The Inner Temple

Landscape Succession Planning

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Foreword

Landscape succession planning is the process of 'determining and managing a shift in a garden or other landscape in response to climate change or other factors'. [1] The planet is experiencing a climate and ecological emergency which the ongoing research by the United Nation's Inter-governmental Panel on Climate Change (IPCC) makes starkly clear.

This policy covers the Inner Temple, which includes the three acre Garden, the car park and courtyards. It is designed as a working document with a list of 'Actions' that will be updated at least annually. It sits alongside the Garden's 'Tree Management Policy' and 'Biodiversity and Sustainability Policy' which compliment one another and work in unison.

The objective is for the Inner Temple to proactively contribute to the long term environmental health of the City and wider. To ensure a sustainable, biodiverse rich and beautiful setting for those that work, live on, or visit the site.

[1] Kew, *Planting for the Future: Kew's Landscape Sucession* Plan (2024). Pg 6. Available online: https://www.kew.org/about-us/press-media/landscape-succession-plan [Accessed 16/04/2025]

Learnings from Kew

1.1 Kew's report, 'Planting for the Future; Kew's Landscape Succession Plan' (2024) predicts over half of the 11,000 trees across Kew Gardens may be at risk by 2090 due to the change in climate. [2]

1.2 Research into climate modelling by Kevin Martin (Head of Trees, Kew) conveyed at the London Garden Network Conference on 28th March 2025 suggests that though London and the South-East will experience long, dry and very hot periods in the summer, there is not a shift to a purely Mediterranean climate as there will continue to be increasing rainfall and warmer temperatures in autumn and winter, followed by cold snaps in late- winter/spring. This suggests a climate similar to the semi-arid steppe of Central Romania and Georgia. The change in climate is accompanied by more frequent storms, heatwaves and other severe weather incidents.

1.3 The modelling research for Kew (see figures 9 and 10) gives a helpful indication of the direction that the climate at Inner Temple will follow, and the climate global zones where appropriate plant species may be selected from for the future. The heat island effect of the Inner Temple's location in the City will result in more extreme summer temperatures than those of Kew. Accurate site specific weather data for the Inner Temple will aid with future planning.

1.4 The main headline to improve long term resilience in the tree collection is to create as wide a diversity of species as possible, selected due to their anticipated ability to cope with the predicted future climate (and soil conditions/water needs) of the specific location. This may be through gaining genetic material of existing trees which have a wide distribution range, so selecting strains from regions such as Central Romania. Or selecting new genera and species from appropriate regions that previously may not have been applicable to our climate but in the future will be.

[2] Kew, *Planting for the Future: Kew's Landscape Succession* Plan (2024). Pg 9. Available online: https://www.kew.org/about-us/press-media/landscape-succession-plan [Accessed 16/04/2025]

1.5 It is important also to factor in micro climates on the site in relation to temperature, wind and drainage in selection. For instance, there will likely to be scenarios by buildings where the climate will be Mediterranean due to the heat and rain shadow from the building alongside free draining soils.

1.6 There is a challenge in the tree nursery industry 'catching up' with what will now be required in order to supply genetic material from a wider distribution and new genera and species.

1.7 In terms of building in diversity and resilience, viewing the Garden as an ecosystem with combined layers of trees, shrubs and herbaceous growing together will provide greater resilience.

1.8 In addition to selecting choices to collectively fulfil the varying requirements which include large canopy cover for shade, biodiversity benefit (short and long term), speed of growth, drought, wind, pest and disease susceptibility.

1.9 This is a complex process and it is understood that scientific research is the best way to inform action. Action is required quickly though, rather than waiting on longer term in depth research, in order to begin to establish long term trees and also provide other eco-services including biodiversity benefit that quick-growing, medium-term species can provide.

Actions

1. Map, list and date the current tree collection across the site (including newly planted species).
2. Assess the diversity of the collection (mature, medium and young) for longevity with predicted climate scenarios for our location, in addition to potential other benefits such as providence of shade, air quality, speed of growth and biodiversity benefit (short, medium and long term). Factor in susceptibility to existing and potential Pest and Disease threats. Form a 'risk' rating to be allocated to species similar to that used in the London Urban Forest Resilience Project report.
3. From the above form a list of desirable, suitable species, their availability to acquire, and possible locations across the site to create tree planting plan.
4. The aim is to build an informed (in relation to climate and biodiversity benefit), multi-layered and ornamental tree collection across the estate, that will be able to thrive with the changing climate. To allow for slow-growing, future veteran trees establishing for the long term, alongside quick-growing species with short to medium term benefits.
5. To keep abreast of ongoing research to climate predictions and tree species suitability. In addition to potential pest and diseases.
6. Collect adequate weather data to inform long-term climate predictions, specifically for the Inner Temple.
7. To keep a list of recommended species (such as those in the Kew report, see fig. 3 and by experts such as Matthew Pottage, Head of Horticulture & Landscape at the Royal Parks, see fig. 4) and continually assess collection against this and any new research.
8. To form positive relations with other gardens and specialist growers that may provide suitable species to be planted in the Garden that are not currently available.
9. To share what we are doing with other Gardens and green space, especially across London. To link our works to our 'neighbours' in order that our actions are not in silo and the collective can be of greater benefit.

Appendices

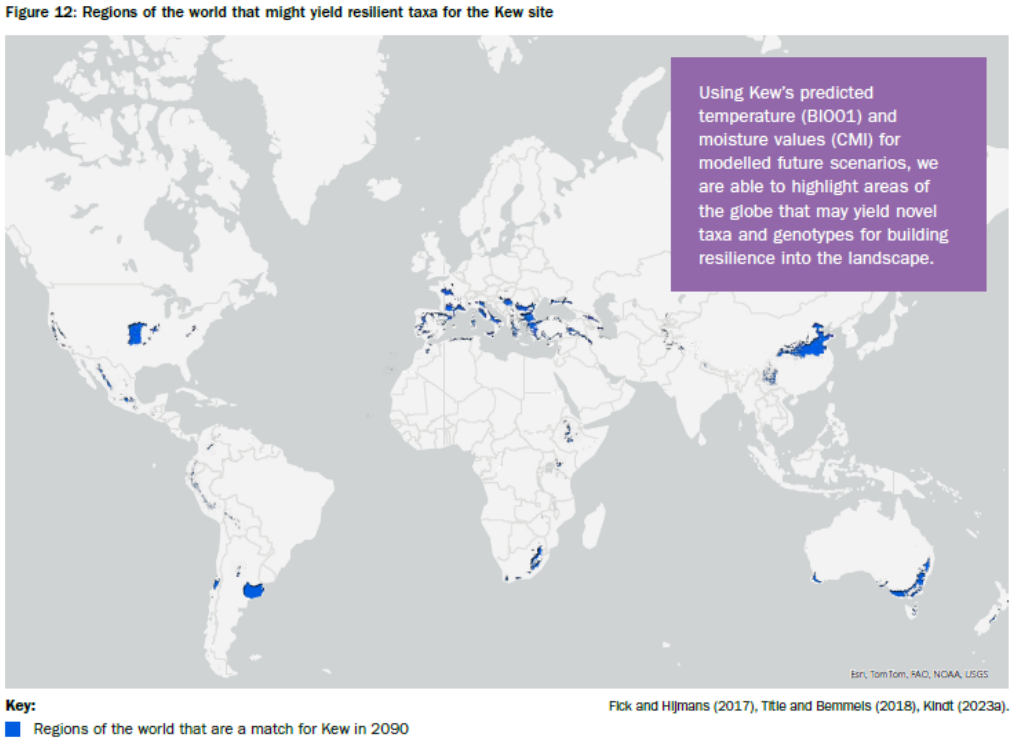
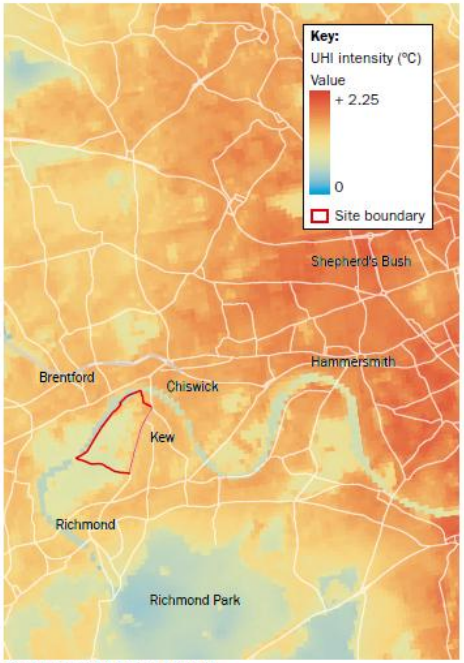


Fig 1: Regions of the world that are predicted to be a match for Kew in 2090[3]

[3] Kew, *Planting for the Future: Kew's Landscape Sucession* Plan (2024). Pg 24. Available online: https://www.kew.org/about-us/press-media/landscape-succession-plan [Accessed 16/04/2025]

Figure 3: Urban heat island (UHI) intensity model of south-west London



European Environment Agency (2020).

UHI is calculated by subtracting rural spatial average temperatures from the projected urban temperatures, and is represented as units above rural baseline in degrees Celsius. In 2020, the landscape of Kew Gardens was 0.8 °C above baseline, whereas neighbouring Kew and Brentford were 1.5 °C above baseline and Shepherd's Bush and Hammersmith more than 2 °C above baseline.

Fig 2: Urban heat island intensity model of south-west London[4]

[4] Kew, *Planting for the Future: Kew's Landscape Sucession* Plan (2024). Pg 12. Available online: https://www.kew.org/about-us/press-media/landscape-succession-plan [Accessed 16/04/2025]

Future resilient species

Scientific name	English common name*
Abies fargesii	
Abies hickelii	
Acer pentapomicum	
Alnus lusitanica	Iberian alder
Alnus oblongifolia	
Arbutus arizonica	
Carya texana	Black hickory
Castanopsis orthacantha	
Celtis africana	White stinkwood
Celtis cerasifera	
Cupressus macrocarpa	Monterey cypress
Eucalyptus sideroxylon	Mugga ironbark
Juglans mollis	Mexican walnut

Scientific name	English common name*
Picea neoveitchii	
Pinus devoniana	
Pinus durangensis	Durango pine
Pinus lawsonii	Lawson pine
Pinus montezumae	Montezuma pine
Populus qamdoensis	
Quercus baloot	Holly oak
Quercus castanea	
Quercus franchetii	
Quercus pannosa	
Quercus urbani	
Staphylea bolanderi	

Fig 3: Tree species predicted to be resilient to Kew's climate in 2090 [5]

[5] Kew, *Planting for the Future: Kew's Landscape Sucession* Plan (2024). Pg 32. Available online: https://www.kew.org/about-us/press-media/landscape-succession-plan [Accessed 16/04/2025]

TREES SHOWING CLIMATE RESILEINCE IN SOUTHEAST ENGLAND

AESCULUS (PAVIA, NEGLECTA & CALIFORNICA)
ARBUTUS
CARYA
CATALPA
CELTIS
CERCIS
CLADRASTIS
DAVIDIA
GINKGO
GLEDITSEA
GYMNOCLADUS
JUGLANS
KOELREUTERIA
LAGERSTROEMIA
LIRIODENDRON
MAACKIA
MAGNOLIA
METASEQUOIA
MORUS
NYSSA
PARROTIA
PAULOWNIA
PTEROCARYA
PTEROSTYRAX
ROBINIA
SEQUOIADENDRON
STYRAX
TAXODIUM
TOONA
XANTHOCYPARIS
ZELKOVA
MATTHEW POTTAGE

Fig 4: List of species of trees that appear to be showing climate resilience in SE England based on observation from Matthew Pottage, Head of Horticulture & Landscape at the Royal Parks, in conversation with members of the RHS Woody Plant Committee.