Human Response to Nature
human dimensions & evaluation in SPP

Kathleen Wolf, Ph.D.
Research Social Scientist

University of Washington (Seattle) &
USDA Forest Service, Pacific NW Research

September 2012
Hilton Head, SC
Million Tree campaigns
e.g. New York
Los Angeles
Baltimore
Miami
Reducing Stormwater Runoff

Image courtesy of the Center for Urban Forest Research
Improving Air Quality

Image courtesy of the Center for Urban Forest Research
Reduced Urban Heat Island Effect

studies by NASA & EPA
Why are city trees & urban greening important?

human health, functioning, & well-being
Restorative Nature
Beyond the City
Evidence about the importance of ‘nearby nature’
Finding that study . . . . . .
Research Reviews

Green Cities: Good Health

Metro nature - including trees, parks, gardens, and natural areas - enhance quality of life in cities and towns. The experience of nature improves human health and well-being in many ways. Nearly 40 years of scientific studies tell us how. Here’s the research...

RESEARCH THEMES

- Livable Cities
- Place Attachment & Meaning
- Community Building
- Community Economics
- Social Ties
- Crime & Fear
- Reduced Risk
- Wellness & Physiology
- Active Living
- Healing & Therapy
- Mental Health & Functioning

www.greenhealth.washington.edu

on-line resource

summaries complete: Oct 2012
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.
Urban Green :: Human Health & Well Being

> 2,200 articles
Research Review and Summaries

Sponsors:
University of Washington
USDA Forest Service, U&CF Program
NGO partners

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

natural capital

human & social capital
Attention Restoration Theory
Rachel & Stephen Kaplan U of MI
directed attention
fatigue . . .
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

方法
実験1:
課題①: 2種の土を混ぜる
課題②: 土を鉢に入れる
課題③: 花を鉢に植える

図. 各課題の手順（数字は秒）
フォルダ装着位置は、額の正中位で且つ眉から1cm上とした
写真引用 福田正人, 三國雅彦. 近赤外線スペクトロスコピーNIRSによる統合失調症と感情障害の診断．
園芸作業中のOxy-Hb濃度変化
What are the opportunities to provide nature restoration experiences for inmates?

dosage?  
frequency?  
response of different populations?
hospital healing gardens:
patients; family and friends; professional staff

health care $$ savings
healing gardens
soothing
distracting
calm focus
Can nature be a healing or therapy amendment?

configuration of nature elements?
cognitive-behavioral therapy?
medical events?
staff affects?
School & Learning
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
nature recovery & schools
first phase - reading circle
nature recovery & schools

Parks & People Foundation, Baltimore
Parks & People Foundation, Baltimore

planning skills & efficacy
Can nature enable more effective learning?

nature as model of complex ideas (such as compost & life)?

nature as setting for enhanced mental function?
Tree Planting and Neighborliness – 1990s

tree planting, shared goals, social cohesion

resilience development (2000s)
natural & social capital
community gardens - renewal

Parks & People Foundation, Baltimore
“3rd place” & social cohesion
Place Attachment
personal connection to place & landscape

- individuals may actively steward places that have meaning and are part of place attachment
- residents that are more attached to their community have higher levels of social cohesion and social control, less fear of crime, and display more signals of physical revitalization of the neighborhood

Brown, Perkins, and Brown. 2003
Journal of Environmental Psychology
Green & Crime Reduction

- vacant lot greening in Philadelphia (4 sections)
  - consistent reductions in gun assaults across 4 sections
  - consistent reductions in vandalism in 1 section

Can the nature programs be extended to community re-entry?

employment
recidivism

family & social renewal
changed identity
Summary

Social Research Possibilities

- 40 years of research in social sciences & urban greening – evidence based
- nature is profoundly important for supportive human habitat
- models of theory & methods for prison studies
- understandings of affects could improve source situations in communities
tranquil

nurturing

part of

self-esteem

something

bigger

pride

passionate

responsibility

compassion

meaningful

& empathy

activity