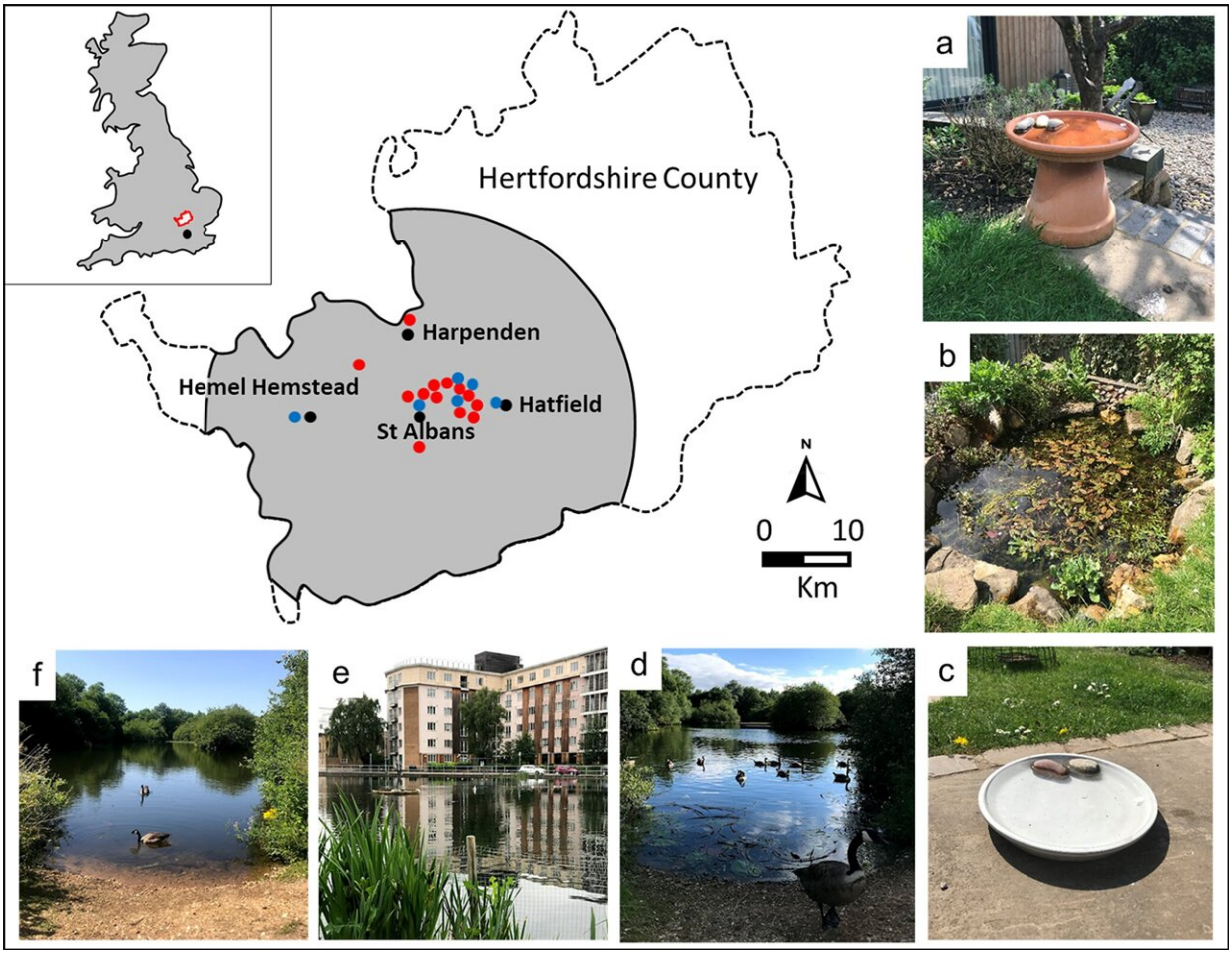
Just add water: Garden ponds and bird baths help wildlife thrive, study finds

June 27 2023



Location of residential gardens (red dot) and urban lakes (blue dot) within Hertfordshire County (---), United Kingdom, where wildlife surveys were undertaken during June and July 2021. Shading on the main map indicates a 20 km radius from St Albans within which all survey sites and questionnaire respondents were located. Inset shows location of Hertfordshire (red dashed line

---) north of London (•) within the United Kingdom. Photos illustrate examples of garden water sources including (a) a bird bath, (b) a pond, (c) a ground water-bowl and urban lakes (d–f) where wildlife surveys were undertaken. Credit: *Urban Ecosystems* (2023). DOI: 10.1007/s11252-023-01391-3

Providing water sources in residential gardens helps wildlife thrive, according to new University of Bristol-led research. The study, published in *Urban Ecosystems*, compared the quantity and variety of wildlife visiting urban lake water sources and residential gardens in England and found no difference in the number of small-bodied wildlife that visited.

Researchers from Bristol Vet School, in collaboration with the University of Western Australia, wanted to find out how much garden water sources contribute to improving wildlife-friendly conservation.

During the summer of 2021, researchers recorded the amount, variety and potential value to animal wildlife of garden water sources such as ponds and bird baths in 105 residential gardens in Hertfordshire, England.

The team used data from an online questionnaire completed by 105 people with residential gardens in St Albans, Hemel Hempstead, Hatfield and Harpenden. Of these, more than 70% of questionnaire respondents said they had at least one water source in their garden and almost half had two or more. In addition to questionnaire data, 207 hours of field observations were taken, comprising 135 hours in 12 gardens and 72 hours at six lakes.

A total of 43 different species of birds, including five known exotic species, insects, mammals, amphibians, reptiles were observed visiting

both urban lakes and garden bird baths, ponds and ground water-bowls.

The team's analysis found there was no difference in the number of smaller species of wildlife visiting urban lakes and residential gardens, nor among individual water source types. Their results reveal garden water sources are as vital as urban lakes for helping wildlife thrive.

Dr. Nicola Rooney, Senior Lecturer in Wildlife and Conservation at Bristol Veterinary School and one of the paper's authors, said, "These results demonstrate garden water sources, especially for smaller-bodied animals, can supplement the wildlife values contributed by urban lakes, particularly during periods of hot, dry weather."

Esther Gibbons, the study's first author and a 5th year Bristol Vet School student who carried out the study as part of her Msc in Global Wildlife Health and Conservation research project, added, "Animals use water for several reasons, including habitat, drinking, bathing and reproduction. As human populations within urban areas grow, the capacity of natural aquatic habitats to support biodiversity across multiple functional levels is reduced.

"In many regions, climate drying and warming compound these threats, further altering the capacity of natural habitats to support wildlife."

Dr. Paul Close, co-author from the University of Western Australia, said, "This study highlights the valuable international collaboration in research student supervision between the two universities that continues to develop strong career-ready postgraduates, and contribute meaningful outcomes to global wildlife management."

More information: Esther K. Gibbons et al, Water in the city: visitation of animal wildlife to garden water sources and urban lakes, *Urban Ecosystems* (2023). DOI: 10.1007/s11252-023-01391-3

Provided by University of Bristol