

# **RHS urban garden initiatives**

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# Outline

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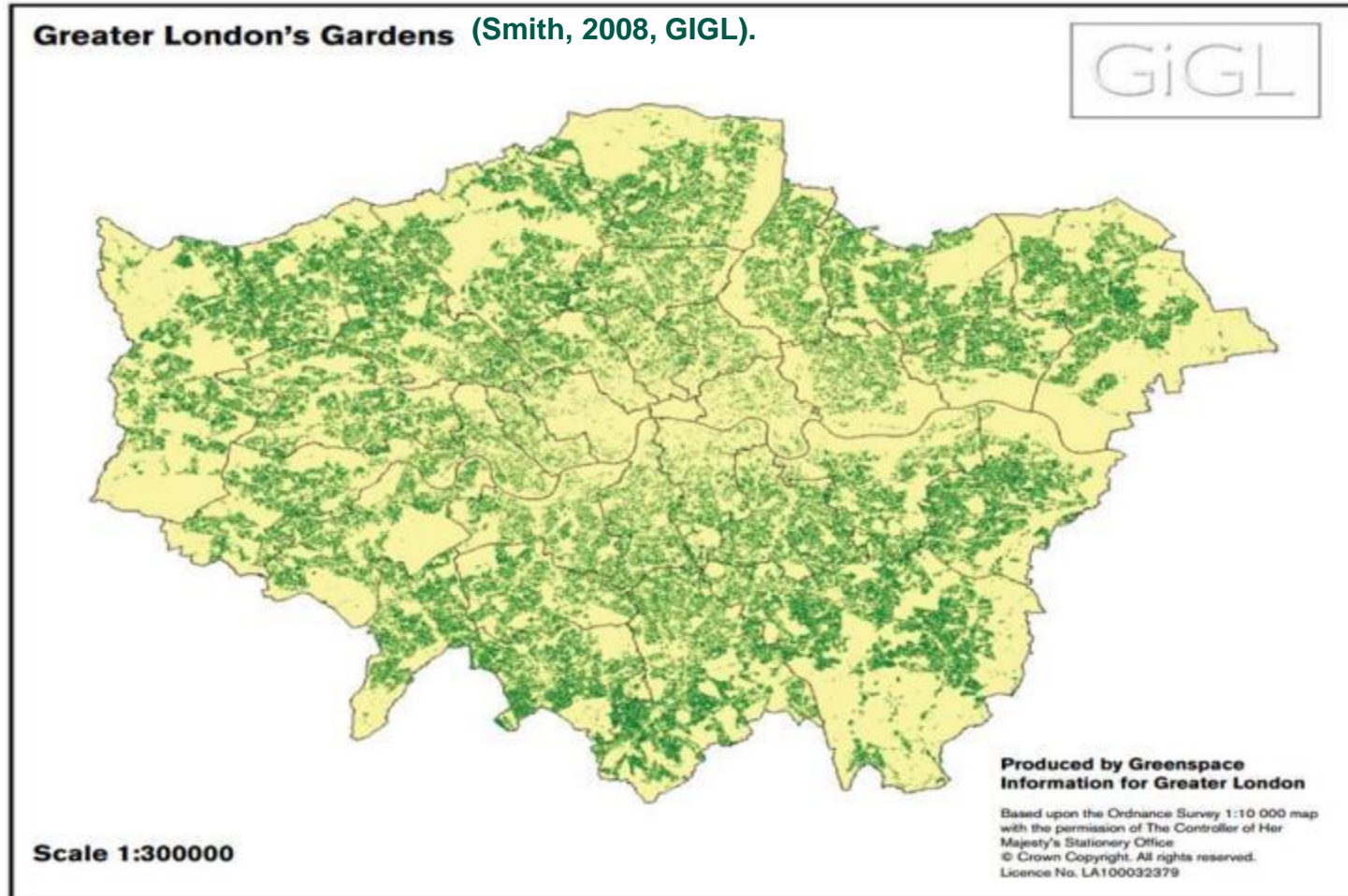
- What are domestic urban gardens?
- Where are domestic urban gardens?
- Why are domestic urban gardens important?
- **RHS Science** Examining the evidence  
and providing advice
- **RHS Communities** Engagement and initiatives
- Future challenges for us (all)

# What are urban domestic gardens?



# Where are urban gardens?

About **25%** of the land in cities OR half the greenspace



# Why are urban domestic gardens important?

## RHS Science review



**Dr Tijana Blanuša**  
**RHS Senior Scientist**

- **Remarkable** depth and range of benefits that gardens provide in urban areas
- **Domino effect** – one garden is not much, but together – gardens are nearly half of urban green space
- **4 key benefit** areas

[rhs.org.uk/urbangreening](https://rhs.org.uk/urbangreening)

# Why are urban domestic gardens important?

## The potential scope

- **20%**(London) to **23%**(Sheffield) of the town's area is gardens
- UK gardens contain almost **29 million trees**  
(i.e. ~ 25% of all trees occurring outside woodlands)
- Average garden size is 190 m<sup>2</sup>, total area ~ **430,000 ha**

## Our potential collective input

- Almost **90%** of UK residents live in urban areas
- **22.7 million** households (87% of homes) in the UK have access to a garden *(Thompson et al., 2004; Davies et al., 2009; Cameron et al., 2012)*



**What we grow** in our gardens and  
**how we manage** them can have a  
big impact collectively!

# 1. Supporting human health

## Scientific evidence

- Gardening eases stress
- Gardening encourages sustained and cardiovascular exercise
- Reduced incidence of illness
- Increased self-esteem, a feeling of achievement

### To get the benefits:

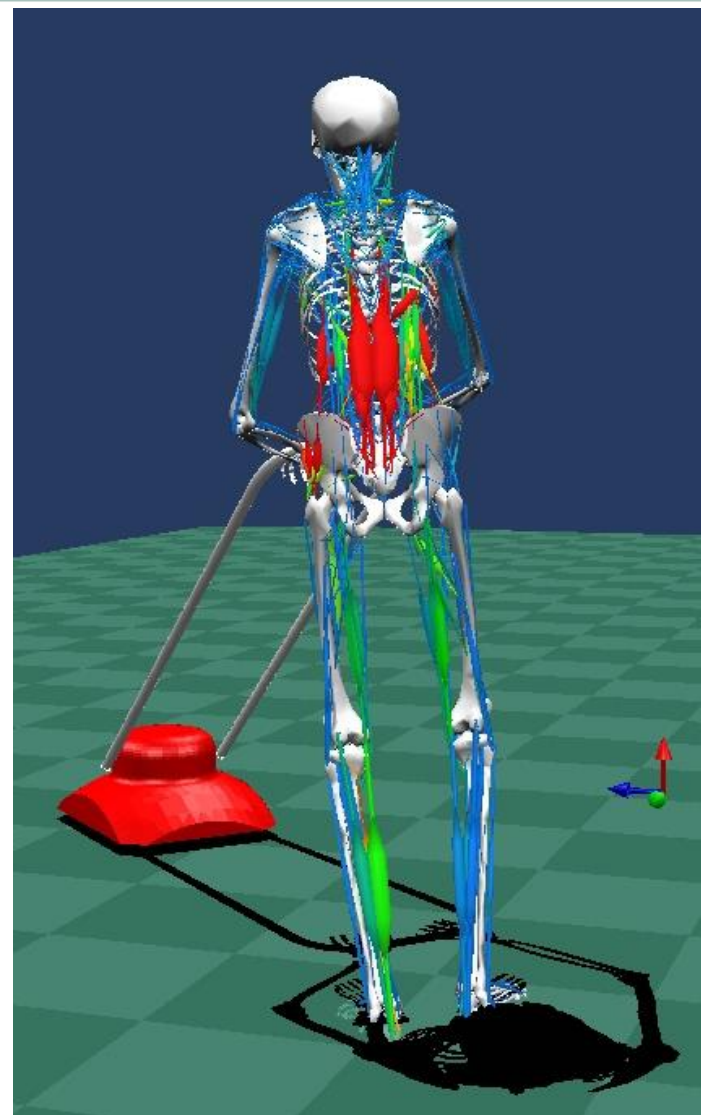
- Get out and garden!
- Be creative... plan and have control



# RHS Science

## Example 1: “green exercise”

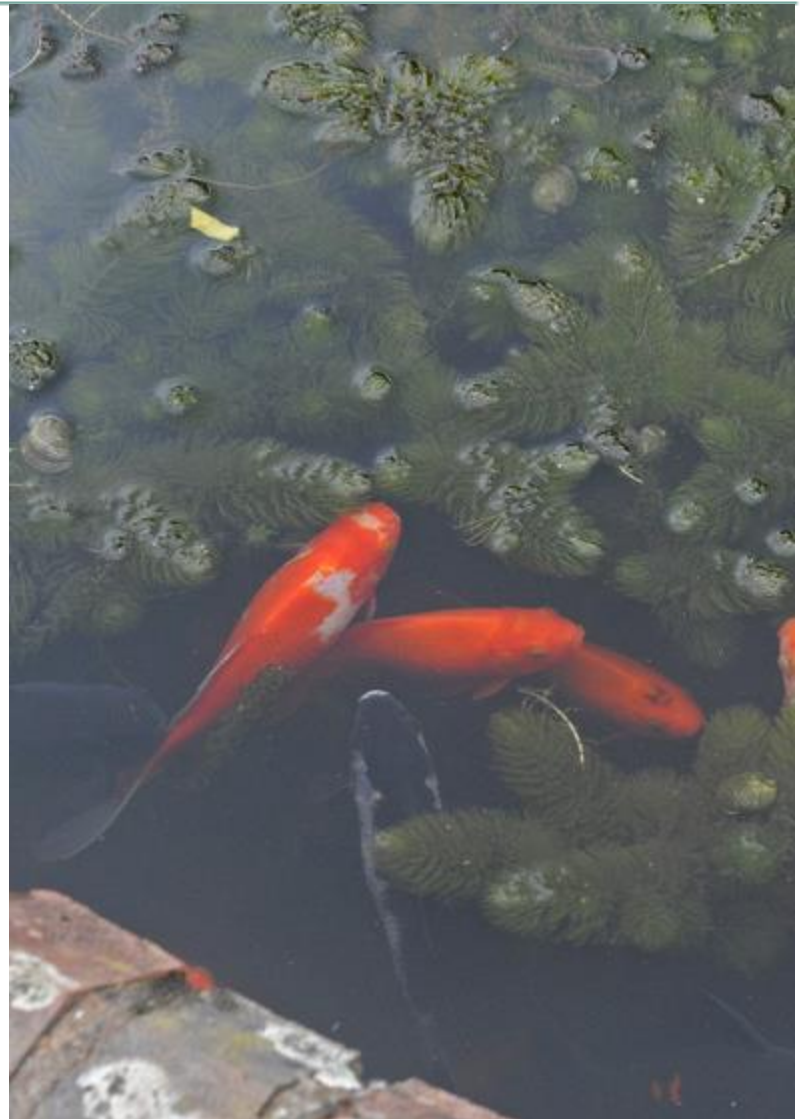
- Collaborative initiative between the RHS and Coventry University
- It is often said that gardening is effectively “green exercise” but there is little evidence
- The study will examine the muscle strength, bone health, cardio-vascular performance and mobility of gardeners, and non-gardeners, to see if there is any correlation between health benefits and gardening activities



# RHS Science

## Example 2: Restoration from gardens

- Collaboration between the RHS and University of Surrey
- Any difference between gardens and naturalness (and create a measure)
- Which garden features help?
- Provide recommendations for designing natural spaces
- Due October 2016

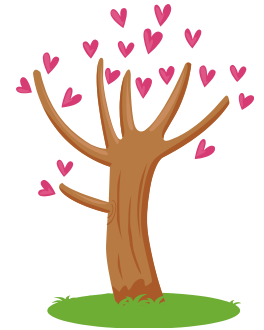


## 2. Moderating urban temperature

### Scientific evidence

*Domestic gardens are the equivalent of an air-conditioning system for our cities*

- **Plants help cool the air and shade**, combating dangerous temperatures in heat waves
- Trees and hedges can **bring heating costs and energy consumption down in the winter** by providing insulation

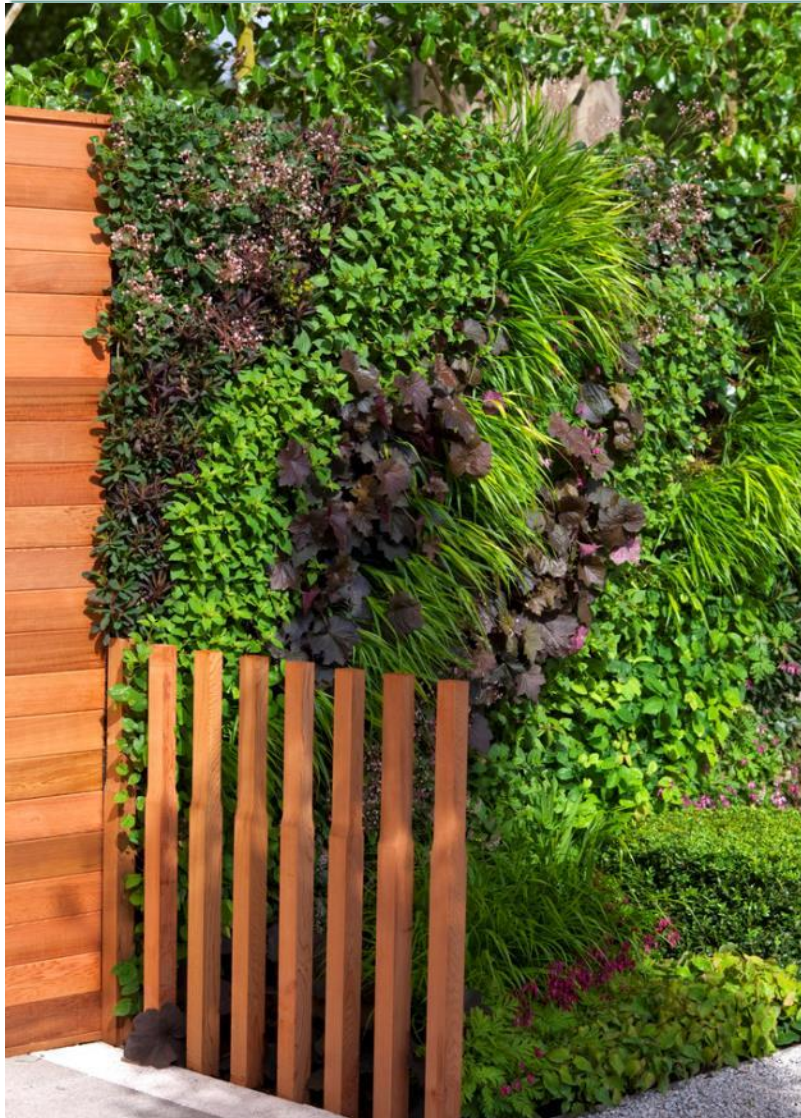


**To get the benefits (at home and work):**

- Get planting! A **10% increase in planting in urban areas would help control the rise in summertime air temperatures predicated with climate change**
- Deciduous tree can allow more heat in during winter
- Could cut heating bills by up to 30%



## 2. Moderating urban temperature green walls and climbers



- Moderating temperatures locally
- Insulation for buildings
- Can cut heating and cooling bills
- A 10% increase in planting in urban areas would help control the rise in summertime air temperatures predicated with climate change



## 2. Moderating urban temperature green walls and climbers



## 2. Moderating urban temperature green roofs

- Reducing problems of water run-off
- Building insulation
- Providing habitats for wildlife
- Contributing to improvement of urban air quality
- Cooling the urban environment

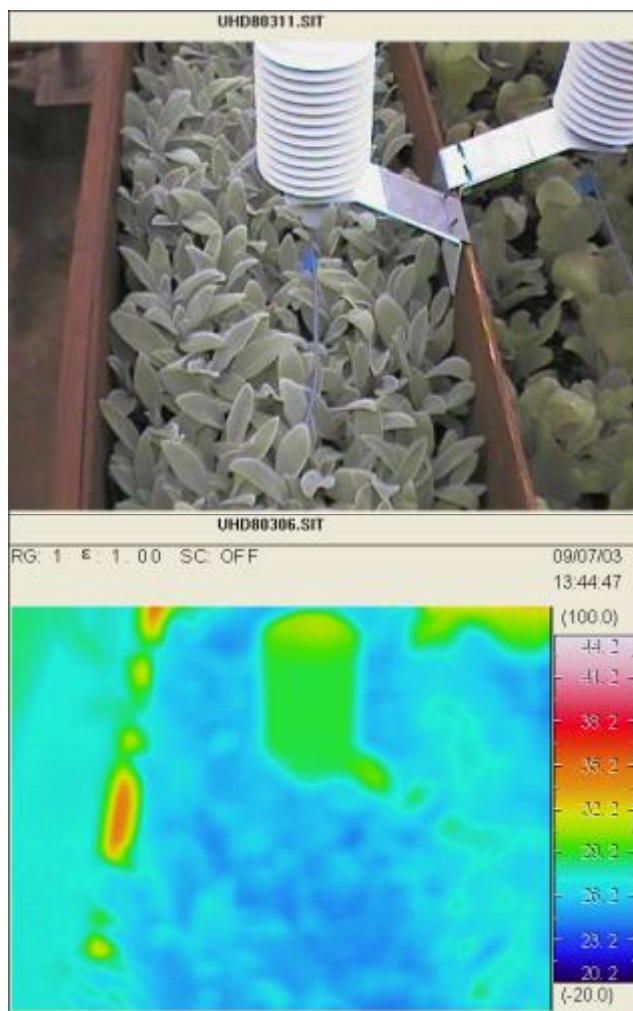


# RHS Science

## Example 3: Urban greening research

*Alternatives to Sedum on green roofs:  
Can broad leaf perennial plants offer  
better 'cooling service'?*

*Building and Environment, Blanusa et al., 2013, pp59, 99-106*



| Species/<br>surface          | Soil<br>temperature<br>(°C) @ -1<br>cm | Air<br>temperature<br>(°C) @ 10<br>cm |
|------------------------------|--|---------------------------------------|
| <i>Stachys<br/>byzantina</i> | 22.2                                   | 24.8                                  |
| <i>Sedum</i> mix             | 34.2                                   | 25.1                                  |
| Bare soil                    | 37.1                                   | 25.9                                  |
| LSD (d.f.)                   | 1.09 (149)                             | 0.32 (149)                            |

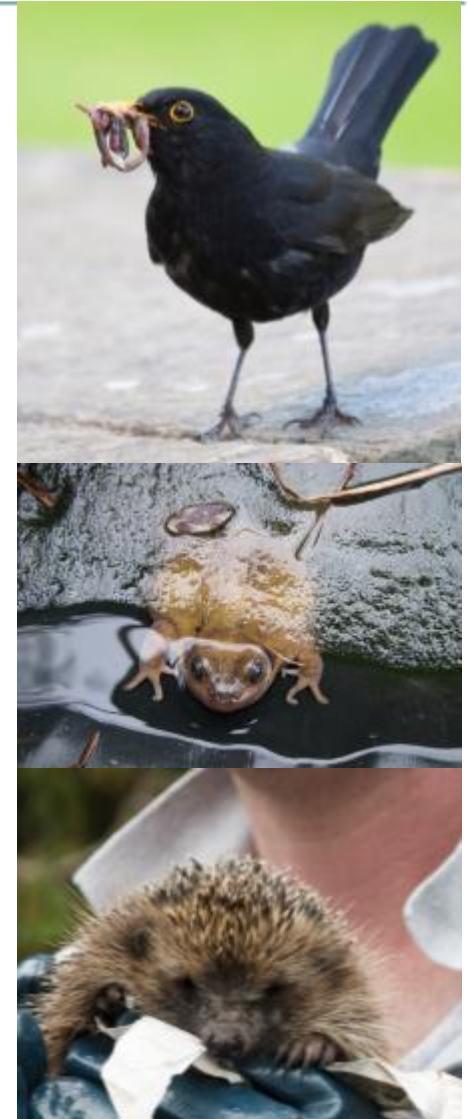
# 3. Supporting biodiversity

## Scientific evidence

- Gardens are one of **Britain's key nature reserves**
- Urban domestic gardens of all sizes support a substantial range of wildlife
- Some animal species are now more common in cities, particularly domestic gardens, than rural areas – song thrush, common frog

### To get the benefits (at home or work)

- Get planting: berries and flowers
- Plants as homes and shelter: trees, hedges, shrubs
- Wildlife friendly additions: ponds, bird baths, bird boxes etc.



# Owen (2010) – Wildlife of a Garden

- 740 m<sup>2</sup> Garden in Leicestershire
- 1602 insect spp
- 121 other invertebrates
- Parasitic wasps – 20 new to UK – 4  
new to science
- 21% of UK insect spp

*Owen J (2010) Wildlife of a Garden: A Thirty-Year Study.  
Royal Horticultural Society, London.*

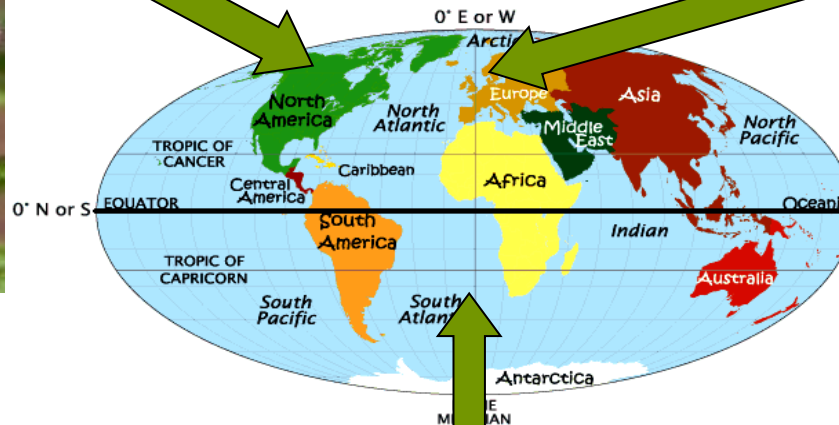
# RHS Science: Example 4 Plants for Bugs

## *Challenging preconceptions*

### Origins of plant assemblages



**Near Native**



**UK Native**



**Exotic**

# RHS Science: Example 4 Plants for Bugs

## *Challenging preconceptions*

**80,000 specimens and more than 400 species of invertebrates collected, counted and identified**

**Initial data analysis shows:**

- **Native is not always best**
- There are differences between the treatments and, different invertebrate groups, show different preferences for different treatments
- Results will be published summer 2014 onwards



[rhs.org.uk/perfectforpollinators](https://rhs.org.uk/perfectforpollinators)



## RHS PERFECT FOR POLLINATORS PLANT LIST

**WINTER**  
NOV – FEB

|   | NOV - FEB |   |
|---|-----------|---|
| <i>Clematis cirrhosa</i> a clematis                           |           | C |
| <i>Crocus biflorus</i> a crocus                               |           | B |
| <i>Crocus tommasinianus</i> a crocus                          |           | B |
| <i>Crocus vernus</i> a crocus                                 |           | B |
| <i>Eranthis hyemalis</i> winter aconite                       |           | S |
| * <i>Fatschedera lizei</i> tree ivy                           |           | S |
| <i>Galanthus nivalis</i> snowdrops - single flowered forms    |           | B |
| <i>Helleborus argutifolius</i> a hellebore                    |           | H |
| <i>Helleborus foetidus</i> native plant - stinking hellebore  |           | H |
| <i>Helleborus</i> * <i>hybridus</i> a hellebore               |           | H |
| <i>Helleborus</i> * <i>sternii</i> a hellebore                |           | S |
| <i>Lonicera</i> * <i>purpusii</i> a honeysuckle               |           | S |
| <i>Mahonia</i> * <i>media</i> Oregon grape                    |           | S |
| <i>Salix amygdaliaca</i> a willow                             |           | S |
| <i>Sarcococca hookeriana</i> a winter box                     |           | S |
| <i>Sarcococca hookeriana</i> var. <i>dignya</i> a winter box  |           | S |
| <i>Sarcococca hookeriana</i> var. <i>humilis</i> a winter box |           | S |
| <i>Viburnum tinus</i> laurustinus                             |           | S |

## SPRING

| SPRING   | S or T |
|--|--------|
| MAR – MAY  |        |
| <i>Acer campestre</i> native plant – field maple | T      |
| <i>Acer platanoides</i> Norway maple             | T      |
| <i>Acer pseudoplatanus</i> sycamore              | T      |
| <i>Acer saccharum</i> sugar maple                | T      |

### SPRING (cont.)

| SPRING (cont.) |  |        |
|----------------|--|--------|
|                | <i>Berberis darwinii</i> Darwin's barberry                           | S      |
|                | <i>Berberis thunbergii</i> Japanese barberry                         | S      |
|                | <i>Bergia</i> spp and cultivars elephant ear                         | H      |
|                | <i>Buxus sempervirens</i> native plant - box                         | S      |
|                | <i>Caltha palustris</i> native plant - marsh marigold                | H      |
|                | <i>Cercis siliquastrum</i> Judas tree                                | S      |
|                | <i>Chaenomeles japonica</i> a Japanese quince                        | S      |
|                | <i>Chaenomeles speciosa</i> a Japanese quince                        | S      |
|                | <i>Chaenomeles x superba</i> a Japanese quince                       | S      |
|                | <i>Cornus mas</i> cornelian cherry                                   | S      |
|                | <i>Cornus mas conspicua</i> Tibetan cotoneaster                      | S      |
|                | <i>Crataegus monogyna</i> native plant - hawthorn                    | S or T |
|                | <i>Crocus</i> spp & cultivars crocus (various)                       | B      |
|                | <i>Doronicum x excelsum</i> leopard's bane                           | H      |
|                | <i>Enkianthus campanulatus</i> red vein enkianthus                   | BI     |
|                | <i>Erysimum cheiri</i> wallflower                                    | S      |
|                | <i>Erica carnea</i> a heath  | S      |
|                | <i>Erica x darleyensis</i> a heath                                   | H      |
|                | <i>Erysimum 'Bredon'</i> a perennial wallflower                      | H      |
|                | <i>Euphorbia amygdaloides</i> wood spurge                            | H      |
|                | <i>Euphorbia amygdaloides</i> var. <i>robbae</i> Mrs Robb's bonnet H | H      |
|                | <i>Euphorbia characias</i> Mediterranean spurge                      | H      |
|                | <i>Euphorbia cyparissias</i> Cyprus spurge                           | H      |
|                | <i>Euphorbia nicaensis</i> a spurge                                  | H      |
|                | <i>Euphorbia polychroma</i> many coloured spurge                     | H      |
|                | <i>Geranium phaeum</i> dusky cranesbill                              | S      |



## 4. Preventing flooding

### Scientific evidence

- Urban gardens help keep our cities 'above water'
- Garden plants and trees **intercept intense rain, slowing run off**, reducing pressure on drains
- Unlike hard surfaces, the soil in gardens absorbs rain

### To get the benefits (at home or work):

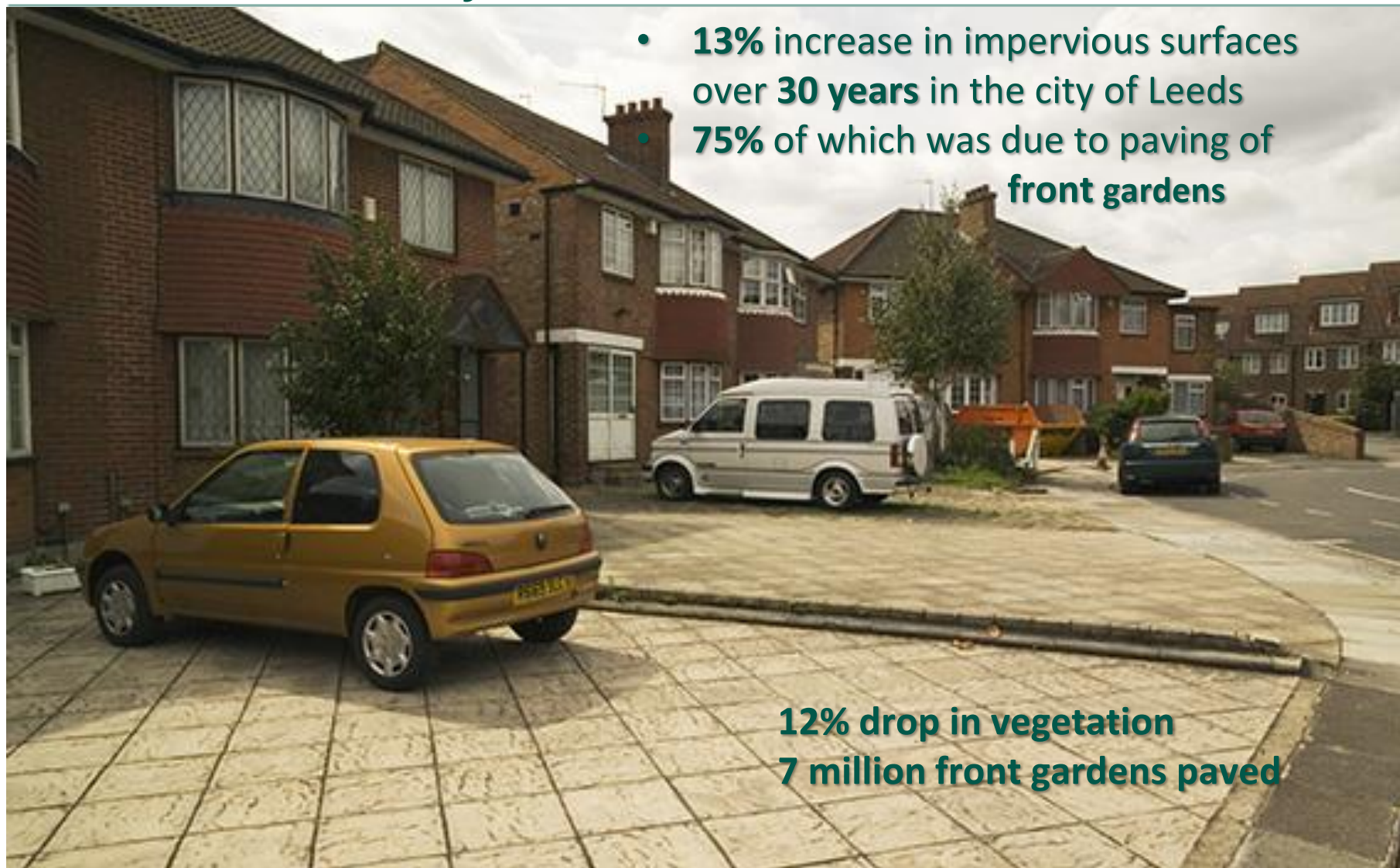
- Keep paving to a minimum
- Drain into beds, borders and lawns
- Install green roofs and plant trees to help slow runoff
- Swap hard surfaces for planting



## 4. Preventing flooding

### *The reality of suburbia*

- **13% increase in impervious surfaces over 30 years in the city of Leeds**
- **75% of which was due to paving of front gardens**



**12% drop in vegetation**  
**7 million front gardens paved**

## 4. Preventing flooding

*Simple advice and solutions*



# Street success

## *Inspiring each other*



# RHS Communities

## Engagement and initiatives



# RHS Communities

*Inspiring change and improvement*

RHS BRITAIN IN BLOOM

RHS IT'S YOUR  
NEIGHBOURHOOD

Volunteer hours  
in communities

over 3900  
groups

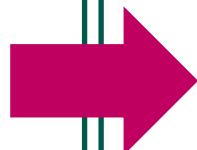
10.9 million  
hours

RHS CAMPAIGN FOR  
SCHOOL GARDENING

18,577 schools,  
over 3m children



over 3000 groups



**58%** of the groups  
have transformed  
derelict space

**46,000 ha** is estimated  
to be cared for by the groups

More than **60%**  
of groups are  
growing edibles

Volunteers planted almost

**3,000,000** bulbs

**185,000** trees

**718,000** shrubs in 2013

# 50 YEARS

## RHS BRITAIN IN BLOOM

### Britain in Bloom 2014 launch



### Growing for Gold - 50 Years of Britain in Bloom!

To launch the 2014 RHS Britain in Bloom campaign and to celebrate Bloom's golden anniversary, the RHS is encouraging community groups across the UK to plant golden pollinator-friendly flowers in public spaces this year.

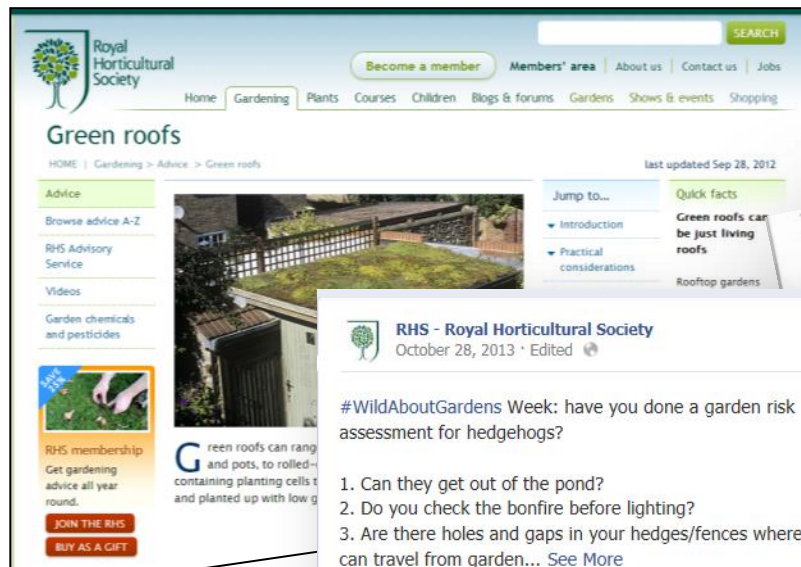
Free 'Growing for Gold' seed packs are available on a first-come, first-served basis to all groups registered with one of these campaigns:

- Bloom (all Bloom groups can apply for seeds – regional and national)
- It's Your Neighbourhood
- RHS Affiliated Societies
- RHS Campaign for School Gardening



[rhs.org.uk/communities](http://rhs.org.uk/communities)

# Advice and inspiration Online and in print



RHS - Royal Horticultural Society  
October 28, 2013 · Edited

#WildAboutGardens Week: have you done a garden risk assessment for hedgehogs?

1. Can they get out of the pond?
2. Do you check the bonfire before lighting?
3. Are there holes and gaps in your hedges/fences where they can travel from garden... See More



Like · Comment · Share

328 17 207

16,616 people saw this post

Boost Post

## The power of front gardens

Nick Turrell, writer and garden contributor to The Sunday Times

Before moving to our house in Surrey five years ago, I'd never had a front garden, so as soon as we moved in, I set to work ripping out the existing one and redesigning it. I had no idea just how important this was to going to be and how much of a state it would cause with the neighbours.

A neighbour complained that he used to enjoy the view from his front garden and was disappointed that it had been 'ripped out'. This reaction, although understandable, was the last thing I needed, shortly after completing the job, the Lehman Brothers bank collapsed and my garden was ground to a halt. My life was shattered. Through difficult times, however, there was always something to be seen every time I left the house. I can't tell you how good that felt.

As the garden developed, I could see it was starting to

## In support of suburbia

Domestic gardens are becoming increasingly important spaces. Yet throughout British gardening history they have not been valued and should be better valued

Author: Toby Musgrave



44 The Garden | November 2012

# Future challenges for us (all)

## **Different challenges from public greenspace:**

- Not one owner; 22.7 millions homeowners
- It all added up (or subtracts like a domino effect)
- “An Englishman’s home is...” a right to do what he wants!

## **The benefits of domestic gardens are huge:**

- ✓ Climate change resilience for towns and cities
  - Flooding, temperature moderation, carbon sequestration
- ✓ Supporting human health
- ✓ Sustainable communities
- ✓ ‘Nice’ places to live – high quality environments

# Future challenges for us (all)

**Everyone can do *something* to ensure gardens are at the heart of our future towns and cities**

## **As an individual**

- Value domestic gardens – e.g don't pave and build over
- Do increase planting
- Learn how to grow

## **Collectively as organisations and governing bodies**

- Understand their importance – it's half our greenspace
- Value domestic gardens – e.g. enforce no paving and building
- Provide advice, information and engage with the public
- Include principals in new development (e.g. garden cities)
- Invest in horticulture and horticulturists – horticultural skills shortage (see *RHS Horticulture Matters*)

The background of the image is a collage of several rectangular tiles. Each tile has a brown, mottled, and textured appearance, similar to aged parchment or stone. The tiles are arranged in a grid-like fashion, with some overlapping. The central tile, which is the largest and most prominent, features the text "The End?".

**The End?**