RHS urban garden initiatives

Leigh Hunt,
Principal Horticultural Advisor,
Royal Horticultural Society
Outline

- 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

(Smith, 2008, GIGL).
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](http://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 m², 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
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*

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

- 740 m² Garden in Leicestershire
- 1602 insect spp
- 121 other invertebrates
- Parasitic wasps – 20 new to UK – 4 new to science
- 21% of UK insect spp

RHS Science: Example 4 Plants for Bugs
Challenging preconceptions

Origins of plant assemblages

Near Native

UK Native

Exotic
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
Example 3:
RHS Perfect for Pollinators

rhs.org.uk/perfectforpollinators
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
over 3900 groups

RHS IT’S YOUR NEIGHBOURHOOD
Volunteer hours in communities 10.9 million hours

RHS CAMPAIGN FOR SCHOOL GARDENING
18,577 schools, over 3m children

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
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
In support of suburbia

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

The power of front gardens

We have seen how front gardens are the most effective, dynamic and popular of all kinds of gardens. They are at the heart of our communities and their potential for cultural, environmental and social benefits is immense.

The garden and its place in our lives

The garden is a place for reflection and recreation, a place for physical and mental well-being. It is a place for learning and discovery, a place for creativity and expression. It is a place for community and connection, a place for belonging and identity.

Permeable paving

Permeable paving is a sustainable and functional alternative to traditional paving. It is designed to allow water to pass through it, reducing surface run-off and helping to manage stormwater. It is also eco-friendly and can improve the urban environment.

Advice and inspiration

Advice and inspiration are available online and in print. Whether you are a gardener or just interested in gardens, you will find something of interest here.

#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

16,616 people saw this post
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 End?