

Redshank redemption?

Jennifer Smart says well-managed grassland could help some coastal birds cope with climate change.

Imagine strolling along a sea wall in June. Saltmarsh stretches seawards. Skylarks sing, and breeding redshank are everywhere—standing tall and watching over their young. To landward, coastal grassland teems with life. Lapwings are tumbling in the sky and avocets and redshank feed on plentiful insects around shallow pools.

Now imagine the same coastal walk in 40 years, in a warmer climate and changed landscape. In my scenario, local sea level has risen by 50cm because polar ice has melted, and the warmer oceans have expanded. The saltmarsh is a barren mudflat. Winter flooding has destroyed the coastal grasslands. Drier weather has long since evaporated all the pools, and young lapwings, redshanks and avocets can't survive without the insects these once provided.

It sounds extreme, but something similar could happen to our low-lying coastlines. For the last three years, I have investigated options for managing our coastlines to avoid losing their fantastic wildlife.

Letting the rising sea move landwards would help. This 'managed realignment' could give new saltmarshes room to develop (sea defences usually prevent this). But suitable land is often important coastal grassland, so one conservation area would be traded off against another. Managed realignment is also slow. It takes time for new saltmarsh to grow and mature. When we counted the redshank on saltmarsh sites of various ages, and compared these to mature sites, we found it may be 80 years before newly created saltmarsh matches mature sites.

Another option may be to create or manage inland grasslands so they support some of the species displaced from our changing coasts. We wanted to investigate the quality of various coastal and inland habitats. We used redshank because they breed across the range of coastal and inland habitats of interest.

Saltmarsh supported the most breeding redshank, followed by coastal grassland, then inland grassland. But when we studied the birds' breeding success, we got a surprise. On saltmarsh and coastal grassland, almost no young survived because of predation, and tidal flooding washing away nests. But on inland grasslands, half the pairs produced at least one fledgling.

Inland grassland could be even better than saltmarsh for redshank. Sympathetically managed, could it support other coastal birds? Historical information shows such land can be managed very effectively, dramatically increasing the number of many species within five years.

So although managed realignment is the only way to safeguard our saltmarshes, creating and managing inland grasslands could provide alternative areas for some coastal birds to breed successfully. If we could increase the area of inland grassland managed for conservation, that would help compensate for the inevitable loss of coastal habitats as our climate warms and sea-levels rise.

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Want to know more?

To find out more about the Tyndall Centre's research into sustaining the coastal zone, visit www.tyndall.ac.uk/research/theme4/theme4.shtml.

The site also offers a workbook designed for 11–14-year-olds and their teachers. This study was published as a research paper in the UK. *Wader Study Group Bulletin*, vol. 100, pp80-85. If you'd like a copy, contact jennifer.smart@uea.ac.uk.

Redshank chick in grass.

Kevin Simmonds

