



State University of New York
College of Environmental Science and Forestry

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Research Abstracts

“Aldo Leopold’s Thoughts on Land-Use and Its Implications for Forest Management” Qi Feng Lin (*McGill University, Department of Natural Resource Sciences and School of Environment*)

The scale of environmental degradation caused by human activity has prompted some scholars to suggest that we have moved from the Holocene to the Anthropocene. One of the key issues in this major transformation of the planet is how humans conceptualized the environment and their role in it. In this paper we discuss this issue by examining Aldo Leopold’s efforts to rethink the role of human beings in the environment and the implications of his work for reframing forest management. We begin with a brief overview of the assumptions that underpin our modern attitude towards the environment, such as the anthropocentric interpretation of the cosmogony in the Judeo-Christian religious tradition and the progress-driven thinking which emerged from the Enlightenment period in Europe. Leopold explicitly addressed these thought traditions in his writings. We then discuss concepts which Leopold articulated in his writings. Besides his land ethic, we will also discuss two concepts which he used: land health and land conduct. Leopold grounded his land ethic in the then emerging science of ecology and used land health to refer to the reference conditions of the land which the land ethic should guide human activity towards. He mentioned land conduct in an attempt to cultivate a conservation mentality among private landowners through social pressure. Indeed, compared to common terms like “land-use” and “resource management”, the term “land conduct” represents a less anthropocentric and utilitarian frame of mind. We conclude by discussing the implications of these three concepts by Leopold on forest management.

“An Archaeology of Water: How the Harvesting of a Natural Resource has Changed the Cultural Landscape of the Catskills” April M. Beisaw (*Vassar College, Department of Anthropology*)

The Ashokan Reservoir was constructed at the turn of the 20th century to provide clean water New York City (NYC) residents, living 100miles to the south. Since then, NYC has used a land acquisition program to protect this natural resource; purchasing land around the reservoir from willing sellers and allowing recreational use of those lands by permit. For the city, the program is an excellent example of environmental conservation.

For the Catskill communities, this program has drastically altered the cultural landscape by changing land use patterns. Three waves of impact are clear: 1) reservoir and aqueduct construction, which led to resettlement of people, restructuring of towns, and loss of community heritage, 2) land acquisitions since construction - which have caused continued abandonment of areas designated as high priority for water conservation, and 3) future land acquisitions - which will depopulate regions outside of designated hamlets and negotiated hamlet expansion zones. This research uses historical archaeology as a means of documenting the sociocultural impacts of the second wave. The purchased properties contain remnants of the lives of those who once lived and worked there, and show how lands that appeared "vacant" to outsiders were actually part of the social and economic systems of the surrounding communities. Together with archival records that document the more concentrated first wave, the data generated from this research will allow for the creation of social models that can inform land acquisition programs of the third wave to help minimize the cultural impacts of environmental conservation programs.

“Apron Strings, Mama's Boys, and Obstetrics: The Problems with Representing “Nature” as “Mother” in Our Culture” Ian Werkheiser (*Michigan State University, Department of Philosophy*)

The pre-modern idea of the environment represented as “Mother Earth” or “Mother Nature” has had a recent renaissance in popular culture, international policy and law debates, and academic discourse. A large part of the motivation for this seems to be an assumed set of positive feelings of love and responsibility for an idealized “Good Mother” which can be mobilized rhetorically to get people to care more about the Earth. While I admit that these positive feelings exist in our culture, it is not our only associations with mothers, and therein lies the danger with this as a strategy.

The three other concepts of mothers and motherhood in our culture I will address are mothers as giving to the point of masochism, a hostility and disrespect toward mothers as a resistance against sentimental care, and the idea that mothering and mothers ought to be controlled and dictated to by rational science. I will argue that these three cultural concepts of mothers and motherhood allow polluters to accept the characterization of a “Mother Nature” while still being able to continue with their projects. Thus, while I will consider some other reasons for including this concept in our discourse, such as representational justice for indigenous groups, as a rhetorical strategy to change people in the Western, industrialized world's actions, it cannot exist in isolation. Rather, it would have to be coupled with a profound change in our attitudes toward women and mothers in particular.

“Beyond Willingness-To-Pay: How Publics Value Ecosystem Services” Zachary Piso (*Michigan State University, Department of Philosophy*)

Ongoing research on the different ethical frameworks undergirding ecosystem services management is born out of a collaborative investigation led by philosophers and sociologists that first analyses the value-based claims endemic to different academic

traditions. This analysis shows that economics-based arguments are only one of several ethical frameworks to find traction in the literature. Environmental managers may communicate the benefits of ecosystem services management more effectively by appealing to those ethical frameworks that resonate with situated community values. Without recognizing the plurality of frameworks that might connect with the experiences of these communities, however, most ecosystem services studies have adopted a willingness-to-pay model that methodologically collapses value difference. This particular study considers values prominent to the agricultural communities in mid-Michigan where the summer focus groups will be held, and the presentation will share both the results of the expert literature review and the focus group procedures born out of that review.

“Bioregionalism as Mental Ecology: Thinking the Relation Between Territory and Earth.” Brian Schroeder (*Rochester Institute of Technology, Department of Philosophy*)

“Changing Land Tenure: Re-balancing the Land Ethic - a Model” Mark B. Lapping (*University of Southern Maine, Edmund S. Muskie School of Public Service*)

The dialogue on land ethics has tended to focus on land use - how land is utilized and in what ways. Land tenure discussions focus, instead, on a different key question: who owns the land and to what ends? This paper seeks to join together these two aspects of the land question, arguing that the ownership and control of the land resource is essential to understanding how land is understood and, ultimately, how it is used. Further, this paper outlines a model of land tenure reform firmly rooted in the Judeo-Christian ethical tradition that confronts fundamental issues of justice and equity through land redistribution, namely the institution of the “Jubilee.” The Jubilee was central to the Biblical vision of property rights - how land was to be distributed, used and then redistributed in a manner that a permanent rural/agrarian underclass was not created in ancient Israel. This paper discusses the ethical underpinning and intent of the Jubilee and why it continues to have power and salience in our contemporary context.

“Community Values Mapping as a Tool to Engage Municipalities on Planning for Wildlife” Leslie Karasin (*Wildlife Conservation Society*), Heidi Kretser (*Wildlife Conservation Society*)

Rural landscapes in close proximity to protected lands are facing increasing development pressure for residential homes. This type of exurban, or low-density, development, occurs away from the urban core and is facilitated by various forms of transportation and communication. In turn, it fragments wildlife habitat and valued open space. One approach to address these issues involves modifying existing land-use regulations to encourage certain forms of development or activities and discourage others. Research has shown that across communities in diverse settings with diverse economic backgrounds, intended support for policies to benefit wildlife generally is strong. However, conservation practitioners and wildlife managers are often stymied by knowing what opportunities for engagement exist in local municipalities and how best to approach the process of engaging locally to achieve conservation outcomes. One method that has

been successfully used in communities located within regionally important corridors of the Northeast, U.S. includes community values mapping. Participants map values, sometimes conflicting values, in a workshop setting and begin to recognize areas of common value. In some areas, the results have led to adoption of new language in local plans.

“Conscious Evolution & Ethical Leadership, Driven by Personal Stories” Ed Murphy (*Workforce Development Institute*), Lin Murphy, (*Pathfinders Institute*)

Gandhi’s called his autobiography “The Story of My Experiments with Truth.” 21st Century environmental challenges require us to develop practical, ethical leaders who inspire, organize and develop solutions. Like Gandhi, leaders must know their own stories and lead with clear values to inspire others to participate in transformative social change. We need leader-full communities, networks, organizations, laws and structures; to develop women and men as leaders at all levels of the environmental movement.

This panel focuses on the balance of individual and social values, how leaders motivate from their own stories. In True North, Bill George wrote, “Just as a compass points toward a magnetic field, your true north pulls you toward the purpose of your leadership. When you follow your internal compass, your leadership will be authentic, and people will naturally want to associate with you. Although others may guide and influence you, your truth is derived from your inner story.”

This panel addresses ethics, natural resource protection and land use from a variety of perspectives: individual and social values, politics, transformative social change, history, analysis of emerging trends, personal and group leadership, economic, workforce and community development, conscious evolution guided by moral and spiritual disciplines and storytelling. Conscious Evolution encourages us to consciously participate in creating a safe, sustainable and peaceful world. Humans have capacities to destroy and create. We can destroy our biosphere and life support system. Conscious evolution is a requirement for our survival and fulfillment of our potential. The environmental crisis is an evolutionary driver to use our skills for life-supporting, life-enhancing activities. We need a co-creative society; one in which each person is free to and chooses to contribute his/her best.

“Developing a Management Plan for a College Nature Preserve” Richard S. Feldman (*Marist College, Department of Environmental Science & Policy*)

Fern Tor is a 12-acre nature preserve on the northern edge of the Marist College campus, near the east bank of the Hudson River, and bordering a county park to the north. It is a valuable campus resource, having multiple benefits including: teaching, student research, natural history observation, conservation of species and habitats, contemplation and exercise. It is mostly forested as oak-hickory ridges and a hemlock-northern hardwood cove, and also includes a creek, pond, wetland, scenic river overlook and extensive trails. As its use and popularity increase, there is need for a management plan to protect and enhance Fern Tor. Common problems are littering, campfires, landscape waste disposal, and increasing severe weather damage, e.g. windfall and erosion. In addition to

managing human activities, there is need to manage invasive species, especially Japanese knotweed (*Polygonum cuspidatum*). Its suppression has been partially successful on the pond shoreline through use of tarps. More extensive control will be attempted through grazing by goats and possibly with glyphosate (Rodeo). Gaining cooperation, interest and support of multiple stakeholders (life science and other faculty, physical plant managers, academic administration, student life administration, student groups, Hudson River Valley Greenway) are primary goals of the plan. The ethical dimension of protecting such land will enter into gaining such cooperation.

“Forests and the Human Contribution to Erosion and Under-Payment for Ecosystem Services” Malvina Shehi (*Regional Federation of Communal Forest and Pastures, Dibra Region, Albania*)

Forests continue to be the main source for home-heating in Albania while the ongoing destruction of forests is incalculable. Cutting and the exploitation of the forest has led to considerable erosion and sliding soil. Every year our mountains and hills flow into the sea by about 60 million tons of earth, while each century Albania sees an increase in bare mountains.

In Albania forest ownership is communal and to curb the phenomenon of erosion, farmers who use forested areas assist in protecting these same areas. Despite this work, farmers face economic hardships. Different companies and entities that benefit from curbing erosion, such as State or private entities charged with protecting roads, water or plants do not pay these farmers for the ecosystem services that they provide. This oversight stems from a lack of laws around scheduled payments for ecosystem services. However various international initiatives have instituted a fee to be built in micro catchment of Ulza: 48 sample plots sloping land with 3 categories, in 6 different types of forest and degraded lands to test for 1 year, the material deposited for 1 year in a row after every fall rain.

This process started in October 2012 and we have received the results of the first measurements. At the end of the monitoring we will draw some conclusions regarding the contribution that forested areas make in curbing erosion, its impacts and how much should be paid to people for this kind of service.

“From Killing Fields to Pilgrimage Sites: Consuming Nationalist Landmarks of War” Yamuna Sangarasivam, (*Nazareth College, Department of Sociology and Anthropology*)

This paper examines the ethics of land use in war and in the construction of post-war memorial landmarks that generate a sense of national belonging. What is revealed by examining land use ethics as a form of constructing ethnographic authority—a form of culture collecting? Land use is a way of telling a story about a nation’s relationship with the soil, the water, the environment and ecosystem as a whole. Particular forms of land use also represent a story of collecting, memorializing, displaying, and consuming the demands of national belonging that organize a global response to and commemoration of

war—for example, 9/11 and ground zero, The Holocaust and the March of Remembrance and Hope, and the memorial to families massacred by the Khmer Rouge in the killing fields of Ba Chuc, Vietnam. How do killing fields become pilgrimage sites? What are the implications of constructing these sites as destinations of educational and cultural “tours” within historic landscapes of war? What are the redemptive potentials of these landmarks of war and what kind of land ethic is invoked to inscribe a sense of national belonging? What epistemological realities are made visible by observing the multiple forms of land use in war as juxtaposed with land use in the construction of post-war memorials? By examining these questions, this paper intends to invite a critical discussion on creating environmental ethics within the context of witnessing how killing fields of war become pilgrimage sites in service of promoting hegemonic nationalisms.

“Health Sovereignty: Community-Focused Response to Public Health Crises, Environmental Injustice, and Catastrophes” Ian Werkheiser (*Michigan State University, Department of Philosophy*)

In this paper I argue that “food sovereignty” can be thought of as a subset of the broader notion of “health sovereignty,” and that sovereignty is a necessary approach to public health for reasons both of justice and efficacy. This efficacy is increasingly important in an era of escalating environmental catastrophes. At the same time, food security's goals of using the institutions of neoliberal globalization to provide maximum food to the world can likewise be subsumed under the larger category of health security. Health security not only perpetuates unjust social relationships, but also fails by its own lights, as intervention in communities often increases public health problems, particularly in the wake of environmental disasters. Health sovereignty, which sees public health as intimately bound up in how people create and replicate their communities, can leverage local knowledge, values, and interconnections to better address emergent health problems and decrease environmental injustice.

“How Global Warming Huffed, and Puffed, and Blew the House Down: The Effects of Climate Change on Sustainability Initiatives” Samantha Noll (*Michigan State University, Department of Philosophy*)

Sustainability is a popular buzzword in both policy circles and outside of them. For example, today the public is often required by law (or incentivization through bottle deposits) to recycle cans and glass bottles. However, what does this word signify? According to the United Nations Brundtland Commission, “sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” With this definition in mind, such popular steps as above could be seen as contributing to a more sustainable future. However, in this paper I argue that current conceptualizations of sustainability fail to take into account the drastic changes caused by global climate change. While mandating actions that improve local “sustainability” may have once appeared to be enough to reach the outcomes outlined in definitions of sustainability, this is no longer the case. We must now take into account the effects of climate change and the ways in which other communities

impact the environmental health of the planet if we are to ever achieve the goals implicit within conceptions of what it means to be sustainable.

“Human Activities and Severity of Pressure and Threats on Protected Areas in Yewa Division of Ogun State, Nigeria” Oladapo O. Oduntan (*Wildlife Extension and Human Dimension, Department of Forestry & Wildlife Management, University of Agriculture Abeokuta*)

Many developing countries, like Nigeria, are suffering from serious environmental degradation primarily because of the rapid growth in population which has not only brought about gross encroachment and damage to land, natural forest, wildlife, water and even air but has also brought unacceptable quality of life conditions in the human community environment. Thousands of years of cutting and burning, especially in Africa have so transformed vegetation and subsequently land, that it bears little resemblance to its original state in which tree cover was probably denser than it is today. Concern is rising about the rapid rate of tropical deforestation, the temporary or permanent clearance of forest for agriculture and other purposes. This study evaluates the degree pressure and threats of human activities on protected areas in Yewa Division of Ogun State, Nigeria. Four forest reserves out of seven in the division were randomly selected as representative samples. They are; Ilaro forest reserve, Imeko forest reserve, Oja odan forest reserve and Aworo forest reserve.

Primary data were used for this study. Data were collected through the use of Rapid Assessment and Prioritization of Protected Areas Management (RAPPAM) designed questionnaire that was recommended for evaluation of threats and Pressure on protected areas (WWF, 2003). Descriptive statistics and ANOVA were the statistical tools used for data analysis in this study. The findings show that all the reserves are severely threatened by logging while only Oja- Odan F.R. is severely threatened by conversion of land use. In addition, Oja-Odan and Imeko are the only reserves that are severely threatened by hunting, although Aworo F.R. is also highly threatened. Oja-Odan F.R. and Imeko F.R are severely threatened by harvesting of non-timber forest products while Aworo is also highly threatened by same activity. Furthermore, all the forest reserves are highly threatened by grazing except Ilaro F.R. while cross boundary influence severely threatened Oja-Odan F.R., although severity of threat in Ilaro F.R. and Aworo F.R. is high as well. Result also revealed that there is no significant difference (LSD = 9.04; $p < 0.05$) between activities in each forest reserves; although analysis of variance shows a significant difference between the pressure and threat across the forest reserves. Policy recommendations were made based on the outcome of this study.

“Know Your Farmer: A Philosophical Analysis of a Local Food Ethic” Tatiana Abatamarco (*Paul Smith’s College, Division of Liberal Arts and Environmental Studies*)

At its core, this is an argument for moral engagement in one’s foodshed. I posit that making informed decisions is a moral good. The analysis has two parts: the first is an argument for an emergent local food ethic in the context of the United States, at this particular period in time. The second part is a discussion of the extent of the individual’s responsibility to reflexively participate in one’s foodshed. The extent of one’s

responsibility to reflexively participate in one's foodshed is highly complex and will differ from person to person. I use the ethical ideas of ground projects and countervailing considerations to help elucidate the nature of this complexity. I hope this argument will appeal to individuals, regardless of their allegiances to particular foundational theories of morality. The argument presented here is agnostic on the primacy of intentions or consequences as the source of moral action. The argument should be consistent with many ethical theories.

The local food ethic, as I construct it, is a responsibility to reflexively participate in one's foodshed. I see the local food ethic as an articulation of concerns emerging from the local food movement in the United States. The local food movement is very much a response to globalized, conventional agriculture. Proximity is paramount to the broader issue of sustainability in food systems.

“Land Use, Land Ethic and Transnational Corporations” Anna Malavisi (*Michigan State University, Department of Philosophy*)

Ancestral lands for Mayans are sacred lands, lands where people are often in awe, pay homage or even find solace. Lands which demand respect. Walmart, in a recent endeavor decided to build a Walmart supermarket in Teotihuacan, Mexico approximately one mile away from the sacred pyramids, despite serious protests and outcries from the local citizens. In this paper I will argue that Walmart, in this venture are not only acting in an unethical way, but in particular violate a land ethic. This has implications for Walmart in view of their responsibilities and obligations as a transnational corporation but also on a broader plane such as global justice. I will refer to Aldo Leopold's, seminal piece, *The Land Ethic* as well as Thomas Pogge's work on global justice to argue that a land ethic is a significant component of global justice. It is therefore, necessary to rethink the responsibilities and obligations of transnational corporations if we are serious about addressing global injustices and this translates into a land ethic as part of a broader social ethic. Pogge claims for the need to assess the arrangement of global institutions which includes transnational corporations. I will finish by looking at some of the initiatives offered by Pogge, such as institutional reform to address global injustices. This would entail tighter accountability and transparency mechanisms which need to be implemented at both a national and global level overseen by a global entity.

“Multi-Metric Environmental Costs of Animal-Based Categories of the United States' Diet” Gidon Eshel (*Bard College, Department of Physics*), Alon Shepon (*Weizmann Institute of Science, Department of Plant Sciences*), Ron Milo (*Yale School of Forestry*)

While we have previously shown that plant based diets handily environmentally outperform animal-based ones, livestock remains a key food source. If animal eating is prevalent and persistent, how do environmental impacts of various animal categories compare? We quantify land, water, and reactive nitrogen use, and greenhouse gas emissions, associated with production of beef, poultry, pork, dairy and eggs, the dominant animal-based caloric contributors to the U.S. diet. Beef proves by far the most

environmentally costly category, and grazing ("grass-fed") changes little. We consider simple possible improvements, and estimate expected returns on investment in implementing them.

“Poetry and the Stirring of an Ecological Conscience” Craig L. Milewski (*Paul Smith’s College, Department of Natural Resource Ecology and Management*)

Why a presentation on Poetry and the Stirring of an Ecological Conscience? In recent times, the integration (or re-integration?) of sciences and humanities in conservation has signaled a move to use different ways of knowing or perceiving as valid approaches to connecting people to land. The integration of ways of knowing or perceiving into an individual’s land or earth experience, and as part of community or social ties, can be found in the poems and works of influential poets and conservationists such as Wendell Berry, Gary Snyder, and W.S. Merwin. These individuals present in their works *the stirring of an ecological conscience* that is felt, as Aldo Leopold suggested, by conservationists who view the land as biota and its function broader than commodity production (“Land Health and the A-B Cleavage” in *A Sand County Almanac*). For this presentation I use poetry as an example of humanities being used to integrate history, ecology, and the sense of one’s place in the cosmos to both stir and deepen the ecological conscience, which can be difficult to define, yet is the invisible glue that holds conservation efforts together. Also, I will bring lessons learned from a group capstone course I teach at Paul Smith’s College that has recently attempted to integrate science and humanities into the student learning experience as individuals and as collaborators. The purpose is to have students explore the value of their ecological research experience beyond the narrow bounds of science by expressing that same experience through an art form.

“Pragmatist-Feminist Moral Imagination: A Framework for Approaching Justice for Nonhuman Nature” Tess Varner (*University of Georgia, Department of Philosophy*)

The third paper offers a philosophical exploration of the sticky problem of non-human stakeholders. The paper draws on John Dewey’s concept of the moral imagination as a rich resource for interspecies justice. While Dewey speaks of the interests of others primarily in terms of humans, his notion can be extended to apply to the many ways we can be “in conversation” with nonhuman nature through the kinds of transactions outlined in the concept of the moral imagination, thus allowing members of a given biotic community to have their interests better represented in political colloquy. Dewey’s conception of the moral imagination opens with “sympathetic understanding” or “empathetic projection.” Before creative solutions to moral problems can be developed, we must at least attempt to understand the interests of nonhuman others. Further, feminist ethics can enhance a Deweyan notion of the moral imagination through increased emphasis on sympathy, cosmopolitanism, and communication. By drawing on and expanding the idea of sympathetic understanding through care ethics and by incorporating a robust notion of cosmopolitanism and communication across difference, feminist ethics can enrich a Deweyan notion of moral imagination.

“Rational Irrationality: hyperbolic wolf loathing and the unthinkable history of extinction.” Thomas Thorp (*Saint Xavier University, Department of Philosophy*)

The clash between the idea of public lands and the principles generally associated with private property is nowhere more evident than in the relatively fertile river valleys that flow north out of Yellowstone Park. Based, in part, on interviews with ranchers in the affected areas nearest Yellowstone Park, this paper begins with an outline of the generally accepted problem-frame of discussion for these several environmental problems. It then proceeds to show that where "rationality" is defined as the power of premises to support a stated conclusion, the current discourse is irrational. What remains to be shown is how these ostensibly irrational problem-frames are designed to obscure and finally to prevent specific and predictable avenues of thought and analysis. Rather than viewing these "irrational" discourses as simply dishonest or self-deluded rationalizations for disguised self-interest, I argue that these discourse patterns reflect and in effect describe actual historical and geographical paradoxes, paradoxes that are, in themselves, strictly speaking "unthinkable." The effect is to shift the focus of attention from the ostensible irrationality of the speakers to the historical and political dishonesty of the problem-frame itself.

“Relative Ethics of Solar Energy Use” David Borton (*Rensselaer Polytechnic Institute, Department of Mechanical Engineering*), Carl McDaniel (*Oberlin College, Department of Environmental Studies*), Howard Stoner (*Hudson Valley Community College, Department of Mathematics*)

Your life, air, water, and food, literally depends on solar energy. Your “good life” of building comfort, running water, hot water, and electric lights and appliances can run on fossil fuels or on current solar energy. Relative ethics relate to how you use some of your solar energy for your good life. Energy flows measured by the authors, reveal some of the ethical choices in how we live the good life. Not surprisingly commercial advertising does not lead to more ethical choices nor necessarily do government policies. Data shows that some of the more ethical choices are easy both economically and technically.

“Scenario Planning Methods and the Future of the Adirondack Park” Dave Mason (*Adirondack Futures Project*)

Dave Mason and Jim Herman recently completed a year-long series of scenario planning workshops about the Future of the Adirondack Park. They used a set of 6 scenarios in two different workshop formats. The findings were surprising in two respects. First, what the groups felt were the *most desirable* scenarios they also believed to be the *most attainable*. Second, every meeting, including carefully mixed groups and single interest groups came to roughly the same conclusions. Geographically different groups, largely resident and largely non-resident groups were all almost the same.

Is this a story about the Adirondacks? It sure doesn't sound like it. So what did we actually do? What process methodology was used to structure the whole project and make sense of the data? Where did this come from and how has it been used on the past?

This is the first time it has been used in a public process and because it has met with some success, sharing the process technique with this audience may cause its reuse in other geographies. Much of the public discourse about scenario planning has its root in work at Shell Oil. But this approach came from a different place, some work in the 1970s for IBM and for Citibank. Dave and Jim developed it into a consulting business that helped global businesses, corporations and occasional government agencies figure out what the internet was going to do to their business, their industry and their future, always with an eye toward creating a future they believed desirable. In the early days of the internet, inventing a desirable future was the idea.

The ADK Futures Project has already spawned a number of other initiatives, public and private, across the Park. Dave will describe the Future Mapping process, talk about how the ADK Futures Project differed from prior experience, and explain the technology project they have started to support the multiple initiatives going forward.

“Sustainability Performance Indicators for Manufacturing Communities, Tonawanda, New York” Anna O'Brien (*CUNY*) Dania Khan (*Independent Scholar*)

The concept of sustainability can be perceived differently if viewed from the points of view of economists, environmentalists, or sociologists and examined individually. However, true sustainability applied to a community of any scale relates to establishing and controlling measures that promote economic and social development without harmfully impacting the environment and, consequently, jeopardizing well-being of the future generations. In order to evaluate sustainability, certain data about economic, environmental, and social statuses of a community must be collected through sets of values and indicators necessary for fair assessment of human impact on environmental systems.

This paper expresses an attempt to create a set of sustainability metrics through the suggested framework at a level of a manufacturing community. In this study we introduce a concept of environmental, economic, and social values, identify and verify the applicability of existing sets of sustainability metrics applied specifically to manufacturing communities, such as Town of Tonawanda. This study proposes sustainability performance indicators and sustainability measurement methods and guidelines for manufacturing communities.

“The Steward and the Stakeholder: Inclusion and Exclusion in Environmental Policy Decision-Making” Bruce W. Selleck (*Colgate University, Department of Geology*)

‘Steward’ and ‘stakeholder’ are used to characterize individuals and groups of relevance to environmental policy-making. In particular, these terms are embedded in recent scholarly and web-based content about the Adirondacks (Adirondack steward/stewardship = 7,960,000 Google hits; Adirondack stakeholder = 1,630,000 Google hits). Very broadly, a steward is ‘one who takes care of’, a stakeholder ‘one who

is involved in or affected by a course of action'. That we regularly use these terms suggests there are groups or individuals who are stewards and stakeholders, and others who are not. In the case of the Adirondacks, residency, direct economic investment and work-related obligations ought to define status as stakeholders and stewards. However, historical analysis suggests that these categories are also defined by socioeconomic status, and the perceived value of individuals and groups who might provide support for particular outcomes. By defining some as non-members of these categories, policy-making becomes exclusionary. Since these categories lack a formal legal definition, a common understanding of these terms is critical if we are to construct inclusive approaches to policy-making, and thus epistemological exploration is appropriate.

“Traditional Ecological Knowledge and Land Governance” Kyle Whyte (*Michigan State University, Department of Philosophy*)

Literatures on the scientific management of socio-ecological systems are increasingly researching the role of traditional ecological knowledge (TEK) of Indigenous peoples. There is often a divergence between management literatures that cite “best practices” for the inclusion of TEK and the testimonies of participants in co-management and other management regimes about what really happens during processes of “integration.” What appears in these literatures, as well as descriptions by participants in management practices, is that it is perfectly normal for discussions of TEK to go on when in reality the discussants do not share any common meanings of TEK. This paper discusses a set of incompatible assumptions that are commonly expressed about the meaning of TEK. The implications of this unarticulated divergence are the maintenance of a common framework for thinking about Indigenous knowledge production as a natural subspecies of scientific management. The paper then explores a more radical alternative that would disrupt this common framework.

“Wildlife and Wild Women: Applying Ecofeminism to Conceptualizations of Wilderness” Christina Leshko (*Michigan State University, Department of Sociology*)

Ecofeminist scholar, Greta Gaard (2004), demonstrates how the devaluation of women and nature is accomplished through the construction of dualisms, resulting in a “master identity” favoring reason over nature, human over nonhuman, masculine over feminine, and tame over wild. Many of these dualisms have been situated in social constructions of “wilderness.” Wilderness is typically characterized by the absence of human culture and control, and remoteness from human qualities, such as rationality. Ecofeminists argue that, through such characterizations, wilderness is constructed as “an Other to the Self of Western culture and the master identity” (Gaard, 1997, p. 5). Associating feminized qualities, such as natural and unruly, with wilderness creates linkages and these linkages “from one oppressed group with another serves to reinforce their subordination” (p.24).

In this study, I solicit interpretations of “wilderness” from individuals currently engaged in wilderness study, applying an ecofeminist theoretical perspective to wilderness land use. This research deconstructs definitions of wilderness provided by undergraduate and graduate students at an R1 university, in order to understand how binaries are perpetuated

or re-conceptualized in contemporary understandings of wilderness. Examining the role of dualisms among wilderness students is significant as conceptions of wilderness inform subsequent attitudes and behavior toward wilderness land use and management. These individuals will help shape future orientations toward wild nature and their conceptions inform the ongoing debate as to how to best instill a conservation ethic.

“Wildlife Conflict at the Agricultural Border: Reframing Ethical Responsibility in the Environmental Quality and Food Safety Dilemma” Monica List (*Michigan State University, Department of Philosophy*)

This paper problematizes the straightforward attribution of environmental responsibilities by tending to the complex economic structures that influence agricultural practices. The presentation draws on the case of leafy greens producers in the Central Coast of California, who are faced with buyers’ demands to control wildlife and non-crop vegetation on their land in response to the *Escherichia coli* (E.coli) O:157 H7 outbreak of 2006. Although this case was interpreted as an ethical dilemma for farmers who were forced to choose between consumer demands and environmentally sustainable land use practices, the role of oligopolistic corporate wholesalers complicates this narrative. While farmers did face a constrained choice, the case should not be framed as an ethical dilemma precisely because of the coercive nature of corporate demands, and this case may be better framed as wildlife conflict. Understanding this case as human-wildlife conflict may help distribute the decision-making burden among all involved parties, as well as allowing for a broader analysis of the potential consequences of these decisions, not only for a particular stakeholder group, but for the larger urban-agro-ecosystem.

“Women Thinking About Water” Yehuda Klein (*Brooklyn College, Department of Economics*), Hildegaard Link P.E. (*CUNY Graduate Center, Department of Earth and Environmental Sciences*)

Elinor Ostrom wrote “Each new technical solution to a water resource problem is likely to depend upon the formulation of new political solutions in rearranging decision-making capabilities among water users.” Karen Bakker writes that water allocation is a political act. It is one of the earliest functions of the state. How we manage water is defined by and defines social relationships and economic opportunity. How do the relationships and opportunities that constitute and are constituted by water allocation translate to land use? In this paper we investigate allocation of water resources under several paradigms as problematized by political economists Karen Bakker and the late Elinor Ostrom. Through this investigation we hope to shed light on the nature of the current “Water Crisis” and propose a framework for potential solutions.