Mass mortality of seabirds in GB

In the period between August and November 2021, there were unprecedented autumn deaths of seabirds, predominantly auks such as guillemots (Uria aalge) and razorbills (Alca torda), in eastern Scotland and England. A total of 179 carcases, comprising 150 common guillemots and 29 razorbills, were collected from beaches (Fig 1) and submitted to Scotland's Rural College (SRUC), the APHA and the Royal (Dick) School of Veterinary Studies for investigation to determine the cause of death, and for avian influenza surveillance.Due to severe autolysis, full examination of all carcases was not possible and this preliminary account focuses on the guillemots (Fig 2). Bodyweights for 60 guillemots of mixed age ranged from 400–800 g (mean 592 g, SD 100); where recorded by age, weights ranged from 430–700 g for juveniles in their first year of life, and 676–719 g for older birds. These results contrast with a mean recorded bodyweight of 1092 g for apparently healthy adult guillemots in August 1984 and 1985.[1] A subset of guillemots were aged according to plumage characteristics and/or sexed. Of these, 38 were juvenile, comprising 12 males and 26 of undetermined sex, and 16 were adult, comprising one male, one female and 14 of undetermined sex. In addition, there were nine males and seven females of undetermined age. Of the 142 guillemots tested, all were negative by PCR for avian influenza virus and West Nile virus. There were no gross lesions to suggest systemic infectious Due to severe autolysis, full examination of all carcases was not possible and this preliminary account focuses on the guillemots (Fig **2**). Bodyweights for 60 guillemots of mixed age ranged from 400–800 g (mean 592 g, SD 100); where recorded by age, weights ranged from 430–700 g for juveniles in their first year of life, and 676–719 g for older birds. These results contrast with a mean recorded bodyweight of 1092 g for apparently healthy adult guillemots in August 1984 and 1985.[1] A subset of guillemots were aged according to plumage characteristics and/or sexed. Of these, 38 were juvenile, comprising 12 males and 26 of undetermined sex, and 16 were adult, comprising one male, one female and 14 of undetermined sex. In addition, there were nine males and seven females of undetermined age.
Of the 142 guillemots tested, all were negative by PCR for avian influenza virus and West Nile virus. There were no gross lesions to suggest systemic infectious disease. Helminthosis (probable *Contracaecum* species) of variable severity, sometimes associated with inflammation of the gizzard and proventriculus, was present in 28 out of 56 birds. Therefore, the common findings were that the majority were underweight and in poor body condition (little food was found in their gizzards). A more detailed account is in preparation.

High mortality at this time of the year, in the absence of storms, is unusual in guillemots and razorbills and the birds were experiencing comparatively benign weather conditions at the time. These two species moult their flight feathers in late summer, so are flightless for several weeks, and fathers are accompanied by the chick during this period. As such, they have less mobility than most seabirds at this time of year.

It appears that mortality was due to starvation and reduced mobility may have been a contributory factor if there was a marked reduction in the local availability of their principal prey, small shoaling fish, or an inability to catch these fish. Other potential underlying causes are being investigated, including examinations for the presence of harmful algal toxins and other possible water pollutants.