

Psychosocial Services Provided by Urban Ecosystems

another economic valuation approach

Kathleen L. Wolf, Ph.D.
College of Forest Resources
University of Washington
kwolf@u.washington.edu

Center for Urban Horticulture, College of Forest Resources, University of Washington

Human Dimensions of Urban Forestry and Urban Greening

featuring research on people
perceptions and behaviors
regarding nature in cities

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 roadways.

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.

Research Director
Kathleen L. Wolf, Ph.D.



www.cfr.washington.edu/research.envmind



**Maia says,
"science rocks!"**

**30+ years of urban
ecosystems science:
benefits & functions**

Urban Ecosystems & Greening Environmental Services

- Air pollutants reduction
- Nitrogen, phosphorus and sediment interception
- Carbon emissions reduction & sequestration
- Urban heat-island cooling
- Reduced “bad” ozone
- Stormwater runoff reduction
- Wildlife habitat

Urban Ecosystems & Greening Community Economics

- Improved consumer environments in business districts - 9-12% product spending (Wolf)
- CBD & residential market value - 1/4 mile, 17-36% (Wachter & Gillen)
- Residential real estate values - 3-7% with trees in yard
- Residential real estate values - 5-20%, proximity to natural open space (Crompton)
- Commercial property rental rates - 7% (Laverne)
- Heating and cooling costs reductions
- Less frequent pavement replacement (McPherson)

Baltimore Ecosystem Studies Ecosystem Services-Social

- Quality of life
 - Aesthetics
 - Social capital
 - Safety and hygiene
 - Recreation
-



Most cherished in this mundane world
is a place without traffic;
truly in the midst of a city
there can be mountain and forest.

Wen Zhengming (1470-1559)





Urban Ecosystems & Greening Human Health & Well-Being

- Improved surgery and illness recovery (Ulrich)
- Stress reduction in urban lifestyles (Ulrich)
- Reduced driving stress response & frustration (Parsons et al.)
- Improved community walkability, lower BMI (UW Urban Eco, Naderi et al.)

“Human Services”

Urban Ecosystems & Greening Human Cognition & Functioning

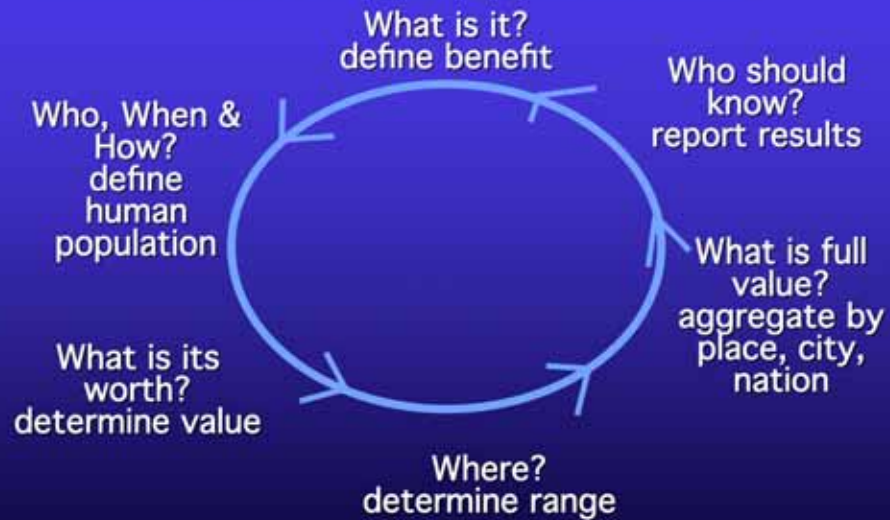
- Higher job satisfaction, reduced absenteeism (R. Kaplan)
- Lower crime rates in well landscaped areas (Kuo, Sullivan)
- Reduced violence and more constructive conflict resolution in domestic conflict (Kuo, Sullivan)
- Reduced ADHD symptoms (Faber Taylor, Kuo)

“Human Services”



valuation of human services?

Valuation of Greening Benefits



Putting a price on nature is a crude, risky business



BY FROMA HARROP
Syndicated columnist

WHAT price would you put on the beautiful, musical and now extinct ivory-billed woodpecker? Of course, the entire gross planetary product could not bring the bird back. It's gone.

But suppose you could fly the time machine back 50 years to the shrinking Southern swamps, where the last pairs were seen. And

said, placing a price tag on nature remains a risky business.

In his article titled, "What is Nature Worth?" Wilson doesn't dismiss such calculating out-of-hand, although he'd rather be making a moral argument. But he finds that today's economic-value assessments make for a crude measuring device. They tend to lowball the worth of a species over the long haul.

Consider the economic case for saving the endangered blue whale. The sensible environmentalist would make

for the blue whale. Gene-splicing remains in its infancy.

Likewise, our minds cannot potential for new pharmaceuticals on living organisms. Right now, 19 percent of the prescription drugs in the United States are derived from species of plants, animals and insects. The value of over-the-counter drugs based on plants alone totals \$1.5 billion worldwide.

We barely use 1 percent of the wild species there, much less the ones they can

... about 40 percent of the prescription drugs sold in

Collaboration? Economists?

LTET - Ecosystem Studies

"Human Services" Analysis

- Biophysical interventions, psychosocial interventions
 - Outcomes/affect detection across multiple, diverse populations
 - Human scales: individual, households, small groups, neighborhoods, districts, city
 - Mappable, physical traces or artifacts of perceptions & behaviors
-

Questions or Comments?

Collaboration? Economists?