Using Case-based Pedagogies to Provoke Interdisciplinary Innovations

NRE/UP 576: Ecological Approaches to Brownfield Redevelopment

Provost's Seminar on Sustainability

Joan Iverson Nassauer, Professor, School of Natural Resources and Environment

Brownfield redevelopment: success depends on innovation and communication across many disciplines – all linked by legal requirements for new development to improve the environmental health of sites that may be contaminated.

Revere Copper, Detroit

Pitney Bowes, Yale Lock, Stamford CT

Graduate students from 10 fields contribute their own critical, interdisciplinary thinking to further evolution of brownfield redevelopment.

The course:
Provides a comprehensive overview of issues and an introduction to cutting-edge topics that affect brownfield redevelopment

Challenges students to invent mechanisms to promote sustainable approaches to the particular challenges of remediation, redevelopment, and habitation of contaminated sites.

Innovation is an essential link between science and society. It can be a means of teaching t*he habit of paying attention to science* and *practicing interdisciplinary exchange* for careers that, intentionally or not, affect the environment.

Innovation

Interdisciplinary practice

Science informing practice

Long term ecosystem services

Innovation for sustainability:
Turning knowledge into change that protects earth's life-support system for the long term while respecting societal values.

Nassauer and Opdam, 2007.
Landscape Ecology

Achieving Crime Reduction in Hamilton Dip:

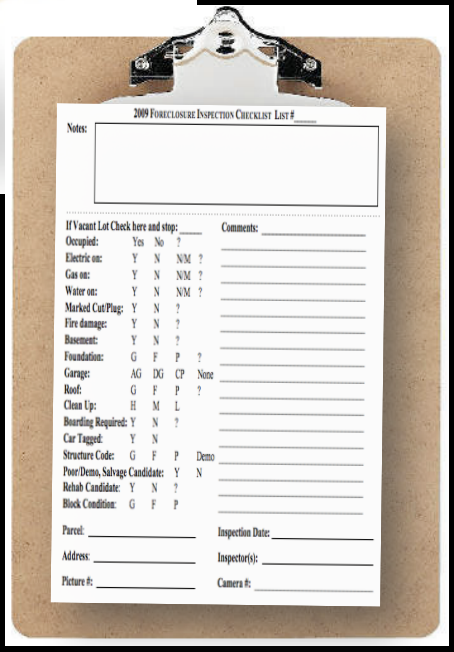
Design and Community Engagement Solutions for Vacant and Abandoned Properties

Dana Petit
Diane Sherman
Jingyuan Wang
Mona Younis

December 1, 2009

Instant Information: Utilizing Technology to Manage Land Bank Inventory

Joshua Cregger Elizabeth Griffin Aviva Glaser Sarah Howie Joane Slusky


2009 Foreclosure Inspection Checklist List #____

Notes:

If Vacant Lot Check here and stop: ____				Comments:
Occupied:	Yes	No	?	
Electric on:	Y	N	N/M	?
Gas on:	Y	N	N/M	?
Water on:	Y	N	N/M	?
Marked Cut/Plug:	Y	N	?	
Fire damage:	Y	N	?	
Basement:	Y	N	?	
Foundation:	G	F	P	?
Garage:	AG	DG	CP	None
Roof:	G	F	P	?
Clean Up:	H	M	L	
Boarding Required:	Y	N	?	
Car Tagged:	Y	N		
Structure Code:	G	F	P	Demo
Poor/Demo, Salvage Candidate:	Y	N		
Rehab Candidate:	Y	N	?	
Block Condition:	G	F	P	

Parcel: _____ Inspection Date: _____

Address: _____ Inspector(s): _____

Picture #: _____ Camera #: _____

Hamilton Dip				
	$/sqft	Open Space	Mixed	Full Development
Residential	$1.69	$355,663	$6,102,985	$8,261,856
Commercial	$2.83	$0	$0	$0
Solar	$15.61	$0	$0	$0
Wind	$17.81	$0	$0	$0
Carbon	$0.0072	$7,584	$3,310	$0
Wetland	$0.07	$24,829	$57,237	$0
		$388,077	**$6,163,533**	**$8,261,856**

REVENUE THROUGH ECOSYSTEM SERVICES

Liz Durfee, Lauren Lesch, Lilly Peterson, Zach Robin, and Christian Runge

Guidelines for Deciding What A Vacant Lot Can Become

If…

Contiguous with other greenspaces or serves as an important connection

→

Preserve as habitat and carbon sequestration

nt Scenarios

on a spectrum of "risk" for coastal
silience on Stamford's South End:

Risk Spectrum

Scenario 3
carries the least risk and lowest forecasted insurance costs.

risk and highest
asted insurance costs.

Bui
Re
for
Coa
Brov
in Lig
Globa Climate Change

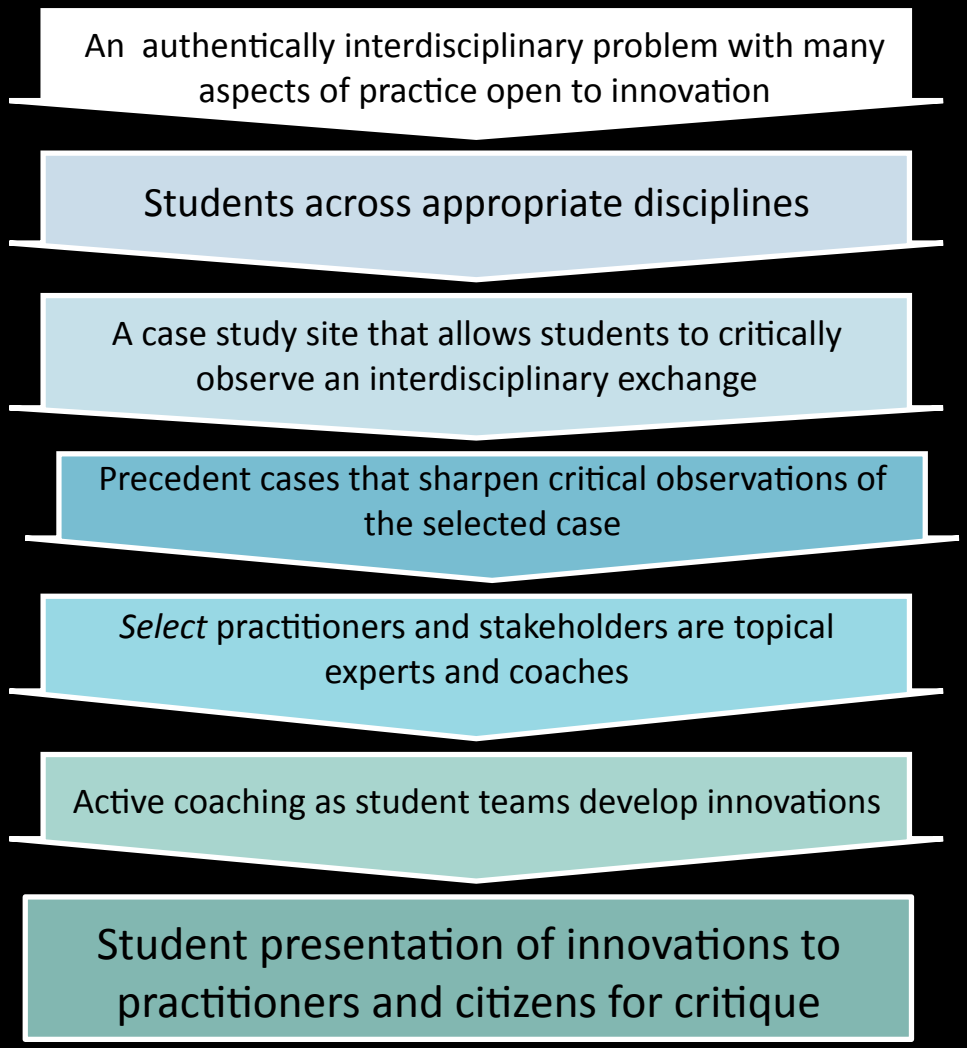
M'Lis Bartlett
A Beltemacchi
Stacy Braverman
Jeffrey Carey
Amy Kludt
Sarah A. Levy

Scenario 1
Minimizing Risk

Scenario 2
Adding Resilience

Scenario 3
Most Precautionary

Elements of the Pedagogy



Brownfield redevelopment

Design, planning, applied ecology, engineering, environmental justice, business, law, social work, public health, policy.

A relevant case represents larger issues of sustainability

Each case presents a different "real world".

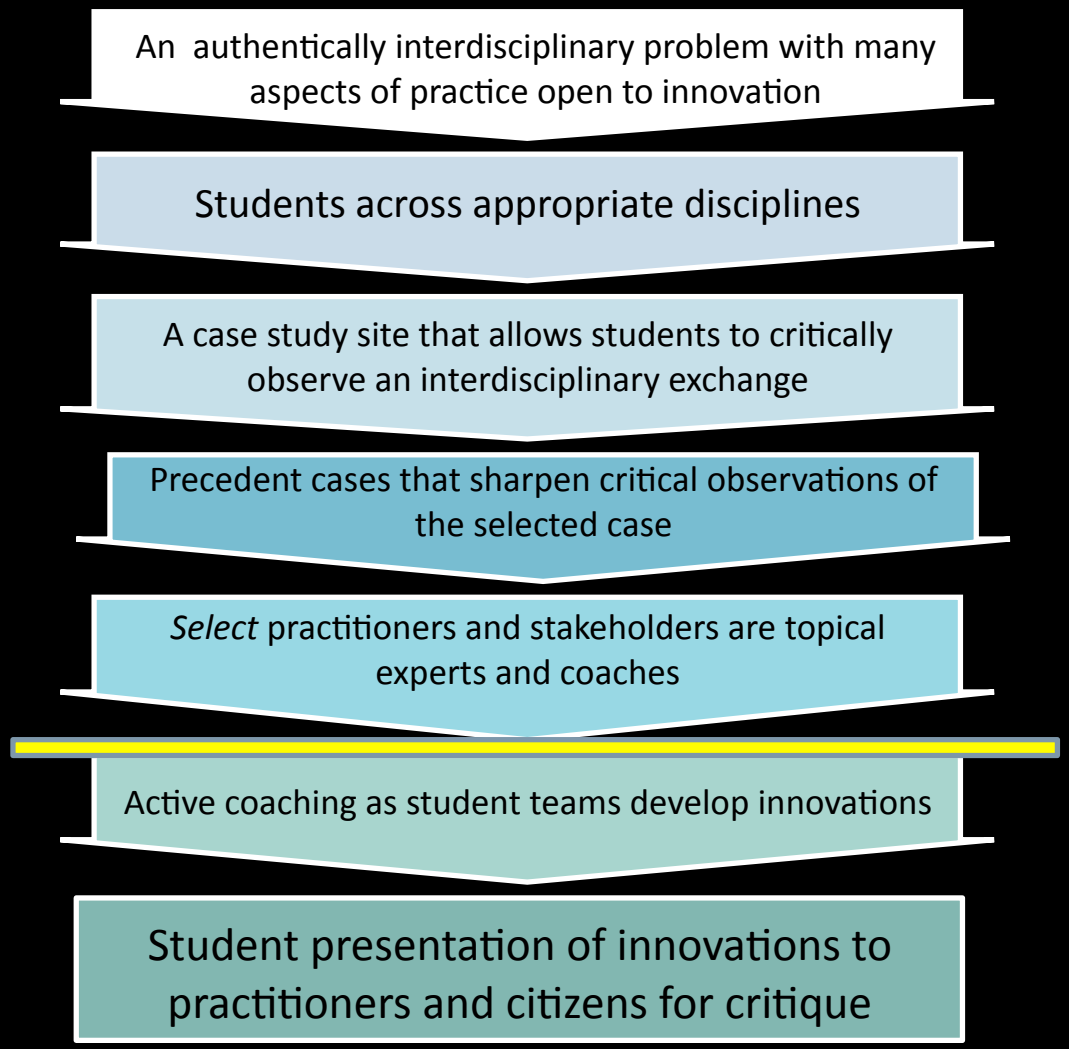
Career paths, substantive knowledge, legitimacy, innovation opportunities.

Problem-finding, relevance, credibility, role clarity on the team, peer critique

Relevance, legitimacy, credibility


Lawn & Leaf Bags
TORO

Logistics of the Pedagogy



Introductory lectures and reading

Reading scholarly literature outside your discipline

Site description, data, and visits. Instructor forms teams based on individuals' expressed topic interests.

Select practitioners are familiar with these cases. Written reflections on precedent lessons and gaps.

Mid term individual exam

The instructors become consultants to the teams.

Team executive summary, 30 minute presentation and critique.

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