Nature Conservation
providing human habitat for health & wellness

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Pierce Conservation District
Annual Conservation Celebration
21 March 2017
celebrating conservation & stewardship
rivers & streams
invasives removal & suppression
hauling mulch
salmon habitat restoration
native woodlands management
oh yes, have fun!
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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
Finding that study . . . . . .
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.
design: milepost
co-author
co-author & printing: The Nature Conservancy
Discovery: Human Health Benefits Across the Life Cycle
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
Eat Dirt!
ADHD Treatments
Change in % Population
2001 - 2010

America's State of Mind, Medco Health Solutions, Inc
ADHD Meds
% of Americans Ages 20-44
2001 - 2010

America’s State of Mind, Medco Health Solutions, Inc
ADHD and nature contact

- 96 children aged 7-12 diagnosed ADD or ADHD
- Parents gave postactivity attentional functioning ratings (PAAF) –
  - 4 measures:
    - Can’t stay focused on unappealing tasks (homework or chores)
    - Can’t complete tasks
    - Can’t listen and follow directions
    - Easily distracted

Faber Taylor. 2001. *Environment & Behavior*
ADHD and nature contact

- 17 children aged 7-12 with diagnosed ADHD
- 20-minute guided walks
  - Park
  - Neighborhood
  - Downtown
- Pre-walk puzzles
- Post-walk cognitive test

Faber Taylor & Kuo. 2009. *Journal of Attention Disorders*
CDC moderate activity recommendations

parks, active living, active transit
Shinrin yoku (forest bathing)

- extensive research
- restorative experiences
- workers retirees
- networked system, 52 bases in Japan
Physical Activity & Depression Reduction

• Review of 13 high quality studies
  • exercise recommended for mild to moderate depression
  • people who are willing & motivated
  • associated meditation and mindfulness are important

Physical Exercise Intervention in Depressive Disorders.
Scandinavian Journal of Medicine & Science in Sports
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
Alzheimer’s Disease & Dementia
Provide wander gardens & horticulture therapy

• 10.5% reduction in amount of medications used in dementia facility
• 30% fewer falls, accompanied by a reduction in fall severity

Detweiler et al. 2009. American Journal of Alzheimer’s Disease and Other Dementias

www.rph.org/eden.html
Summary: The Goodness of Green

- nearly 40 years of research
- critical mass of evidence
- conservation & stewardship for human habitat
- expanding partnerships and collaboration for conservation
Human Dimensions of Urban Forestry and Urban Greening

- What's New?
  - 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.
  - Urban Forestry and Human Benefits
  - More resources, studies and links...

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

Projects Director
Kathleen L. Wolf, Ph.D.