

A systems approach reveals urban pollinator hotspots and conservation opportunities

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Author:

Katherine C. R. Baldock, Mark A. Goddard, Damien M. Hicks, William E. Kunin, Nadine Mitschunas, Helen Morse, Lynne M. Osgathorpe, Simon G. Potts, Kirsty M. Robertson, Anna V. Scott, Phillip P. A. Staniczenko, Graham N. Stone, Ian P. Vaughan & Jane Memmott

Abstract

Urban areas are often perceived to have lower biodiversity than the wider countryside, but a few small-scale studies suggest that some urban land uses can support substantial pollinator populations. We present a large-scale, well-replicated study of floral resources and pollinators in 360 sites incorporating all major land uses in four British cities. Using a systems approach, we developed Bayesian network models integrating pollinator dispersal and resource switching to estimate city-scale effects of management interventions on plant-pollinator community robustness to species loss. We show that residential gardens and allotments (community gardens) are pollinator 'hotspots': gardens due to their extensive area, and allotments due to their high pollinator diversity and leverage on city-scale plant-pollinator community robustness. Household income was positively associated with pollinator abundance in gardens, highlighting the influence of socioeconomic factors. Our results underpin urban planning recommendations to enhance pollinator conservation, using increasing city-scale community robustness as our measure of success.

Read the article in [Nature Ecology and Evolution](#) [1].

Associated SESYNC Researcher(s):

[pstaniczenko](#) [2]

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