

# Largest lake in Britain and Ireland has lost three-quarters of winter water birds

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The largest lake in Britain and Ireland, Lough Neagh, has lost more than three quarters of its overwintering water birds according to researchers at Queen's University Belfast.

The study by Quercus, Northern Ireland's Centre for Biodiversity and Conservation Science, found the number of diving ducks migrating to the lake for the winter months has dropped from 100,000 to less than 21,000 in the space of a decade.

The research, published in the journal *Freshwater Biology*, found the ecosystem of the lake has dramatically changed since 2000/01 leading to a huge decline in the numbers of insects and snails living at the bottom of the lake. This combined with the effects of global [climate change](#) dramatically affected the numbers of migratory and overwintering water birds, a feature for which the lake is designated a Special Protection Area.

Dr Irena Tománková, from Quercus at the School of Biological Sciences at Queen's and who led the study, said: "Our research found there was a 66 per cent decline in the numbers of insects and snails in the lake and that this was associated with a decline of algae. As the water birds, which migrate from Northern and Eastern Europe to spend the winter months on the lake, depend on these invertebrates, we partly attribute their decline to the lack of food as well as the effects of climate change.

"Historically the [lake](#) was heavily affected by organic pollution as a

result of nutrients from agricultural run-off. This artificially boosted its productivity. Now that conservation schemes are beginning to have an effect and reduce levels of pollution we are seeing increasing water quality and the unexpected consequence is fewer invertebrates and as a result less duck food."

An associated study published earlier this year showed that numbers of some key water bird species declined throughout south-western Europe at the same time as numbers equally dramatically increased in north-eastern Europe. The reason is that winter temperatures in

Northern Europe have increased by 3.8oC in the past 30 years, meaning that lakes which used to be frozen over in winter are now available for the birds to feed on. Less food in Lough Neagh and more ice-free lakes closer to the bird's natural breeding grounds mean that ducks simply no longer need to fly as far south-west and as a result Lough Neagh has lost some of its importance for overwintering water birds.

Ian Enlander, from the Northern Ireland Environment Agency (NIEA), said: "It is critically important for conservationists and policy makers to understand the reasons behind the dramatic changes that have been recorded at Lough Neagh. This work has been an outstanding contribution to improving our knowledge for this site. It underlines the need for international conservation measures to apply across the entire range of these migratory species."

**More information:** [onlinelibrary.wiley.com/doi/10 ...  
1/fwb.12261/abstract](https://onlinelibrary.wiley.com/doi/10.1111/fwb.12261/abstract)

Provided by Queen's University Belfast

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