

Paddling the Chicago River

A Good Way To Think about Science, Art, Ethics,
and the Sustainability of Cities



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Sustainability Studies Program at RU
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Cultivating a Sense of Place

Context

Urban Nature in Chicago

Science

Exploring the Chicago River (and beyond)

Art

Representing the river

Sustainability and Ethics

Thinking like a watershed





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Chicago's Urban Nature



Chicago in 1857



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Jardine Water Filtration Plant on Chicago's downtown lakefront



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North Branch of the Chicago River (Spring 2010)



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WMRD's Racine Avenue Pumping Station, Bubbly Creek, Chicago (May 2009)

Chicago's Urban Nature



The Stickney Wastewater Treatment Plant, SW of Chicago (courtesy MWRD)

Chicago's Urban Nature

Chicago Area Waterway System:
rivers, canals, locks, and
controlling structures



Exploring the Chicago River



Science, Nature, and a Sense of Place

Understanding the river as a modified natural ecosystem (natural sciences)

Developing policies regarding water quality, river use, sewage treatment
(social and natural sciences)

Representing the river as a cultural resource (arts and humanities)

Restoring the river: water quality, biodiversity, riparian zone vegetation,
citizen access and recreation (all disciplines)

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Canoeing the North Branch



Heading south into the Loop where the branches meet;
Wolf Point in the background (October 2011)



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Canoeing the North Branch



Paddling the West Fork of the Upper North Branch: here we portage around a fallen tree, within the greenway of the Cook County Forest Preserve (October 2012)



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Canoeing the South Branch



Canoe trip down Bubbly Creek, an industrialized tributary of the South Branch of the Chicago River (May 2009)

Assessing Water Quality

Temperature

pH

Turbidity

Dissolved oxygen (DO)

Nutrients (nitrate / phosphate)

Bacterial indicators (coliform)

Metals and organic contaminants (lead, copper, benzene, PCBs, hexavalent chromium)

Emerging contaminants (pharmaceuticals, synthetic hormones, flame retardants)



Combined Sewage Outfall
Confluence of the
North and South Branches
(October 2011)



Sampling macro-invertebrate benthos in the
Chicago River's North Branch (May 2010)



Identifying macro-invertebrates from the
Chicago River's North Branch (May 2010)

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Photo by Ryan Hodgson-Rigsbee



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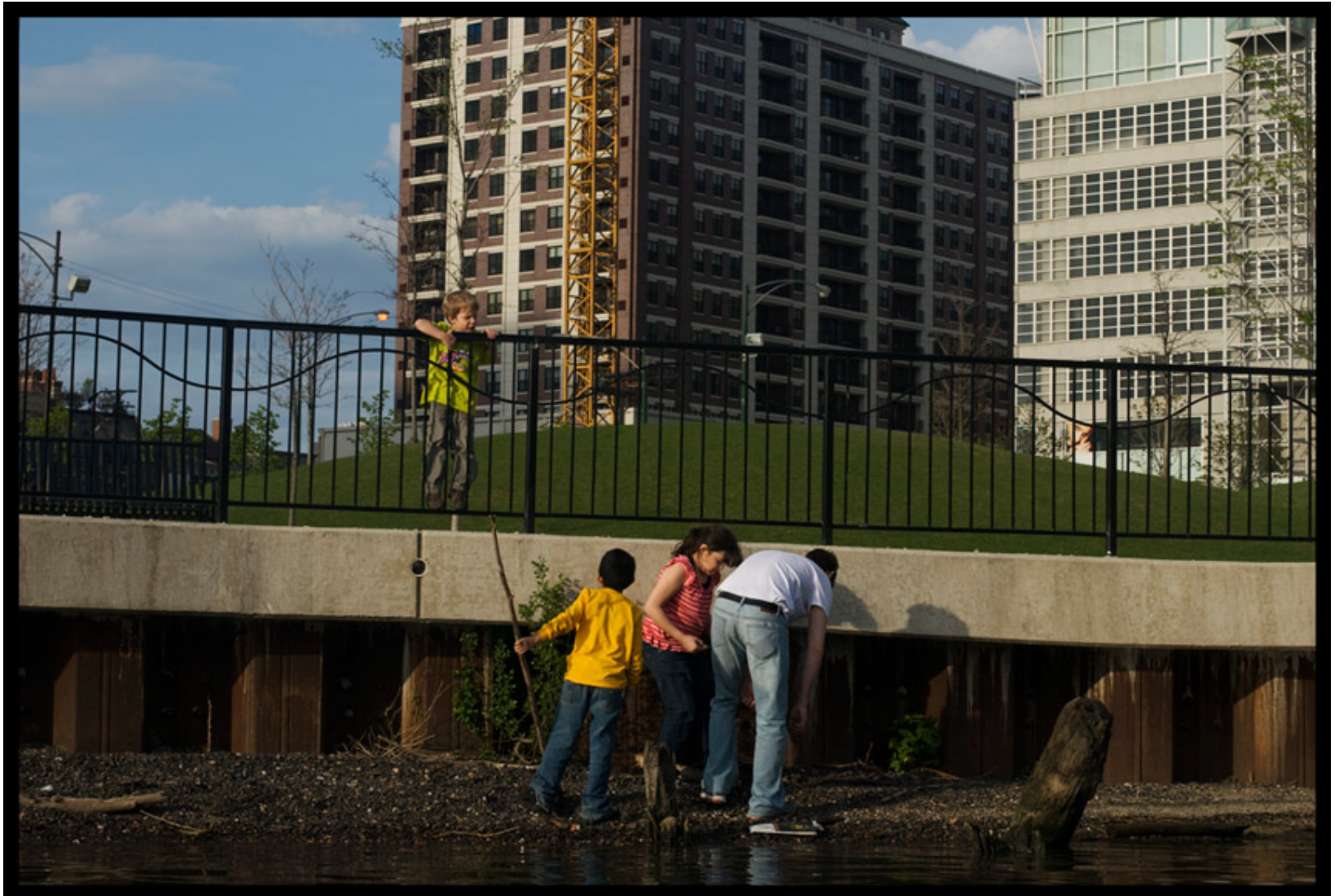
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In a Sustainable Future:



Debris floating in Bubbly Creek, a tributary of the South Branch of the Chicago River

Environmental resources are conserved for both future human generations as well as non-human biota.

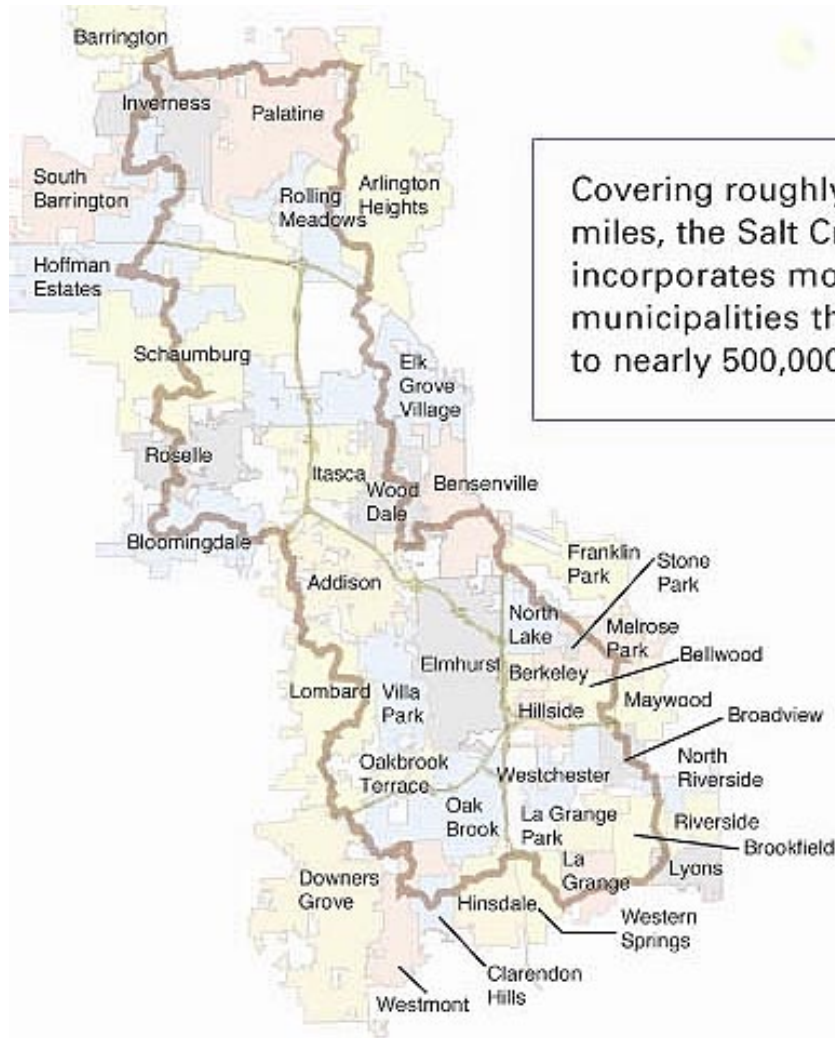
Economic development occurs not at the expense of the natural environment, but in a way to mitigate ecological costs and impacts.

Equity – social, economic, and environmental justice – governs the process of sustainable development.



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Salt Creek Watershed



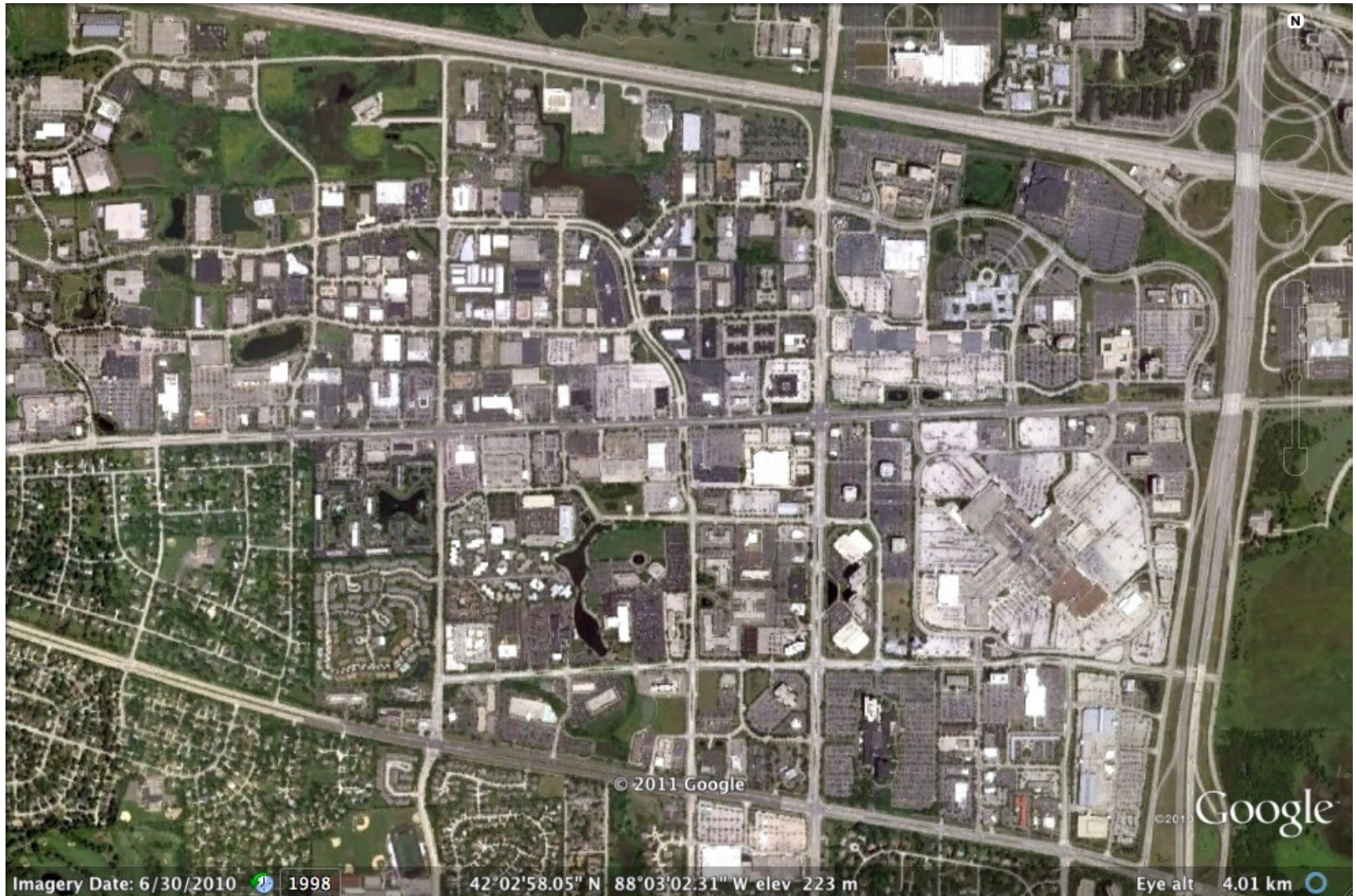
Covering roughly 150 square miles, the Salt Creek watershed incorporates more than 30 municipalities that are home to nearly 500,000 people.





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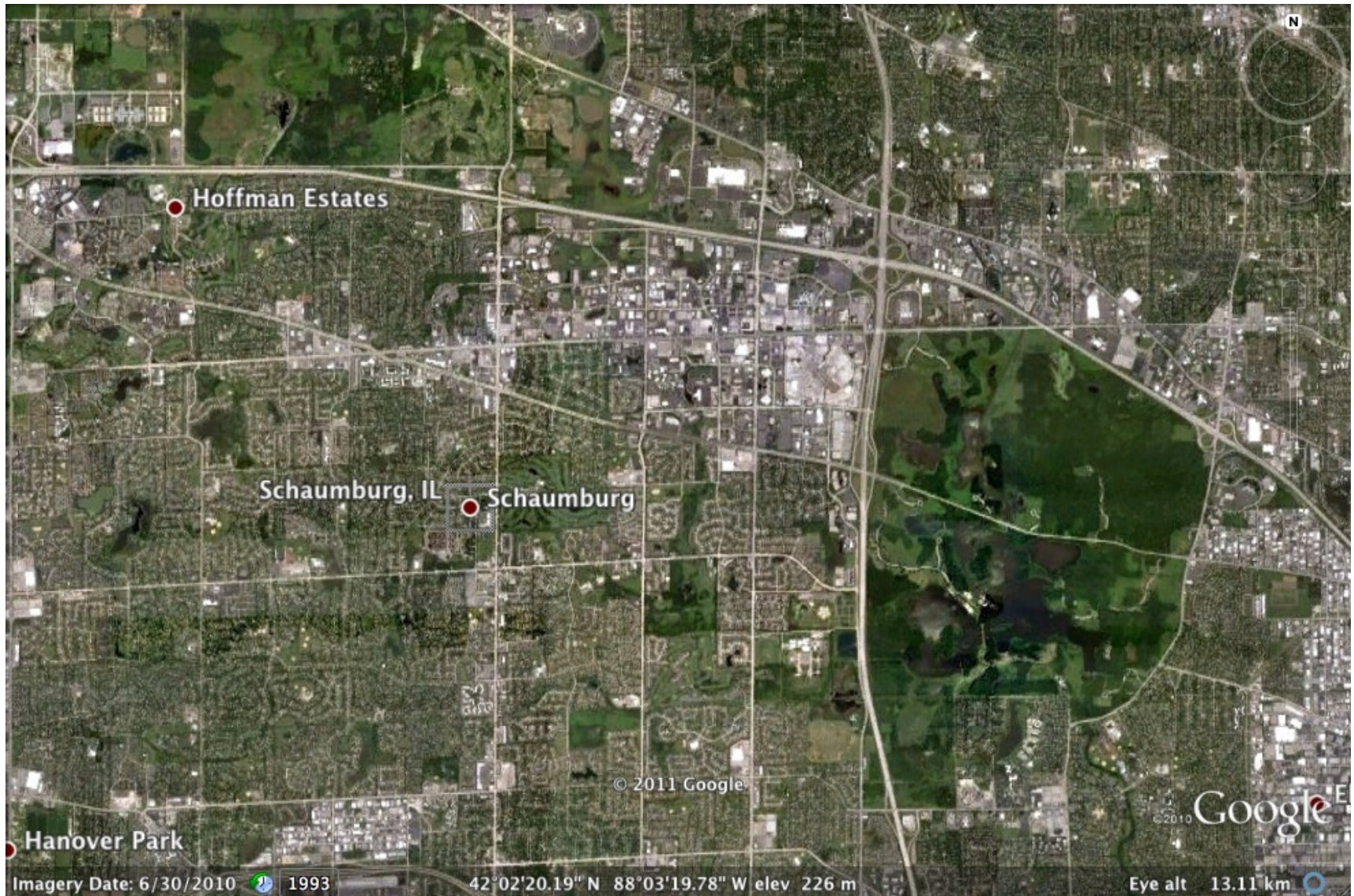
Suburban Hardscape





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Green Infrastructure





Wastewater Treatment



MWRDGC's **John Egan Wastewater Treatment Plant**, Schaumburg IL / Busse Woods



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The Farm & the River



Growing Power's Iron Street Farm, on the west bank of Bubbly Creek (2012)



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Iron Street Farm





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Iron Street Farm





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