



Sveriges lantbruksuniversitet  
Swedish University of Agricultural Sciences

# Green Infrastructure and Governance

Cecil Konijnendijk van den Bosch

[cecil.konijnendijk@slu.se](mailto:cecil.konijnendijk@slu.se)

# Outline

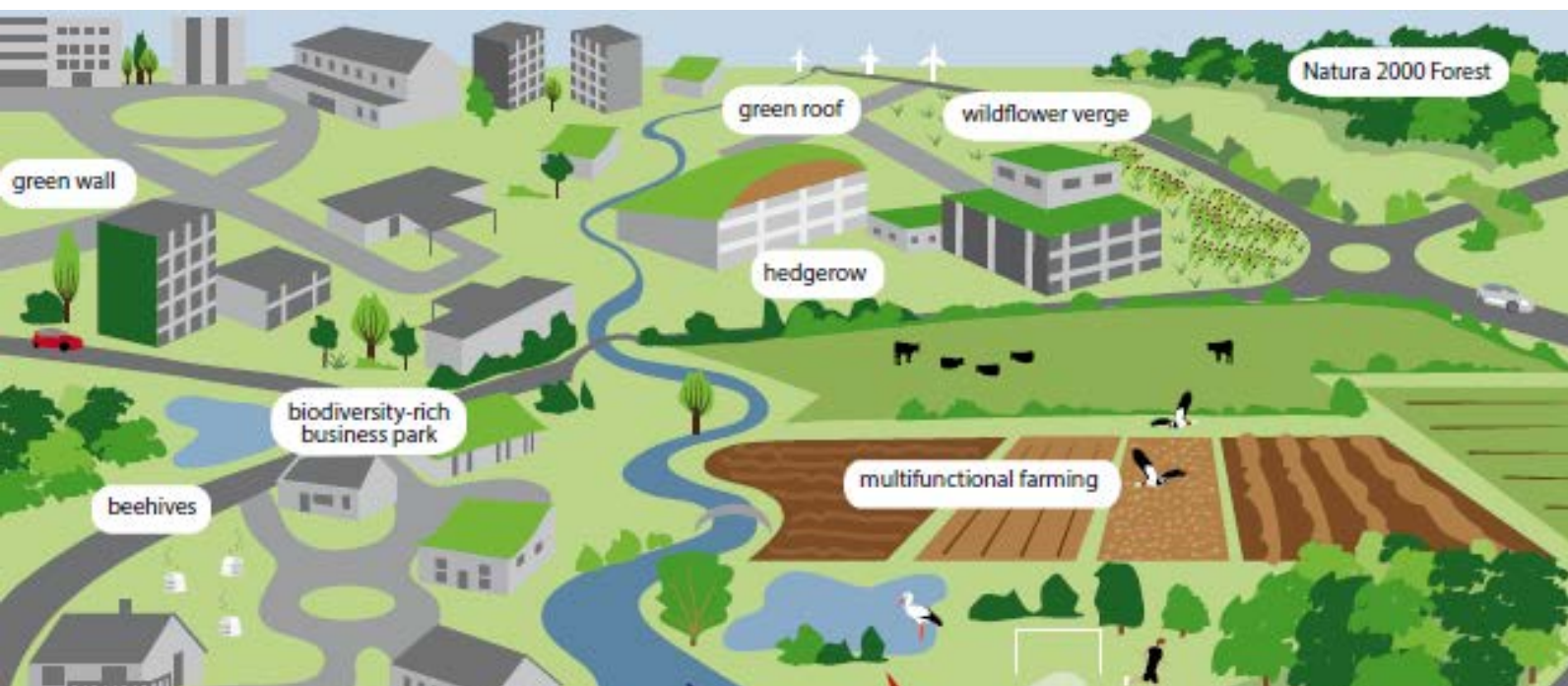
- Green infrastructure (GI) – and some issues of debate
- A governance perspective on GI
- GI governance in practice





# Building a Green Infrastructure for Europe

Environment



# What is Green Infrastructure?

Green Infrastructure can be broadly defined as a strategically planned network of high quality natural and semi-natural areas with other environmental features, which is designed and managed to deliver a wide range of ecosystem services and protect biodiversity in both rural and urban settings.

More specifically GI, being a spatial structure providing benefits from nature to people, aims to enhance nature's ability to deliver multiple valuable ecosystem goods and services, such as clean air or water.

# GI defined

*Systems thinking* – infrastructure, streams etc.

*Ecological thinking* – e.g. island ecology, corridors

*Social thinking* – soft traffic, connecting people

Connectivity – and removing barriers

Functionality – and service provision

Integration – and providing essential framework for city

CHOOSE  
*a*  
*positive*  
THOUGHT



ROAD WORK AHEAD

FOR LEASE

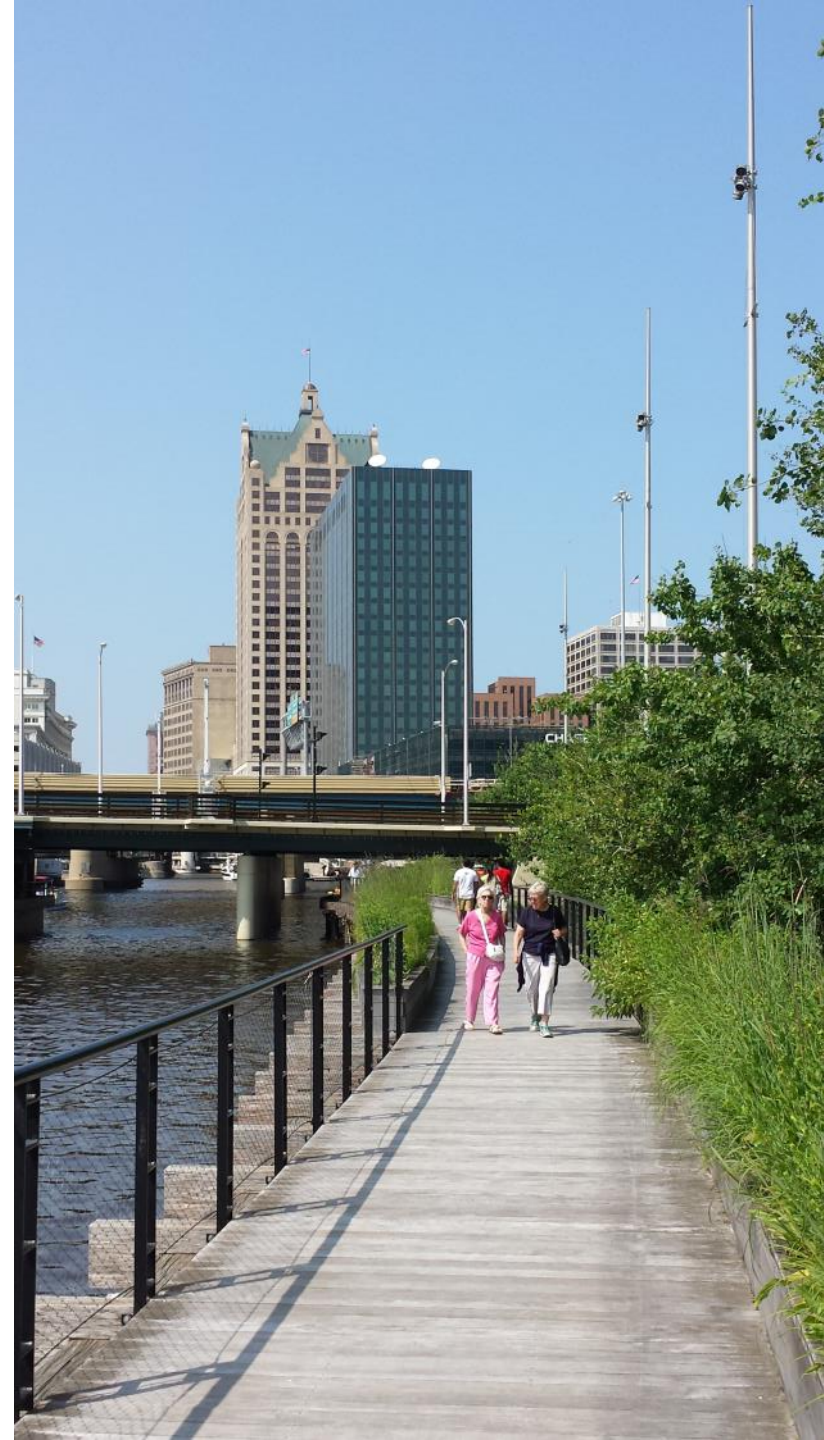
Third Ward

NORTH MILWAUKEE ST  
DETOUR  
AHEAD

SUFFALD

# Hurray for GI!

- Bridging between social and ecological systems
- **Raising the (political and planning) status of green space and tree issues**
- Speaking the “right language”
- Economic and service / value focus
- Linking between town and country





LETS GO GREEN!

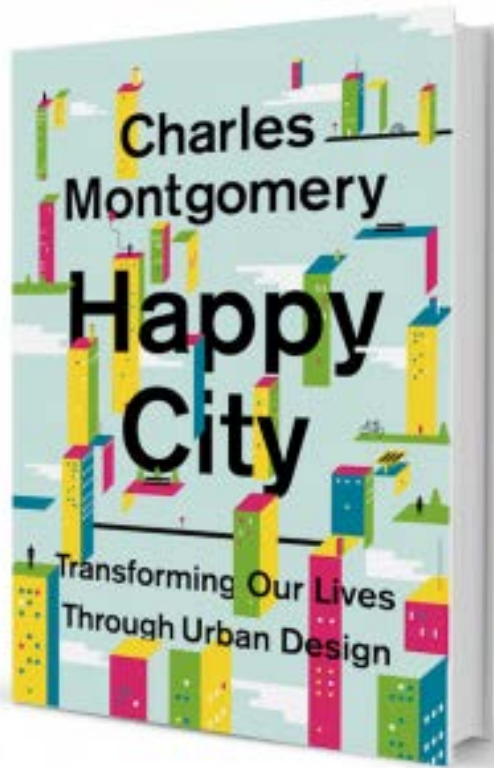
WE DON'T HAVE TO CHOOSE BETWEEN FINANCIAL GROWTH AND CONSERVING THE PLANET ... THEY GO HAND IN HAND

Bigger Picture.dk/petri



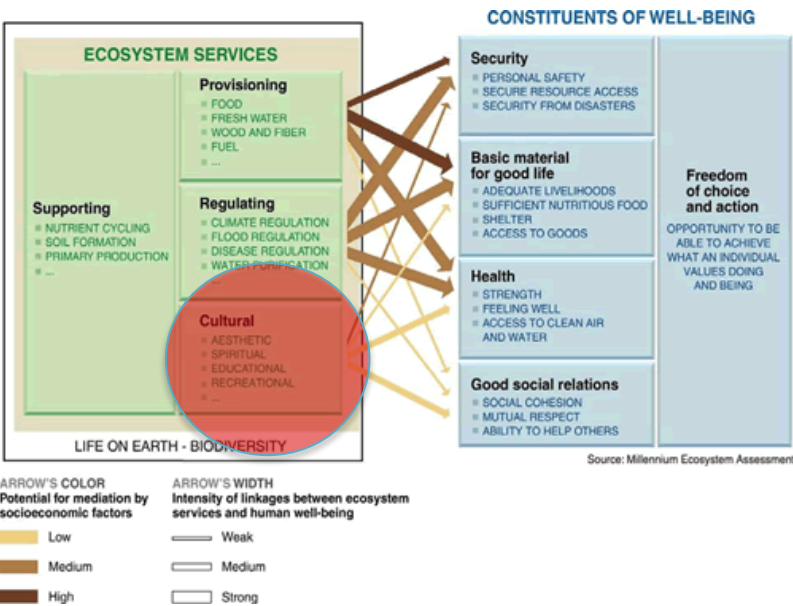
# The trouble with Green Infrastructure ...





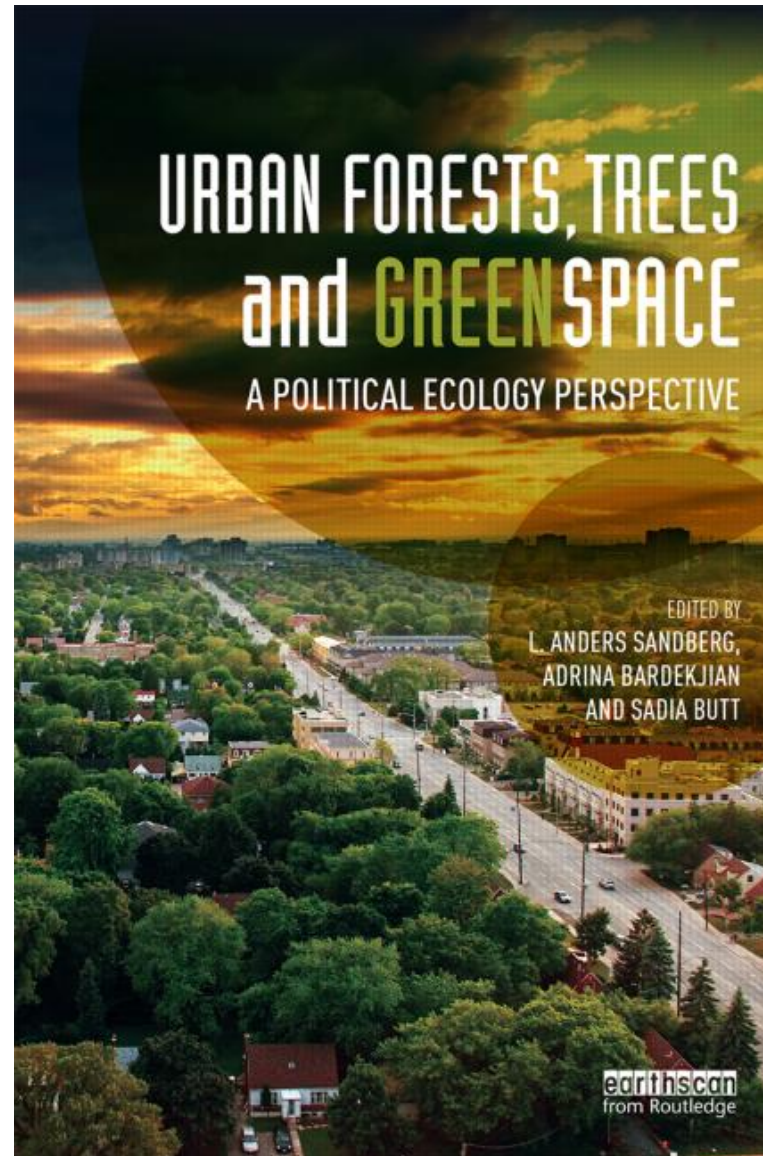
- Focus on Urban Design
- “Retrofitting our cities for *happiness*”
- Soft traffic, shared space
- Density and the ‘savannah trap’
- Importance of biological complexity

# Cultural ecosystem services



“The nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences”

Millennium Ecosystem Assessment (2005)



# Biocultural Diversity

“(...) the diversity of life in all of its manifestations: biological, cultural, and linguistic, which are interrelated (and likely coevolved) within a complex socio-ecological adaptive system” (Maffi & Woodley, 2010)

- Human valuations and uses of nature
- Biocultural expressions – focus on concepts, physical elements
- Public ecology, transdisciplinary inquiry – social learning, connecting professionals, people and places

# Governance

- Efforts to direct human action towards common goals, and more formally as the setting, application and enforcement of generally agreed to rules
- Governance by / with / without government
- Governance *with* government: boundaries between and within public and private sectors have become blurred

# Inspiration for analysis: Policy arrangement theory

Policy arrangement: *“The temporary stabilisation of the content and organisation of a particular policy domain at a certain policy level or over several policy levels – in case of multi-level governance”*

Two dualities:

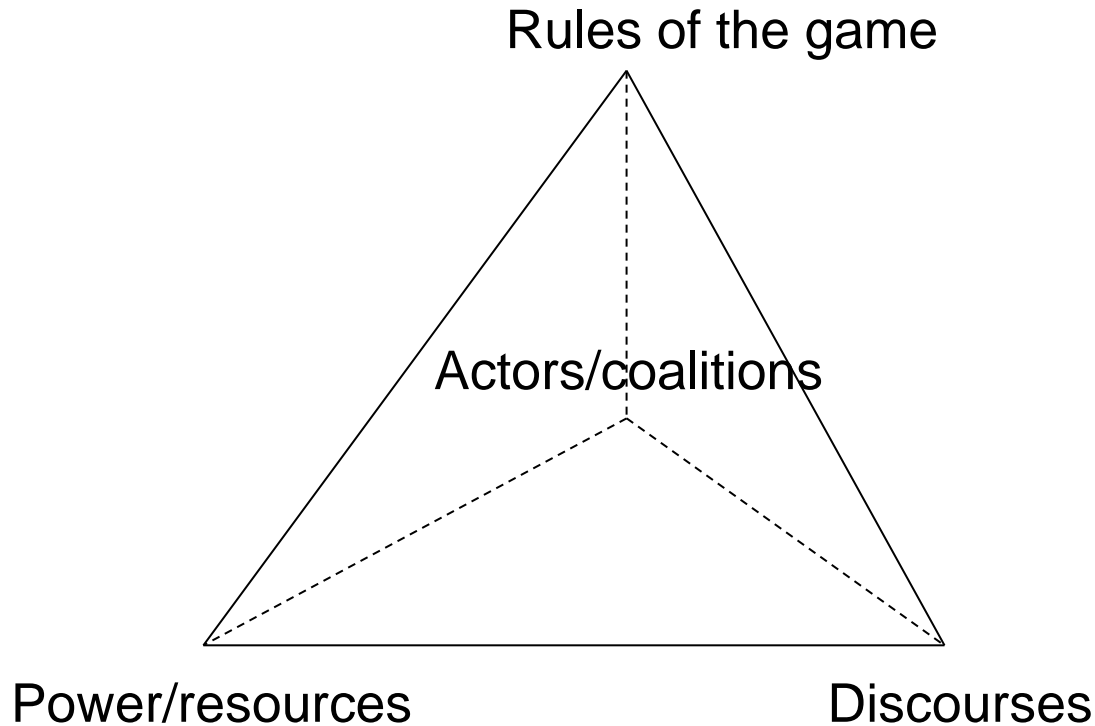
Substance – organisational

Agency - structure

Source: Leroy & Arts (2006)

# Policy Arrangement Approach

E.g. Liefferink(2006)





# Actors and coalitions

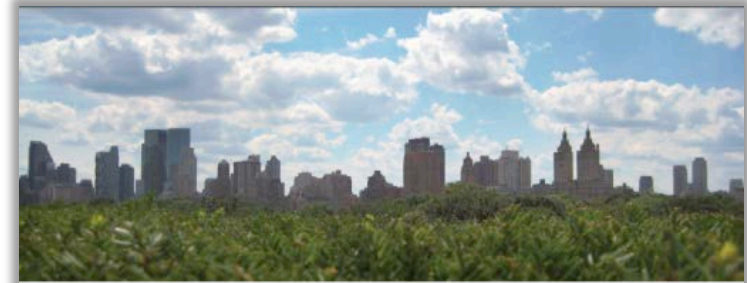


# The Value of Green Infrastructure

A Guide to Recognizing Its Economic, Environmental and Social Benefits



© Center for Neighborhood Technology 2010



## NYC GREEN INFRASTRUCTURE PLAN

A SUSTAINABLE STRATEGY FOR CLEAN WATERWAYS

Michael R. Bloomberg, Mayor  
Cos Holloway, Commissioner





# Rules of the game

- Changes in rules of the game, e.g. new types of institutions, new formal procedures and informal routines
- New 'hybrid' models involving public authorities, businesses and civic society
- Local authorities and green space managers have different role



To find out more about Nene Park Trust and our plans for the next 10 years, refer to our website, or *Parklife*, our seasonal magazine and events guide. Or, contact the team via:

**Nene Park Trust, Ham Farm House, Ham Lane, Peterborough, PE2 5UU**

01733 234193 [visitor.services@neneparktrust.org.uk](mailto:visitor.services@neneparktrust.org.uk) [www.neneparktrust.org.uk](http://www.neneparktrust.org.uk)



# 2020

a 10 year vision and strategic plan: summary



# SVERIGES FÖRSTA NATIONALSTADSPARK

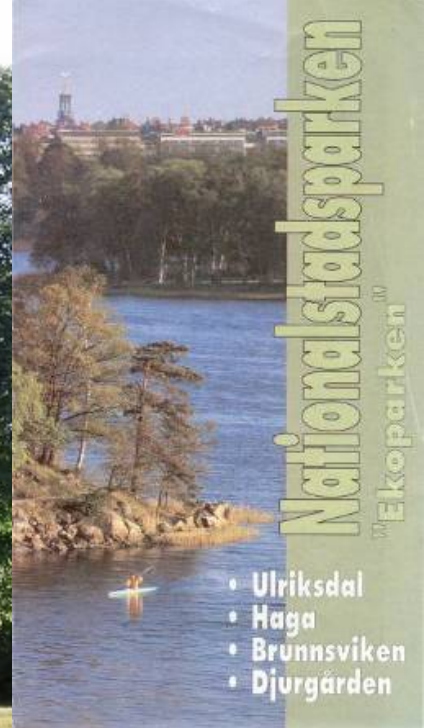
Ett historiskt landskap mitt i Stockholm

Staden av en bergig fjärr och med källor och små åsar i Stockholms och Södra Djurgårdens område. Sedan 1800-talet har Solna, Danderyd och Högdalen byggts ut som förorter till Stockholm och idag är i Solna och Högdalen upp till 100 meter över havet.

Nationalstadsparken är ett stort historiskt landskap med många fina stadsdelar med långt in i Solna, Högdalen och Södra Djurgården. Här finns också många av stadens parker och grönområden som Solna, Högdalen och Södra Djurgården. Här finns också många av stadens parker och grönområden som Solna, Högdalen och Södra Djurgården.

## En mängd av upplevelser och verksamheter!

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Nationalstadsparken  
Ekoparken™

- Ulriksdal
- Haga
- Brunnsviken
- Djurgården



# Power / resources

- Shifts in power balance
  - How much power will local residents obtain?
  - How much power are local authorities willing to transfer?
- Complex network governance with intricate power relationships
- Different demands on knowledge and information

# Discourses

“(...) an ensemble of ideas, concepts and categories through which meaning is given to social and physical phenomena, and which is produced and reproduced through an identifiable set of practices.”

(Hajer & Versteeg, 2005)

The leading 'storylines'



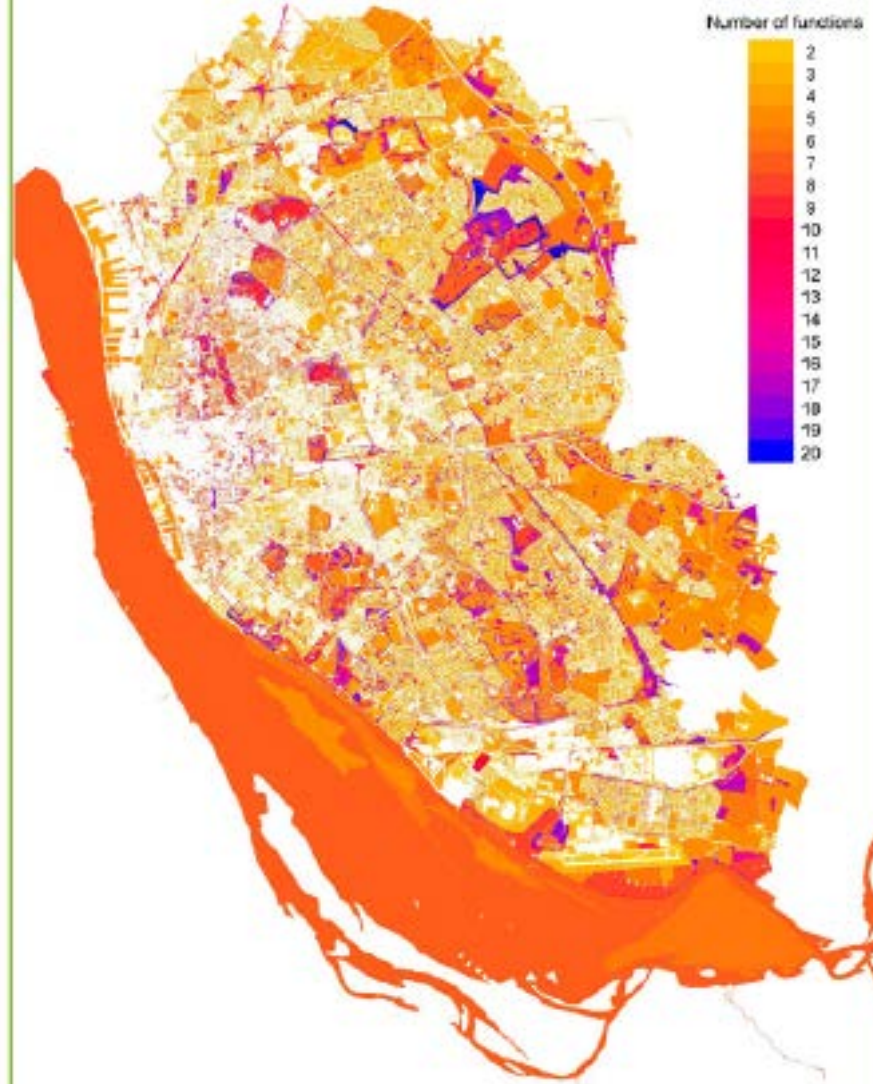
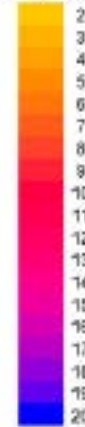
# Discourses in GI governance

- Neo-liberalism and ecosystem services
- Resilience and climate change adaptation
- Human health and wellbeing
- City competitiveness
- Local involvement in environmental issues

# Multifunctionality



Number of functions



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# MELBOURNE'S URBAN FOREST



 **60,000** COUNCIL TREES    
  **\$650m** AMENITY VALUE    
  **22%** CANOPY COVER

**LOW DIVERSITY**  
Just three species - plane, elm and red river gum make up more than 35% of Melbourne's trees



**AGEING**  
Some of our grandest trees are nearing the end of their lives



**HIGH VULNERABILITY**

Fitzroy Gardens now



**CITY OF MELBOURNE EXPECTS TO LOSE**

- 27% of trees in 10 years
- 44% of trees in 20 years

If no action is taken



## CHALLENGES

### Pests & Disease

Myrtle rust could affect almost 45% of Melbourne's trees

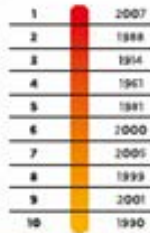


### Climate change

Victoria's temperatures are predicted to increase into the future

Victoria has recorded five of its ten hottest years since 1999\*\*

\*\*Ranked according to average daily temperature



### Increasing Population & Density



## THE FUTURE

### OUR VISION

The City of Melbourne's urban forest will be resilient, healthy and diverse and will contribute to the health and wellbeing of our community and to the creation of a liveable city.

### URBAN FOREST STRATEGY TARGETS

1. Increase canopy cover - 40 per cent by 2040.
2. Increase diversity - no more than 5% of one tree species, 10% one genus, 20% one family.
3. Improve vegetation health - 90 per cent of tree population healthy by 2040.
  4. Improve soil moisture.
  5. Improve biodiversity.
6. Inform and consult with the community.



Slide courtesy of Ian Shears, City of Melbourne



HEAD TO TOE HEALTH  
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www.headtothehealth.com

STOP  
VEHICLE  
TOXIC  
NON PRO  
RESER  
Squid  
K2



# LIVERPOOL

## GREEN INFRASTRUCTURE STRATEGY

### EXECUTIVE SUMMARY



The city's life support system – the network of natural environmental components and green and blue spaces that lies within and around Liverpool and provides multiple social, economic and environmental benefits.

**The Liverpool Green Infrastructure Strategy has been developed to maximise the benefits that the city can gain from the sustainable management of its natural environment. Green infrastructure is a critical infrastructure for the economy and health of the city.**

The purpose of the strategy is to support the aspirations for the future sustainable development of Liverpool to ensure that it is:

**“..one of the best places to live, work, invest and enjoy life”<sup>1</sup>**



# BiophilicCities



HOME

THE PROJECT

BIOPHILIC CITIES

RESOURCES

BLOG

LAUNCH HOME

JOIN THE BIOPHILIC

## Welcome!

We need nature in our lives more than ever today, and as more of us are living in cities it must be urban nature. Biophilic Cities are cities that contain abundant nature; they are cities that care about, seek to protect, restore and grow this nature, and that strive to foster deep connections and daily contact with the natural world. Nature is not something optional, but absolutely essential to living a happy, healthy and meaningful life. This site is devoted to understanding how cities can become more biophilic, more full of nature, and to telling the stories of the places and people working to creatively build these urban-nature connections.

LAUNCH

## Biophilic

October  
Unive  
Charlo



# Perspective

- GI is rapidly gaining following – and being implemented
- Important to recognise and integrate the governance dimensions of GI
- Governance is one way to make GI ‘living’ and less ‘technocratic’ or abstract







SEVENTH FRAMEWORK  
PROGRAMME



GREEN SURGE

**GREEN INFRASTRUCTURE  
AND URBAN BIODIVERSITY  
FOR SUSTAINABLE  
URBAN DEVELOPMENT  
AND THE GREEN ECONOMY**

Type of funding scheme:  
Collaborative Project

Part B

[www.greensurge.eu](http://www.greensurge.eu)