Crops at risk as wild bees vanish from huge swathes of countryside

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Wild bees are disappearing from broad swathes of Britain, according to the most comprehensive study yet of the country’s pollinators.

The research shows that each square kilometre lost an average of 11 species of bee and hoverfly between 1980 and 2013.

Experts said that the figures were alarming and called for measures to protect pollinating insects, whose activities are worth an estimated £700 million a year to farmers.

The geographical range of the average species has declined by 25 per cent, with habitat loss and pesticides believed to be important causes. For a subset of species that prefer cooler upland regions such as the Peak District, and may be more vulnerable to climate change, the average range fell by more than 50 per cent.

Not all wild bees have been in retreat. Twenty-two species, including red-tailed and buff-tailed bumblebees, have expanded their territories since 1980. However, the distribution of even these vital pollinators fell by about 20 per cent between 2006 and 2013.

Gary Powney, from the Centre for Ecology & Hydrology, who led the research, said: “While the overall increase in key crop pollinators is good news, they are a relatively small group of species. With species having declined overall, it would be risky to rely on this group to support the long-term food security for our country.”

The study suggests that bee populations fell into steep decline in 2006, roughly coinciding with the introduction of clothianidin, a neonicotinoid insecticide. Its use on outdoor crops was banned last year. By contrast, the distribution of hoverflies, another crucial group of pollinators, has been falling steadily for more than 30 years.

Dave Goulson, from the University of Sussex, said that the trends reflected a less diverse ecosystem. “The tougher, more generalist species such as the buff-tailed bumblebee come to dominate pollinator communities, while the more specialised species disappear,” he said.

Managed honeybees can meet about a third of Britain’s pollination needs; the rest relies on wild species.

The analysis, published in the journal Nature Communications, drew on more than 700,000 reports compiled by amateur experts who tracked 353 species. A third of the species declined in terms of the area over which they were seen, while a tenth increased. For the remainder, distribution was either stable or the trend inconclusive.

Upland species are doing the worst. Solitary bees, which mainly live in burrows in the ground or in hedgerows, trees or walls, are mostly declining. Tom Oliver, from the University of Reading, said that their plight was a concern. “These species are important for the pollination of fruit such as apples and, crucially, for the pollination of hundreds of wildflower plants.” Lynn Dicks, from the University of East Anglia, said: “This pattern of biodiversity loss is happening everywhere we look. It’s a process of homogenisation and leaves us with a natural world that is far poorer and less resilient to change.”

Most of the data was collected by naturalists in the Bees, Wasps and Ants Recording Society and the Hoverfly Recording Scheme. They observed more than 19,000 1km by 1km squares across Britain.

It is thought to be the country’s first large, long-term, species-specific estimate of distribution change for pollinating insects.
The ivy bee was a rare success, with numbers rising 16 per cent a year.