



# *Bee conservation: inclusive solutions*

Article

Accepted Version

Kleijn, D., Biesmeijer, K., Dupont, Y. L., Nielsen, A., Potts, S. G. and Settele, J. (2018) Bee conservation: inclusive solutions. *Science*, 360 (6387). pp. 389-390. ISSN 0036-8075 doi: <https://doi.org/10.1126/science.aat2054> Available at <http://centaur.reading.ac.uk/82033/>

It is advisable to refer to the publisher's version if you intend to cite from the work. See [Guidance on citing](#).

To link to this article DOI: <http://dx.doi.org/10.1126/science.aat2054>

Publisher: American Association for the Advancement of Science

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in the [End User Agreement](#).

[www.reading.ac.uk/centaur](http://www.reading.ac.uk/centaur)

**CentAUR**

Central Archive at the University of Reading

Reading's research outputs online

## Bee conservation needs inclusive solutions

In their Perspective “Conserving honey bees does not help wildlife” (26 January, p. 392) J. Geldmann and J. P. González-Varo point out that promoting managed honey bees does not help wild pollinators. We agree that at high densities honeybees can adversely affect wild pollinator populations. However, focusing only on the negative aspects of their interactions may ultimately be counterproductive for both wild and managed pollinators.

Several countries (including Belgium, Denmark, and The Netherlands) have increasingly restricted honey bee access to protected areas based on incomplete evidence for negative impacts on wild pollinators and plants (1, 2). Such restrictions are mostly symbolic acts given that honey bees can forage up to 10 km from their hive and continue to use resources within protected areas even when hives remain outside (3). However, the regulations fuel tensions between beekeepers and conservationists.

A more productive approach would be to promote the suite of pollinators—both wild and managed—that provide pollination services to crops and wild plants (4). A united front of beekeepers and conservation organizations, together representing millions of citizens, is more likely to succeed in driving policy changes and public awareness than different sectors advocating either wild or managed species. New generations of initiatives to promote pollinators such as the Dutch Bee Strategy, the English National Pollinator Strategy, and the International Pollinator Initiative all use this inclusive approach. Furthermore, all of these initiatives include the agricultural and environmental sectors, as well as the private sectors, because only solutions that are supported by all parties can deliver sustainable results.

Whether considering food security, national economies, or nature conservation, we must safeguard both wild and managed pollinators. Arguing that one group is more important than another overlooks the key global challenges and opportunities that wider society needs to address.

David Kleijn,<sup>1</sup> Koos Biesmeijer,<sup>2,3</sup> Yoko L. Dupont,<sup>4</sup> Anders Nielsen,<sup>5</sup> Simon G. Potts,<sup>6</sup> Josef Settele<sup>7</sup>

<sup>1</sup>Plant Ecology and Nature Conservation Group, Wageningen University, Wageningen, Netherlands.

<sup>2</sup>Naturalis Biodiversity Center, 2300 RA Leiden, Netherlands. <sup>3</sup>Institute for Environmental Sciences Leiden University, 2300 RA Leiden, Netherlands.

<sup>4</sup>Department of Bioscience, Aarhus University, Denmark. <sup>5</sup>Centre for Ecological and Evolutionary Synthesis (CEES), Department of Biosciences, University of Oslo, Norway. <sup>6</sup>Centre for Agri-Environmental Research, School of Agriculture, Policy, and Development, Reading University,

Reading, RG6 6AR, UK. <sup>7</sup>Helmholtz Centre for Environmental Research–UFZ, Department of Community Ecology, 06120 Halle, Germany.  
\*Corresponding author. Email: david.kleijn@wur.nl

### REFERENCES

- 1.R. E. Mallingier, H. R. Gaines-Day, C. Gratton, *PLOS One* **12**, 32 (2017).
- 2.D. R. Paini, *Austral Ecol.* **29**, 399 (2004).
- 3.M. Beekman, F. L. W. Ratnieks, *Funct. Ecol.* **14**, 490 (2000).
- 4.IPBEES, “The assessment report on pollinators, pollination, and food production,” S. G. Potts *et al.*, Eds. (2016); [www.ipbes.net/assessment-reports-0](http://www.ipbes.net/assessment-reports-0).

10.1126/science.aat2054