Sanitary, Sustainable, Sacred: understanding human habitat

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University of Washington (Seattle)
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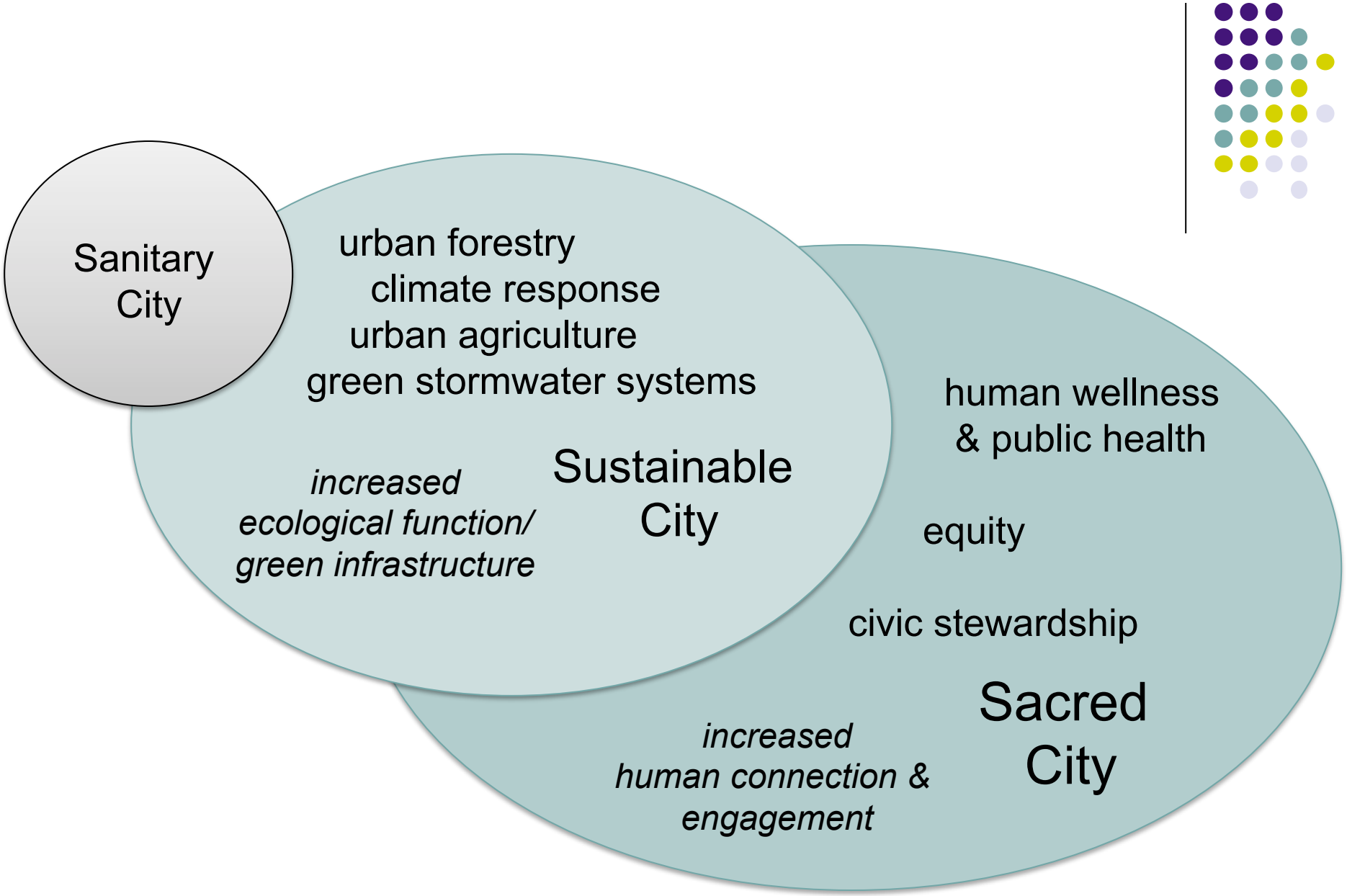
Northern Rockies Tree School
Livingston, MT :: October 1, 2015


Sanitary City
urban forestry
climate response
urban agriculture
green stormwater systems
Sustainable City
increased ecological function/ green infrastructure
human wellness & public health
equity
civic stewardship
Sacred City
increased human connection & engagement

sanitary city

efficient and hygienic
supply & removal
    of materials and services
natural systems disconnect

Industrial Age – city squalor

credit: BlendSpace

credit: blogs.isb.bj.edu.cn

08/04/2005

Baltimore: Public Works Museum
STORM DRAIN

SANITARY
STORM DRAIN

Environment = Toxin, Risk

Love C
Niagra

iver, OH

NYC Central Park

improve health & character

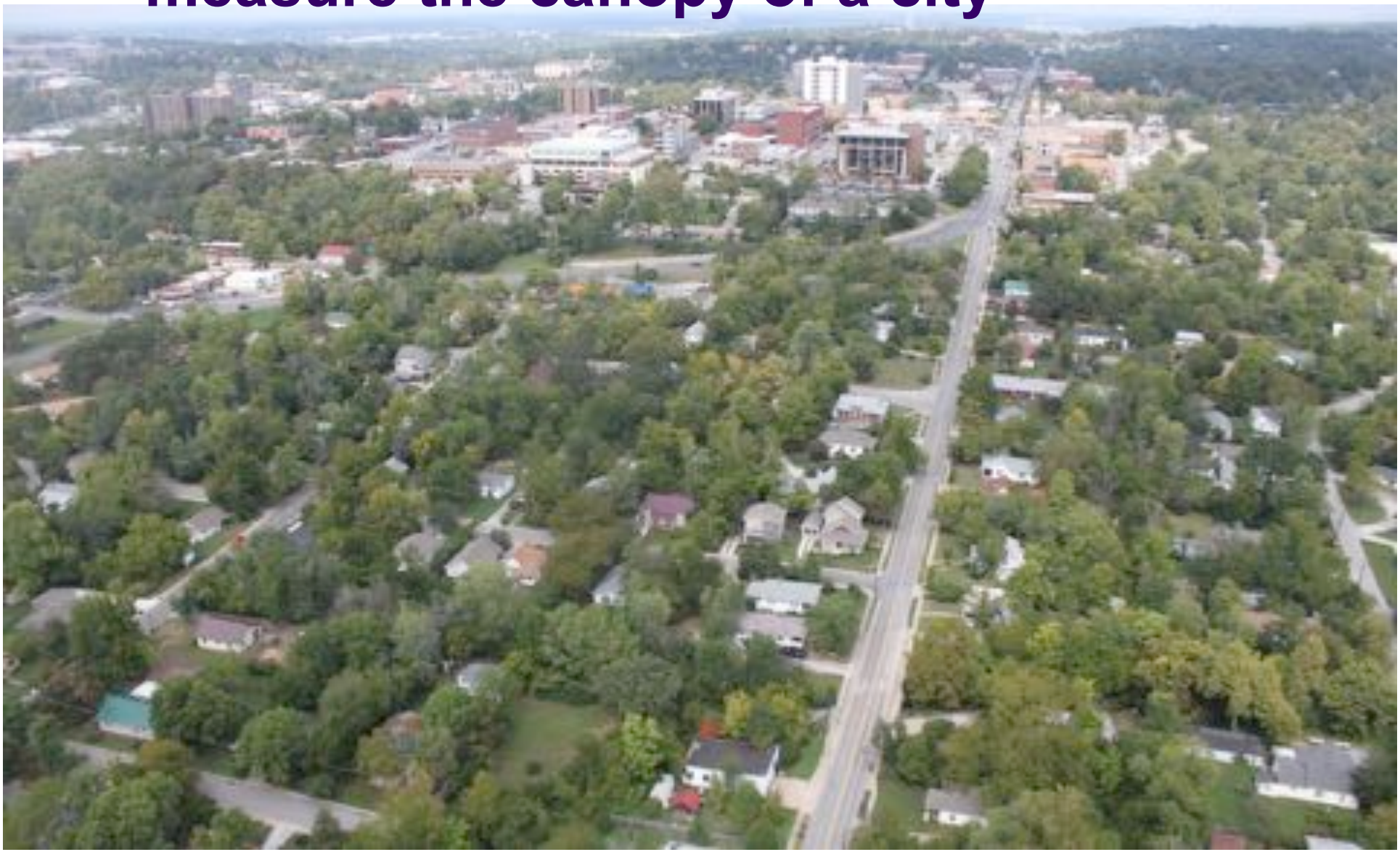
credit: Central Park Medical Unit web page

sustainable city

ecological function,
green infrastructure, &
‘revealed’ processes

Pincetl, S. 2010. From the sanitary city to the sustainable city. Local Environment

measure the canopy of a city



i-Tree™

Eco (UFORE)

Streets (STRATUM)

Hydro

Vue

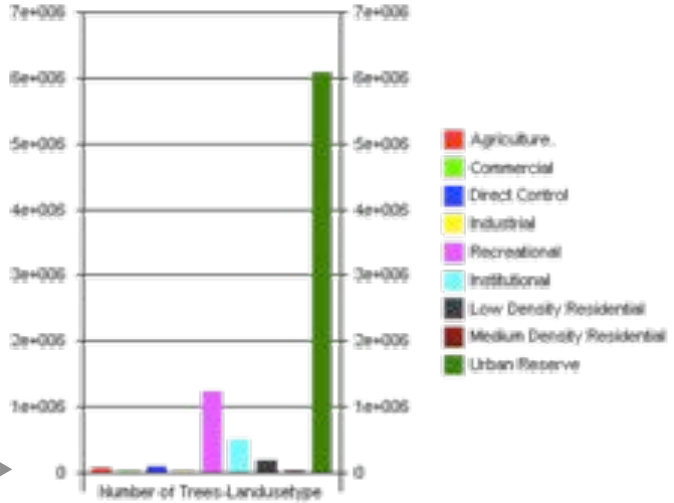
tools provided by USDA

Forest Service

STRUCTURE

FUNCTION

VALUE



MANAGEMENT

photo credits: Seattle i-Tree Training by Al Zelaya

Reducing Stormwater Runoff

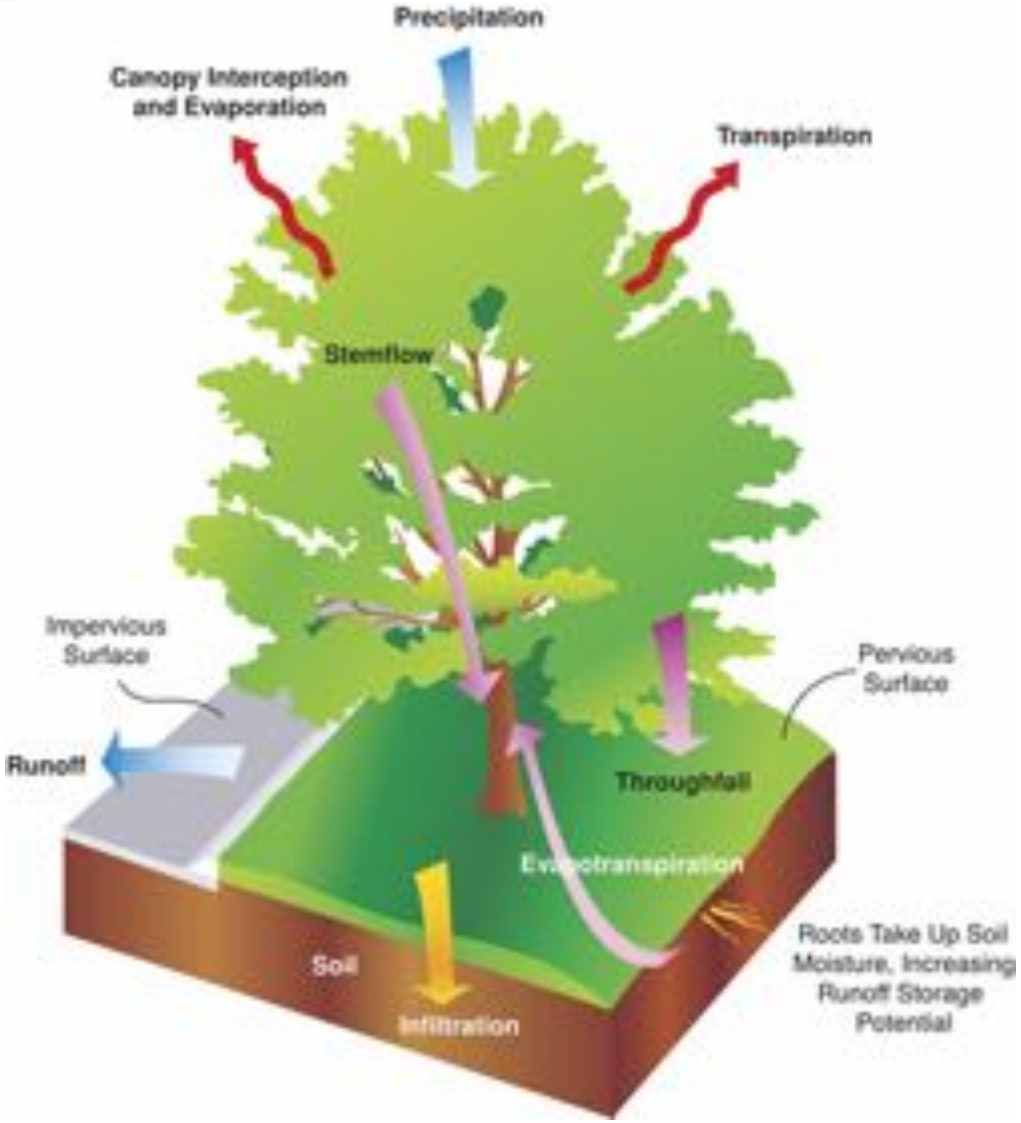


Image courtesy of the Center for Urban Forest Research

Stormwater Management

Thornton Creek Water Quality Channel (Seattle, SvR Design)
1 hectare, treats runoff from 275 hectares

Tanner Springs Park

Portland OR

linked to active living network

neighborhood social cohesion

environmental education & social learning

Beacon Food Forest (Seattle)

mimic woodland ecosystem – edible gardening

- arboretum
- berry patch
- nut grove
- community garden
- gathering plaza
- children's area
- living gateway

complexity - productivity

sacred city

civic sacred

health & wellness

reflection, contemplation,
& mindfulness, spirituality

giving back, stewardship, gratitude

Trees are the
earth's endless effort
to speak to the listening heaven.

Rabindranath Tagore, *Fireflies*, 1928

England’s Ancient Oaks

Gulfport, MS ::
Katrina survivors

‘forest bathing’, Kyoto, Japan

Ascending the Giants

Portland, Oregon

the Chenoggye freeway in Seoul
~ 1970-2005

Chenoggyeon – 8.4 km, $900 M

initial public criticism!

Converting Gray to Green

High Line Railway - W Manhattan

The High Line :: June 2009

- between 2003 and 2011
- nearby property values increased 103% (despite the deep recession)
- $2 billion was invested in nearby properties development

‘nearby nature’ experiences passive encounters for benefit

Mental Health - Mindfulness

contemplation – restoration – stress reduction

Mindfulness

Anna and Elena Balbusso, NY Times

constant busyness

attempted multi-tasking

'out of balance'

Nature and Mindfulness

focus
soft fascination
undirected attention
Attention Restoration Theory

Rachel & Stephen Kaplan

credit: Michael Hellgren

Mindfulness/Meditation Training

- meta analysis; clinical/non situations
- focus on moment-to-moment experience and mental awareness
- more veridical perception (reality check)
- reduce negative affect
- improve vitality and coping
- medical symptoms & sensory pain

Grossman et al. 2004. Mindfulness-Based Health Benefits. Journal of Psychosomatic Research

Mindfulness/Meditation Training

- healthy workplace employees
- 8 week mindfulness training
- brain electrical activity – positive affect
- brain activation – reduce stress event response
- more antibodies after influenza vaccine = better immune function

Davidson et al. 2003. Alterations in Brain and Immune Function Produced by Mindfulness Meditation. Psychosomatic Medicine

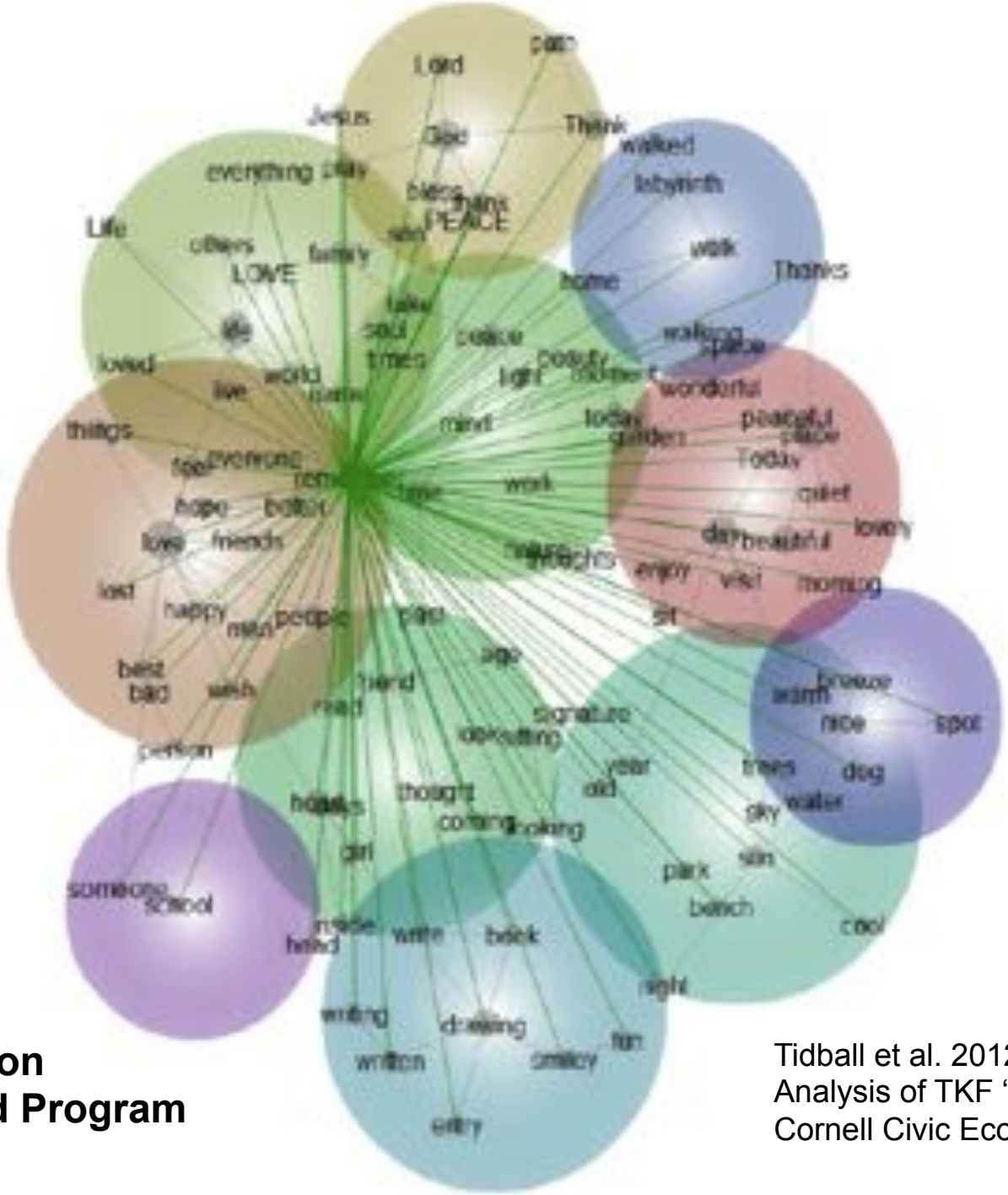
TKF Foundation

Nature Sacred :: bench journals

- > 10 years
- > 100 gardens
- > 10,000 journal entries

mindfulness :: journal analysis

Tidball et al. 2012. Preliminary Analysis of TKF “Book & Bench” texts using unsupervised semantic mapping of natural language. Cornell (University) Civic Ecology Lab White Paper.



TKF Foundation
Nature Sacred Program

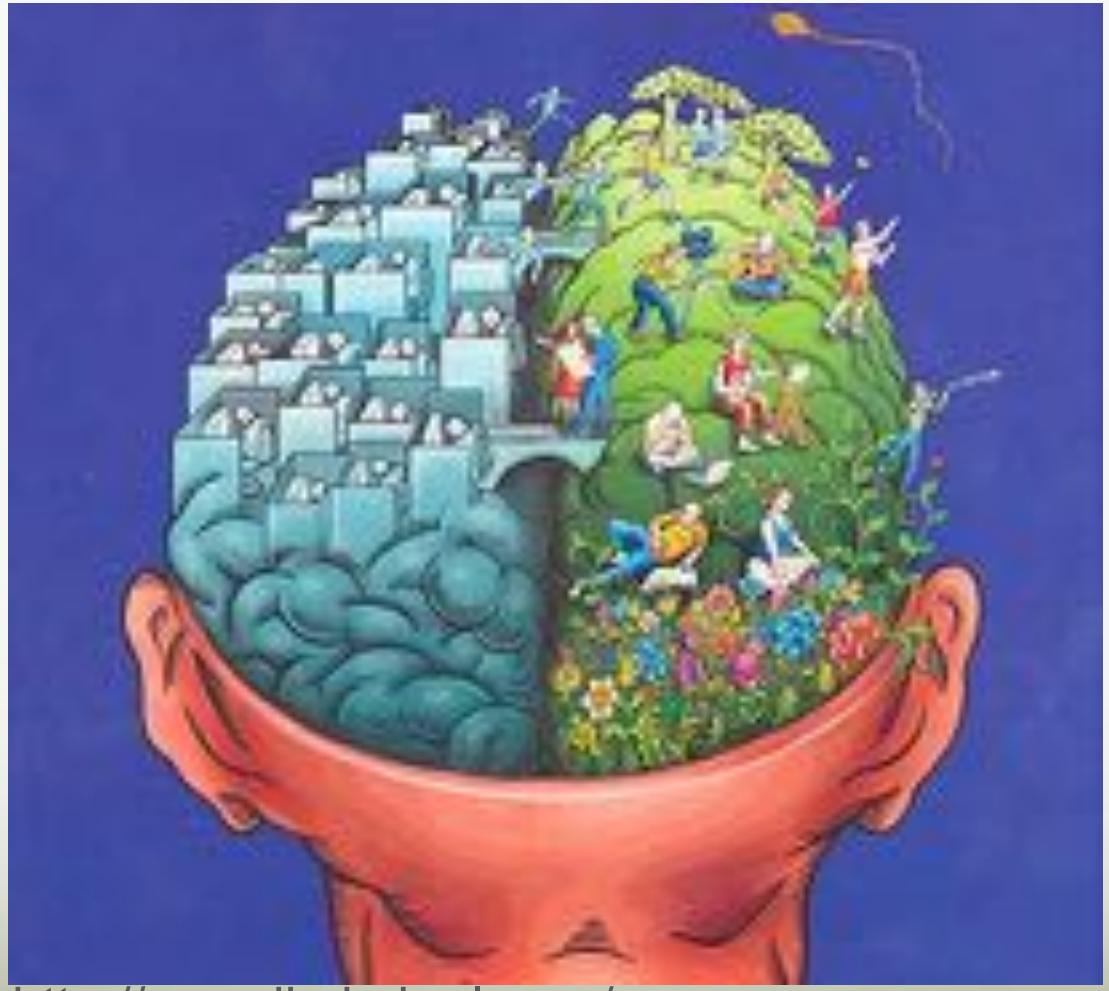
Tidball et al. 2012. Preliminary Analysis of TKF “Book & Bench” Cornell Civic Ecology Lab

So the tree rustles in the evening . . .
Trees have long thoughts,
long-breathing and restful,

just as they have longer lives than ours.

Hermann Hesse, *Trees: Reflections and Poems*

Nature and Creativity



http://www.jimkukral.com/

Give Your Ideas Some Legs

creative test – analogy generation

conditions: sit inside, treadmill walk, walk outside, wheelchair outside

walking outside produced most novel & highest quality analogies – walking opens up free flow of ideas

Oppezzo & Schwartz. 2014.
Journal of Experimental Psychology

Nature & Creative Professionals

focused interviews in Denmark

https://www.concur.com

nature:
makes us more curious
supports flexible thinking
recharges directed-attention

aids 2 phases of the creative process:
Preparation phase and Incubation phase

sensory dimensions: space & serene

Plambech & Konijnendijk van den Bosch. 2015.
Urban Forestry & Urban Greening

http://daycare.sulekha.com

role of nature in creativity development

Fiddleneck Forest School
Washington Park Arboretum (Seattle)

cognitive
social &
physical
learning

Community Engagement

City of Bellingham

stewardship – health benefits – ecosystem function

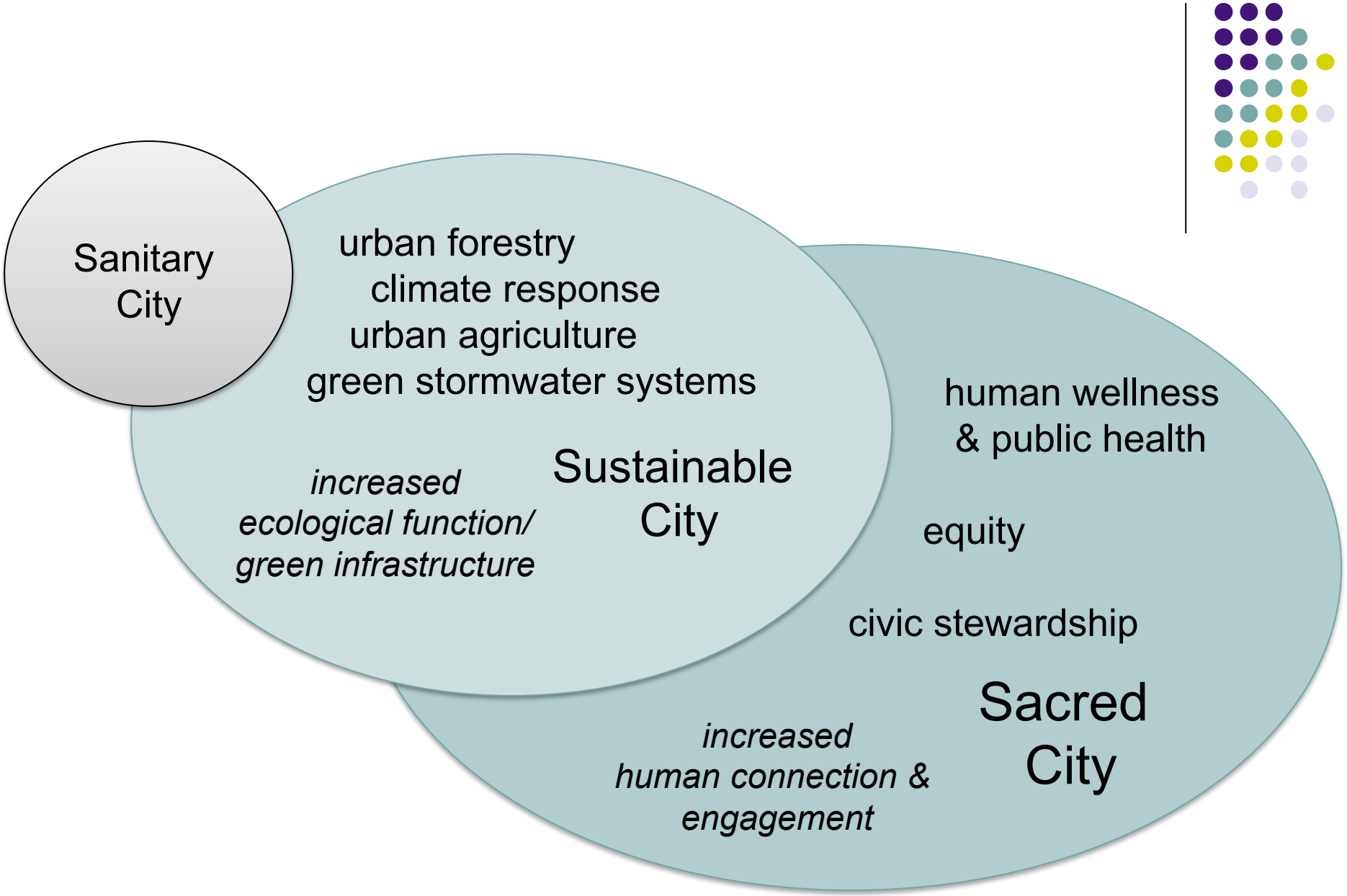
Sacred Cities

engaging in stewardship across all landscapes and cultures

urban forest restoration

riparian restoration

environmental
education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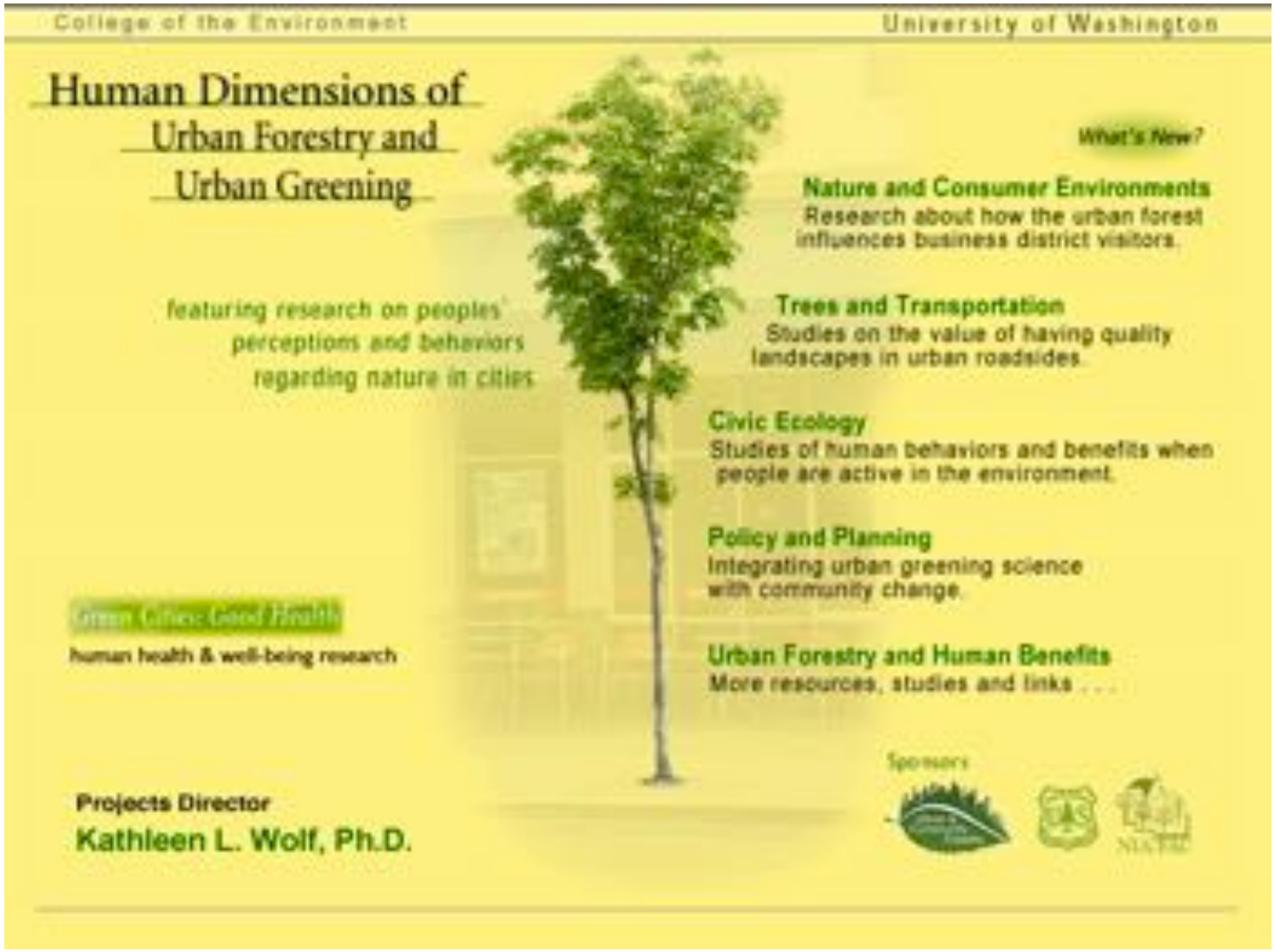
Summary

+ sanitary city (hygiene for health)
+ sustainable city (socio-ecological systems)
+ (civic) sacred city (engagement & experience)
aka biophilic city

= commitment & support of trees



www.naturewithin.info