

The wetter the better for daddy longlegs - and birds

April 5 2011

(PhysOrg.com) -- Keeping moorland soils wet could prove vital in conserving some of Britain's important upland breeding bird species – by protecting the humble daddy longlegs, according to new research.

In spring, thousands of adult crane-flies (daddy longlegs) emerge from the peat soils of UK mountains and moorland, providing a vital food source for breeding birds, such as Golden Plover, and their chicks.

New research by scientists at the University of York, the Royal Society for the Protection of Birds and Aberystwyth University provides experimental evidence that management to restore the condition of our upland peat bogs may also make these vulnerable habitats more resilient to [climate change](#).

In a paper published in *Global Change Biology*, they have shown that more crane-flies emerge from wetter areas of upland peat bogs, and that ongoing efforts to restore degraded peat soils can benefit crane-fly populations too. The researchers believe that the reduction in crane-fly populations caused by peatland drainage could intensify as the climate changes, posing a real risk to upland birds.

Matthew Carroll, the lead author of the paper and a PhD student in the Department of Biology at York, said: “Although upland peat bogs seem very wet, some areas can actually be fairly dry. In these drier areas, we always found lower numbers of crane-flies. Where the peat was wetter, crane-flies were more abundant. This is particularly important as climate

change could cause peat surfaces to become drier. We urgently need to find ways to make upland ecosystems more resilient to these changes.”

Large areas of British peat were drained in the 20th Century in an attempt to improve upland agriculture, though many drains are now being blocked often to improve water quality.

“We wanted to know if there are also conservation benefits. Our experiment compared areas with blocked and open drains. We found that not only was peat around the blocked drains wetter, but more crane-flies emerged,” he added.

Author Dr Peter Dennis, from the Centre for Integrated Research in the Rural Environment at Aberystwyth University, said: "Mountain species of crane-flies are adapted to the cold and wet conditions of peatlands. A larger proportion of small, young leatherjackets (the larval stages of the crane-flies) dry out and die if conditions become too warm and dry."

Author Chris Thomas, Professor of Conservation Biology at York, added: “Climate change projections show that the British uplands will experience warmer, drier summers. This could be damaging enough to cause crane-fly numbers to crash. If we lose the crane-flies, then the birds that rely on them are likely to decline.

“Peat soils are one of the most important terrestrial stores of carbon. If they become too dry, they will stop accumulating carbon as new peat, and could even become sources of carbon, through erosion or oxidation of the peat. It will be the driest areas, such as those subject to drainage, that will show these problems first. Ensuring that upland peat soils remain wet will be a vital step if we are to conserve our unique upland ecosystems and the vital ecosystem services they provide.”

Dr James Pearce-Higgins, of the British Trust for Ornithology, said:

'Crane-flies are an important food source for many upland birds, such as Golden Plovers, but are sensitive to hot summer conditions. Golden Plover chicks tend to survive better when there are lots of crane-flies, and therefore Golden Plover populations are vulnerable to future warming.'

Dr Steven Ewing, RSPB conservation scientist said: "This study shows that we need to keep our upland peat bogs wet to ensure they continue to support important wildlife. The wetter the bogs are, the more resilient they are to climate change and the better they are for crane-flies and the birds that rely on them.

"On our nature reserves in the Pennines and the North of Scotland, we are blocking drains and raising water levels to restore bogs. Away from our own land, we are working with farmers, water companies and Government agencies to promote peatland restoration and make sure that both people and wildlife can benefit from healthy uplands."

Provided by University of York

Citation: The wetter the better for daddy longlegs - and birds (2011, April 5) retrieved 13 May 2024 from <https://phys.org/news/2011-04-wetter-daddy-longlegs-birds.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.