



# Center for Environmental Research at Hornsby Bend



## MISSION

### Urban Ecology and Sustainability

- Community
- Education
- Research

## PARTNERS

- Austin Water Utility
- University of Texas
- Texas A&M University

## RESEARCH AREAS

- Soil Ecology, Sewage Recycling and Reuse
- Hydrogeology of the Alluvial Aquifer
- Riparian Ecology and Restoration
- Avian Ecology



50 YEARS OF BIRDING



AUSTIN, TEXAS  
*Hornsby Bend*  
1959-2009



# Center for Environmental Research at Hornsby Bend



## **AWU-CER Lunchtime Lectures September – December 2011**

Each talk begins AT NOON Waller Center [625 East 10th Street – between I-35 and Red River] Room 104

The 1<sup>st</sup> Wednesday of the Month! Free and Open to the Public – bring a lunch and learn

### Urban Nature and Urban Ecology: Understanding Urban Ecosystems

Over the next four months, we will explore different perspectives and issues of urban nature and ecology. We will begin in September by examining a range of perspectives on nature in the city, including urban ecology, urban planning, restoration ecology, political ecology, and more. In October, we will focus on the issue of officially sanctioned urban nature versus non-native intruders, and the different views of nature in the study of urban ecology. Focusing on urban planning in November, we will look at how nature is incorporated into the urban landscape and how it resists our planning. We will wrap up in December by assessing encounters with urban nature as revealed by urban nature writers.

September 7 Noon-1pm

**Varieties of Possibility: Perspectives on Nature and the City**

October 5 Noon-1pm

**The Weeds and the Wild: Invasive Species and Urban Ecology**

November 2 Noon-1pm

**The Proper Place of Nature: Urban Planning and Urban Ecology**

December 7 Noon-1pm

**Encounters with Nature in the City: Urban Nature and Literature**

# Three Key Perspectives on Urban Nature

1. urban ecology and science
2. urban space and planning
3. urban nature and culture

September 7 Noon-1pm

## ***Varieties of Possibility: Perspectives on Nature and the City***

The conceptual framework for understanding Nature and the City

October 5 Noon-1pm

## ***The Weeds and the Wild: Invasive Species and Urban Ecology***

Officially sanctioned urban nature vs. non-native intruders and the study of urban ecology

November 2 Noon-1pm

## ***The Proper Place of Nature: Urban Planning and Urban Ecology***

How nature is incorporated into the urban landscape and how it resists our planning and management

December 7 Noon-1pm

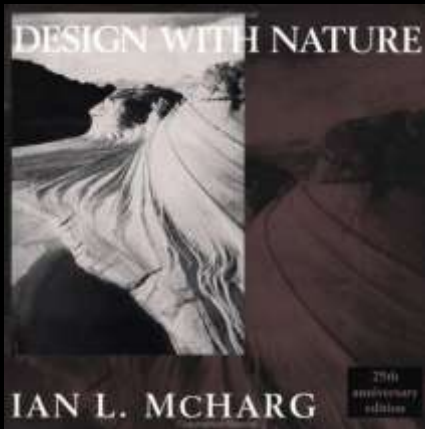
## ***Encounters with Nature in the City: Urban Nature and Literature***

What is revealed as urban nature writers assess their encounters with urban nature



# The Proper Place of Nature: Urban Planning and Urban Ecology

Kevin Michael Anderson, Ph.D.  
Austin Water Utility – Center for Environmental Research



In the United States, the foundational metaphors of Nature that we celebrate are wilderness and pastoral arcadia.

They are the basis from which we assess the value of nature in America.

However, we are now predominately a country of urbanites who have only occasional contact with wilderness or pastoral nature.



Our understanding of what constitutes “official” urban nature in cities is shaped by culturally dominant metaphors of nature.

These metaphors valorize urban nature that is either deliberately cultivated in parks and gardens or formally protected as remnants of native landscapes obliterated by the creation of the city in preserves, sanctuaries, and refuges.





In American cities, we perceive nature in the urban landscape filtered through concepts that prejudge its ecological and cultural value.

## Urban Wildlife

Urban “wildlife” is another mediated, managed kind of urban nature found in the city.

This urban fauna is judged favorably when it in some way fulfills our expectations of wild or pastoral nature or condemned as pestilent when it fails to follow the narrative for good fauna in the city.

This narrative of urban wildlife declares that everyday non-charismatic house sparrows, grackles, and pigeons are urban pests that further degrade the city, but nesting red-tailed hawks and peregrine falcons are redemptive wild additions to the urban scene.





We need to embrace the full continuum of a natural landscape that is also cultural, in which the city, the suburb, the pastoral, and the wild each has its proper place, which we permit ourselves to celebrate without needlessly denigrating the others.

William Cronon "The Trouble with Wilderness or, Getting Back to the Wrong Nature" in *Uncommon Ground* (1995)



## finding bearings in a disorienting landscape - Chaos

Urban nature is not sublime...There's too much sterility in the form of roofs and pavement, and, oddly enough, there's also too much wildness, too many weeds and wooded borders and tangled banks, not to mention vacant lots going to brush.

Of course, "wilderness" won't do to describe such landscapes either. Despite the degree of wildness, there's too much human impact, too many alien species, too few large animals to meet the legal and cultural criteria.

The fact is that urban landscapes are just too mixed up, chaotic, and confused to fit our established notions of beauty and value in nature. ... *Maybe it's not really nature at all, not a real ecosystem, just a bunch of weeds and exotics mixed up with human junk.*

John Tallmadge, *The Cincinnati Arch: Learning from Nature in the City* (2004)



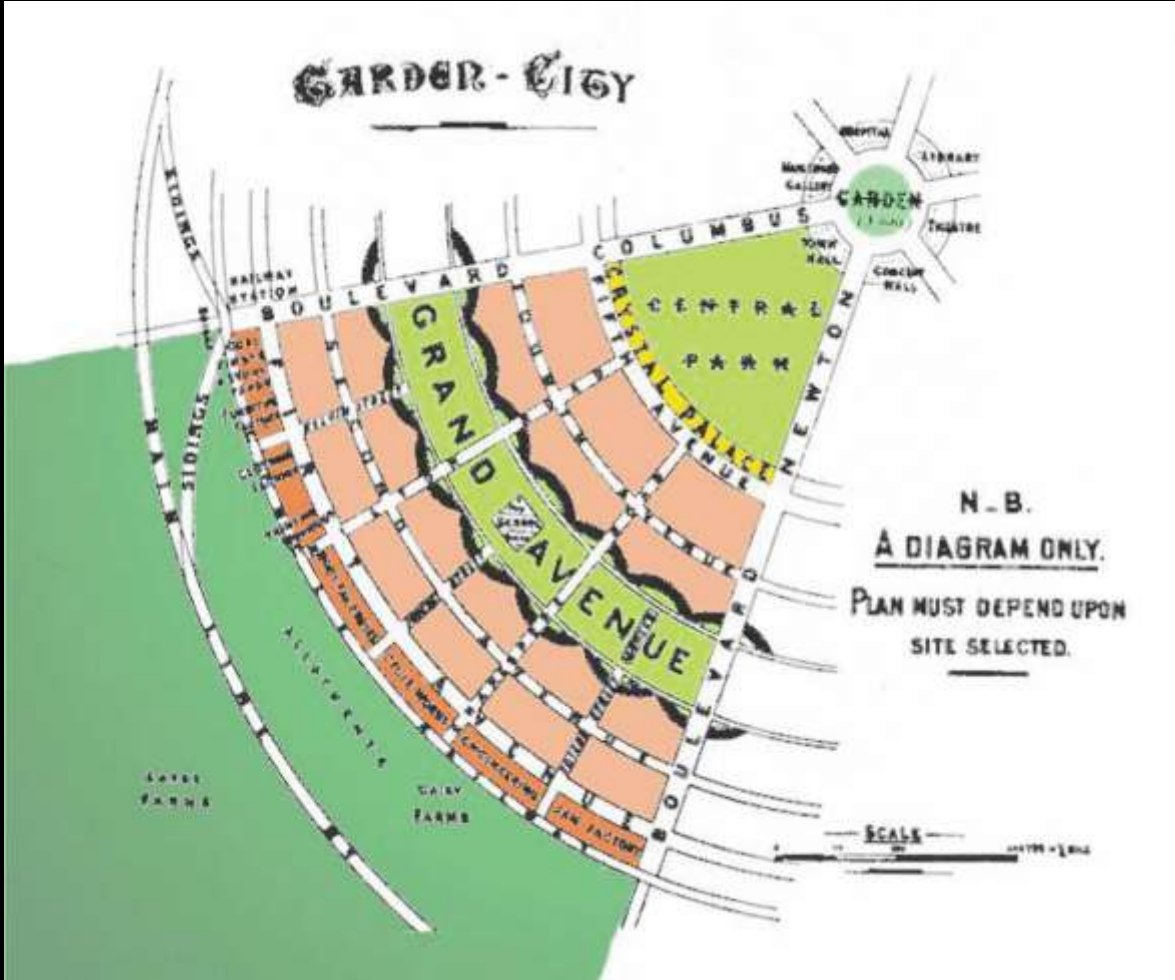
finding bearings in a disorienting landscape – Not Even Natural

This is the landscape that nobody wants. It's my cup of rejection:  
Driven to this unformed scraggly ignored backlot, this not-quite  
Prairie, not-quite thicket, not even natural corner of  
Texas, the hardscrabble left butt of a demoralized nation,  
It is my choice and my pleasure to cherish this haphazard wilderness.  
No, it's not even "wild" – it's a neglected product of artifice.  
Come, let us walk by an improvised lakeshore, be given a vision:  
Beaches of black dust, beautiful white ghosts, this drowned forest...

- Frederick Turner, *Texas Eclogue* (1999) first stanza



# Urban Planning and City Design



## Narrative of Redemptive Nature

This narrative presupposes the framework of wilderness and pastoral nature with preserves, parks, and gardens established for imaginative urban landscapes of wild first nature and pastoral second nature. The further presupposition is that urban industrial second nature is degradation in need of redemption by incorporating “natural space” into the design of urban space.

Saint Henry Thoreau– the complete quote – “The West of which I speak is but another name for the Wild; and what I have been preparing to say is, that in Wildness is the preservation of the world. Every tree sends its fibers forth in search of the Wild. The cities import it at any price.”

-Henry David Thoreau, “Walking”



The narrative of redemptive urban nature is the story of nature which is deliberately incorporated into urban design as a tonic for body and spirit. Space for nature is created to provide recreation for physical health and to allow contact with officially sanctioned nature for mental health in parks and gardens and by the creation of preserves, sanctuaries, and refuges. As well, Nature is expected to redeem the health of the city itself through flood control and wastewater drainage in green space.

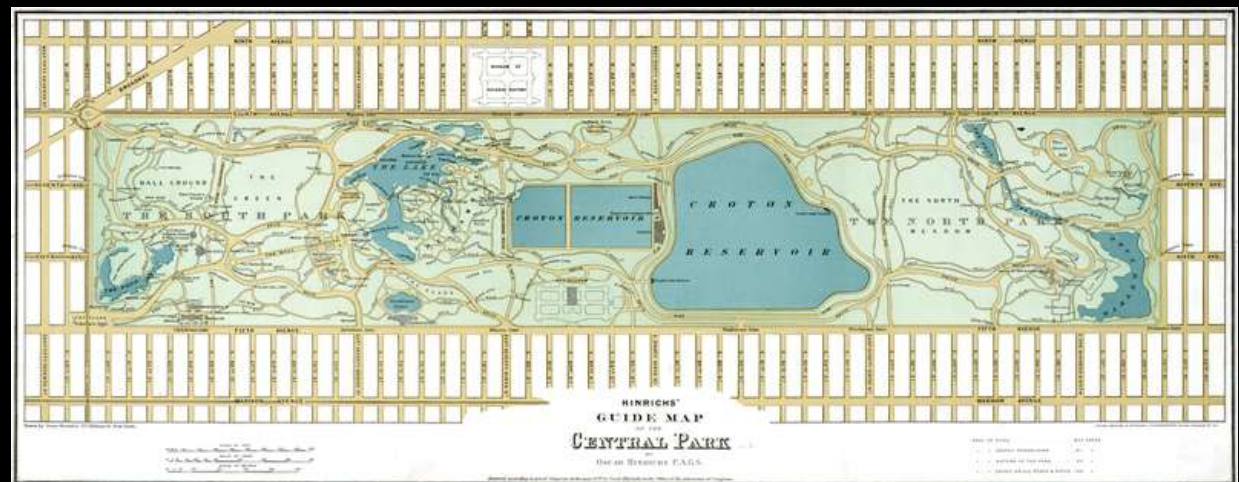
Many of the first metropolitan and regional plans in the 19<sup>th</sup> Century were designs for future urban growth and development shaped around redemptive green space – Frederick Law Olmsted, his sons, John Charles Olmsted and Frederick Law Olmsted Jr., Sir Ebenezer Howard.





Frederick Law Olmsted (1822 – 1903) is popularly considered to be the father of American landscape architecture. Olmsted was famous for co-designing many well-known urban parks including Central Park and Prospect Park in New York City.

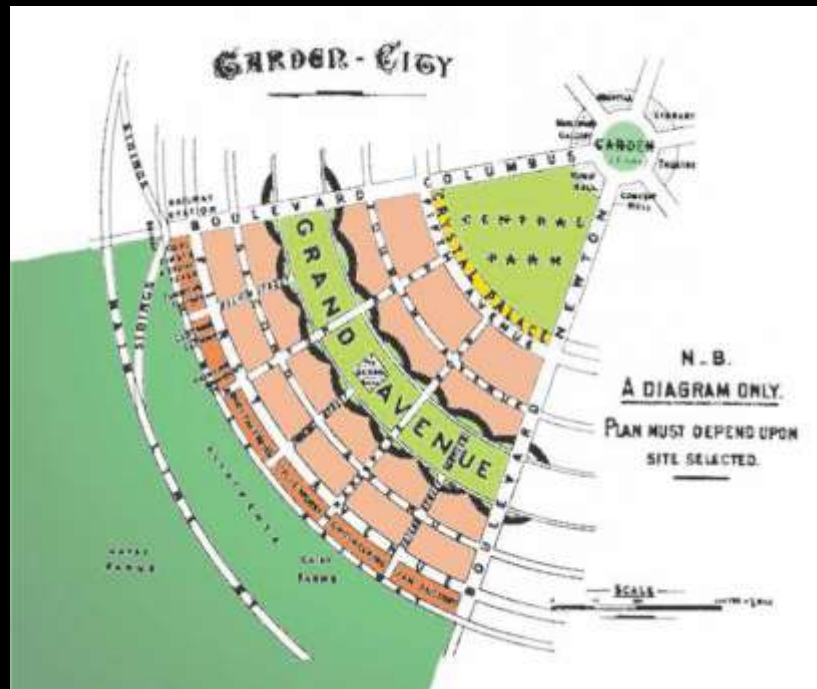
Other projects that Olmsted has been involved in include the country's first and oldest coordinated system of public parks and parkways in Buffalo, New York; the country's oldest state park, the Niagara Reservation in Niagara Falls, New York; one of the first planned communities in the United States, Riverside, Illinois; Mount Royal Park in Montreal, Quebec; the Emerald Necklace in Boston, Massachusetts; also the Emerald Necklace of parks in Rochester, New York.



## The Garden City Movement

a method of urban planning that was initiated in 1898 by Sir Ebenezer Howard [1850 -1928] in the United Kingdom. Garden cities were intended to be planned, self-contained communities surrounded by "greenbelts" (parks), containing proportionate areas of residences, industry and agriculture.

Inspired by the Utopian novel *Looking Backward*, Howard published his book *To-morrow: a Peaceful Path to Real Reform* in 1898 (which was reissued in 1902 as *Garden Cities of Tomorrow*). His idealized garden city would house 32,000 people on a site of 6,000 acres, planned on a concentric pattern with open spaces, public parks and six radial boulevards, 120 ft wide, extending from the center. The garden city would be self-sufficient and when it reached full population, another garden city would be developed nearby. Howard envisaged a cluster of several garden cities as satellites of a central city of 50,000 people, linked by road and rail.



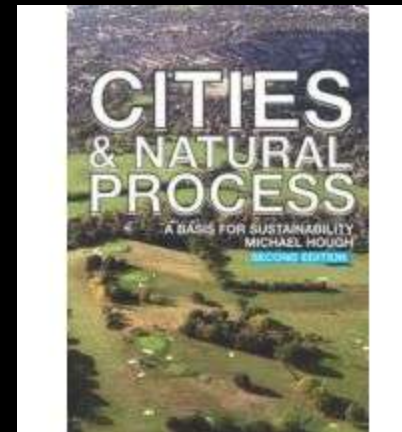
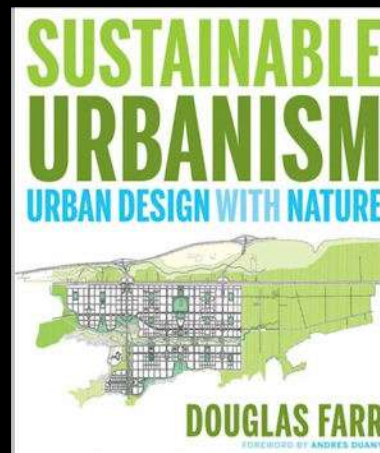
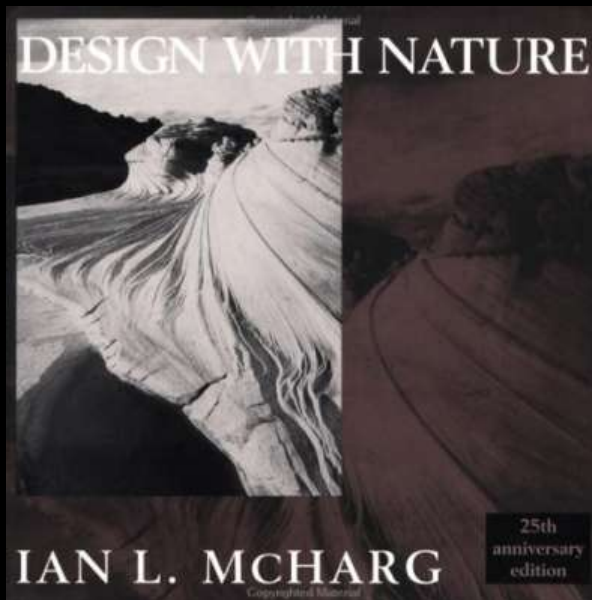


# Narrative of Restorative Nature

Design with Nature - One version of this narrative focuses on urban design and landscape architecture, and Ian McHarg is the main protagonist.

This urban design version of the restoration narrative emerges from a positive view of cooperation with nature and pastoral ideals of improvement of nature. It, also, presupposes that urban industrial second nature is degradation which can be restored to ecological sustainability through design and planning.

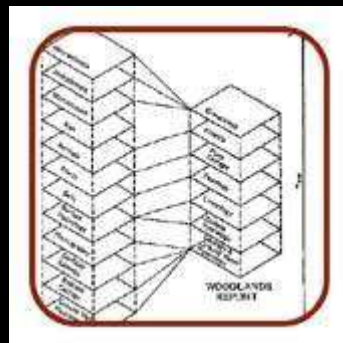
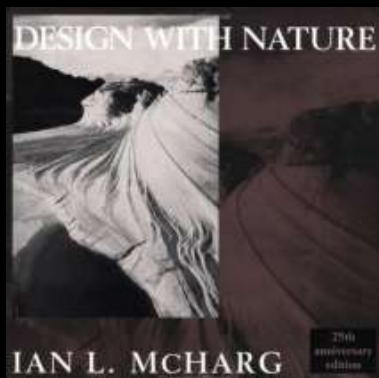
It is based on a scientific, mechanistic manipulation of nature for our own ends to produce a functional urban ecosystem overlaid with a “green” aesthetic.



Ian L. McHarg ( 1920 - 2001 ) was born in Clydebank, Scotland and became a landscape architect and a renowned writer on regional planning using natural systems.

He was the founder of the department of landscape architecture at the University of Pennsylvania in the United States.

His 1969 book *Design with Nature* pioneered the concept of ecological planning. It continues to be one of the most widely celebrated books on landscape architecture and land-use planning. In this book, he set forth the basic concepts that were to develop later in Geographic Information Systems.



## A 'Design with Nature' approach to community design means...



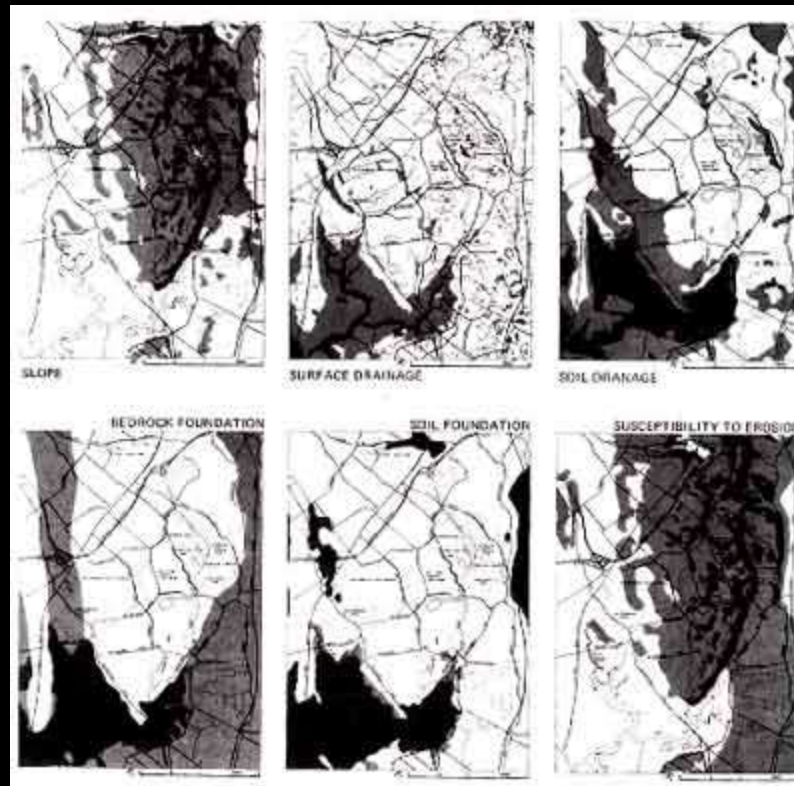
- Develop compact, complete communities
- Increase transportation options
- Reduce the loads on water, waste and energy systems
- Protect and restore urban 'green' space
- Strive for a lighter 'hydrologic footprint'
- Achieve higher levels of stream, wetland and lake protection

McHarg – Ecology “not only an explanation, but also a command”

Can science be the sole, or even the principal, source of authority for landscape design?

What is ecological design?

What should urban ecological design be?

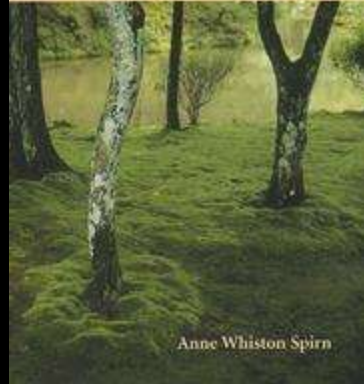


# THE GRANITE GARDEN

Urban Nature and Human Design  
ANNE WHISTON SPIRN



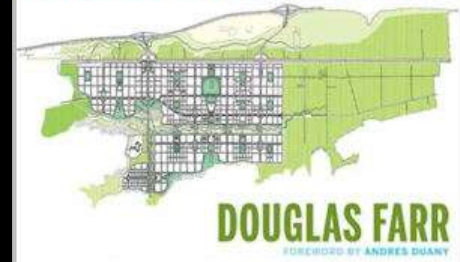
## The Language of Landscape



Anne Whiston Spirn

# SUSTAINABLE URBANISM

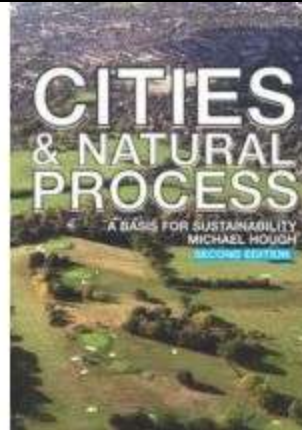
URBAN DESIGN WITH NATURE



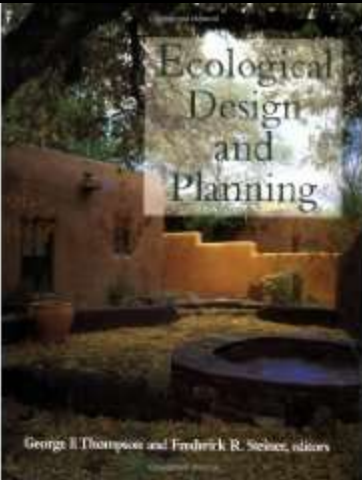
DOUGLAS FARR  
FOREWORD BY ANDRES DUANY

# CITIES & NATURAL PROCESS

A BASIS FOR SUSTAINABILITY  
MICHAEL HOUGH  
SECOND EDITION



## Ecological Design and Planning



George E. Thompson and Frederick R. Steiner, editors

## The Living Landscape

SECOND EDITION

An Ecological Approach to Landscape Planning



FREDERICK STEINER

With a new preface by the author

Anne Spirn

McHarg conflates,

- ecology as a science [a way of describing the world]
- ecology as a cause [a mandate for moral action]
- ecology as an aesthetic [a norm for beauty]

“It is important to distinguish the insights ecology yields as a description of the world, on the one hand, from how these insights have served as a source of prescriptive principles and aesthetic values, on the other.”



And all of urban planning and design treat “ecology” and “nature” as an object to manipulate rather than an active agent and participant in the creating the urban landscape

## The High Line in New York City



## Other Types of Urban Spaces

### Wastelands - whole patches

- Vacant lots
- Dumpsites
- Industrial Wasteland
  - Brownfields
  - Greenfields
  - Quarries and Gravel Pits
- Urban Infrastructure Land
  - Power plants
  - Water treatment plants
  - Reservoirs
  - Wastewater treatment plants
  - Sewage ponds
  - Constructed wetlands
  - Stormwater retention structures
- Unusable Land - bits and pieces
  - Slopes, gullies, corners, fragments

### Margins – edges and ledges

- Urban waterways
- Canals, drainage channels
- Utility corridors
- Waysides
  - road waysides
  - railway verges
- Alleys – paved, unpaved, grass
- Walkways and pathways
- Fencelines
- Walls and ledges
- Pillars and bridge abutments



## The High Line – New York



## Putting Vacant Lots into Perspective



The City of Pittsburgh has no easy way of categorizing its vacant land. In fact, there is no one unifying definition used throughout the city. In some databases, vacant land means any land without a structure. Other databases classify it as any structure or parcel with no residents. There is no database that easily defines vacant land (no structure) that is un-maintained and not part of a right of way or park. Most of this variety of vacant land, (estimated between 6,000 and 12,000 lots), is symptomatic of communities with high levels of disinvestment, absentee landlords, and underserved low income residents. Vacant land can also be a cause, however, of many negative characteristics associated with urban blight. Thus, un-maintained spaces in the midst of urban communities create a vicious circle that many communities do not have resources to address.

## Negative Influences, Positive Opportunities

A growing body of statistical research revolving around vacant lot issues in urban areas point toward direct, empirical correlations between vacancy and a variety of negative economic, environmental, and social influences. Thankfully, there is a flip side - equally strong evidence that reversing vacancy leads to stronger, healthier neighborhoods.

### Negative Influences of Vacant Lots

The impact of vacant lots reaches beyond visual blight and decay, negatively affecting communities across economic, environmental, and social bounds.

#### Economic Influences

A study of vacant lots in Philadelphia estimated that the city and closely related public agencies spent \$1.8 million annually on cleaning vacant lots.

Neighborhood blocks with higher concentration of unmanaged vacant lots decreased property values by close to 18% (Wachter, The Wharton School)

#### Environmental Influences

Vacant Lots are targets for litter, illegal dumping, and criminal activity.

#### Security Influences

The City of Richmond, Virginia found that of all the economic and demographic variables tested, vacant properties had the highest correlation to the incidence of crime. (The National Vacant Properties Campaign)

### Positive Influences through Greening Strategies

Strategies that address vacant land through green means are proven to have positive effects on communities in economically feasible ways.

#### Economic Influences

Cleaning and greening of vacant lots can increase adjacent property values by as much as 30% (Wachter, The Wharton School)

Planting a tree within 50 feet of a house can increase its value by about 9% (Wachter, The Wharton School)

Location of a house within ¼ mile from a park increased property values by 10% (Wachter, The Wharton School)

Vacant properties located near newly constructed parks were the first to sell during a revitalization project in North Philadelphia. (Philadelphia Green - Urban Impact)

#### Health & Recreation Influences

When people have access to parks, they exercise more. Access to places for physical activity leads to a 25.6% increase in the percentage of people exercising on three or more days a week (Trust for Public Land)



## Ruinous Attractions – Social Space

Many waste places have these ruinous attractions: release from control, free play for action and fantasy, rich and varied sensations. Thus children are attracted to vacant lots, scrub woods, back alleys, and unused hillsides...those screened, marginal, uncontrolled places where people can indulge in behavior that is proscribed and yet not harmful to others – are regularly threatened by clean-ups and yet are a necessity for supple society.

- Kevin Lynch *Wasting Away* (1990) p. 26.



## The paradox of meddling in wastelands and margins

However well intended, interventions by humans may result in the undoing of marginal nature in waste space.

These habitats are accidental from our perspective, but they are deliberate expressions by the flora and fauna of marginal nature. As we impose our expectations of nature on marginal nature, we decide which organisms are allowed to remain. Nonhuman planning for these sites is rejected by human planning, and the ruinous attractions created by nonhumans can be undone.

The urban planning ideas of filling vacant land with development or greening it with parks and gardens displaces marginal nature.

In this contest between human and nonhuman intentions, these particular nonhumans lose,

or as Gerard Manley Hopkins puts it,

O if we but knew what we do

When we delve or hew –

Hack and rack the growing green!...

Where we, even where we mean

To mend her we end her,

When we hew or delve:

After-comers cannot guess the beauty been.

- from the poem *Binsey Poplars*.



Beautiful flower in your garden  
But the most beautiful by far  
Is the one growing wild in the garbage dump  
Even here, even here, we are

Song by Paul Westerberg, "Even Here We Are" (*14 Songs*, 1993)



# Narrative of Embodied Urban Nature

## Human Agency and the Agency of Nature

I like very much a little piece by Michel Callon which is about the problem with scallop fishing in Saint Briene Bay. It seems like a very conventional piece of sociological analysis talking about the various agents at work, until you come to the final agent, which is the scallops.

Now at that point most people freak out: they say 'scallops? Agents?!' Now this struck me too at first as strange, but then I thought, 'Yeah, he's right, he's dead right'. I mean why do we say that the scallops have no agency in this.

It does seem to me that one of the transgressive points that Donna (Haraway) feels very strongly about is to try to dissolve that divide between nature and culture, and I think I would want to try to do that too, although it's extremely hard to do and this is where the language comes back and gets you again and again. We don't have, as it were, the discursive strategies that allow us to talk freely about the production of nature...

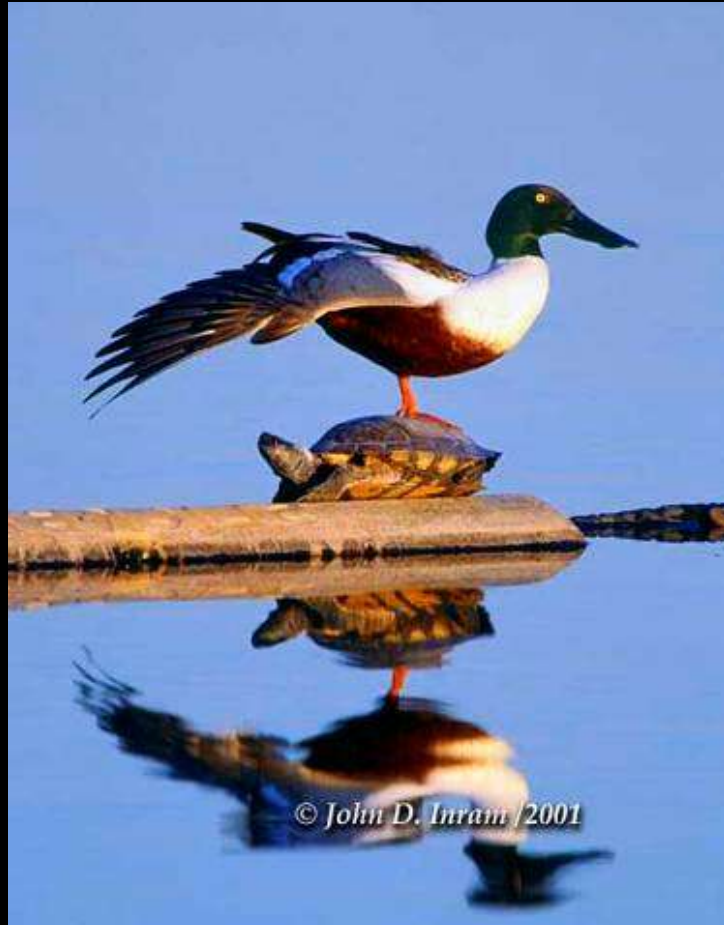
I prefer to talk about socioecological projects in which it's not simply the social that's the activating unit but also, scallops and mice and all the rest of them.

- David Harvey "Nature, politics, and possibilities: a debate and discussion with David Harvey and Donna Haraway", *Environment and Planning D: Society and Space* 1995, Volume 13,



# Agency of Nature

Non-humans do unexpected things and defy our expectations of what nature should be and how non-humans should behave



# Three Key Perspectives on Urban Nature

1. urban ecology and science
2. urban space and planning
3. urban nature and culture

September 7 Noon-1pm

## ***Varieties of Possibility: Perspectives on Nature and the City***

The conceptual framework for understanding Nature and the City

October 5 Noon-1pm

## ***The Weeds and the Wild: Invasive Species and Urban Ecology***

Officially sanctioned urban nature vs. non-native intruders and the study of urban ecology

November 2 Noon-1pm

## ***The Proper Place of Nature: Urban Planning and Urban Ecology***

How nature is incorporated into the urban landscape and how it resists our planning and management

December 7 Noon-1pm

## ***Encounters with Nature in the City: Urban Nature and Literature***

What is revealed as urban nature writers assess their encounters with urban nature



Applause



# Questions?

