Nearby Nature and Human Well-Being
Exploring the Linkages, Telling the Story

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2013 Oregon Urban & Community Forestry Conference
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in the background of today’s busyness

Eco (UFORE)
Streets (STRATUM)
Hydro
Vue

photo credits: Seattle i-Tree Training by Al Zelaya
environmental benefits
human health & well-being
economic benefits

Stormwater Management

Pierce County WA, Chambers Creek Properties
Pierce County WA, Chambers Creek Properties - 4 year growth

stormwater management

Parks & People Foundation, Baltimore
Ecosystem Services

Urban Heat Island Effect

studies by NASA & EPA

urban trees = mitigation
the image of the city
the Chenoggye freeway in Seoul
~ 1970-2005

Chenoggyeon – 8.4 km, $900 M
initial public criticism!
What is the Evidence?

Urban Forestry & Urban Greening
Human Health, Welfare & Function
Finding that study . . . . . .

Research Reviews

www.greenhealth.washington.edu
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 tangible 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 11% 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 0% to 13% more for goods and services in central business districts having high quality tree canopy.
- Shoppers indicate that they will travel greater distance and spend more time in areas having high quality trees, and spend more time there once they arrive.

Urban Green :: Human Health & Well Being

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thanks to U of WA students:
Katrina Flora
Mary Ann Rozance

Eco-Health Relational Browser
Environmental Protection Agency

www.epa.gov/research/healthscience/browser/
Eco–Health Relationship Browser Bibliography

To show or hide an entry's abstract, click on the citation. Click blue citations to link to website source.

A


Almanza E, M Jerrett, et al. 2012. A study of community design, greenness, and physical activity in children using satellite, GPS and accelerometer...
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human health & well-being

workplace productivity
Attention Restoration Theory
Rachel & Stephen Kaplan U of MI

Workplace Nature Views

- **Well-being**
  - desk workers without view of nature reported 23% more ailments in prior 6 months

- **Job Satisfaction**
  - less frustrated and more patient
  - higher overall job satisfaction and enthusiasm

ART Design Elements

- being away
- ‘soft’ fascination
- extent
- compatibility

bottom line = $$ benefits of trees & nature
human health & well-being

hospitals, therapy & healing

hospital healing gardens:
patients; family and friends; professional staff

health care $$ savings
Pain control during bronchoscopy

80 patients undergoing bronchoscopy

40 viewed a pristine meadow scene, heard bubbling brook sounds

40 controls
22

40 viewed a pristine meadow scene, heard bubbling brook sounds

29.3% with “very good” or “excellent” pain control

80 patients undergoing bronchoscopy

40 controls

20.5% with “very good” or “excellent” pain control

College students with more natural views from their dorm windows
- scored higher on tests of capacity to direct attention
- rated themselves as able to function more effectively

Tennesen & Cimprich. 1995. Journal of Environmental Psychology

Green High School Campuses
- cafeteria & classroom window views with greater quantities of trees and shrubs
- positively associated with:
  - standardized test scores,
  - graduation rates
  - %s of students planning to attend a four-year college
  - fewer occurrences of criminal behavior

Matsuoka. 2010. Landscape & Urban Planning
Nature & Psych Development
children’s play & imagination

Nature Deficits
Richard Louv
http://www.treeclimbing.jp/

physically disabled & tree climbing!
recreational tree climbing – youth therapy

human health & well-being
summary
Restorative Nature
Beyond the City

Evidence about the importance of ‘nearby nature’
Future Research & Outreach Opportunities?

Urban Green :: Public Health & Well Being

> 2,200 articles
Better Knowledge . . . .

• correlation to causal mechanisms
• dosage? how much, how often
• green space attributes
• hyperfunction of green space; better integration with gray/green infrastructure
• benefit to cost assessments
• lifecycle & cultural specifics

Nature Response Neuroscience

Figure 5: Brain Areas that show greater activation for nature pictures in green, and areas that show greater activation when viewing the urban pictures in red. Activations are displayed with a t-stat> 2.0.
Urban Greening & Health Evidence Framework

Abraham Maslow Hierarchy of Needs
new efforts & messages

TKF Foundation Annapolis MD

public green spaces that please the eye, nourish the soul, and help renew communities
Design Elements

Portal
Path
Destination
Surround

Open Spaces Sacred Spaces

‘iconic bench’ - journal entries from users – 10s of 1,000s!
Language of Sacred?

- key words?
- key experiences?
- how to bring this to the table of public decision-making?

www.naturewithin.info