

ESA - Special Session 11 – Monday, August 6, 2012 10:15 - 11:30 Rm C-123

Organizers: (EJ Section): Charlie Nilon, Leanne Jablonski, Kellen Marshall-Gillespie & George Middendorf

Identifying Key Ecological Research Questions and Theory Associated with Human and Justice Concerns

Abstract Increasingly, ecologists are incorporating into their research issues that involve people and society, as evidenced by the rise of ESA's urban ecosystems ecology, human ecology, applied ecology, agro-ecology, traditional ecological knowledge, and environmental justice sections. These disciplines are often problem-solving or problem-resolution issues. Yet there are also basic research questions in these fields, such as demographics and human diversity as part of 'biodiversity considerations'. How do we consider the trade-offs between 'ecological benefit' to the ecosystem, vs. potential negative impacts on residents such as allergens accompanying a native plant introduction to a brownfield. Terminology and frameworks are also sometimes different - so what is the common language that will help us both advance the discipline of ecology AND benefit human societal concerns? Speakers representing the breadth of the Sections, will present a summary of the core questions from the perspectives of their field, how they are currently being addressed and will propose future directions. Contribute your ideas and perspectives. Our aimed outcome is a white paper outlining the key research questions, and planning a symposium and related events for the 2013 meeting. Sponsored by the Environmental Justice Section in dialogue with Human Ecology, Urban Ecology, Agro-Ecology, Traditional Ecological Knowledge and Applied Ecology.

Special Session - Outline:

- a) Intro/Welcome - Goals & Questions for Discussion (Leanne & Charlie) - about 5 minutes
- b) Each section/presenter take up to 5 minutes to elaborate with the whole group on their points (as per abstract) 35 minutes max total)

Environmental Justice – George Middendorf, Kellen Marshall-Gillespie & Charlie Nilon

Human Ecology – Rob Dyball & Catherine Gross

Traditional Ecological Knowledge – Mimi Lam & Bruce Grant

Agro-Ecology – Deborah Letourneau

Applied Ecology – Hal Balbach

Civic Ecology - Marianne Krasny

Urban Ecosystem Ecology – Charlie Nilon

- c) **SMALL GROUP DISCUSSIONS – (Presenters as co-facilitators/note-takers appreciated)** with participants focused on responses to how presenters responded to these 4 questions:

- 1) **What are the key ecological research questions and theory associated with human and justice concerns?**
- 2) **How do we consider the trade-offs between ecological benefit to the ecosystem vs potential negative impacts on residents?**
- 3) **What is the common language that will help us both advance the discipline of ecology AND benefit human societal concerns?**
- 4) **How can ideas of justice be incorporated into research and approaches?**

A) Responding to the presentations

What issues did you hear arising from the presentations?

What was missing or incomplete? i.e. What other points would you add ?

B) What do you see as next steps?

- Suggestions for sessions/topics at ESA 2013 to take this further?
- What other events/presentations at ESA 2012 – this year are important to be aware of?
- Any other suggestions for developing the ‘white paper’ – what should it include?
 - Topics, writers, contributors, ideas?

RESPONSES FROM SECTIONS – for Advance Reading

II

1) Human Ecology - Rob Dyball & Catherine Gross

Gross, C. (2007) 'Community Perspectives of Wind Energy in Australia' *Energy Policy* 35, 2727-2736

Gross, C. (2008) 'A Measure of Fairness' *Human Ecology Review* Vol 15 No.2 pp 130 - 140

Gross, C. (2011) Why Justice is Important, In *Basin Futures: Water Reform in the Murray-Darling Basin*, Eds Connell, D and Grafton, R.Q, ANU E Press, Canberra.

Summary of ideas for Special Session 11: Identifying Key Ecological Research Questions and Theory Associated with Human and Justice Concerns - Catherine Gross Ph.D.

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Human ecology takes the position that an ultimate goal of environmental research must be to maintain the health and well-being of ecosystems as well as human societies. This goal is articulated by the vision “healthy people on a healthy planet” (Nature and Society Forum). Human ecology recognises that the health and well-being of people is entirely dependent on ecosystem health, but the critical nature of this dependency is overlooked in our human-centred dominant culture. However, this dominant culture does have a good basic feel for ideas and notions of injustice, justice and fairness even if specific ideas and mechanisms to achieve fairness are not yet part of the common language. The fact that terms such as “fairness and equity” frequently appear in government documents and vision statements is evidence of the former. The sense of injustice that arises when people feel that their issues and concerns have not been addressed in decision-making is strong evidence that fairness and justice are critical aspects of decision-making. But tangible justice and fairness constructs are still emerging and justice is still largely seen as part of a theoretical realm and not part of a practical decision-making toolkit. For example, there is a solid literature on justice research in what is called “organisational justice” with roots in social psychology, but connections and application to other disciplines such as natural resource management are still in the early stages.

The scope of justice is also under debate. Justice is largely seen as a human-centred notion, but this is challenged by those who argue that the scope of justice should be extended to ecosystems and nature. At the centre of this debate is whether nature and natural resources are predominantly managed for the benefit of human societies (embodied by the term “ecosystem services”) or whether they have an intrinsic value in themselves. These differing and debated positions about justice and injustice are reflected in terms such as ecological justice, environmental justice/injustice, legal justice, climate ethics/justice and organisational justice. While this is a healthy debate it still has some way to go. The debate shows that ideas about justice, equity, ethics and fairness are important but also that

there is no common language. For example, social psychologists use the words justice and fairness interchangeably, but many would argue that there is a difference.

Research questions (from special session abstract and e-mail):

1. How do we consider the trade-offs between “ecological benefit” to the ecosystem versus potential negative impact on residents?
2. What is the common language that will help us both advance the discipline of ecology and benefit human societal concerns?
3. How can ideas of justice be incorporated into research and approaches?

Taking the third question first: ideas of justice can be incorporated into research concerning the sharing of natural resources, conflict over natural resources and the placement of infrastructure/hazards. In my research I have developed an investigative framework using justice constructs (to investigate decision-making processes and outcomes) in which people’s perspectives can be understood and justice themes can be revealed (Gross, 2008). I have also developed a “community fairness framework” to analyse a social conflict over a proposed wind farm development (Gross, 2007). From this research I believe that we need to develop a common justice language based on a common understanding of an inclusive theory of justice. In such a language terms such as need, equity and equality will be thoroughly understood and the principles of procedural justice (participation, voice, information, responses to issues, consideration of impact) and interactional justice (being treated with respect) can become routine in decision-making processes. The use of these constructs facilitates fair processes in which people involved in decision-making processes can describe their perspectives, interests and show decision-makers how decisions and outcomes can impact their social well-being and livelihoods. Use of this common understanding and language is vital for decision-makers who seek to gain acceptance of difficult decisions where not everyone will agree with outcomes (Gross, 2011). The trade-offs (Question 1) that are required are more likely to be discussed openly in these types of decision-making processes where the interests of communities and ecosystems are seen as related concerns that must be dealt with together.

Symposium 6: Human Behaviour and Sustainability: Addressing Barriers to Change. Catherine Gross, ANU, Australia. Fairness and Justice: Water allocation, food bowl modernisation, and divided communities, the case of Victoria, Australia.

Abstract Notions of fairness, justice and equity are frequently included as ideals to be attained in societal arrangements, but how do we determine what is fair, what is just and what is equitable? Even though ideas about justice and equity have been discussed for centuries, they are still elusive concepts that are infrequently put to practical use in day-to-day decision-making processes. Yet calls for justice in environmental conflicts are commonplace. These range from localised perceived injustices, such as the siting of waste dumps and energy infrastructure, to ethical concerns about responsibility for greenhouse gas production and disproportionate impacts of climate change. How to allocate and share natural resources equitably is a question that preoccupies governments and policymakers in many areas such as water allocation, mining and energy production. How then can notions of justice and equity be put to use in a practical way in decision-making processes? This paper addresses this question by exploring a complex social conflict over water allocation in the state of Victoria, Australia.

The 2008 case study centres on the diversion of water from the Goulburn River in the north of Victoria to the state's capital, Melbourne through a new 75 km pipeline. The rationale was that Melbourne could run out of water by 2010 if the current drought persisted. In return the State government would partially fund modernisation of irrigation infrastructure in the food bowl area in the state's north, an outcome the government assumed to be fair. Nevertheless, conflict arose between stakeholders including the way the decision was made, the diversion of the water, the building of the pipeline, the impact on the environment, and aspects of the food bowl modernisation. The fieldwork involved interviews with stakeholders to understand their concerns and their thoughts about fairness, justice and injustice. A range of perceived injustices emerged. These included disdainful treatment of communities, lack of consultation and information, and inadequate justification for the water diversion. The paper describes how perceived injustice can harm community well-being and outlines three constructs of justice that can reduce perceived injustice in decision-making processes. The

paper concludes that being treated with respect, fairness of process and fairness of outcome are essential in gaining stakeholder support and achieving broad outcome acceptance. Those who advocate behavioural change for sustainability must recognise that the crucial importance of outcome does not obviate the need to routinely address perceptions of fairness and justice in change processes.

2) TEK - The Environmental Justice in Traditional Ecological Knowledge

Draft submitted by: Mimi E. Lam, TEK Section Past-Chair

In indigenous beliefs and practices, people are not separable from nature. Sense of place and community are thus inexorably intertwined with indigenous ecology. Property relations and concepts of ownership are consequently radically different from those in western systems, which has environmental justice implications in indigenous communities. Ecosystem justice entails preserving the intrinsic value and interconnectedness of all ecosystem members, while social justice involves enabling just societies and institutions (Lam and Pitcher 2012). By recognizing the intimate connection of people to places over time, that is, the social context of ecological systems, ecologists can help foster environmental justice by incorporating traditional ecological knowledge (www.esa.org/tek) more broadly into the discipline of ecology, both in theory and practice.

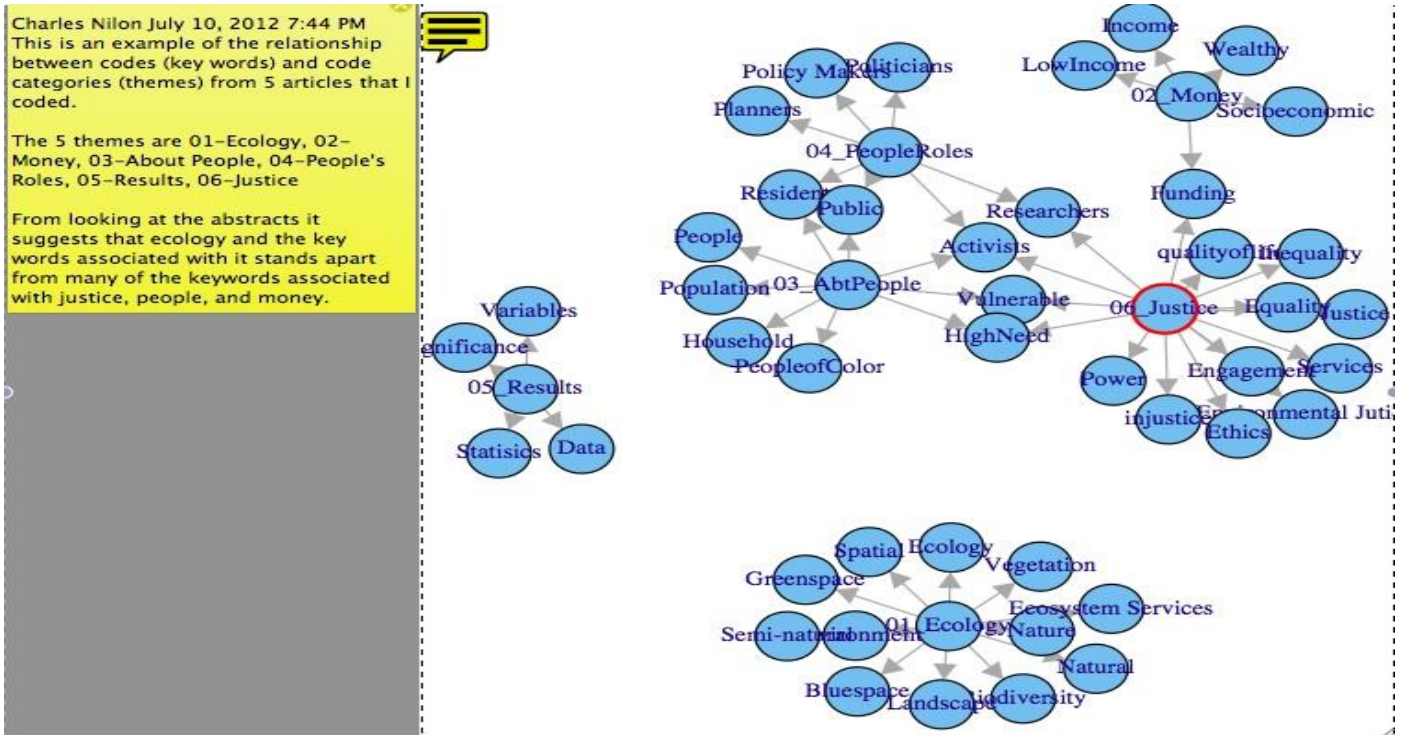
Traditional ecological knowledge (TEK) has been defined as “a cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment” (Berkes 2008, p. 7). In indigenous ways of knowing, one cannot ‘know’ the local ecology without ‘knowing’ its cultural context. Traditional knowledge requires experiencing the land or sea and its relationship to the people indigenous to it. Consequently, environmental is intimately connected to environmental and cultural knowledge and ecosystem and social justice, that is, how natural resources are managed and distributed among the human populations affected by natural resource management and policy decisions.

Ecological integrity is characterized by “wild nature,” “the autopoietic (self-creative) capacities of life to organize, regenerate, reproduce, sustain, adapt, develop, and evolve,” and being “valuable and valued” (Westra et al. 2000). For indigenous people, however, the issue of ecological integrity cannot be separated from cultural integrity. The interdependence of biological and cultural diversity today may reflect a small-scale ecological phenomenon in the past: the process of co-evolution of small human groups with their local environments, modified by humans as they adapted and developed specialized knowledge of it (Maffi 2001). Traditional and indigenous ecological knowledge, practices, and ethics can inform modern policies designed to cope with social dilemmas of common-pool resources and environmental challenges.

Climate change poignantly exemplifies a modern global-scale ecological phenomenon requiring local-scale cultural adaptations. Indigenous and traditional peoples, as communities living in marginal lands and highly dependent on natural resources, are among the most vulnerable groups being impacted by climate change, but they also have the most to offer of tested adaptation and mitigation strategies to environmental changes (Macchi et al. 2008). Reciprocally, these communities would benefit from a broadened understanding of climate change described by universal principles, which can help assess the local drivers and impacts of these changes. Incorporation of environmental justice and particularly the human dimensions of ecology into management and policy decisions would extend the science and mitigation of climate change and other environmental challenges facing society today.

3) Environmental Justice - Charlie Nilon (& Kellen Marshall-Gillespie)

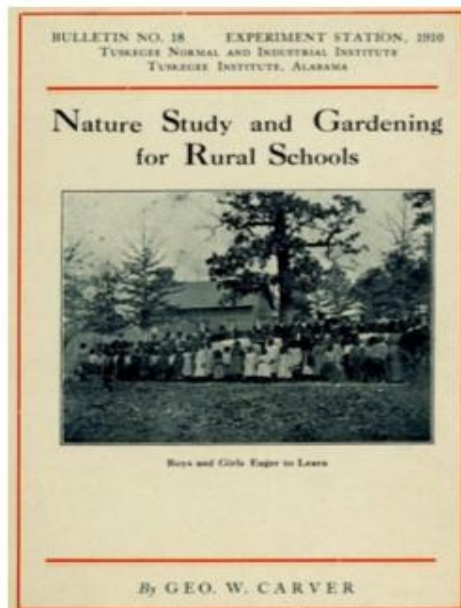
We're engaged in two projects that we hope will result in peer-reviewed publications. The first address how ecology is addressed in environmental justice literature. Nilon, Middendorf, and Jablonski are doing a content analysis (qualitative research) of abstracts of all articles since 2007 found in a Scopus search using the search terms "ecology" OR "ecological" AND "environmental justice." Our questions in this study are similar to those addressed in Kellen's model (below), although we are finding that the traditional environmental justice literature is more broad in its treatment of ecology than we anticipated. The image below shows key words and associated themes from a subset of abstracts that we have reviewed.



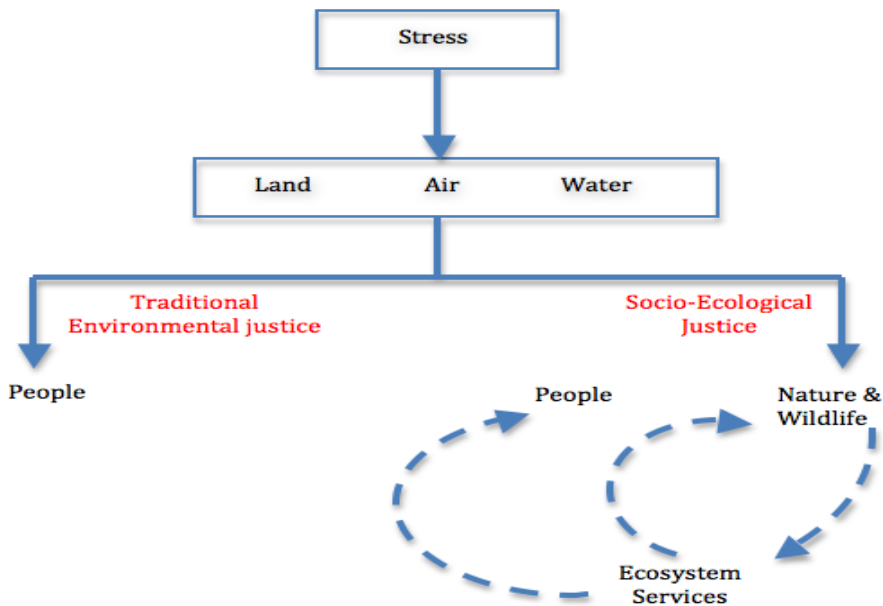
Middendorf, Nilon, and Muriel Poston are writing a manuscript on a review of environmental programs at Historically Black Colleges and Universities, considering how these institutions have addressed

Nature Study Bulletins

"Nature is our greatest educator." (1902)



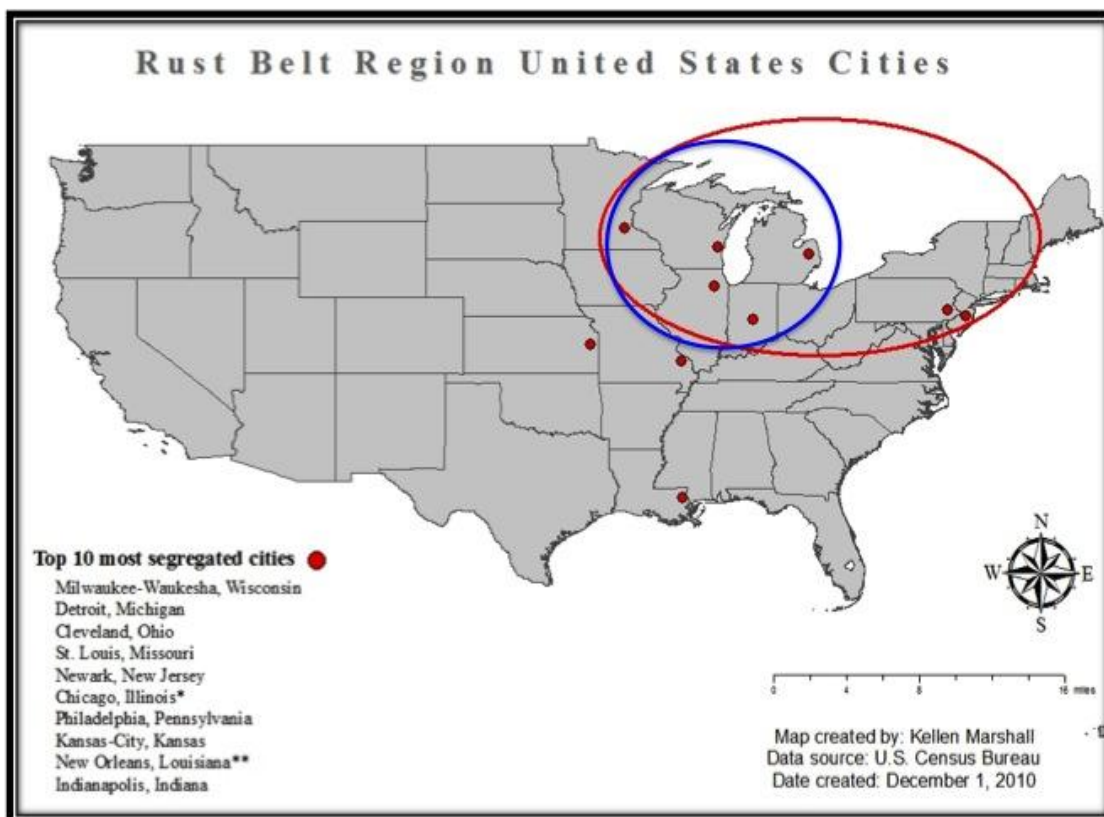
ecology and environment. We've found that HBCU institutions have addressed ecological and environmental topics but through what would now be a called a social justice framework. Two images below show this. This is based on a paper that we presented in a session at an Environmental History conference.



This is a model I (Kellen Marshall-Gillespie) have been developing to frame socio-ecological justice (SEJ) questions. It shows that traditional EJ research looks at stressors that primarily relate to exposure and pollutant load that directly and immediately impacts people/public health yet it is unknown as to if natural systems follow similar

trends in terms of presenting deteriorated "health" meaning productivity, resilience in comparison to natural areas in other sections of the city. Nor does EJ have hypothesis driven approaches that result in a standardized method and statistical analysis that can be explored but SEJ can fill in the research

gaps needed to connect urban environmental inequities that lead to public well-being and or ecological sustainability.



This a map of the rust belt region and the most segregated cities for advancing scalar issues of sustainability and social justice.

Civic Ecology - Marianne Elizabeth Krasny mek2@cornell.edu.

CONCEPTS AND QUESTIONS Civic ecology: a pathway for Earth Stewardship in cities

See Frontiers paper: Front Ecol Environ 2012; 10(5): 267–273, doi:10.1890/110230 (published online 26 Apr 2012) Marianne E Krasny* and Keith G Tidball

ABSTRACT: *In an increasingly urban society, city residents are finding innovative ways of stewarding nature that integrate environmental, community, and individual outcomes. These urban civic ecology practices – including community gardening, shellfish reintroductions, tree planting and care, and “friends of parks” initiatives to remove invasive and restore native species – generally begin as small, self-organized efforts after a prolonged period of economic and environmental decline or more sudden major disruptions, such as earthquakes, hurricanes, and conflict. Those practices that are sustained expand to encompass partnerships with non-profit organizations; local-, state-, and federal-level government agencies; and universities. Civic ecology practices reflect local cultures and environments as well as the practical knowledge of city residents, and thus vary widely across different cities. When viewed as local assets in some of the most densely populated urban neighborhoods, civic ecology practices offer opportunities for scientific and policy partnerships that address the Ecological Society of America’s important Earth Stewardship initiative.*