

nature and has thoughtlessly, perhaps, destroyed the principal natural enemies of these creatures.

Man himself is almost powerless to stop their ravages to any great extent. The constant exercise of his ingenuity in trapping and so forth results in very little and occupies his time to no purpose. The natural enemies of these animals are gifted with special faculties for their destruction and so are able to cope with them. Chief among the enemies of this class of farm pests are the Hawks, Owls, Shrikes and Crows. These birds are wonderfully provided by nature with the means to fulfill their part in maintaining the correct balance between the small rodents and plant life, and if not destroyed by man would so keep down the numbers of these four-footed thieves that their plundering would be scarcely noticeable.

Unfortunately all the birds of prey are considered by uninformed people to be chiefly poultry killers and therefore enemies, while the truth is that, with but few exceptions, as is shown further on, our common species are beneficial; and should be protected.

The incessant destruction of these birds if permitted to continue will sooner or later result in such an increase of mice that they will become a devastating plague, as they have several times in Great Britain and notably in Scotland in the years 1888 to 1892, when parts of Roxburghshire, Selkirk, Peebles, Lanark and Dumfries were over-run by field mice and every growing thing practically destroyed. In order to ascertain the cause of this outbreak, and if possible find a remedy, a committee was appointed by the British Board of Agriculture of which the Earl of Minto, our late Governor-General, was, I think, chairman.

Evidence was given before this Committee by about eighty farmers and shepherds and by several gamekeepers; their testimony proving conclusively (1) That the effect of the outbreak was to practically destroy all crops. (2) That the cause of the increase in number of the mice was the destruction of hawks, owls, weasels, and other natural enemies of the mice. (3) That remedies are expensive and difficult of application. Poison on small enclosed areas was efficacious, but its application over farms, even if practicable, would be attended with much risk to other forms of life. Traps, while successful in destroying many, are troublesome to make and expensive.

Cats, though tried on a large scale, were of no service whatever. Large numbers of mice were killed by men and terrier dogs; systematic work by man and several dogs giving better results than any other method employed, one man with his dogs having destroyed fifteen thousand in a month.

The result of this investigation was that the persecution of Hawks and Owls ceased and these birds soon gathered in the district affected in sufficient numbers to clear off the mice.

No phenomenon in connection with the plague of field mice in Scotland was more marked than the arrival and continued residence in the affected districts of large numbers of the Short-eared Owl. This bird, which is distributed over every part of the world and used to be quite abundant in Canada, is a regular winter migrant to the British Islands, arriving there in autumn and departing in the spring. Under ordinary circumstances it very rarely nested in Great Britain, but in consequence of the vast multiplication of their chief food, the meadow mice, these Owls not only flocked to the spot in great numbers, but as they were undisturbed, and in fact protected, they remained and bred freely in the infested district, laying too a larger number of eggs for each brood than is usual with them and they also raised more than one brood in the season. The Owls destroyed so many of the mice in feeding their young, that on some of the farms the shepherds stated that the

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The Gosl any numbers to entertain v which it was suffered great powerful bird its boldness and consequently l occurs in winter whose food h farm-yard du