Restoration Ecology(s)

integrating human & environmental sciences

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Social and Cultural Values
Across the Landscape Gradient
Psychosocial Restoration: why urban nature is important
Portland Classical Chinese Garden

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)

Maia says: science rocks!
Urban Ecosystems

**Environmental Services**

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

Urban Ecosystems

**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)
Urban Ecosystems
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"

directed attention
Urban Ecosystems
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"

Physical Inactivity & Obesity

- Majority of Americans not active enough
- Goal: 30 minutes per day of moderate activity
- Risk factor for chronic diseases (heart, stroke, cancer, diabetes)
- Significant costs to national health services

310-580,000 deaths per year
$100 annual billion medical costs (1995)
9.4% of all U.S. medical costs
Obesity Trends* Among U.S. Adults

1985

(*BMI ≥30, or ~ 30 lbs overweight for 5’ 4” person)

Obesity Trends* Among U.S. Adults

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Obesity Trends* Among U.S. Adults
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Obesity Trends* Among U.S. Adults
2002
(*BMI ≥ 30, or ~ 30 lbs overweight for 5’ 4” person)
Obesity Trends* Among U.S. Adults
2003
(*BMI ≥30, or ~30 lbs overweight for 5’4” person)

Doubling of adult obesity rate since 1980.

Obesity Trends* Among U.S. Adults
2004
(*BMI ≥30, or ~30 lbs overweight for 5’4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
A brisk walk in the park keeps Mano in shape between dog-sitting. To give her 8-year-old Dachshund, Bella, regular exercise. They show their owner, Columbia resident Cindy Moon, not up until 24/7 Fitness in Rancho Park.
Durham, NC

parks, open spaces & trails
Restoration Ecology(s):

how to integrate social & environmental sciences

Preference: landscape elements

big trees!

water
Preference: Trees

arrangement of space
self and space
Preference: water
direct the experience
intermittent “windows”
indicate acceptable access
access “windows”

access cues
Preference:
making sense of things

mystery
complexity
coherence
Preference:
making sense of things

complexity
low complexity-low preference

high complexity-low preference
Future complexity & density

Preference:
making sense of things
mystery
unknown.
but not unpredictable
visual & physical access?

Preference: making sense of things
coherence
plant & landscape “layers”

English landscape garden style
transitions to subspaces

transitions dimension
focused attention

sets of 3, 5, 7
Accepting Naturalness: scruffy nature!

“cues of care”
culture & nature
Joan Nassauer

“scruffy” naturalism
movement, guidance, intention
Halloween Candy Bag: some additional thoughts
eco-revelatory design

social trails
edge & enclosure
confined sight lines

edge gradient
Summary:

big trees & water preferred
mere aesthetics? or . . . .
making sense & exploration
complexity, mystery, coherence
today’s plantings - future experiences