

# US sees massive drop in bumble bees: study (Update)

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A bumble bee collects pollen on flowers in Washington, DC. Weakened by inbreeding and disease, bumble bees have died off at an astonishing rate over the past 20 years, with some US populations diving more than 90 percent, according to a new study.

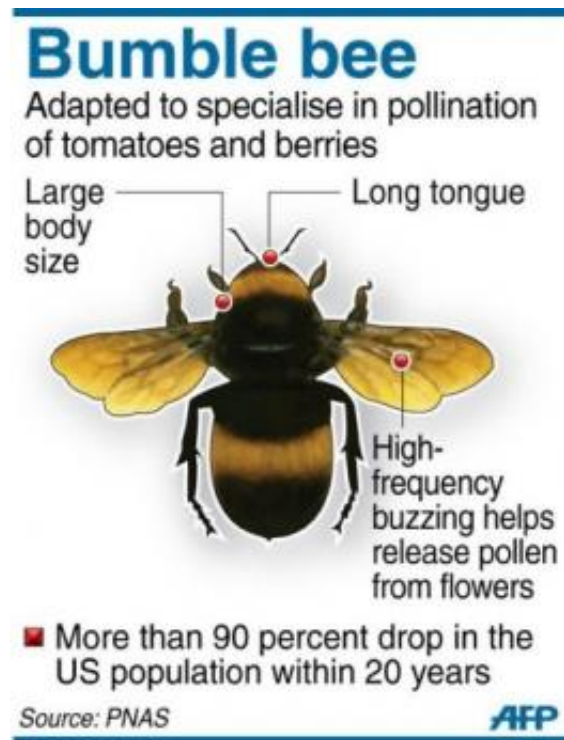
Weakened by inbreeding and disease, bumble bees have died off at an astonishing rate over the past 20 years, with some US populations diving more than 90 percent, according to a new study.

The findings are of concern because bees play a crucial role in pollinating crops such as tomatoes, peppers and berries, said the findings of a three-year study published in the Proceedings of the National Academy of Sciences (PNAS).

Similar declines have also been seen in Europe and Asia, said Sydney Cameron, of the Department of Entomology and Institute for Genomic Biology at the University of Illinois, the main author of the study.

"The decline of bumble bees in the US is associated with two things we were able to study: the pathogen *Nosema bombi* and a decline in genetic diversity. But we are not saying *Nosema* is the cause. We don't know," said Cameron.

"It's just an association. There may be other causes."



Fact file on bumble bees. US populations of the species have dropped more than 90 percent in 20 years, according to a new study.

He added that the decline is "huge and recent," having taken place in the last two decades.

*Nosema bombi* is a bee pathogen that has also afflicted European bumble bees.

Researchers examined eight species of North American bumble bees and found that the "relative abundance of four species has dropped by more than 90 percent, suggesting die-offs further supported by shrinking geographic ranges," said the study.

"Compared with species of relatively stable population sizes, the dwindling bee species had low genetic diversity, potentially rendering them prone to pathogens and environmental pressures."

Their cousins, the honey bees, have also experienced catastrophic die-offs since 2006 in a phenomenon known as "colony collapse disorder," though the causes have yet to be fully determined.



Bees play a crucial role in pollinating crops such as tomatoes, peppers and berries and their decline would have a serious impact on agriculture. Some US populations have declined by 90 percent.

Bumble bees also make honey, but it is used to feed the colony, not farmed for human consumption.

They are however raised in Europe for pollinating greenhouse vegetables in a multi-billion-dollar industry that has more recently taken off in Japan and Israel and is being developed in Mexico and China, Cameron said.

"We need to start to develop other bees for pollination beside honey bees, because they are suffering enormously," he added.

There are around 250 species of bumble bee, including 50 in the United States alone.

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