

# Civic Ecology for Greener Communities

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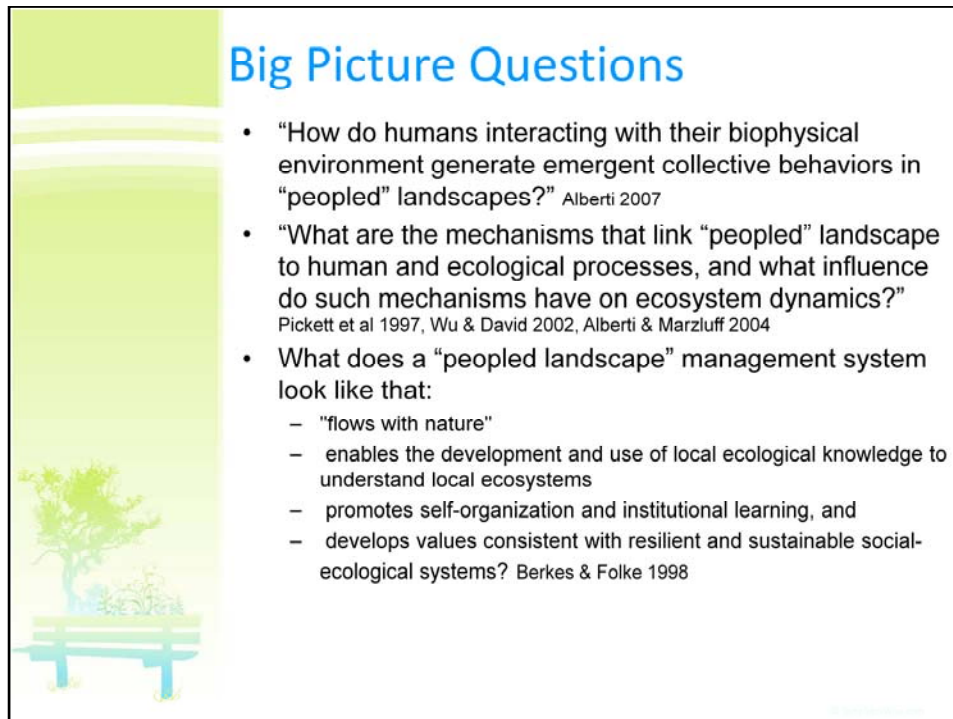
Special "Green City" UNEP Art Prize Winner: Denitsa Nikolava Petrova, 14, Bulgaria

Introduction- Civic Ecology Overview

Civic Ecology Practices - Examples?

Civic Ecology Resources

Conclusions



## Big Picture Questions

- “How do humans interacting with their biophysical environment generate emergent collective behaviors in “peopled” landscapes?” Alberti 2007
- “What are the mechanisms that link “peopled” landscape to human and ecological processes, and what influence do such mechanisms have on ecosystem dynamics?” Pickett et al 1997, Wu & David 2002, Alberti & Marzluff 2004
- What does a “peopled landscape” management system look like that:
  - “flows with nature”
  - enables the development and use of local ecological knowledge to understand local ecosystems
  - promotes self-organization and institutional learning, and
  - develops values consistent with resilient and sustainable social-ecological systems? Berkes & Folke 1998

I think its appropriate to ground the remaining minutes of talk about Civic Ecology in some theory and the relevant literature...so with that I will give you a snap shot of the “Big Questions” we are pursuing...

“How do humans interacting with their biophysical environment generate emergent collective behaviors( of humans, other species, and the systems themselves) in urban landscapes?” Alberti 2007

“What are the mechanisms that link “peopled landscape” to human and ecological processes, and what influence do such mechanisms have on ecosystem dynamics?” Pickett et al 1997, Wu & David 2002, Alberti & Marzluff 2004

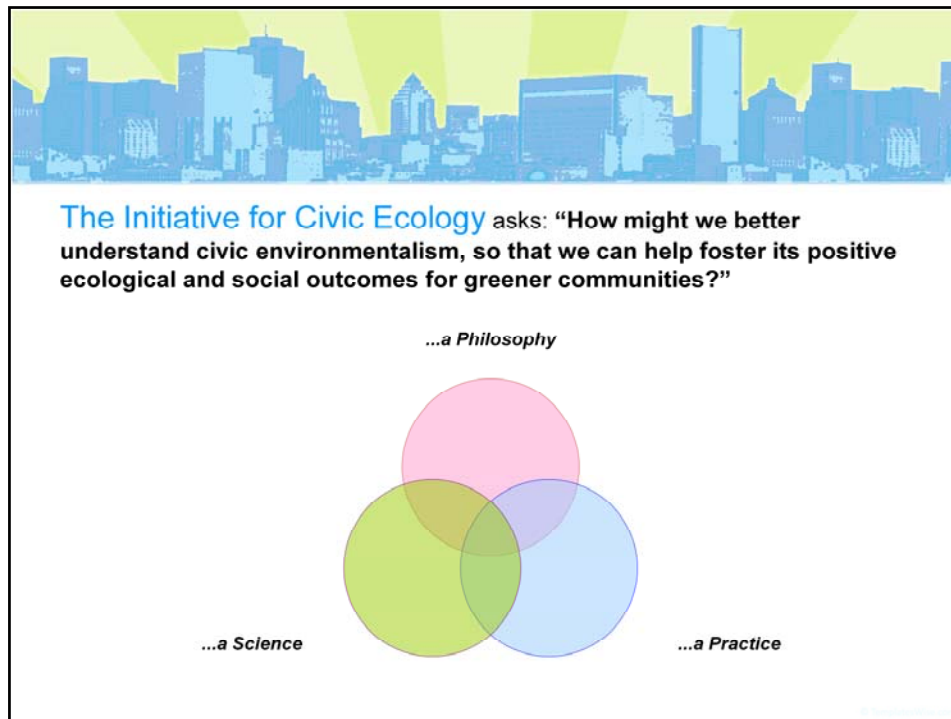
What does an urban management system look like that:

“flows with nature”

enables the development and use of local ecological knowledge to understand local ecosystems

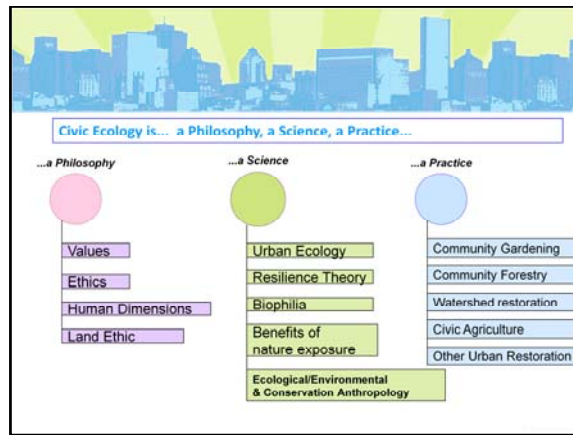
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The environmental philosopher Andrew Light describes an emerging civic environmentalism, in which residents engage in restoring nature in communities. Local groups enhancing the Bronx River watershed or the forest canopy in New Orleans provide examples of this movement. Unlike traditional environmentalism, which focuses on preserving pristine wilderness, civic environmentalism regards humans as an integral part of ecosystems (Light, 2003). A question for Extension is how we might better understand civic environmentalism, so that we can help foster its positive ecological and social outcomes in communities.

Whereas Light talks about an environmental movement, we propose the term "civic ecology" to reflect the social-ecological systems (SES) implications of participatory environmental restoration and management initiatives in communities. Civic ecology emerges from the actions of local residents wanting to make a difference in the social and natural environment of their community



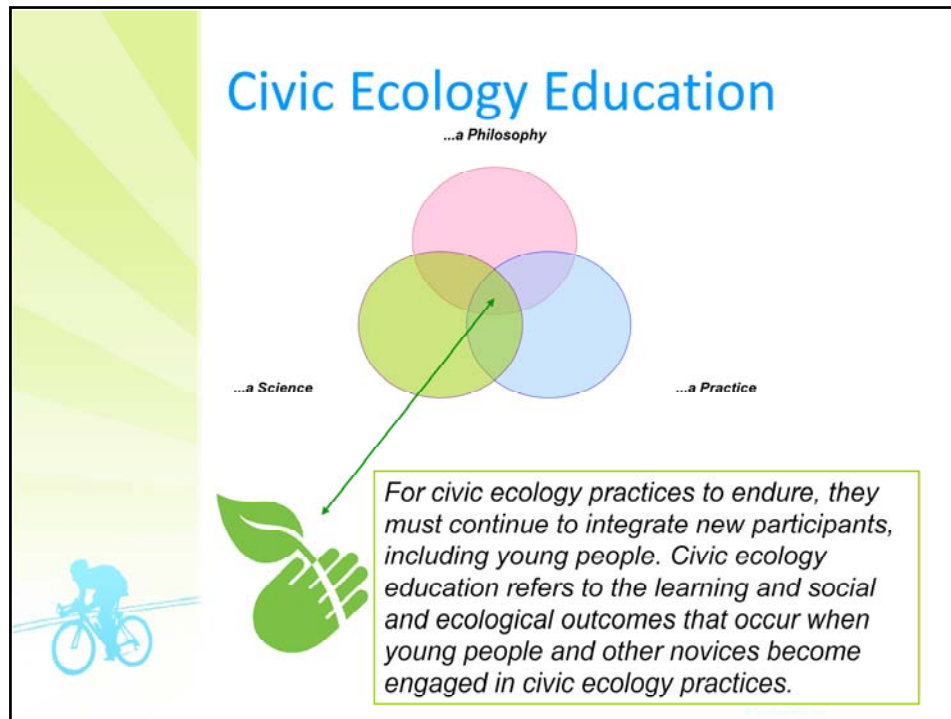
**Philosophy**-As a philosophy, it draws from the conservation ethic of Aldo Leopold, who recognized “(t)hat humans are part of the landscape, have always been so, and that, if managed, do not have to be viewed as destructive agents” (Flader & Callicott 1991:302). We are particularly interested in how the Leopold conservation ethic is expressed by people living in human dominated landscapes.

**SCIENCE**-As a science or field of inquiry, civic ecology reflects the work of the Resilience Alliance (2008) scholars, who examine the role of social and ecological factors, including social capital and biodiversity, in a system’s ability to sustain itself in the face of change (Walker & Salt, 2006). Civic ecology also draws on notions of biophilia (Wilson, 1984) and research on the psychological benefits of spending time in nature (Kuo et al., 1998). We seek to expand this work to look not just at individual outcomes, but also to examine the role of humans engaging with nature in fostering community well-being, and in restoring communities torn apart by natural disasters, ethnic conflict, and other perturbances (Tidball & Krasny, 2007).

**Practices**-Examples of civic ecology practices include community gardening, community forestry, watershed enhancement, and other forms of urban restoration. In the 1970’s, local residents, concerned about the decline of the social fabric and environment in NYC, converted vacant lots to public spaces where still today people grow food, enjoy nature, socialize, and celebrate diverse cultures (Lawson, 2005). For over 25 years, volunteers have restored savannah habitats of the “Chicago Wilderness” (Stevens, 1995). Today, people plant trees in the aftermath of Hurricane Katrina (Tidball & Krasny, 2008) and re-envision the fenced-off Los Angeles River as a natural resource (Gottlieb, 2007).



A critical aspect of civic ecology practice is the social or adaptive learning that occurs through restoring urban SES. Pahl-Wostl *et al.* (2007) suggest that learning among groups restoring a watershed results from an interplay among three elements: context formed by institutions and physical system, process formed by management practices, and outcomes that change the original context. The story of volunteer efforts to restore degraded prairie and savannah habitats in Chicago provides a case study of how, through a series of informal planting and land management experiments (*e.g.*, controlled burns to suppress invasive species), civic ecologists learned how to enhance the ecosystem services provided by urban open space (Stevens, 1995).



Because civic ecology education involves integration of learners into groups of more experienced civic ecologists, socio-cultural theories that emphasize learning as participation in communities of practice are relevant (Wenger *et al.*, 2002). In the case of civic ecology, adult community foresters or watershed restorationists constitute the community of practice. Young people may first participate “peripherally” by observing how adults plant and care for trees. Eventually they become “full participants” by planting and caring for trees themselves (Rogoff *et al.*, 2003). In so doing, they learn how trees help protect water quality, but also demonstrate conservation behaviors.

Thus, socio-cultural learning theories focus on learning *as* participation. They suggest an alternative to education that views learning as preparation for authentic participation. For example, classroom environmental education may seek to change behaviors by teaching children about saving water, whereas civic ecology education would engage young people in conservation practices in local watersheds.

Ecological views of learning that focus on the interaction of students with their environment, and on the resultant changes in both students and the environment (Barab & Roth, 2006), are particularly useful in thinking about learning as participation in a community of practice.



The graphic features a vertical green bar on the left with a white bench and a tree illustration at the bottom. The text on the right is titled "Civic Ecology Initiative" and lists several research and outreach activities.

## Civic Ecology Initiative

Research in New Orleans and NYC focusing on the role of [community forestry on resilience post-disaster](#).

Research in NYC and with military families to determine social capital outcomes of Civic Ecology Education

Research to determine the community outcomes of watershed restoration education programs in the Bronx.

Civic Ecology Education programs in community [gardens](#).

[Urban Environments Seminar](#) and Alternative Spring Breaks Service Learning Experience.

Urban Trees for Sustainable Cities Working Group.

The Initiative for Civic Ecology began as a collaboration between Professor Krasny and Cornell Extension Associate Keith Tidball, and is growing to encompass a number of research, teaching, and outreach activities.

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## In Conclusion...

*Two Take-home messages:*

- 1. Sustainability is not the end point; sustainability is an indicator of resilience of a social-ecological system. We must manage for resilience!*
- 2. Simultaneously conserve and protect ecosystem properties while stimulating more participatory democracy in civil society.*

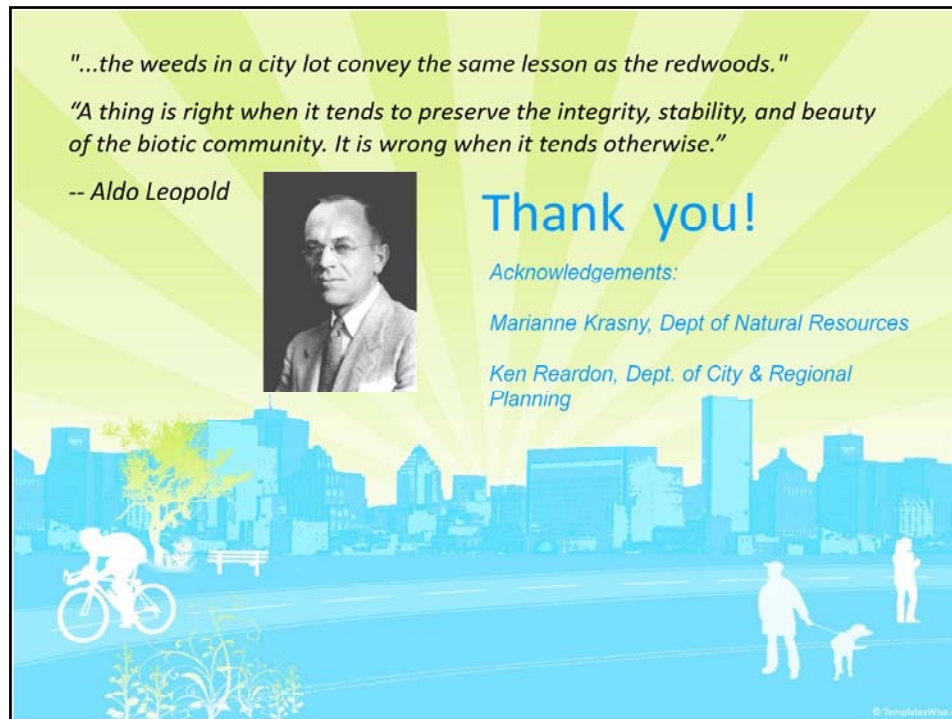


As Extension and youth development professionals working in rural communities, we have always valued learning by experience. Drawing from our agricultural and natural resources traditions, we also have an inherent understanding of the connectedness of social and ecological systems. Civic ecology and civic ecology education provide a means of applying this experiential learning and conservation tradition to our work in communities, where local residents are seen as pioneers in restoring degraded environments, and education programs are embedded in ongoing civic ecology practice. Extension involvement in fostering the social and adaptive learning that occurs through civic ecology practices will help create more sustainable and resilient communities.

So, the important Take Home messages are simple.

First, Civic Ecology reminds us that *Sustainability is not the end point; sustainability is an indicator of resilience of a social-ecological system. We must manage for resilience!*

Second, Civic Ecology extols a form of community based natural resource management (especially adaptive co-management) and environmental education efforts that attempt to simultaneously conserve and protect ecosystem properties while stimulating more participatory democracy in civil society.



Finally, Aldo Leopold helps open the door to appreciation of biotic communities, including humans, even in cities, with his statement that "the weeds in a city convey the same lesson as the redwoods." And in his famous chapter *The Land Ethic*, from his book "A Sand County Almanac" Leopold says that "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise." Those of us working in the Civic Ecology Initiative, and surely many if not all of you working to find green solutions and to build green communities, feel the same.

Thank you, and enjoy the rest of the conference!