutting in the Bulgarian Rhodope Mountains, and compared these cut meadows directly with hand-scythed meadows seething with grasshoppers (Acrididae) and bush-cricket (Tettigoniidae). The abundance of Cirl Buntings *Emberiza cirlus*, Corn

Buntings *E. calandra* and Red-backed Shrikes *Lanius collurio* feeding themselves and their broods on these easily caught, protein-rich insects in those meadows suggests that they may once have been of vital importance to those birds in the UK's grasslands. It is worth noting that grassland was the dominant land cover in the UK before the Second World War.

Secondly, the widespread introduction of artificial fertilisers fundamentally simplified the botanical (and hence invertebrate) composition of most farmland. In grassland, forbs were out-competed by a few species of grasses, notably the swards typically dominated by ryegrass *Lolium* spp. that are so familiar today, and annual seed-bearing plants ('weeds') were swamped out in tall, dense arable crops. Since 1970, the high densities of livestock, especially sheep, supported by more productive swards and encouraged by EU headage payments, led to widespread compaction of soils, the microbe balances of which are also upset by nitrogen application. (My personal view is that artificial nitrogen fertiliser has probably caused the indirect loss of more wildlife since the Second World War than any other single factor, pesticides included.)

Thirdly, the requirement to plough much grassland during the Second World War and grow arable food crops caused the loss of vast areas of species-rich grassland. In fairness, in the absence of modern intensive methods those arable crops no doubt boosted the populations of many species that we now regard as 'farmland birds' (which are dominated by those dependent on arable farming).

Fourthly, the post-war establishment of advisory services promoted intensification and led to further depletion in wildlife through the likes of grants for land drainage and hedgerow removal. Agronomic advice helped to promote the reseeded of grassland and a shift in cereal cropping to favour spring-sown barley, which incidentally, for example, led to an increase in Corn Buntings in the West Midlands (Harrison *et al.* 1982).

All of these huge impacts on farmland wildlife happened before 1970. Let us not forget them.

References

Harrison, G. R. H., Dean, A. R., Richards, A. J., & Smallshire, D. 1982. *The Birds of the West Midlands*. West Midland Bird Club.

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