

*Measuring the  
Economic Benefits of Greening*

valuation of "Human Services"

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urban nature - economic value?



**Maia says,  
“science rocks!”**

**30+ years of  
urban nature  
science**

## **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
- Residential real estate values - 3-7% with trees in yard
- Residential real estate values - 5-20%, proximity to natural open space
- Commercial property rental rates - 7%
- Air pollution mitigation
- Heating and cooling costs reductions
- Less frequent pavement replacement

PORTLAND



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**

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- Improved surgery and illness recovery
- Stress reduction in urban lifestyles
- Reduced driving stress response & frustration
- Improved community walkability, lower BMI

**“Human Services”**

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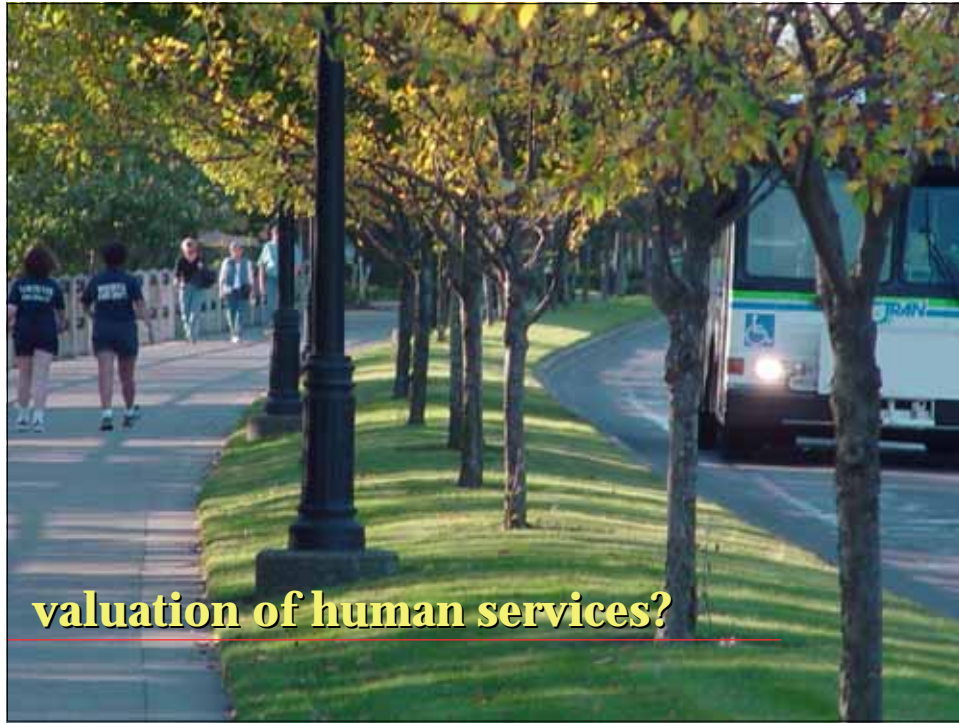
## **Urban Ecosystems & Greening** **Human Cognition & Functioning**

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- Higher job satisfaction, reduced absenteeism
- Lower crime rates in well landscaped areas
- Reduced violence and more constructive conflict resolution in domestic conflict
- Reduced ADHD symptoms

**“Human Services”**

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valuation of human services?

## 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

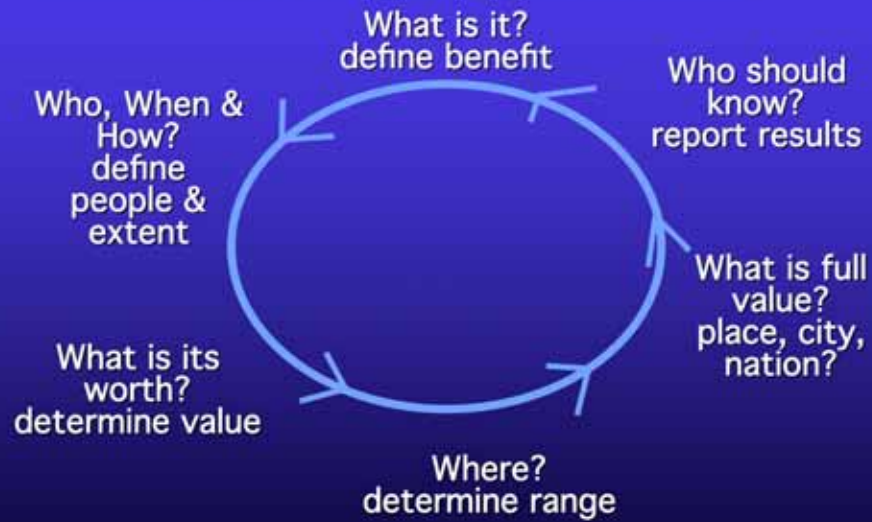
for the blue whale. Gene-splicing remains in its infancy.

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 them. We barely use them. We barely use them.

... about 40 percent of the prescription drugs sold in the United States are derived from living organisms.

## Valuation of Greening Benefits



## Collaboration? Economists?

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

### 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 roadways.
- Urban Ecology**  
Studies of human behaviors and benefits when people are active in the environment.
- International Urban Greening**  
Scientific explorations of people and urban nature in other nations.
- Urban Forestry and Human Benefits**  
More resources, studies and links ...

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[www.cfr.washington.edu/research.envmind](http://www.cfr.washington.edu/research.envmind)