LBKA Paper: Towards more sustainable beekeeping in London



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1. Introduction

This LBKA paper on sustainable beekeeping in London is a working document highlighting LBKA's current position, direction and guidelines regarding sustainable beekeeping in London. It is:

- 1. targeted at existing and future London beekeepers, across the full spectrum from hobbyists, to natural, and to commercial beekeepers,
- 2. a document that will be periodically reviewed for approval by LBKA members as further evidence emerges and understanding and practices evolve,
- 3. intended to raise awareness and provide a guide towards sustainable beekeeping in London
- 4. not comprehensive or prescriptive, and
- not intended to provide and should not be used for certification or endorsement of hives, apiaries, their byproducts (i.e., honey, wax, etc.) or other beekeeping related activities as 'sustainable'.

Finally, it is important to note that (a) keeping honeybees is not the same as conservation of other pollinators, and may in some circumstances be detrimental to other pollinators^{2,3,4}, and (b) rural and other urban areas outside London may face other realities which have not been highlighted in this document.

"...the call to save bees has inspired unsustainable proliferation of urban beekeeping that may damage wild bee conservation through increased competition for limited forage in cities and disease spread." Stevenson et al., 2021¹

2. Sustainable Beekeeping

Broadly speaking, our understanding of sustainable beekeeping is that it would be a set of practices that create a thriving and healthy ecosystem for honeybee colonies, other pollinators, the surrounding environment, and the broader community on an ongoing basis.

3. Risks to Sustainable Beekeeping

To start with, it is crucial to appreciate the diverse and interconnected systems and risks to sustainable beekeeping in London. These are summarised as such:

1. <u>Limited Forage</u>: In general, urban areas can have limited green spaces, particularly those with quality forage for pollinators (i.e., nectar and pollen), and in some cases 'grey' spaces overtaking green spaces (e.g. paving, private gardens), which can result in inadequate forage for bees. In

¹ Stevenson, et al., The state of the world's urban ecosystems: What can we learn from trees, fungi, and bees?, 2020

 ² <u>Bumblebee Conservation Trust - Position Statement</u>
 ³ <u>National History Museum - Beekeeping in cities is harming other wildlife, study finds</u>

⁴ Buglife - Save the bees! (but which ones?)

certain areas of London there is an imbalance between honeybee numbers and availability of forage as highlighted by the London Bee Situation report⁵. This is often driven by practices that are not evidence-based, including conventional practices of keeping large colonies, and the, however well intentioned, trend of 'saving the bees' by adding to the number of honeybee hives in London.

"Allotments, urban wastelands, and gardens offer nesting and flowering resources and harbor diverse pollinator populations (Baldock et al., 2019; Lanneret al., 2020) while Britain's private gardens provide diverse flora and cover a wider area than all of its national nature reserves put together (Wildlife Trust, 2020), offering prime opportunities to support bees (Baldock et al., 2015, 2019)." Stevenson et al., 2021

- Impacting Native Pollinators: The high density of honeybees in some parts of London contributes to competition with and a shortage of forage for other pollinators, impacting local biodiversity⁶.
- Poor Handling and Management: The high density of honeybees in London, amplified by poor handling and management⁷, poor hygiene standards, and the use of practices that are not evidence-based, can contribute to the spread of diseases, parasites, and pests (e.g., Varroa) among honeybees and other insects⁸.
- 4. <u>Invasive and Imported Species</u>: The threat of invasive species, such as the Asian Hornets, pose a significant threat to both honeybees, wild bees, and all other pollinators⁹. Imported honeybees also represent a biosecurity risk to other honeybees, as highlighted in Defra's *The Healthy Bees Plan*¹⁰.
- <u>Pesticides and Pollution</u>: Private gardens and public green spaces in London that use pesticides or other chemicals can be harmful to bees and / or other pollinators. Additionally, general air pollution could impact the health of bee colonies¹¹.
- 6. <u>Climate and Weather</u>: Climate change can affect honeybee's natural behaviours and foraging patterns due to changes in rainfall (higher intensity and / or droughts) and temperature. These are potentially exacerbated in urban areas like London which experience the added impact of "urban heat island" effect, where temperatures can be significantly warmer than surrounding rural areas. The warmer climate is likely to exacerbate the impact of invasive species as seen with Asian Hornets, as well as diseases and parasites.
- 7. <u>Human Interference</u>: In busy urban settings, hives might be at risk of vandalism, theft, or accidental disturbances.
- 8. <u>Public Concern and Misunderstanding</u>: Some London residents might not be familiar with beekeeping practices and may raise concerns about swarms, potential stings, the honeybees' potential to cause an imbalance with other pollinators, and / or other bee-related activities.

⁵ London Bee Situation Report

⁶ The Apiarist - Too many honey bees (in town)?

⁷ In this paper, 'poor handling and management' loosely refers to neglect.

⁸ El Agrebi et al.. Risk and protective indicators of beekeeping management practices. 2021.

⁹ London Wildlife Trust - Hornet

¹⁰ Defra - The Healthy Bees Plan 2030 (2020)

¹¹ Ryalls et al., Anthropogenic air pollutants reduce insect-mediated pollination services, 2022

4. Features of Sustainable Beekeeping

To address the aforementioned risks to beekeeping, below is a proposed guide of features that would support more sustainable beekeeping in London.

Fe	ature	Resources
1.	Be Aware: Before introducing or growing your apiary, be aware of honeybee density relative to the availability of forage in your area.	Casanelles-Abela & Moretti, Challenging the sustainability of urban beekeeping using evidence from Swiss cities, 2022
2.	 Be Considerate: In areas of high density / low forage, consider: a. limiting the <u>number of apiaries</u> (e.g., collective beekeeping), b. reducing the <u>number of hives</u>, and c. limiting the <u>size of colonies</u>. 	London Bee Situation Report
3.	 Contribute to a Better Ecosystem: Consider how you can directly contribute to creating: a. <u>natural or organic forage</u> in your own community (e.g., planting in public / private spaces without using harmful pesticides, leveraging opportunities to finance forage such as Biodiversity Net Gain), and b. <u>habitat for other pollinators</u> in or near your apiary, and <u>monitor</u> their numbers to be respectful and aware of the rest of the ecosystem. 	Stevenson, et al., The state of the world's urban ecosystems: What can we learn from trees, fungi, and bees?, 2020Defra, Bees' Needs Campaign Promotional Material, 2023Buglife - B-LinesDefra, Biodiversity Net GainGreenspace Information for Greater London CIC
4.	 Contribute to Effective Monitoring: a. Facilitate the collection and sharing of <u>data</u>, and disease notification, and b. register and annually update <u>information about your hives</u> on BeeBase. 	BeeBase Defra, National Pollinator Strategy: Pollinator Action Plan, 2021 to 2024, 2022
5.	 Practise Good Beekeeping. Consider and promote best beekeeping practice by: a. continuously learning about, training on and using evidence-based practices for <u>handling and managing honeybees</u>, b. mitigating threats to honeybees from <u>diseases</u>, parasites, and predators (e.g., Asian Hornets), c. obtaining <u>queens and honeybees</u> through local low risk sources, d. prioritising <u>bee health</u> over honey production, e. preventing and managing <u>swarms</u>, 	FAO - Good beekeeping practices for sustainable apiculture, 2021 BBKA talk by Andrew Durham, Part 1 and Part 2, and resources Defra - The Healthy Bees Plan 2030, 2020

Fe	atur	e	Resources
	f. g.	minimising <u>local impact</u> on forage and the ecosystem (e.g., use well insulated hives, locally sourced bees, etc.), and minimising <u>global impact</u> on the environment (e.g., consider the life cycle of the materials, equipment, consumables, transport, packaging, sharing of equipment where safe, etc.).	
6.	yoı	pport Community Education: Whenever possible, use ur honeybees, hives, and beekeeping knowledge to ucate your community about the: importance of honeybees and their contribution to a balanced ecosystem, other foraging insects, what type of forage bees and other insects need, and the London Bee Situation in regards to the availability of forage.	Defra, Bees' Needs Campaign Promotional Material, 2023