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Wild ways: a cross-sectional study investigating gardening for wildlife in London's private residential gardens

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ABSTRACT

This study investigates gardening for wildlife in London's private gardens. Using a cross-sectional design, a digital questionnaire was completed by 660 Londoners. Results revealed that providing food (53%), water (50%), and homes for wildlife (47%) are the most common practices. Creating habitat corridors (29%) and nature-friendly gardening (37%) are less frequent. Among respondents not practicing wildlife gardening but intending to (9.4%), providing food and water for wildlife is the most common intended practice. Conservation organisation membership, larger garden size, and older age commonly increase the odds of gardening for wildlife and its practices. The findings suggest that interventions should target conservation group members and those with larger gardens who are older, while also promoting simple actions such as food and water provision to broaden participation. The high engagement rate in gardening for wildlife (82%) indicates growing public interest in London's biodiversity. The study highlights the potential of residential gardens to contribute to London's goals of increasing greenery and biodiversity through 'urban rewilding', and equivalent goals in other cities. Collaboration with conservation organisations and tailored messaging for smaller outdoor spaces may enhance future rewilding efforts.

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Behaviour change; biodiversity; urban rewilding; wildlife; gardening; sustainable cities

Introduction

Gardening for wildlife has huge potential to support wildlife conservation (Goddard *et al.* 2010), residents' health and wellbeing (Luck *et al.* 2011, Wood *et al.* 2018) and climate-change resilience (Gill *et al.* 2007, Sandifer *et al.* 2015) in cities by increasing vegetation and biodiversity in private residential gardens. Vegetated gardens can support significant biodiversity (Shwartz *et al.* 2013) as they cover substantial areas of cities around the world (Mathieu *et al.* 2007) and can form wildlife corridors between larger habitats in public green spaces (Vergnes *et al.* 2013). Vegetated gardens can promote residents' health by improving air quality (Cai 2021), and residents' wellbeing by reducing noise perception (Dzhambov and Dimitrova 2015) and offering daily connection with nature (van den Bosch and Nieuwenhuijsen 2017). Vegetated gardens can help both limit climate change, through carbon absorption (Whittinghill *et al.* 2014), and offer resilience to the effects of climate change by countering flood risk (Kelly 2018) and overheating (Bowler *et al.* 2010).

Gardening for wildlife can therefore be seen as an important contributor to 'urban rewilding'. An extensive new definition of the term by Finnerty *et al.* (2025) highlights the overarching aims for wildlife to, 'increase wildness, enhance ecosystem function, optimize trophic level occupation and food webs, restore historical species assemblages, and foster more self-sustaining ecosystems that, in turn, improve resilience to future disturbances', alongside aims for people to, 'engage local communities, create opportunities for people to connect with local ecosystems, and foster a stronger sense of environmental stewardship'. In terms of action Finnerty et al. cite active or passive, 'reintroduction of locally extirpated, missing, or surrogate faunal species into habitat patches, parks, and reserves within or adjacent to human commercial or residential areas' (Finnerty *et al.* 2025). This definition usefully expands on Jørgensen's (2015) loose definition of rewilding, interpreted for an urban context as incorporating 'native plants and animals into urban infrastructure' (Mills *et al.* 2017), which has hitherto underpinned this study (Webb and Moxon 2021).

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Gardening for wildlife aims to optimise biodiversity through wildlife-friendly gardening practices (Goddard *et al.* 2010), which create a variety of habitats (Davies *et al.* 2009) and avoid degrading habitats through, for example, use of pesticides (Shwartz *et al.* 2013) or replacing vegetation with hard surfaces (Smith 2010). Whether this consists of nature-friendly gardening practices, such as planting native or nectar-rich plants; providing habitats, such as ponds; putting out food and water; or leaving wild corners (Mumaw and Mata 2022), small changes in gardens can have a significant positive impact on biodiversity, across invertebrates, amphibians, birds, mammals and plants (García-Antúnez *et al.* 2023). The wildlife such actions intend to support is complex to define, but generally accepted to mean animals and plants that are undomesticated, with a preference towards native species (Tian *et al.* 2023). Human beings also benefit, as residents engaging in gardening for wildlife report a positive impact on their wellbeing (Goddard *et al.* 2013).

The capital of the UK, London, offers an apt setting to study gardening for wildlife's contribution to urban rewilding as a model for other cities worldwide, given its status as the world's first National Park City and associated commitments to become 'greener, healthier and wilder' (London National Park City 2018). The Mayor of London's drive to set new global standards for urban rewilding is highlighted by their publication of the National Park City charter (National Park City Foundation 2023), London Rewilding Taskforce's roadmap for rewilding (Greater London Authority 2023) and the London Environment Strategy, setting out goals to make over half of London green space and increase its tree cover by 10% by 2050 (Mayor of London 2018). Given that many other cities worldwide have become or are transitioning towards becoming National Park Cities (National Park City Foundation 2025), London offers a useful model for wider application.

London is a bustling metropolis, with a population of 8.9 million (Statista 2025), but it is also home to a rich variety of wildlife, hosting 15,000 species (Greater London Authority 2019), from pollinating insects and birds to urban foxes and hedgehogs (London Wildlife Trust 2025). However, habitat loss, alongside climate change, is putting increasing pressure on these species (Hayes 2014).

London's gardens can connect Londoners with nature, as 79% of London residents have access to a private outdoor space, either with sole or shared use (ONS 2020a). The Greater London area covers a geographical region of 1,569 km^2 (Semudara 2024). Private gardens make up 23% of Greater London's land area and account for 14% of vegetated greenspace (Greenspace Information for Greater London CIC 2023). There are an estimated 3.8 million individual private garden plots in London counting front, back and other kinds separately (Smith 2010).

Rationale for this research

This study focuses on gardening for wildlife, specifically actions that London residents can take to support wildlife in their private gardens. Research in this area is needed, as none of London's rewilding initiatives covers existing private residential gardens, which could represent a significant part of the process. Engaging city residents in rewilding London and other cities, including through their own gardens, is recommended in reports from the Zoological Society London (Pettorelli *et al.* 2022) and the Mayor of London's Rewilding Task Force (Greater London Authority 2023).

Byerly *et al.* (2018) identify the need to build up behavioural insights to achieve sustainability goals. To influence behaviour, it is important to first understand behaviour. It has been suggested that a number of personal characteristics may influence 'green' behaviours in the broadest sense, including age, gender, religion, and social class (Gifford and Nilsson, 2014). To date, no research has quantitatively investigated the behaviour of gardening for wildlife in relation to London's private garden spaces.

The research has two objectives:

(1) To investigate the gardening for wildlife practices taking place in London's private gardens.
(2) To investigate the influence of demographic factors on the likelihood to garden for wildlife.

Method

Study design

This observational research uses a cross-sectional design employing a digital questionnaire. The questionnaire is included as Supplementary File 1. This research forms part of a larger research project on urban-rewilding behaviour in London's private residential gardens, the protocol for which has been published previously (Webb and Moxon 2021). This research adheres to the STrengthening the Reporting of OBservational studies in

Epidemiology (STROBE) checklist for reporting of research (STROBE 2025) (Supplementary File 2).

Variables and measures

A digital questionnaire was developed by the research team combining questions used in other well-established surveys, the details of which are provided in the section that follows. The digital questionnaire was created and distributed using Qualtrics software. The questionnaire was pilot-tested with a small participant group ($n = 7$), comprising both academics in the field and lay people, to ensure understanding with minor adjustments made.

Gardening for wildlife

Data was collected on gardening practices that could benefit wildlife (provision of food, water, homes, connectivity, and/or nature-friendly gardening methods) within the past year. Participants were also asked about their intention to take part in gardening for wildlife practices within the coming 12-months. The options provided were summarised from the Wildlife Trusts' 2023 'Wildlife Gardening Survey' with detailed examples provided for each gardening practice as outlined in Table 1 (The Wildlife Trusts 2025). Participants were also given an 'other' option if the examples provided did not cover their specific gardening practice.

Demographic factors

Data was collected on age, gender, ethnicity, religious beliefs, occupation, household income, accommodation type, home ownership status, garden type, shared garden or not, dependents, and conservation-organisation membership as possible influences on gardening for wildlife.

Participants were asked if they consider themselves as actively practicing a religion with responses limited to 'yes', 'no', and 'prefer not to say'. Household income was categorised as less than £20,000, less than £40,000, less than £60,000, less than £100,000, and more than £100,000. Occupation was collected using the wording from the National Readership Survey (National Readership Survey 2025); ethnicity, home ownership, and accommodation type used questions from the ONS Census 2021 in England (Office for National Statistics 2020), with garden-size collected using a question from the Royal Society for the Protection of Birds – Big Garden Birdwatch survey (*Big Garden Birdwatch FAQs*, n.d.) asking participants if they have a large garden (approximately greater than or equal to the size of a tennis court), a small garden (approximately smaller than a tennis court), a courtyard garden, a terrace or roof garden, or a balcony or window box.

Setting and participants

This research aimed to investigate gardening for wildlife in private gardens in London, therefore, only adults living in a London borough with the ability to provide research consent, were eligible to complete the questionnaire and participte in the study. Responses were encouraged by entry into a draw for completed questionnaires to win a £100 shopping voucher.

A convenience sampling method was employed to recruit participants due to its practicality and efficiency in data collection. The link to the digital questionnaire was distributed through the networks of London Metropolitan University and its partners by email between June and November 2023. The limitations of using a convenience sample are acknowledged, particularly the potential for selection bias.

Study size

Considering the adult population of London is estimated to be 8.9 million (Statista 2025), for 99% confidence in the results with a 5% margin of error a sample of 666 was sought, and a final sample of was 660 achieved. It is noted that not all questions within the questionnaire had a complete data set, as outlined in the Results section, however, missing data was no more than 10.5% for any one data variable.

Data analysis

The following questions were asked of the data:

Table 1. Gardening practice examples used in the questionnaire.

Gardening practice	Examples provided in the questionnaire
Providing food for wildlife	Bird feeders, flowers for pollinators, native plants
Providing water for wildlife	Bird bath, pond, bee bowl, bog garden
Providing homes for wildlife	Nest boxes, insect hotels, log/leaf piles, mature tree, meadow
Providing connectivity for wildlife	Fence gaps, boundary hedges, rows of trees
Using nature-friendly gardening methods	Compost bin, peat-free compost, avoiding chemical use, limiting garden maintenance

(1) What types of gardening for wildlife practices are most popular?
(2) Are age, gender, household income, occupation, ethnicity, religious beliefs, accommodation type, home ownership status, garden type, shared garden status, dependants, or conservation organisation membership associated with gardening for wildlife?

Question 1 was assessed using descriptive statistics (totals and percentages). Question 2 was assessed using binary logistic regression, with practicing gardening for wildlife within the last 12-months (yes or no) the main dichotomous dependent variable. Secondary analysis, again using binary logistic regression, investigated the predictability of the demographic factors on the specific types of gardening for wildlife practices, namely provision of food, water, homes, garden connectivity, and nature-friendly gardening practices. To ensure consistency and comparability across all regression models, all 12 independent variables were included in each model regardless of their individual bivariate significance with a given outcome. This decision was based on a preliminary analysis showing that each variable was significantly associated ($p \leq .05$) with at least one of the wildlife gardening practices. This inclusive approach reduced the risk of omitted variable bias and facilitated interpretation across models.

Table 2 presents each variable, its type, and how the variable was included within the logistic regression.

To assess the assumption of linearity in the logit for continuous and ordinal predictors included in the logistic regression models, the Box-Tidwell test was conducted. For the variables of age, household income, garden type, and accommodation type an interaction term between the variable and its natural logarithm was computed and included in a bivariate logistic regression model. The non-significant results ($p > .05$) for all interaction terms indicated that the assumption of linearity of the logit was met, and these variables were subsequently retained as continuous predictors in the final models.

Multicollinearity among independent variables was assessed using Variance Inflation Factors (VIF) and Tolerance values obtained through a linear regression model including all predictors. All variables had VIF values well below the commonly accepted threshold of 5 and Tolerance values above 0.2, indicating no evidence of multicollinearity.

Prior to multivariable logistic regression, missing data across independent variables were assessed. Ten of the twelve variables had minimal missing data (< 3%), while two variables, garden type and shared garden status, exhibited moderate missingness (5.75% and 10.45%, respectively). To reduce data loss and avoid potential bias associated with listwise deletion, multiple imputation was applied to these two variables using fully conditional specification in SPSS. Five imputed datasets were generated and pooled for analysis. All other variables with minimal missingness are retained in their original form. This approach enabled retention of the full sample while appropriately accounting for uncertainty in the imputed values. No outliers were identified within the dataset. The data set is available on request.

Results

Participant characteristics

The questionnaire was completed by 660 people. The questionnaire had full coverage across the 32 London boroughs, as presented in Figure 1.

Table 2. Variables in the logistic regression.

Variable	Type (Original)	Treatment in Regression
Age	Continuous	No change
Gender	Categorical (4 levels)	Included as a dichotomous variable of 'Male' (2) and 'Female' (1). 'Prefer not to say' and 'non-binary' excluded due to small number
Household income	Ordinal (5 levels based on increasing income bracket)	Included as a continuous variable with less than £20,000 entered as 1, and over £100,000 entered as 5
Occupation	Categorical (7 levels)	Dummy coded with 'State pensioner or unemployed' as the reference category
Ethnicity	Categorical (13 levels)	Collapsed into two categories being 'non-White' (0) and 'White' (1)
Religious beliefs	Categorical (3 levels)	Dummy coded, with 'No beliefs' as the reference category
Accommodation type	Ordinal (5 levels based on increasing house size)	Included as a continuous variable with 'caravan' entered as 1, 'flat' 2, 'terraced house' 3, 'semi-detached house' 4, and 'detached house' 5
Home ownership status	Categorical (4 levels)	Dummy coded with 'no ownership and living rent free' as the reference category
Garden type	Ordinal (4 levels based on increasing garden size)	Included as a continuous variable with 'balcony or window' entered as 1, 'terrace/roof garden' 2, 'courtyard garden' 3, 'small garden with lawn' 4, and 'large garden with lawn' 5
Shared garden	Dichotomous (Yes/No)	No change
Dependants	Categorical (3 levels)	Included as a dichotomous variable of 'Dependents' (1) and 'No dependants' (0). 'Prefer not to say' excluded due to small number
Conservation org. membership	Dichotomous (Yes/No)	No change

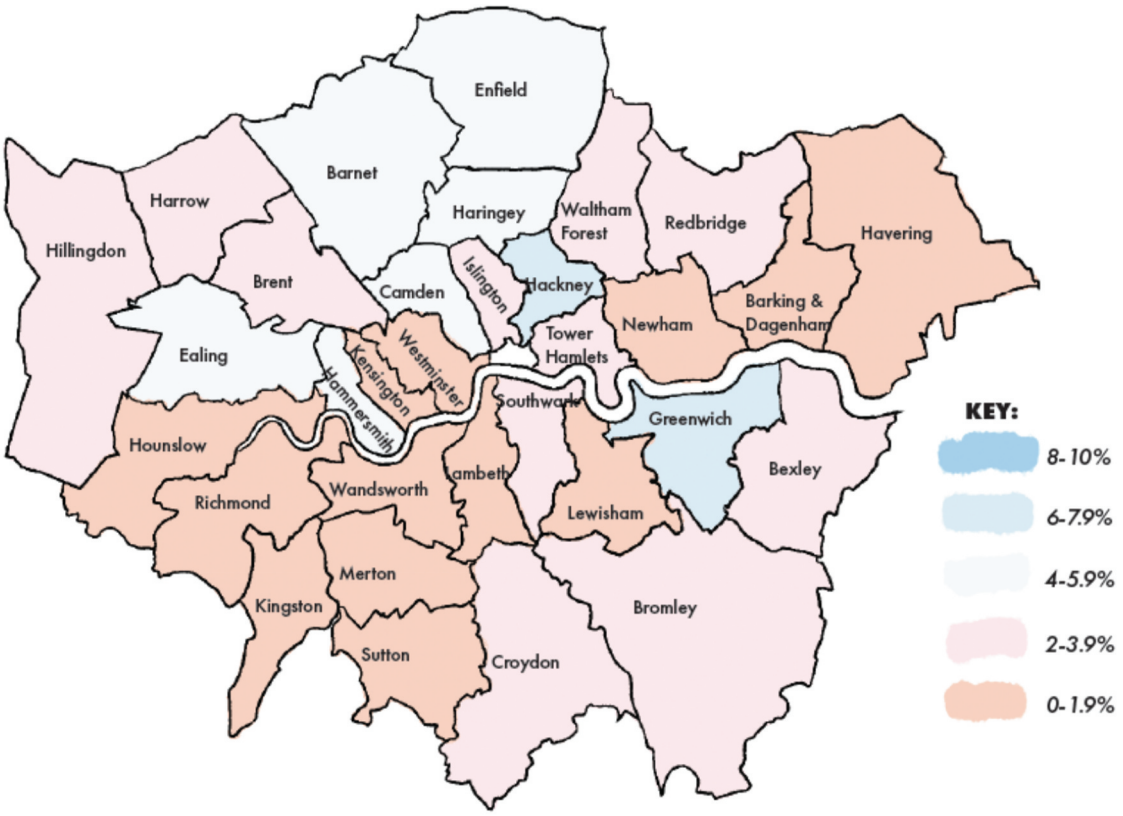

Figure 1. Questionnaire response distribution.

The breakdown of the questionnaire participants is presented in Table 3. The mean age of participants was 40.47 years (SD: 12.85)

Wildlife gardening practices

Table 4 presents the wildlife gardening practices taking place in private gardens in London in support of wildlife.

Of those practicing gardening for wildlife, 73.75% (n = 399 of 541) engaged in multiple practices. 9.39% of the sample did not take part in gardening for wildlife but intended to do so; Table 5 presents the wildlife gardening practices planned within the next 12-months in those not practicing gardening for wildlife.

Demographic factors and their association with gardening for wildlife

The model outputs are presented in Table 6. A narrative of the results for each dependent variable follows starting with the main outcome variable of gardening for wildlife.

Gardening for wildlife

Owning your own house (OR = 5.26, $p = 0.007$), being a member of a conservation organisation (OR 4.52, $p < 0.001$), having dependants (OR = 1.87, $p = 0.034$) and older age (OR = 1.03, $p = 0.045$), increased the odds of gardening for wildlife. Renting (OR 3.14, $p = 0.063$) over living rent free, and having a larger garden (OR = 1.27, $p = 0.064$) were also close to the level of significance.

Those in intermediate (OR = 0.26, $p = 0.012$) or higher managerial positions (OR = 0.20, $p = 0.004$) were less likely to garden for wildlife than state pensioners or the unemployed. Males were less likely to garden for wildlife than females (OR = 0.52, $p = 0.007$).

Providing food for wildlife

Those who owned their own home (OR = 14.13, $p = 0.001$), part-owned (OR = 7.61, $p = 0.012$), or rented (OR 6.27, $p = 0.023$) were significantly more likely to provide food for wildlife in their gardens than those who lived rent free. Those with religious belief (OR = 1.79, $p = 0.019$), with larger gardens (OR = 1.41, $p = 0.003$), and of older age (OR = 1.03, $p = 0.002$) were more likely to provide food for wildlife.

Those in intermediate (OR = 0.47, $p = 0.036$), higher managerial (OR = 0.33, $p = 0.003$), or skilled

Table 3. Participant characteristics.

Characteristic	N	%
Gender		
Male	333	50.45
Female	318	48.18
Non-binary	6	0.91
Prefer not to say	3	0.45
Occupation		
State pensioners or widows (no other earner), casual or lowest grade workers, unemployed	79	11.97
Semi and unskilled manual workers	38	5.76
Skilled manual workers	52	7.88
Supervisory or clerical, junior managerial, administrative or professional	112	16.97
Intermediate managerial, administrative or professional	164	24.85
Higher managerial, administrative or professional	156	23.64
Prefer not to say	54	8.18
Missing data	5	0.75
Household Income		
Less than £20,000	45	6.82
£20,000 to 39,999	125	18.94
£40,000 to £59,999	214	32.42
£60,000 to £99,999	167	25.30
More than £100,000	98	14.85
Missing data	11	1.67
Ethnicity		
Asian or Asian British: Indian	14	2.12
Asian or Asian British: Bangladeshi	17	2.58
Asian or Asian British: Chinese	25	3.79
Asian or Asian British: Pakistani	15	2.27
Any other Asian background	0	0.00
Black or Black British: African	19	2.88
Black or Black British: Caribbean	15	2.27
Any other Black background	4	0.61
Mixed	16	2.42
White: British/English/Scottish/Welsh/Northern Irish	420	63.64
White: Irish	61	9.24
Any other White background	49	7.42
Prefer not to say	5	0.76
Religious beliefs		
Yes	252	38.18
No	197	29.85
Prefer not to say	211	31.97
Dependants		
Yes	442	66.97
No	207	31.36
Prefer not to say	9	1.36
Missing	2	0.30
Conservation Membership		
Yes	436	66.06
No	209	31.67
Prefer not to say	15	2.27
Accommodation Type		
Detached house or bungalow	169	25.61
Semi-detached house or bungalow	127	19.24
Terraced (including end-terrace) house or bungalow	183	27.72
Flat, maisonette or apartment	159	24.09
Caravan or other mobile or temporary structure	13	1.97
Prefer not to say	7	1.06
Garden Type		
Large garden with lawn	0	0
Small garden with lawn	272	41.21
Courtyard garden	164	24.85
Terrace/roof garden	104	15.75
Balcony/window box	82	12.42
Missing data	38	5.75
Shared garden		
Yes	202	30.61
No	389	58.94
Missing data	69	10.45
House Ownership		
Owns (outright or with a mortgage or loan)	394	59.70
Part-owns and part-rents (shared ownership)	114	17.27
Rents (with or without housing benefit)	127	19.24
Lives here rent free	20	3.03
Prefer not to say	3	0.45

(*Continued*)

Table 3. (Continued).

Characteristic	N	%
Missing data	2	0.30
Gardening for wildlife in the last 12 months		
Yes	543	82.27
No	111	16.82
Missing data	6	0.91

Table 4. Gardening practices.

Gardening practice	N	Sample %
Providing food	346	53.07
Providing water	324	49.69
Providing homes	304	46.63
Providing connectivity	189	28.99
Nature-friendly gardening	238	36.50
Other	19	2.91
No practice	111	17.02

Note: $N = 652$.

Table 5. Intended gardening practice.

Gardening practice	N	Sample %
Providing food	36	58.06
Providing water	34	54.84
Providing homes	24	38.71
Providing connectivity	14	22.58
Nature-friendly gardening	15	24.19

Note: $N = 62$.

manual positions (OR = 0.37, $p = 0.025$) were less likely to provide food for wildlife than state pensioners and the unemployed. Males were less likely to provide food for wildlife than females (OR = 0.68, $p = 0.038$). Those with dependants (OR = 0.55, $p = 0.014$) and those sharing a garden (OR = 0.59, $p = 0.017$) were less likely to provide food for wildlife.

Providing water for wildlife

Those who owned (OR = 5.67, $p < 0.011$) or part-owned (OR = 3.92, $p = 0.048$) their home were significantly more likely to provide water for wildlife in their garden than those who lived rent free. Being a member of a conservation organisation (OR = 2.40, $p < 0.001$), having a larger garden (OR = 1.33, $p = 0.009$) and older age (OR = 1.03, $p = 0.001$) increased the odds of providing water for wildlife.

Table 6. Variables associated with gardening for wildlife.

	Gardening for wildlife		Food provision		Water provision		Homes for wildlife		Garden connectivity		Nature friendly gardening	
Variable	OR	*p*	OR	*p*	OR	*p*	OR	*p*	OR	*p*	OR	*p*
Age	1.03	0.045*	1.03	0.002**	1.03	0.001***	1.03	0.001***	1.02	0.020**	1.07	0.000***
Gender	0.52	0.007**	0.68	0.038*	0.81	0.238	0.73	0.075	0.97	0.857	0.50	0.001***
Occupation (reference category: state pensioners or widows (no other earner), casual or lowest grade workers, unemployed)												
Semi and unskilled manual workers (1)	0.55	0.404	0.44	0.121	0.82	0.670	0.55	0.208	0.78	0.614	1.52	0.472
Skilled manual workers (2)	0.50	0.283	0.37	0.025*	0.61	0.229	0.94	0.879	0.62	0.289	0.99	0.985
Supervisory or clerical, junior managerial, administrative or professional (3)	0.48	0.207	0.75	0.458	0.43	0.017*	0.61	0.149	0.78	0.475	2.22	0.061
Intermediate managerial, administrative or professional (4)	0.26	0.012*	0.47	0.036*	0.51	0.045*	0.50	0.036*	0.62	0.163	3.23	0.004**
Higher managerial, administrative or professional (5)	0.20	0.004**	0.33	0.003**	0.62	0.166	0.48	0.030*	0.61	0.150	2.49	0.027*
Prefer not to say (6)	0.34	0.127	0.43	0.073	0.63	0.281	0.67	0.343	0.32	0.021*	1.68	0.318
Household Income	1.21	0.132	1.16	0.128	1.07	0.444	1.21	0.029*	1.01	0.937	1.03	0.783
Ethnicity	0.82	0.542	1.22	0.452	0.85	0.503	0.97	0.906	0.91	0.728	0.89	0.669
Religious beliefs (reference category: no religious beliefs)												
Religious beliefs (1)	1.46	0.249	1.79	0.019*	0.75	0.219	1.10	0.676	0.56	0.021*	0.90	0.681
Prefer not to say (2)	1.05	0.889	0.82	0.448	0.62	0.057	0.83	0.441	0.44	0.003**	0.56	0.041*
Dependents	1.87	0.034*	0.55	0.014*	0.69	0.103	1.12	0.615	1.24	0.397	0.63	0.059
Conservation Membership	4.52	0.000***	1.47	0.100	2.40	0.000***	2.70	0.000***	3.73	0.000***	1.45	0.114
Accommodation Type	1.10	0.459	1.17	0.105	1.07	0.493	0.83	0.040*	0.83	0.059	0.88	0.195
Garden Type	1.27	0.064	1.41	0.003**	1.33	0.009**	1.48	0.000***	1.16	0.222	1.21	0.095
Shared garden status	1.09	0.763	0.59	0.017*	1.04	0.842	0.96	0.846	1.34	0.206	0.73	0.161
Home ownership status (reference category: lives here rent free)												
Rents (with or without housing benefits) (2)	3.14	0.063	6.27	0.023*	3.44	0.073	1.31	0.634	1.02	0.978	0.42	0.132
Part-owns and part-rents (shared ownership) (3)	2.20	0.203	7.61	0.012*	3.92	0.048*	1.07	0.899	1.67	0.429	0.36	0.082
Owns (outright or with a mortgage or loan) (4)	5.26	0.007**	14.13	0.001***	5.67	0.011*	1.39	0.554	2.33	0.186	0.46	0.172

People working in intermediate (OR = 0.51, p = 0.045) and junior management positions (OR = 0.43, p = 0.017) were less likely to provide water for wildlife than state pensioners and the unemployed.

Providing homes for wildlife

Being a member of a conservation organisation (OR = 2.70, $p < 0.001$), having a larger garden (OR = 1.48, $p < 0.001$), having a higher level of income (OR = 1.21, p = 0.029) and older age (OR = 1.03, p = 0.001) increased the odds of providing homes for wildlife.

People working in intermediate (OR = 0.50, p = 0.036), and higher management positions (OR = 0.48, p = 0.030) were less likely to provide homes for wildlife than state pensioners and the unemployed. As accommodation size increased the odds of providing homes for wildlife decreased (OR = 0.83, p = 0.040).

Providing garden connectivity

Being a member of a conservation organisation (OR = 3.73, $p < 0.001$), and older aged (OR = 1.02, p = 0.020) increased the odds of providing connectivity between gardens.

People who preferred not to state their occupation (OR = 0.32, p = 0.021) were less likely to provide garden connectivity than state pensioners and the unemployed. Those with religious beliefs (OR = 0.56, p = 0.021) and those who preferred not to state their religious beliefs (OR = 0.44, p = 0.003) were less likely to provide garden connectivity.

Nature friendly gardening practices

Working in an intermediate (OR = 3.23, p = 0.004) or higher managerial role (OR = 2.49, p = 0.027) increased the odds of partaking in nature-friendly gardening practices. Older age increased the odds of partaking in nature-friendly gardening practices (OR = 1.07, $p < 0.001$).

Those who preferred not to disclose their religious beliefs (OR = 0.56, p = 0.041) and males (OR = 0.50, p = 0.001) were less likely to partake in nature-friendly gardening practices.

Common variables associated with gardening for wildlife and its practices

Three variables were consistently associated with an increased odds of gardening for wildlife and its practices (across at least four of the six outcome variables). (1) Older age consistently increased the odds, albeit a small increase, of partaking in gardening for wildlife and all of the specified practices. (2) Membership to a conservation organisation also consistently increased the odds of gardening for wildlife and three of the five practices, although, provision of food and nature-friendly gardening was not impacted by conservation organisation membership. Finally, (3) the larger the garden space available, the more likely gardening for wildlife, and its associated practices, occurred, with the exception of providing garden connectivity and use of nature-friendly gardening methods.

Discussion

This research set out to understand gardening for wildlife in London's private gardens. The findings can support development of intervention plans to influence behaviour change, particularly in London, with the potential to transfer the findings to other cities. Gardening for wildlife is an important aspect of urban rewilding helping to address the global priorities identified within the United Nations Sustainable Development Goals of Life on Land, Life Below Water, Good Health and Well-Being, and Sustainable Cities and Communities (United Nations 2025). While further context-specific research is needed, we have speculated on this global application below.

The findings highlight that the provision of food, homes and water for wildlife are the most popular activities. Those taking part in gardening for wildlife are likely to take part in multiple activities. Provision of food and water are also the actions that those not practicing gardening for wildlife intend to practice within the next 12-months. Britain has an established culture of providing food for garden birds, with over half of homeowners in British cities feeding birds (Davies *et al.* 2012), therefore it is unsurprising that provision of food and water is a common activity in London and it is anticipated that this would be echoed in other British cities. Bird feeding is also commonly practiced in North America, parts of northern Europe, New Zealand and Australia, but rarely in southern Europe (Reynolds *et al.* 2017), which would indicate this finding would vary across global cities.

Connecting gardens to form habitat corridors - for example with ground-level gaps in fences to provide passage for amphibians and small mammals, or lines of trees to create aerial routes for birds and squirrels between neighbouring gardens – is less practiced. A literature review of the barriers and facilitators of urban rewilding in private gardens (Moxon *et al.* 2023) highlights a lack of knowledge as a barrier to rewilding practices. It is possible that a lack of knowledge in regard to the importance of connecting gardens to create a larger useable habitat area and form habitat corridors linking wider urban green spaces is the

reason why this is a less well-practiced activity (Davies et al. 2009, 2012, Reynolds *et al.* 2017, Jones 2018, Horn 2019). This is further supported by the association between conservation organisation membership and the practice of connecting gardens as it could be argued that those who are members of such organisations are more likely to know of the importance of this practice for wildlife. British residential gardens are typically enclosed by impermeable boundaries, of fences and walls (Adams *et al.* 2023), requiring destructive action in consultation with neighbours to create gaps for wildlife and perhaps accounting for a reluctance to create habitat corridors. Connecting gardens might be unnecessary in cities in other parts of Europe and globally where garden boundaries are more porous in the first place.

The study suggests significant demographic predictors, including age, garden type and membership of conservation organisations, which could have practical implications for interventions. Targeting members of such organisations, older people, and people with larger gardens as a priority would make sense as these residents are the most likely to take part in gardening for wildlife. This aligns with previous research emphasizing the importance of having enough space (Lewis *et al.* 2018, Deguines *et al.* 2020), and access to reliable information and expertise (van der Jagt *et al.* 2017, Coisnon *et al.* 2019) in relation to gardening for wildlife. Owning a garden, particularly a large one, is identified as a facilitator of gardening for wildlife, supporting the findings of this research (Coisnon *et al.* 2019). Belonging to a community of wildlife observers is a facilitator of urban rewilding, another factor that could explain why membership of a conservation organisation is a significant predictor of gardening for wildlife (Hobbs and White 2016, Deguines *et al.* 2020).

Wildlife-gardening campaigns and newsletters by conservation organisations or local authorities should focus on simple ways to provide food and water for wildlife, helping to turn intention into behaviour for residents who are new to gardening for wildlife. Conversely, targeted messages, through newsletters and social media, should be used to encourage those residents who have already done some gardening for wildlife to try more advanced actions, such as creating wildlife gaps, given that residents are receptive to undertaking multiple activities.

Consistent with the wider literature, the present study found that older adults were significantly more likely to engage in gardening for wildlife and related behaviours. This aligns with prior research suggesting that older individuals tend to have more time and stronger place attachment, creating a haven in later life (Bhatti 2006, Freeman *et al.* 2012). These findings highlight the importance of tailoring wildlife gardening campaigns to different age groups, with older adults representing a highly engaged demographic.

The involvement of conservation organisations would amplify the impact of any intervention approach, given their influence on members' behaviours. Encouraging new people to join conservation organisations through campaigns is likely to be worthwhile. Additionally, strategies to support residents with smaller outdoor spaces, such as balconies, window boxes or courtyards, could broaden participation. Examples could include space-saving solutions, such as adding greenery and habitat boxes to existing roofs and walls, and multi-functional features, such as a combined planter and bicycle lock. Increasing knowledge of garden connectivity and nature-friendly gardening practices, by highlighting their importance through wildlife-gardening campaigns, could increase participation in these activities.

The recommendations regarding conservation organisations are likely to apply to other cities throughout the country, taking advantage of the 39% of people in England who are 'highly engaged' with the issue of biodiversity loss (DEFRA 2025) and the 1 in 10 Britons estimated to already be members of conservation organisations (Cracknell *et al.* 2013). The influence of conservation organisations might well be less marked in other countries where conservation-organisation membership is less common. The issue of garden size is expected to be relevant globally, with cities that have fewer or smaller gardens offering less opportunity to garden for wildlife and their residents consequently needing more support with ideas for small spaces. In Britain, London presents the greatest challenge, as here 21% of households have no access to a garden, compared to 12% nationally, and gardens are 26% smaller than the national average (ONS 2020b). This is further evidenced in this research with no participants having a 'large garden with a lawn'.

Household income did not impact gardening for wildlife and its practices in this research, with the exception of the provision of homes for wildlife, suggesting that gardening for wildlife is accessible across socioeconomic strata, provided other enabling conditions are met. This finding challenges assumptions that financial constraints are primary barriers to gardening for wildlife (Hobbs and White 2016, Lewis *et al.* 2018, Bauer and von Atzigen 2019), and offers some reassurance that effective practice interventions

need not be costly to implement. This is encouraging for interventions in London, which has a mix of areas of high wealth and deprivation (MHCLG 2019), as well as for less affluent cities in the UK and worldwide with lower average household incomes.

Some of the variables assessed were significant across some gardening for wildlife practices, for example, it appears that owning or part owning a home significantly increases the odds of providing food and water for wildlife, over someone who lives rent free. Having dependents significantly increases the odds of creating or maintaining features in one's garden that could benefit wildlife, however, certain practices such as provision of food and use of nature-friendly gardening methods might be less likely. Whilst occupation seems to be impactful on many practices, the direction of the relationship (positive or negative) is inconclusive across practices. It may be that different practices have different determining factors and should be considered as separate behaviours; more research is required in this area.

The study reports a high participation rate in gardening for wildlife (82.27%), though selection bias may influence the result. Nevertheless, it suggests a growing awareness and willingness among London residents to contribute to biodiversity conservation. Across England it is suggested that 53% of the public have an awareness of and concern about biodiversity loss (DEFRA 2025). Further, national gardening charity the Royal Horticultural Society predicts 'greening grey spaces', 'going wild', 'gardening with nature' and 'planet-friendly gardening' as future gardening trends, suggesting a more widespread movement towards gardening for wildlife (RHS 2023).

Strengths and limitations

The study's strengths include the six-month questionnaire completion period, enabling a substantial number of responses from across London's boroughs and responses spanning two seasons (summer and autumn) when residents are likely to be more engaged with gardening. In addition, the use of the STROBE checklist ensured rigour in the reporting of the study's findings. The research methods can be reproduced to conduct similar research in other cities.

The study's limitations include its cross-sectional design, which precludes causal inferences, and the use of a convenience sample, which limits generalizability of the findings. Future research could employ longitudinal designs to track behaviour over time. Qualitative research with London residents should aim to uncover deeper motivations and barriers for gardening for wildlife in Greater London. Further, whilst recognised questions from other well-established surveys were combined for use within this research, it is acknowledged that the questionnaire was not validated. It is also noted that if the questionnaire was completed by a household member who does not get involved in the gardening process, this might bias the results when assessing the associations with the demographic factors.

Conclusion

In conclusion, this study advances our understanding of resident engagement in gardening for wildlife, highlighting the role of specific demographic factors. By aligning interventions with these insights, cities including London can harness the potential of residential gardens to increase biodiversity, tackle climate change, and foster deeper connections between residents and nature, bringing health and wellbeing benefits. Future research should build on these findings to establish their relevance to other global cities, and develop and test targeted interventions that further encourage gardening for wildlife across Greater London.

Recommendations for similar research in other cities in the UK and worldwide are to ascertain whether providing food, homes, and water for wildlife is the most common and providing connectivity the least common activities; and whether residents are minded to engage in multiple wildlife-gardening activities. In particular, research in other cities should explore the influence on gardening for wildlife of local demographic factors, including conservation-organisation membership and garden size.

Recommendations within London include encouraging residents to join a conservation organisation; running campaigns to encourage simple actions for residents who have not undertaken gardening for wildlife, while encouraging residents that have, to do multiple, more complex actions; and offering practical support to residents with smaller gardens and outdoor spaces.

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Ethical approval

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Geolocation Information

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References

Adams, D., Larkham, P.J., and Hardman, M., 2023. Edible garden cities: rethinking boundaries and integrating hedges into scalable urban food systems. *The land*, 12 (10), 1915. doi:10.3390/land12101915.

Bauer, N. and von Atzigen, A., 2019. Understanding the factors shaping the attitudes towards wilderness and rewilding. *In*: J.T. du Toit, N. Pettorelli, and S. M. Durant, eds. *Rewilding*. Cambridge: Cambridge University Press (Ecological Reviews), 142–164. doi:10.1017/9781108560962.008.

Bhatti, M., 2006. "When I'm in the garden I can create My own paradise": homes and gardens in later Life. *The sociological review*, 54 (2), 318–341. doi:10.1111/j.1467-954X.2006.00616.x.

Big Garden Birdwatch FAQs, n.d. Available at: https://www.rspb.org.uk/whats-happening/big-garden-birdwatch/faqs. [Accessed 24 Mar 2025].

Bowler, D.E., *et al.*, 2010. Urban greening to cool towns and cities: a systematic review of the empirical evidence. *Landscape and urban planning*, 97 (3), 147–155. doi:10.1016/j.landurbplan.2010.05.006.

Byerly, H., *et al.*, 2018. Nudging pro-environmental behavior: evidence and opportunities. *Frontiers in ecology and the environment*, 16 (3), 159–168. doi:10.1002/fee.1777.

Cai, S., 2021. *Rewilding cities: grow back greener, cleaner and healthier | University of oxford*. Available at: https://www.ox.ac.uk/news/2021-07-02-rewilding-cities-grow-back-greener-cleaner-and-healthier. [Accessed 24 Mar 2025].

Coisnon, T., Rousselière, D., and Rousselière, S., 2019. Information on biodiversity and environmental behaviors: a European study of individual and institutional drivers to adopt sustainable gardening practices. *Social science research*, 84, 102323. doi:10.1016/j.ssresearch.2019.06.014.

Cracknell, J., Miller, F., and Williams, H., 2013. *Passionate Collaboration: TAKING the PULSE of the UK ENVIRONMENTAL SECTOR*. Available at: https://www.greenfunders.org/wp-content/uploads/Passionate-Collaboration-Full-Report1.pdf. [Accessed 10 July 2025].

Davies, Z.G., *et al.*, 2009. A national scale inventory of resource provision for biodiversity within domestic gardens. *Biological conservation*, 142 (4), 761–771. doi:10.1016/j.biocon.2008.12.016.

Davies, Z.G., *et al.*, 2012. Household factors influencing participation in bird feeding activity: a National scale analysis. *PLOS ONE*, 7 (6), e39692. doi:10.1371/journal.pone.0039692.

DEFRA, 2025. *Public awareness, understanding and support for conservation, GOV.UK*. Available at: https://www.gov.uk/government/statistics/england-biodiversity-indicators/public-awareness-understanding-and-support-for-conservation. [Accessed 24 Mar 2025].

Deguines, N., *et al.*, 2020. Assessing the emergence of pro-biodiversity practices in citizen scientists of a backyard butterfly survey. *Science of the total environment*, 716, 136842. doi:10.1016/j.scitotenv.2020.136842.

Dzhambov, A.M. and Dimitrova, D.D., 2015. Green spaces and environmental noise perception. *Urban forestry & urban greening*, 14 (4), 1000–1008. doi:10.1016/j.ufug.2015.09.006.

Finnerty, P.B., *et al*., 2025. Urban rewilding to combat global biodiversity decline. *BioScience*, biaf062. doi:10.1093/biosci/biaf062.

Freeman, C., *et al*., 2012. "My garden is an expression of me": exploring householders' relationships with their gardens. *Journal of environmental psychology*, 32 (2), 135–143. doi:10.1016/j.jenvp.2012.01.005.

García-Antúnez, O., *et al*., 2023. Gardening for wildlife: a mixed-methods exploration of the factors underlying engagement in wildlife-friendly gardening. *People and nature*, 5 (2), 808–825. doi:10.1002/pan3.10450.

Gifford, R. and Nilsson, N., 2014. Personal and social factors that influence pro-environmental concern and behaviour: a review. *PubMed*, 141–157. doi:10.1002/ijop.12034.

Gill, S.E., *et al*., 2007. Adapting cities for climate change: the role of the green infrastructure. *Built Environment*, 33 (1), 115–133. doi:10.2148/benv.33.1.115.

Goddard, M.A., Dougill, A.J., and Benton, T.G., 2010. Scaling up from gardens: biodiversity conservation in urban environments. *Trends in ecology & evolution*, 25 (2), 90–98. doi:10.1016/j.tree.2009.07.016.

Goddard, M.A., Dougill, A.J., and Benton, T.G., 2013. Why garden for wildlife? Social and ecological drivers, motivations and barriers for biodiversity management in residential landscapes. *Ecological economics*, 86, 258–273. doi:10.1016/j.ecolecon.2012.07.016.

Greater London Authority, 2019. *London priority species | London City Hall*. Available at: https://www.london.gov.uk/programmes-and-strategies/environment-and-climate-change/environment-publications/london-priority-species. [Accessed 26 June 2025].

Greater London Authority, 2023. *Rewilding london: final report of the london rewilding taskforce*. Greater London Authority. Available at: https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/parks-green-spaces-and-biodiversity/london-rewilding-taskforce. [Accessed 28 Nov 2023].

Greenspace Information for Greater London CIC, 2023. 'Key London figures'. Available at: https://www.gigl.org.uk/our-data-holdings/keyfigures/. [Accessed 14 Mar 2024].

Hayes, A., 2014. *London's living landscapes: a recovery plan for nature*. London Wildlife Trust. Available at: https://www.wildlondon.org.uk/sites/default/files/2025-02/London%20living%20landscapes_0.pdf. [Accessed 28 Feb 2025].

Hobbs, S.J. and White, P.C.L., 2016. Achieving positive social outcomes through participatory urban wildlife conservation projects. *Wildlife research*, 42 (7), 607–617. doi:10.1071/WR14184.

Horn, D.J., 2019. The birds at My table: why we feed wild birds and why it matters. *The condor: Ornithological applications*, 121 (1), duy011. doi:10.1093/condor/duy011.

Jones, D.N., 2018. *The birds at my table: why we feed wild birds and why it matters*. Ithaca: Comstock Publishing Associates, an imprint of Cornell University Press.

Jørgensen, D., 2015. Rethinking rewilding. *Geoforum*, 65, 482–488. doi:10.1016/j.geoforum.2014.11.016.

Kelly, D.A., 2018. Impact of paved front gardens on current and future urban flooding. *Journal of flood risk management*, 11 (S1), S434–S443. doi:10.1111/jfr3.12231.

Lewis, O., Home, R., and Kizos, T., 2018. Digging for the roots of urban gardening behaviours. *Urban forestry & urban greening*, 34, 105–113. doi:10.1016/j.ufug.2018.06.012.

London National Park City, 2018. *London City Hall*. Available at: https://www.london.gov.uk//what-we-do/environment/parks-green-spaces-and-biodiversity/london-national-park-city. [Accessed 28 Oct 2022].

London Wildlife Trust, 2025. *Explore London's wildlife | London wildlife trust*. Available at: https://www.wildlondon.org.uk/explore-londons-wildlife. [Accessed 26 June 2025].

Luck, G.W., *et al*., 2011. Relations between urban bird and plant Communities and human well-being and connection to nature: urbanization and human well-being. *Conservation biology*, 25 (4), 816–826. doi:10.1111/j.1523-1739.2011.01685.x.

Mathieu, R., Freeman, C., and Aryal, J., 2007. Mapping private gardens in urban areas using object-oriented techniques and very high-resolution satellite imagery. *Landscape and urban planning*, 81 (3), 179–192. doi:10.1016/j.landurbplan.2006.11.009.

Mayor of London, 2018. *London environment strategy*. Available at: https://www.london.gov.uk//what-we-do/environment/london-environment-strategy. [Accessed 19 Nov 2020].

MHCLG, 2019. Indices of deprivation - London Datastore. Available at: https://data.london.gov.uk/dataset/indices-of-deprivation/. [Accessed 10 July 2025].

Mills, J.G., *et al*., 2017. Urban habitat restoration provides a human health benefit through microbiome rewilding: the microbiome rewilding hypothesis. *Restoration ecology*, 25 (6), 866–872. doi:10.1111/rec.12610.

Moxon, S., *et al*., 2023. Wild ways: a scoping review to understand urban-rewilding behaviour in relation to adaptations to private gardens. *Cities & health*, 7 (5), 888–902. doi:10.1080/23748834.2023.2218016.

Mumaw, L. and Mata, L., 2022. Wildlife gardening: an urban nexus of social and ecological relationships. *Frontiers in ecology and the environment*, 20 (6), 379–385. doi:10.1002/fee.2484.

National Park City Foundation, 2023. *National Park City foundation*. Available at: https://www.nationalparkcity.org. [Accessed 28 Nov 2023].

National Park City Foundation, 2025. *Welcome to the National Park City movement*. National Park City Foundation. Available at: https://www.nationalparkcity.org/. [Accessed 11 Nov 2022].

National Readership Survey, 2025. Readership | National readership survey. Available at: https://nrs.co.uk/nrs-print/readership/. [Accessed 24 Mar 2025].

Office for National Statistics, 2020. *Census 2021 paper questionnaires - office for National statistics*. Available at: https://www.ons.gov.uk/census/censustransformationprogramme/questiondevelopment/census2021paperquestionnaires. [Accessed 24 Mar 2025].

ONS, 2020a. Access to gardens and public green space in Great Britain - office for National statistics. Available at: https://www.ons.gov.uk/economy/environmentalaccounts/datasets/accesstogardensandpublicgreenspaceingreatbritain. [Accessed 8 Feb 2024].

ONS, 2020b. One in eight British households has no garden - office for National statistics. Available at: https://www.ons.gov.uk/economy/environmentalaccounts/articles/oneineightbritishhouseholdshasnogarden/2020-05-14. [Accessed 11 June 2024].

Pettorelli, N., *et al*., 2022. *Rewilding our cities. ZSL report*. Available at: https://issuu.com/zoologicalsocietyoflondon/docs/zsl_rewilding_our_cities_report. [Accessed 26 Oct 2022].

Reynolds, S.J., *et al*., 2017. Garden bird feeding: insights and prospects from a north-south comparison of this global urban phenomenon. *Frontiers in ecology and evolution*, 5. doi:10.3389/fevo.2017.00024.

RHS, 2023. *RHS gardening trends for 2024/RHS gardening*. Available at: https://www.rhs.org.uk/press/releases/RHS-Gardening-Trends-for-2024-resilient,-planet. [Accessed 14 Mar 2024].

Sandifer, P.A., Sutton-Grier, A.E., and Ward, B.P., 2015. Exploring connections among nature, biodiversity, ecosystem services, and human health and well-being: opportunities to enhance health and biodiversity conservation. *Ecosystem services*, 12, 1–15. doi:10.1016/j.ecoser.2014.12.007.

Semudara, O.M., 2024. Impact of urban expansion on urban heat: a case study of Greater London. *In*: S. Kulkarni and A.K. Haghi, eds. *Global sustainability: trends, challenges & case studies*. Cham: Springer Nature Switzerland, 193–209. doi:10.1007/978-3-031-57456-6_9.

Shwartz, A., *et al*., 2013. Local and management variables outweigh landscape effects in enhancing the diversity of different taxa in a big metropolis. *Biological conservation*, 157, 285–292. doi:10.1016/j.biocon.2012.09.009.

Smith, C., 2010. *London: garden city? Investigating the changing anatomy of London's private gardens, and the scale of their loss*. Available at: http://downloads.gigl.org.uk/website/LondonGardenCity.pdf.

Statista, 2025. *London population by gender 2023*. Statista. Available at: https://www.statista.com/statistics/1064772/population-of-london-by-gender/. [Accessed 25 Mar 2025].

STROBE, 2025. *STROBE*. Available at: https://www.strobe-statement.org/. [Accessed 9 Apr 2025].

Tian, M., Potter, G.R., and Phelps, J., 2023. What is "wildlife"? Legal definitions that matter to conservation. *Biological conservation*, 287, 110339. doi:10.1016/j.biocon.2023.110339.

United Nations, 2025. Take action for the sustainable development goals. United Nations Sustainable Development. Available at: https://www.un.org/sustainabledevelopment/sustainable-development-goals/. [Accessed 10 July 2025].

van den Bosch, M. and Nieuwenhuijsen, M., 2017. No time to lose – green the cities now. *Environment international*, 99, 343–350. doi:10.1016/j.envint.2016.11.025.

van der Jagt, A.P.N., *et al*., 2017. Cultivating nature-based solutions: the governance of communal urban gardens in the European union. *Environmental research*, 159, 264–275. doi:10.1016/j.envres.2017.08.013.

Vergnes, A., Kerbiriou, C., and Clergeau, P., 2013. Ecological corridors also operate in an urban matrix: a test case with garden shrews. *Urban ecosystems*, 16 (3), 511–525. doi:10.1007/s11252-013-0289-0.

Webb, J. and Moxon, S., 2021. A study protocol to understand urban rewilding behaviour in relation to adaptations to private gardens. *Cities & health*, 7 (2), 1–9. doi:10.1080/23748834.2021.1893047.

Whittinghill, L.J., *et al*., 2014. Quantifying carbon sequestration of various green roof and ornamental landscape systems. *Landscape and urban planning*, 123, 41–48. doi:10.1016/j.landurbplan.2013.11.015.

The Wildlife Trusts, 2025. *Wildlife gardening survey | the wildlife trusts*. Available at: https://www.wildlifetrusts.org/wildlife-gardening-survey. [Accessed 24 Mar 2025].

Wood, E., *et al*., 2018. Not all green space is created equal: biodiversity predicts psychological restorative benefits from urban green space. *Frontiers in psychology*, 9. doi:10.3389/fpsyg.2018.02320.