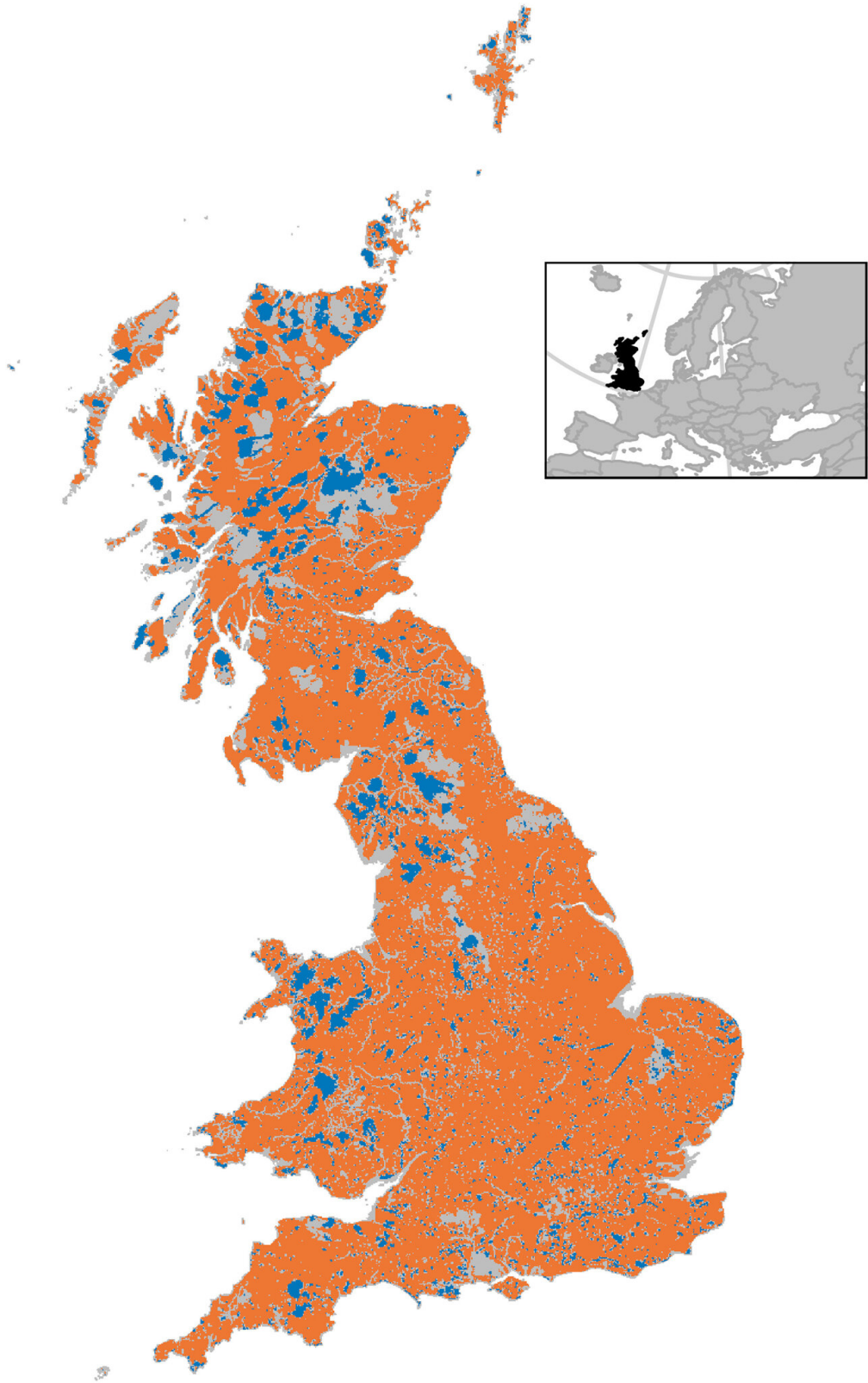


# More effective protected areas needed to halt biodiversity loss

January 23 2023

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 Protected  Unprotected

Protected area status across Great Britain. 1 km grid cells (British grid) were classified as protected if > 10 % of the grid cell area was designated as Tier 1 (Lawton, 2010) in 1990 (blue; 9 % of total grid cells) and as unprotected if Biological Conservation (2023). DOI: 10.1016/j.biocon.2022.109884

Protected natural areas of the UK are struggling to halt declines in insects and spiders that have occurred over the past 30 years, according to a new study led by researchers from the UK Centre for Ecology & Hydrology (UKCEH).

Nature reserves, Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation and other forms of protected habitat have long been regarded as a key tool in [conservation efforts](#) to preserve and restore [natural habitats](#).

But the new study, which collated nearly one million records for more than 1,230 [invertebrate species](#) between 1990 and 2018, suggests these protected areas are just as susceptible to the wider declines in biodiversity occurring across the country.

The authors found that protected areas were richer in species than unprotected areas of the country, but both areas have suffered similar rates of decline in native insects and spiders over the past 30 years.

Pollinators, such as bees and hoverflies, have suffered particularly severe declines, according to the findings.

The results suggest that while protected areas are helping to conserve valuable habitats and the species within them, they need more assistance

to tackle wider threats posed by [climate change](#), pollution and [invasive species](#) that are causing biodiversity loss across the country.

"We see parallel trends for invertebrates in both protected and unprotected areas," said Dr. Rob Cooke, an ecological modeler at UKCEH and lead author of the study. "It is worrying, as you would expect species to show more positive trends in protected areas."

The declines found in the study equate to the loss of more than three species per decade for protected areas and less than two species per decade for unprotected areas.

The study, which is published in the journal *Biological Conservation*, used data from a number of different invertebrate recording schemes across the UK that contained observations of ants, bees, hoverflies, ladybirds, spiders and wasps. Dr. Cooke, together with UKCEH colleagues Dr. Francesca Mancini, Dr. Robin Boyd, Dr. Nick Isaac and researchers at the University of Sheffield, then examined changes in biodiversity through the study period.

They found there were almost double the number of rare species in protected areas compared to unprotected parts of the UK. The trends of these rare species also remained stable in both protected and [unprotected areas](#), suggesting they were benefiting from conservation efforts. But the authors found strong declines for common species, especially in protected areas.

Dr. Cooke said, "Protected areas are often designated specifically to help rare species. But the more common species appear to be falling through the cracks. It should serve as a warning as today's [common species](#) can be tomorrow's [rare species](#)."

The researchers conclude that the large number of protected areas

around the UK could play a bigger role in the future. Protected areas have supported some notable conservation success stories, such as the bittern, the ladybird spider and the chalkhill blue butterfly. But the authors suggest more can be done to ensure protected areas are benefitting all of the country's biodiversity. They say evidence-based policies, targets and management focused more on the effectiveness, rather than just the coverage of protected areas, may be needed.

Dr. Cooke added, "I think the positive thing we can take from this is that we have a clear opportunity to make protected areas better for biodiversity."

**More information:** Rob Cooke et al, Protected areas support more species than unprotected areas in Great Britain, but lose them equally rapidly, *Biological Conservation* (2023). [DOI: 10.1016/j.biocon.2022.109884](https://doi.org/10.1016/j.biocon.2022.109884)

Provided by UK Centre for Ecology & Hydrology

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