

Cocktail of multiple pressures combine to threaten the world's pollinating insects

A new review of insect pollinators of crops and wild plants has concluded they are under threat globally from a cocktail of multiple pressures, and their decline or loss could have profound environmental, human health and economic consequences.

Globally, insects provide pollination services to about 75% of crop species and enable reproduction in up to 94% of wild flowering plants. One estimate valued the pollination services provided by insects worldwide at over US\$200 billion.

The [review, published today \(22 April 2013\) in the scientific journal 'Frontiers in Ecology and the Environment'](#), was carried out by an international team of 40 scientists from 27 institutions involved in the UK's Insect Pollinators Initiative (IPI), a research programme investigating the causes and consequences of pollinator decline.

Dr Adam Vanbergen from the UK's Centre for Ecology & Hydrology and science coordinator of the IPI led the review. He said, "There is no single smoking gun behind pollinator declines, instead there is a cocktail of multiple pressures that can combine to threaten these insects. For example, the loss of food resources in intensively-farmed landscapes, pesticides and diseases are individually important threats, but are also likely to combine and exacerbate the negative impacts on pollinators"

Co-author Professor Simon Potts from the University of Reading said, "Pollinators are the unsung heroes of the insect world and ensure our crops are properly pollinated so we have a secure supply of nutritious food in our shops. The costs of taking action now to tackle the multiple threats to pollinators is much smaller than the long-term costs to our food security and ecosystem stability. Failure by governments to take decisive steps now only sets us up for bigger problems in the future."

Co-author Professor Graham Stone at Edinburgh University's Institute of Evolutionary Biology says, "a major challenge is going to be understanding the whole ecosystem effects of the specific threats faced by specific pollinators. Complicated as this is, this is nevertheless what we need to do if we want to predict overall impacts on pollination services."