

# Highest winter losses in recent years for honey bees in Scotland

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Soaring numbers of honey bees died last winter, University of Strathclyde research has revealed.

A survey, run by Strathclyde academics on behalf of the Scottish Beekeepers' Association, indicated 31.3 per cent of managed [honey bee colonies](#) in Scotland failed to survive last winter – almost double the previous year's loss rate of 15.9 per cent.

Dr Alison Gray and Magnus Peterson, of Strathclyde's Department of Mathematics and Statistics, warn the figures ought to be of major concern because bees play a [pivotal role](#) in [crop pollination](#), [agricultural yields](#) and, therefore, [food supply](#) and prices.

Last winter's figures represent 156 [colonies](#) lost during the winter of 2012-13, out of a total of 498 colonies being managed by beekeepers taking part in the survey. Furthermore, 67 of the 117 beekeepers who provided useable data reported losing at least some of their colonies between 1 October 2012 and 1 April 2013.

Dr Gray said: "This is an extremely high loss rate.

"In fact, the loss rate last winter is the highest we have found since these surveys began in 2006 – and is similar to that over the winter of 2009-10, when we estimate that 30.9 per cent of colonies were lost.

"Results from European colleagues conducting similar surveys show that

the loss rate in Scotland is amongst the highest in Europe this year, while similarly high losses have been reported recently from England and Wales."

The results were based on responses to online and postal questionnaires from a random sample of 300 members of the Scottish Beekeepers' Association, which is thought to represent most of the country's estimated 1,300 beekeepers.

Since the spring of 2008, Mr Peterson has also been collecting data twice a year, from a network of volunteers across Scotland, on wild honey bees – those not managed by beekeepers and which instead live in habitats such as hollow trees and the roofs of old buildings. Last winter, 11 out of 20 wild [honey bee](#) colonies known to be alive last September – and reported on this spring – are known to have died.

Mr Peterson said: "The latest results indicate a low survival rate, of just 45 per cent, amongst feral colonies over this last winter. This is the worst winter survival rate amongst the feral colonies known to the volunteers since they started monitoring them five years ago."

Dr Gray told how bees face many challenges internationally. She said: "Honey bees worldwide are having to contend with habitat loss and reduction in variety of forage sources due to pressures of intensifying land use, increasing spread of new and old pests – caused by globalisation of trade in bees and bee products – as well as possible adverse effects of agricultural pesticides.

"For bees in northern Europe, poor weather conditions – combined with these various other factors which impact adversely on bees – are certainly making beekeeping a challenge and survival difficult for honey bees generally.

"The difficult weather conditions are a particular problem in Scotland, with severe winters followed by long cold wet springs being a problem, especially if it comes after a poor wet summer as in this last year."

In April, Rural Affairs Secretary Richard Lochhead announced the Scottish Government was making £200,000 available to help commercial bee farmers to restock and rebuild their colonies, which were devastated by prolonged [winter weather conditions](#).

**More information:** For further information on international bee numbers – gathered by research network COLOSS – visit [www.coloss.org/documents/coloss ... ss-release-july-2013](http://www.coloss.org/documents/coloss-ss-release-july-2013)

Recent article on England's figures: [www.theguardian.com/environment ... onies-england-winter](http://www.theguardian.com/environment/2013/dec/19/bee-colonies-england-winter)

Provided by University of Strathclyde, Glasgow

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