Green Cities: Good Health
Trees, Nearby Nature & Human Health

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20th Anniversary Celebration
Lake Forest Park Stewardship Foundation
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Pacific Northwest landscapes

“snow cap to white cap”

nature and public health

all landscapes all forests
WHO Health Definition

A state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity (1946)
Social Determinants
Green Cities: Good Health
www.greenhealth.washington.edu

Sponsors:
USDA Forest Service, 
(U&CF Program + Pacific NW Research) 
University of Washington 
NGO partners

Thanks!
to U of WA students: 
Katrina Flora 
Mary Ann Rozance 
Sarah Krueger

Research Reviews & Summaries
Local Economics

Trees in cities are not grown and managed for products that can be bought and sold on markets, but they do provide many intangible services and functions! This article serves two purposes. First, it introduces valuation methods that are used to convert intangible benefits to dollar sums. Then, it shows how nonmarket valuations can support local decision-making.

Fast Facts

- The presence of larger trees in yards and as street trees can add from 3% to 15% to home values throughout neighborhoods.

- Averaging the market effect of street trees on all house values across Portland, Oregon yields a total value of $1.35 billion, potentially increasing annual property tax revenues $15.3 million.

- A study found 7% higher rental rates for commercial offices having high quality landscapes.

- Shoppers claim that they will spend 9% to 12% more for goods and services in central business districts having high quality tree canopy.

- Shoppers indicate that they will travel greater distance and a longer time to visit a district having high quality trees, and spend more time there once they arrive.
Outside Our Doors
The benefits of cities where people and nature thrive.

design: milepost

co-author:

co-author & printing: The Nature Conservancy

Kathleen L. Wolf, Ph.D.

Also in Spanish! and Arabic!

Design: Milepost

Author: [US Forest Service logo]

Printing: The Nature Conservancy

[Images of people in natural settings]
Outline

1. Health & Nature: the evidence
2. Key Studies
3. Community Programs
measuring the canopy of a city
Canopy Cover & Stress

images of canopy cover varied 0-60%

Urban Forests and Newborns

the natural environment may affect pregnancy outcomes . . .

10% increase in tree-canopy cover within 50m of a house

= lower number of low weight births (1.42 per 1000 births)

Donovan et al., Health & Place 2011; Hystad et al., Env Health Perspectives 2014
Hygiene Hypothesis

- presence of soil bacteria in body, *Mycobacterium vaccae* = increased serotonin
- boost immune function
- may alleviate depression (dirt or Prozac?)

Lowry et al. 2007. Neuroscience
Fiddleheads Forest School
Washington Park Arboretum (Seattle)
cognitive
social &
physical
learning
CDC moderate activity recommendations

parks, active living, active transit
Parks Prescription

**Rx for Health**

- **Date:**
- **Dr:**
- **Name:**
- **I recommend:**
  - [ ] Walking
  - [ ] Other: __________
  - __________ minutes a day
  - __________ days per week

*Health Canada suggests moderate activity of 30 minutes per day | 5 days a week*

**Benefits of daily activity**
- Improve overall physical and mental health
- Maintain a healthy weight
- Reduce the risk of diabetes and other chronic conditions
- Lower cholesterol levels
- Manage stress and anxiety

**Signature:** _______________
Parks Prescription

1. Get a prescription for ParksRx from your healthcare provider.
2. Visit www.REACHforbetterhealth.com
3. Enter your zip code
4. Click
   - Pick your park
   - Exercise in the park and share outcomes with your healthcare provider.

PARKS RX
Your Prescription For Better Health

This information is provided for educational purposes and is not to be considered medical advice.

www.REACHforbetterhealth.com/ParksRx
Made possible with funding from the Centers for Disease Control and Prevention.
Shinrin yoku (forest bathing)

- extensive research
- restorative experiences
- workers retirees
- networked system, 52 bases in Japan
Improving Depression

20 adults with major depression walk in a park setting and a built setting

- 50-minute walks one week apart
- before-after testing:
  - Mood: Positive and Negative Affect (PANAS)
  - Cognition: Backward Digit Span (BDS)

Berman et al. 2012. Journal of Affective Disorders

Cognitive and affective improvements after walking in a nature setting
Experience the restorative powers of nature and join us for Strolls for Well-Being, a free 10-week program offered at Bloedel Reserve. If not already a member, participants are given a temporary membership to

**DAY-USE STROLLS:**
Since introducing the Strolls for Well-Being program in 2014, hundreds of people have benefited from the healing effects of nature.
Nature and Creativity

http://www.jimkukral.com/
Nature & Creative Professionals

focused interviews, Denmark
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
Walking Meetings

creativity, energy, communication, health
Summary: Knowledge to Practice

- nearly 40 years of research
- critical mass of evidence – action!
- greening or health programming
- nearby nature everyday benefits
Everyday Need & Value

NEARBY NATURE INCLUDES A VARIETY OF SPACES AND PLACES

URBAN FOREST CANOPY

BIOPHILIC DESIGN

PARKS AND GARDENS

GREEN STORMWATER INFRASTRUCTURE
www.naturewithin.info

Human Dimensions of Urban Forestry and Urban Greening

- Nature and Consumer Environments
  Research about how the urban forest influences business district visitors.

- Trees and Transportation
  Studies on the value of having quality landscapes in urban roadsides.

- Civic Ecology
  Studies of human behaviors and benefits when people are active in the environment.

- Policy and Planning
  Integrating urban greening science with community change.

Green Cities: Good Health
human health & well-being research

Projects Director
Kathleen L. Wolf, Ph.D.