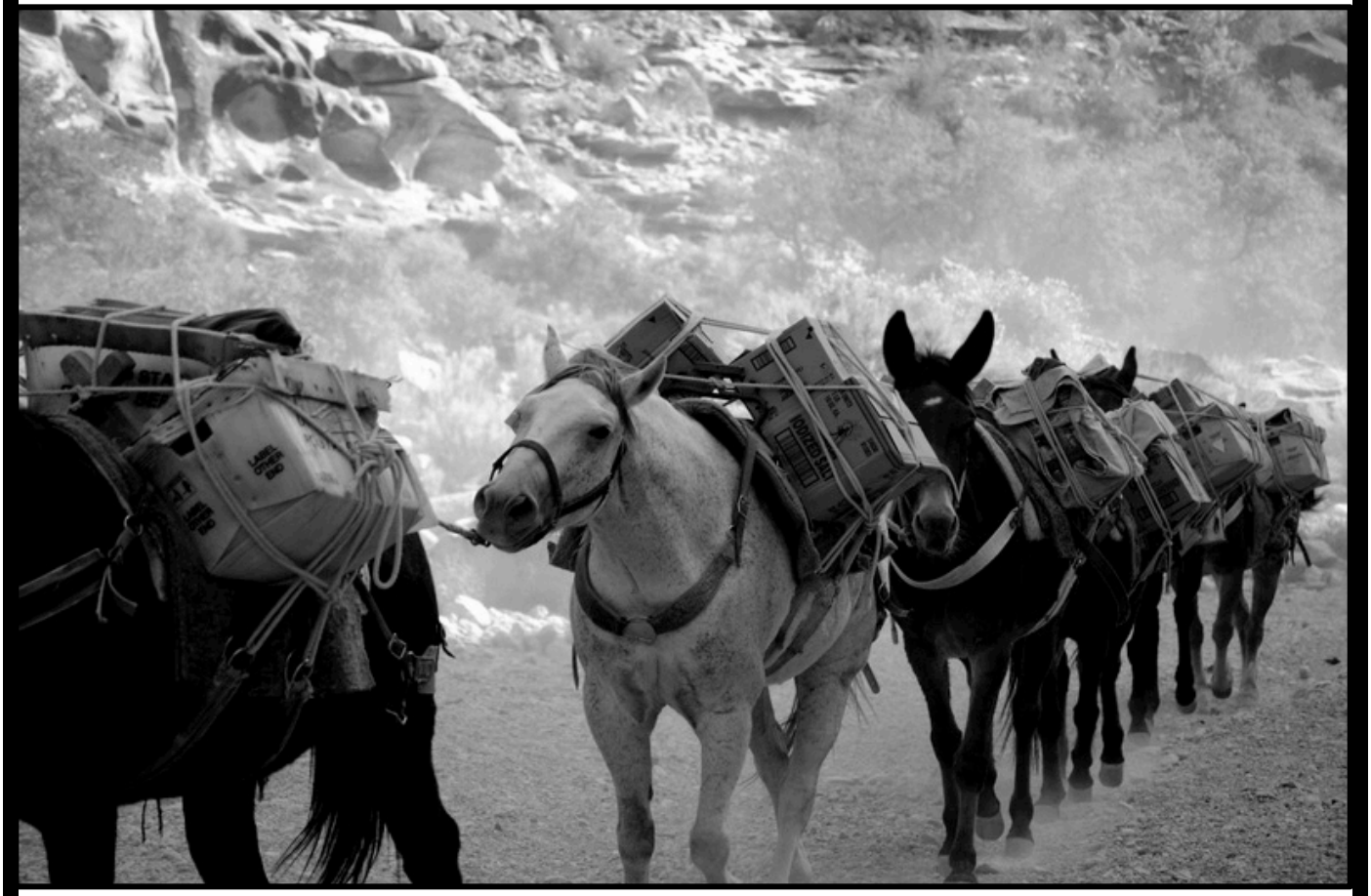
The Dimensions of Political Ecology Conference



The University of Kentucky

February 27 – March 1, 2014

Welcome to
The Dimensions of Political Ecology Conference

The Dimensions of Political Ecology Conference (DOPE 2014) is organized by an interdisciplinary group of graduate student volunteers at the University of Kentucky through the Political Ecology Working Group (UKPEWG). The conference organizing committee works throughout the year to make this conference possible.

DOPE 2014
CONFERENCE ORGANIZING COMMITTEE

Core Organizers:

Lily Brislen
Daniel Cockayne
Jessa Loomis
Marita Murphy
Lindsay Shade
Sophia Strosberg
Sarah Watson

Organizers:

Jay Bowen
Kyle Burchett
Jackie Monge
Matthew Rosenblum
Virginia Smith
Kenny Stancil

COVER IMAGE: Lily House-Peters

Mules carrying U.S. Post Office mail to the Indigenous community in Havasu Falls, Arizona - the last mule-dependent post office route in the country.

Conference Locations

The Registration and Information Desk will be located immediately upstairs from the UK Campus Book Store in the Student Center. Check in, grab your nametag, and say hello. A friendly volunteer will be available all day on Friday and until 12PM on Saturday to answer questions and welcome you to DOPE 2014.

Paper Presentations will be held primarily in the UK Student Center, with additional sessions in the Niles Art Gallery on Friday and White Hall Classroom Building on Saturday.

> **The UK Student Center** is located on Avenue of Champions between Limestone Street and Martin Luther King Boulevard.
>
> **The Niles Art Gallery** is located in the Fine Arts Library, a short walk from the White Hall Classroom Building. From White Hall walk away from the Patterson Office Tower. The Fine Arts Library is the second building on your left and the Niles Gallery is the only room immediately off the foyer to the left.
>
> **White Hall Classroom Building** is located a short distance from the Student Center and is immediately adjacent to Patterson Office Tower. You can take any of the walkways up the hill from the Student Center, or walk Patterson Drive away from Parking Structure #5.

The Keynote Addresses will be held in Memorial Hall at 5:15PM on Friday and Saturday. Memorial Hall is located a short walk from Patterson Office Tower. From the Patterson Office Tower, walk in the direction away from the Student Center, passing Miller Hall on your left and then Gatton Business School on your right. Continue on that path until you reach Memorial Hall.

The Friday Opening Reception will be held at the Boone Center, which is located at 500 Rose Street on the way to the UK Young Library.

The Saturday After Party will be held at Sound Bar, which is located at 208 South Limestone Street, a short walk north from campus on Limestone St.

The DOPE Organizing Committee is pleased to provide a lactation/quiet room (Student Center Room 251) for use by conference participants.

DOPE 2014 RESOURCES

Campus Maps
Printable campus maps can be found here: http://www.ppd.uky.edu/CampusMaps/

Parking on Campus
If you are driving to campus, please park in Parking Structure #5 ($10 all day), which is across Limestone Street from the Student Center. The Student Center, which is immediately adjacent to the Student Center with entrances on Avenue of Champions, is free on Saturdays.

Lexington Public Transportation
For information about Lexington's public transportation services:
http://www.visitlex.com/trolley.php and http://www.lextranonthemove.org/

Internet Access on Campus
UKYEDU is a campus-wide wireless network that is accessible to guests. After connecting to the network open your web browser and you will find a guest log-on option to use. The web address for the University of Kentucky is: http://www.uky.edu .

Taxi Service
Bluegrass Cab - (859) 223-8888
Yellow Cab – (859) 231-8294

Printing

Ricoh Document Service Center
White Hall Classroom Building Room 29
Phone: (859) 257-1813
Mon-Friday 8:00am – 5:00pm

Ricoh Document Service Center
Young Library Room 156A
Phone: (859) 257-9376
Mon-Fri 8:00am – 5:00pm

Kinko's
333 E Main St, Suite 130
Phone: (859) 253-1360
Mon-Fri 7:00am -11:00 pm
Saturday: 9:00am - 9:00pm

DOPE 2014 CONFERENCE HIGHLIGHTS

Thursday, February 27

Field Trips

Ecofeminism Homesteading Tour, 12:00pm – 5:00pm
Bourbon Distillery Tour, 12:00pm – 5:00pm
Mountaintop Removal Tour, 9:00am – 8:00pm

Political Ecology: Speculative Texts (PEST)

Gaines Center, 232 East Maxwell Street, 6:00 pm-8:00 pm

A Thursday evening event where conference participants share speculative fiction that addresses and transgresses dystopian/utopian visions of ecological presents, futures, and pasts through feminist, marxist, queer, indigenous, latin@, and afrocentric lenses (among infinite others).

Informal Welcome

Silks Lounge, 121 North Mill Street, 6:00 pm-11:00 pm

Join us for an informal gathering of DOPErs at Silks Lounge.

DOPE 2014 CONFERENCE HIGHLIGHTS

Friday, February 28

Plenary Panel:
Engaging Difference: Displacing the Subject in Political Ecology

Student Center, Worsham Theater, 12:45pm – 2:40pm

Moderator:

Rebecca Lave is an assistant professor at Indiana University in the Department of Geography. Rebecca's research is within the field of Critical Physical Geography which explores the boundaries and intersections of political ecology, science and technology studies, and different fields of physical science. This approach is demonstrated in Rebecca's new book, *Fields and Streams: Stream Restoration, Neoliberalism, and the Future of Environmental Science.*

Panelists:

Melanie DuPuis is a Professor in Sociology at the University of California, Santa Cruz. Her work melds political economy and cultural perspectives in the study of consumption, food, agriculture, development, environment, technology, justice and social change. Her book, *Nature's Perfect Food*, brought together these disciplines to understand the invention of milk as a commodity in the United States. Her most recent book, *Smoke and Mirrors*, brought together a group of urban environmental historians, economists, political scientists, and sociologists to look specifically at air pollution as a cultural and political phenomenon.

Carolyn Finney is Assistant Professor in the Department of Environmental Science, Policy and Management at UC Berkeley. Carolyn's research explores how issues of difference impact participation in decision-making processes designed to address environmental issues. The aim of her work is to develop greater cultural competency within environmental organizations and institutions, challenge media outlets on the (mis- or non-) representation of "different" folks, and increase awareness of how privilege shapes who gets to speak to environmental issues and determine policy and action.

Sharlene Mollett is a critical cultural geographer and an assistant professor in the Centre for Critical Development Studies and the Geography Department at the University of Toronto, Scarborough Canada. Identifying as a scholar-activist, Dr. Mollett examines race and property rights in Latin American, indigenous politics, and international development. Additionally, Dr. Mollett has called upon Feminist Political Ecologists to grapple more directly with the intersectionalities of race and gender to acknowledge the social complexities that shape different engagements with the natural world.

Laura Ogden is an Associate Professor of Anthropology at Florida International University. Laura's research seeks to understand the ways in which human and nonhuman processes interact to create landscapes, with a particular emphasis on the politics that shape our landscape practices. For over a decade, Laura has conducted fieldwork in the Florida Everglades, which is the basis of her book entitled *Swamplife: People, Gators and Mangroves Entangled in the Everglades* that portrays the lively collaborations among mangroves, alligators, hunters, outlaws, and snakes.

Dianne Rocheleau is Professor of Geography at Clark University. Her interests include the environment and development, political ecology, forestry, agriculture and landscape change, with an emphasis on the role of gender, class and "popular" vs. "formal" science in resource allocation and land use. Dr. Rocheleau edited the seminal text *Feminist Political Ecology*.

Keynote Address: Laura Pulido

Environmental Racism as a Form of State-Sanctioned Racial Violence

Memorial Hall, 5:15pm

Laura Pulido is a geographer, whose work is defined theoretically through an interest in race, political activism, Chicana/o studies and the city of Los Angeles, helping her to understand themes of oppression and racism. Her recent book *Black, Brown, Yellow, and Left: Radical Activism in Los Angeles* is a comparative study of African American, Chicana/o and Japanese American social justice organizations in Los Angeles in the 1970s and 1980s. Laura is working on several projects, one exploring Latina/o racial identities and these identities vary over time and space. Secondly Laura is investigating racial political culture and how state domination has evolved in Los Angeles with an emphasis on accumulation. She has also done extensive work in the areas of environmental justice, social movements, labor studies and radical tourism. Laura is currently Professor of American Studies and Ethnicity at the University of Southern California and visiting professor of Black Studies at the University of California, Santa Barbara.

DOPE 2014 CONFERENCE HIGHLIGHTS

Saturday, March 1

Undergraduate Symposium

Student Center 231, 8:00am and 10:00am

Special Series: Grassroots Political Ecology In The US And Latin America

Featuring Gerardo Torres Salcido (National Autonomous University of Mexico) and Simon Sedillo (Filmmaker).

Special series events will be held throughout the day:

Sessions

Student Center 230

8:00-9:40am The Agrarian Question? The Original Political Ecology?

10:00-11:40am Kentucky Local Foods Activism: The struggle to create just agro-foods networks

Scholar/Activist Panel: Working Across Borders: US/Latin America Collaborations for Social and Environmental Justice

Student Center 230, 1:00pm – 2:40pm

Film Screening and Q&A: *Guarda Bosques (Forest Keepers)*

Student Center, Center Theater, 3:00 pm – 4:40 pm

Keynote Address: Bruce Braun

Political Ecology and the End(s) of Critique

Memorial Hall, 5:15pm

Bruce Braun is a geographer with interests in biopolitics, security, ecology and technology. His book *The Intemperate Rainforest* explores the rainforest on Canada's west coast as a discursive and political entity and complicating the environmentalism surrounding its management. Recently his book *Political Matter: Technoscience, Democracy and Public Life* edited with Sarah Whatmore, explores themes of materiality in the social sciences and geography, taking technology and objects seriously in relation to tensions emerging between their writing and the work of science and technology scholars. Bruce engages closely and critically in his work with social theory and poststructuralism, engaging not just in topics closely related to political ecology, but also philosophy as it pertains to both geography and social science scholarship more broadly. Bruce is currently Professor of Geography at the University of Minnesota.

DOPE 2014: THURSDAY, FEBRUARY 27

Fieldtrips

Ecofeminism Homesteading Tour
12:00pm – 5:00pm

Bourbon Distillery Tour
12:00pm – 5:00pm

Mountaintop Removal Tour
9:00am – 8:00pm

For the Turtles Sake: Miracles, the Third Sector, and Hegemony in the Coast of Oaxaca

Presenter: Ricardo Macip (Benemerita Universidad Autonoma de Puebla)
Time: 5:00pm – 7:00pm
Location: Student Center 249

Turtle fishing – which defined life and work, and the tempo and contours of the coast of Oaxaca – was halted by presidential decree in 1990. The industry's workers converted from predators into guardians of nature under the stewardship of an emergent civil society that coordinated the efforts of environmental NGOs, the regulations of corresponding governmental agencies, and funding from private and public donors. In this talk Macip discusses the material and ideological transformation of the social relations of production in an 'environmental' class project and argues an interpretation focused on the relation between coercion and consent in a hegemonic process of class rule.

Standing Up for the Mountains: Authors and Activists against Mountaintop Removal Mining

Time: 5:30pm – 7:30pm
Location: Student Center 230

Hear the authors of recent books about mountaintop removal mining and environmental justice in Central Appalachia speak alongside grassroots activists fighting irresponsible coal-mining practices. Jim Krupa (Biology, University of Kentucky) and Erik Reece (English, University of Kentucky) will discuss their book *The Embattled Wilderness: The Natural and Human History of Robinson Forest and the Fight for Its Future*, and Shannon Elizabeth Bell (Sociology, University of Kentucky) will discuss her book *Our Roots Run Deep as Ironweed: Appalachian Women and the Fight for Environmental Justice*. Following Bell's talk, residents of Central Appalachia will speak about the way the coal industry has affected their lives and communities, and what they are doing to fight back.

Political Ecology: Speculative Texts (PEST)

Time: 6:00pm – 8:00pm
Location: Gaines Center, 232 East Maxwell Street
Organizers: Patrick Bigger (University of Kentucky), Eric Nost (University of Wisconsin), Kai Bosworth (University of Minnesota)

An event where conference participants share speculative fiction that addresses and transgresses dystopian/utopian visions of ecological presents, futures, and pasts through feminist, marxist, queer, indigenous, latin@, and afrocentric lenses (among infinite others).

DOPE 2014: Informal Welcome Gathering

Silks Lounge, 121 North Mill Street
6:00pm -11:00pm

DOPE 2014: FRIDAY, FEBRUARY 28TH

Friday Schedule Block #1:
8:00 am – 9:40 am

All sessions in this block are located in the Student Centre.

1. Food & Water Under a Rapidly Changing Global Climate

Location: Student Center 113
Organizer: University of Kentucky Political Ecology Working Group
Chair: Lydia Shanklin Roll (Anthropology, University of Kentucky)

Droughts and dollar signs: narrating the links between climate change and food prices
Christina Greene (Geography, University of Arizona)

The food price crisis of 2007 and 2011 highlighted how multiple factors can cause high food prices and food price volatility and affect global food security. Competing explanations such as weather shocks, biofuels, oil prices, commodity speculation, population growth and climate change result in alternative policies such as controls on exports, commodity trading, and biofuels that are based in particular worldviews or narratives and may not address root causes of food insecurity. The problem of climate change raises serious concerns as to the impacts of higher temperatures and increases in extreme weather events upon a global food system characterized by food price volatility. Using discourse analysis, this paper identifies several narratives, such as productivist logic, that are employed to link global climate change with volatile food prices. The different narratives and associated key words, graphics, and constructions of crisis surrounding food security, climate change, and the 2007 and 2011 food price crises reveals the different discourses that shape, maintain, and govern the global food system and how governance actors such as the state, corporations, and NGOs are responding to climate change.

Co-Production Meets Social Movements Perspectives: The Case of The Land Institute
Alicia Fisher (Sociology, University of Kentucky)

The expected 9 billion people in 2050 will need to eat in the wake of exacerbating climate change and agricultural land and water degradation. One issue is how to 'feed the world' with an increasing population. A second issue is how to mitigate climate change to avoid environmental collapse. Solutions to the dual problem of food insecurity and climate change abound in agriculture, from genetically engineered crops on one side of the philosophical-scientific spectrum to organic production on the other. I will use The Land Institute as a case study to better understand agricultural research knowledge networks researching and developing perennial grains as a solution to 'the problem of agriculture' in addressing both climate change and food security issues. The Land Institute (TLI) will be the node that links actors and resources within and across an agricultural research knowledge network. The Land Institute knowledge network is important because Jackson and his team of scientists have been researching and developing perennial grains for the past 36 years. Yet, little attention and funding have been directed at these efforts compared to other sustainable agriculture movements, such as organic, local foods, and fair trade. This research project has implications for policy on perennial grains, which are likely to receive increasing attention given the increasing public concerns for climate change and food security. I intend to illuminate how The Land Institute is carrying out its mission. I aim to answer some overlooked questions in agri-food research by integrating a co-production idiom with social movements literature to help me conceptualize agricultural research knowledge networks as an agency-structure mobilizer of change. I argue that The Land Institute is a revolutionary epoch in the making in the sense of a Kuhnian paradigm shift.

Fair Trade +Barriers to accessing fair trade and organic certification and leveraging the direct and indirect benefits of third party certification systems.
Rebecca Meuninck (Anthropology, Michigan State University)

Third party certifications such as Fair Trade and organic are promoted as market-based development paradigms

that offer a set of social and economic benefits to small-scale farmers. These benefits include minimum floor prices for their products, pre-financing from purchasers, and social development premiums. In order to receive these benefits small scale coffee farmers must become fair trade certified by transnational organizations such as Fairtrade Labeling Organization Cert (FLO-Cert), and obtain organic certification under the USDA (United States), JAS (Japan), and/or EUROPA (European Union) systems. To do so their production methods and organization must meet a set of social and environmental standards dictated by the certifying bodies. Meeting these standards can be difficult for small producer organizations. Farmers and cooperatives must overcome significant barriers to entry into the fair trade and organic systems. Drawing from original ethnographic fieldwork, this paper explores the barriers encountered by cooperatives and small-scale farmers and what assets cooperatives and farmers use to access fair trade and organic certification. In this case, COOPFAM, a Brazilian coffee cooperative, has been able obtain dual certification and take advantage of the social and economic benefits directly attributable to fair trade and organic certification. Moreover, the cooperative has been able to leverage additional benefits provided by market and state actors that are indirectly related to the certifications. This paper explores the tensions that arise between the cooperative, the market, and state actors as farmers attempt to negotiate and access the benefits linked to fair trade and organic certifications.

A Cross-National Analysis of Agricultural Dependency, Industrialized Food Production, and Biodiversity Loss
Adam Driscoll (Sociology, North Carolina State University)

As David Cruzten (2002) describes with his term Anthropocene, we are living in an era in which human beings are increasingly responsible for changes in the physical world. One such change is the loss of biodiversity, or the number of species in an ecological unit. Biodiversity is essential for the functioning of an ecosystem and yields numerous benefits (some potentially unknown) to individuals and societies. Therefore, the social dynamics that contribute to its loss need to be better understood. Agricultural production is one of the key contributors to biodiversity loss (among other forms of environmental degradation) as land converted to raising crops and livestock is often rendered unsuitable for supporting indigenous species. In the modern era of increased trade liberalization, formerly independent national agricultural systems have been increasingly integrated into an interdependent global food regime, structured by the power differentials among competing interests. Nations that occupy lower positions within the global power structure often exhibit high degrees of agricultural dependency, where their economies are constituted around the production of agricultural products for global markets. Agricultural dependency has vast repercussions for the nature of agricultural production within nations, as both what is being produced and the manner in which is it being produced is now increasingly influenced by global concerns instead of domestic ones. This study uses structural equation modeling (SEM) to examine the relationships between agricultural dependency, industrial production methods in agriculture, and biodiversity loss. Using all nations for which data is available, the findings show that higher degrees of agricultural dependency are associated with increased utilization of industrial production methods in agriculture and higher levels of biodiversity loss. These findings support general political-economic arguments about the environmentally deleterious nature of global capitalism.

2. The Politics of Knowledge

Location: Student Center 115
Organizer: University of Kentucky Political Ecology Working Group
Chair: Kelsy Yeargain (Geography, University of Kentucky)

Political Ecology and the Geography of Science: Lesosady, Lysenkoism, and Soviet Science in Kyrgyzstan's Walnut-Fruit Forest
Jake Fleming (Geography, University of Wisconsin–Madison)

As part of a growing engagement with science studies, political ecologists have worked to theorize environmental science. They have situated science by juxtaposing it with other types of knowledge, and have attended not only to science's application but also to its production and circulation. Despite these efforts, science is portrayed in most political ecology as brought to the field site already finished, rather than constructed there through embodied practices designed for use in live scientific debates. I argue that scientists doing science have transformed the places of the world, that political ecologists have not adequately theorized field-based examples of this process, and that

help can be found in the geography of science. To this end, I present a historical geography of the Lysenkoist and field-based heredity science that informed a program of forest modification in Soviet Central Asia in the mid-twentieth century. This program, which used horticultural techniques to construct forest-orchards (lesosady) in the walnut-fruit forests of Soviet Kirgizia, entered the landscape into scientific controversies, with ramifications for human-forest interactions in Kyrgyzstan today. Field sciences, like Lysenkoist heredity, have geographies that immerse them in the world. By telling them, political ecologists can better illuminate where and how the doing of science has shaped encounters between people and their environments.

Securing forests from the scourge of blight: the construction and defense of "national nature"
Christine Biermann (Geography, Ohio State University)

A once-dominant tree in eastern North American forests, the American chestnut (Castanea dentata) was rendered functionally extinct in the early twentieth century by an invasive Asian fungus known as the chestnut blight (Cryphonectria parasitica). A century later blight-resistant chestnut trees are being planted throughout the east, with the goal of restoring the tree to its former glory. In this paper I examine historical responses to the blight, drawing on evidence from newspaper articles, scientific publications, and policy documents. I argue that efforts to secure American forests from the scourge of blight were part and parcel of a broader project: protecting and defending the American nation state at a historical moment marked by pervasive anxieties about immigration, race, and the loss of nature. These anxieties blended together forcefully in the fight against Cryphonectria parasitica and further justified the need for government involvement in blight eradication, forest management, and conservation more broadly. In similar fashion, already potent concerns about foreign bodies and threats to racial purity drew strength from the devastating material realities of the chestnut blight, making it apparent that both nature and people needed to be controlled, protected, and improved by and for the good of the nation state. In short, efforts to protect and restore the American chestnut are not—and indeed never were—solely about the conservation of biodiversity, but are also about the construction and defense of national natures in the age of empire.

Energy regimes and sustainability transitions: A political ecology perspective
Jennifer Taylor (Geography, University of Toronto)

This paper examines recent efforts to develop a socio-technical regime for electricity production centered on the diffusion and use of renewable energy technologies in the Province of Ontario, Canada through an engagement with political ecology. Socio-technical transition theorists have made important contributions to understanding the obstacles to and possibilities for more sustainable societies. Yet, they have tended to focus on the innovation of technological artifacts and the role of a narrow range of technical, economic and policy actors while neglecting the geographical and scalar complexities characteristic of transition processes, as well as the role of power in shaping their outcomes. To address these concerns, this paper applies a conceptual framework that integrates political ecology approaches with the multi-level perspective (MLP) of socio-technical transition theory to more thoroughly and critically assess the social processes and power relations of an emerging renewable energy 'niche' in Ontario. This approach challenges the linear chain of explanation characteristic of the MLP framework by considering the interactions across multiple scales of a wider range of actors, knowledges and discourses, particularly the influence and implications of an already highly transnationalized renewable energy movement and industry. This exploration of the broader context of knowledge production and decision-making that has advanced Ontario's renewable energy niche serves to provide a better understanding how sustainability transitions shape and are shaped by socio-ecological and economic relations both within and outside the existing energy regime. Furthermore, it demonstrates why sustainability transitions, even when supported by powerful interests, are not inevitable, nor do their outcomes necessarily align with their original politics.

Participation in Knowledge / Knowledge in Participation: Climate Change, Conservation, & the Politics of Translation in the Peruvian Amazon
Patricia Dunne (Anthropology, University of Georgia)

The transnational nature of conservation initiatives that address climate change has led to an increasing dependence on heterogeneous networks of conservation practitioners, policymakers, funders, and local and indigenous people. Yet, despite considerable work by conservation practitioners and policymakers to increase stakeholder engagement in planning and implementing initiatives, participation is still hindered by a politics of translation: namely, who has

the power to create, validate, translate, and access knowledge? Though the development of a common set of categories that bridge differing worldviews enables the formation of strategic alliances among actors with different identities (Nadasdy 1999), they also carry with them particular forms of knowledge, agendas and power structures from one political context to another (Brosius et al. 1998; MacDonald 2005). This paper examines the translation of climate change categories as they move within a network of actors in the United States and Peru that are engaging with Reducing Emissions from Deforestation and Forest Degradation (REDD+), a global program that provides financial incentives for developing countries to reduce rates of deforestation and increase reforestation. Through the analysis of interviews, organizational documents, and social network data, this paper traces how different actors engage with climate change categories, and considers the factors that enable or impede access to information and that determine whose voices are heard when policy decisions are made.

3. Political Ecologies of Hydraulic Fracturing - Campus Edition

Location: Student Center 205
Organizer and Chair: Shaunna Barnhart (Environmental Science, Allegheny College)

Fractured public perceptions: a result of hydrofracking on college-owned property
Hillary Fenrich (Environmental Studies/Spanish, Allegheny College)

Hydraulic fracturing has come to Crawford County, Pennsylvania and Allegheny College has been confronted, like its neighbors, with the option of leasing mineral rights for use by a natural gas drilling company. There are many controversial economic, environmental, and social issues surrounding this potential means to an energy source. However, this essay focuses upon one often-overlooked concern: how the public perception of the college will change if Allegheny decides in the future to pursue hydrofracking on college-owned land. Since its history is rooted in environmental stewardship, this decision will negatively affect the public perception of the college by impacting its "green" image. A detailed analysis of Bethany College's research and eventual construction of a well pad on college-owned property is included as a case study for how public perception may change based on such a decision.

Green Identities: Campus Perceptions Regarding Hydraulic Fracturing in Allegheny College's Environmental Research Reserve
Abigail Dunegan (Environmental Studies, Allegheny College)

The growing natural gas extraction industry in the Marcellus and Utica shales has been accompanied by growing public concern, awareness, and questioning of potential economic benefits to individuals and communities, unknown environmental and human health risk, ethics and equity in policy and practice, and a host of other social, political, economic, and environmental issues. While the research on hydraulic fracturing impacts on communities, environments, and politics is growing, what has not received as much scholarly attention is the issue of hydraulic fracturing on college and university campuses themselves. Colleges and universities throughout the new shale regions have found themselves in unique dilemmas with the possibility of joining in the hydraulic fracturing boom and extracting natural gas from underneath college and university owned properties. Allegheny College in Pennsylvania was approached by a leasing company about the possibility of extracting natural gas from beneath college owned property. The result was a campus wide discussion on hydraulic fracturing. This study analyzes 224 survey responses from students, faculty, and staff at Allegheny College and finds that the community is divided over the issue of hydraulic fracturing with tension existing between the College's responsibility to maintain its "green" sustainability commitment identity and the potential for an economic boost that could benefit college operations.

Anti-fracking discourse on groundwater
Friederike Cossey (Environmental Sciences and Policy, Central European University)

Groundwater aquifers hold 30.1 percent of all available freshwater on earth (U.N. Water 2006, 121). "Despite the incredible importance of this water resource, groundwater is typically more than just hidden. It is forgotten too" (Famiglietti 2013). On the surface and underground, water means life and "control over and use of the subsoil [including groundwater] can be deeply conflictive" (Bebbington 2012, 1153). Hydraulic fracturing (also known as 'fracking') can have diverse effects on groundwater and on social relations. "The Oil & Gas Industry want to frack in

our watersheds, which could poison New York's drinking water" (Don't Frack With New York's Drinking Water 2013) is a statement made by an anti-fracking initiative in New York. The concern for groundwater because of fracking is a discourse constructed by initiatives globally and I will explore this construction in two cases, New York, United States of America and Greater Sydney, Australia. My goal is to understand social change through discourse and I aim to answer the question of how a discourse on groundwater can shape water perception and social reality. My framework in which I study this develops from theoretical work on discourse while I base my discussion on the concept of social constructionism. The framework serves as a basis for my methodological considerations of critical discourse analysis through media analysis.

Fear and Fracking in Colorado: Faculty Inquiry, Activism, and Abstention at the University of Northern Colorado

Wendy Highby (Library and Information Science, University of Northern Colorado)

A natural gas energy boom is occurring across the United States, with the mineral rights of landowners being leased at a frenetic pace. The land owned by universities is not immune to this trend; in fact, the lease of university land for oil and natural gas drilling raises new and important questions for scholars and policy makers regarding university ethics and activism, corporate social responsibility, and the boundaries between public and private decision-making. What ecological, ethical, and political issues emerge with the consideration of an industrial operation like hydrofracturing near densely populated urban environments like college campuses? How have university communities responded to campus fracking and what governance-related prerogatives and power asymmetries do these responses reveal among faculty, campus administration, energy corporations, government entities, and citizens with regard to natural gas development? This paper will address these questions through examining the experience of the University of Northern Colorado (UNC), situated above the Niobrara shale formation in Greeley, CO, as it confronts a unanimous 2011 Board of Trustees decision to enter into an oil & gas lease with Mineral Resources, Inc. Responding to the Board's lack of consultation with university faculty, staff, or students prior to approving the drilling, a grassroots group of faculty and staff formed in October 2013 to investigate health and safety concerns in relation to two hydrofracturing sites planned to be located near the campus in 2014. Examining questions of university ethics and governance, workplace activism, and corporate social responsibility, this paper aims to expand our understanding of the ecological and political dimensions of campus fracking.

4. Transforming soils/Modeling futures: Earth as site and substance of social transformation

Location: Student Center 206
Organizers: Sarah Grant (Anthropology, UC Riverside) and Greta Marchesi (Geography, University of California, Berkeley)
Discussant: Jennifer Rice (Geography, University of Georgia)

The Capitalist Dirt Machine: Justus von Liebig's 19thCentury Soil Chemistry and the Growth of Industrialized Agriculture

Greta Marchesi (Geography, University of California, Berkeley)

While human agriculture has long relied on soil amendments to heighten fertility, the logic of chemicals-based soil assessment and amendment is unique to the industrial era. Over the past century, this mode of soil management has returned tremendous yields to growers at the same time that it has visited widespread soil exhaustion, ecologically-devastating chemical run-off, and increased farmer debt on agrarian communities. This paper asks how chemicals-based soil management came to define the present era of globalized agricultural production. Through an examination of the work of chemist Justus von Liebig, the so-called "Father of Modern Agricultural Science," it shows how the political and economic developments of liberal industrial capitalism provoked a new mode of understanding soil as a mechanical composite of chemical processes. It argues that a chemicals-based soil model was an essential conceptual meme in the global proliferation of industrialized agriculture.

Land Reclamation as (re)constitution of political authority: dredging up the past for the politics of the present in Phnom Penh, Cambodiaas
Erin Collins (Geography, University of California Berkeley)

Situated at the confluence of two major rivers within the Mekong Delta, the management of fluctuations of fresh water, seawater and sediment within Phnom Penh has always been central to both the mandate and performance of Cambodian political authority. As such, vulnerability to natural disasters such as flooding, riverbank collapse, and over-salination is understood by urban residents and state actors to be inextricably political. This paper theorizes land reclamation and sand dredging within Phnom Penh as multi-scaled projects of repurposing existing state space into novel forms of social governance in moments of state transformation. Drawing on archival and ethnographic sources I explore the repurposing of state space through land reclamation in and across three such moments: the 1989 reintroduction of private property rights, the 1992-1993 United Nations Transitional Authority in Cambodia period of rapid urban inflation, and the contemporary (post 2008) resurgence of intensive contestations over inundated land within the city.

Transforming soils/Modeling futures: Earth as site and substance of social transformation
Sarah Grant (Anthropology, UC Riverside)

Applying chemically produced NPK (Nitrogen, Phosphorus, Potassium) to coffee farms is standard practice in Vietnam. Simply put, soil rich in NPK results in a higher coffee yield and significant amounts of NPK are necessary to produce over twenty million sixty-two kilogram bags of green coffee each year. The application of massive quantities of NPK is a carefully calculated decision made by Vietnamese coffee farmers and large-scale state and multi-national corporations in an effort to meet a global demand for affordable industrial grade coffee. Contrary to the warnings of some environmental organizations and coffee sustainability initiatives, NPK rich Vietnamese soil is a catalyst for the (foreseeable) future of Vietnamese coffee. I explore this future from an ethnographic perspective — one that reveals an equation of soil to economic capital as well as a vision that posits Vietnam as the largest coffee producer in the world. For this vision to exist, local, state, and multi-national corporations must recognize the value inherent in large scale NPK inputs and high volumes of low-grade coffee. I argue that this recognition engenders multivalent narratives about the future of coffee in Vietnam and the environmental and economic implications of soil transformation in the south-central highlands region.

5. Productivism, agroecology, and the challenge of feeding the world: critical perspectives

Location: Student Center 211
Organizer and Chair: Zoe VanGelder (Political Ecology and Environmental Science, Yale School of Forestry and Environmental Studies)

The reproduction of productivism B: Biotechnology and state bans on GMOs
Lowery Parker (Geography, University of Georgia)

In these complementary projects, we bring together historical and contemporary research from two different historical and geographical locations in order to highlight the dependency of productivist logics and discourses on hunger, arguing that productivism must be understood through attention to state power--and the potential of the state to deploy both manufactured scarcity and engineered abundance as political tools. Centering capital-state relations allows us to argue that the state is so thoroughly imbued with productivist logic, so dependent upon productivist logics for its contemporary constitution and power, that productivism can only be understood by viewing two related elements of productivism--as a set of technical and highly capitalized solutions for the complex realities of hunger, and as a means of disciplining populations and diffusing political threats to the state. Contemporary resistance to the quintessential productivist tool, the GMO, takes many forms, including activism mobilized around consumers in the global north and around the politics of land use in the global south. Recently, a new form of "resistance" has appeared on the global stage: the commodity ban. From Kenya to Peru and across the EU, GM crops are being banned as popular resistance to GMOs increases. But the presence of commodity bans, as responses to the incorporation of biotechnology into "sustainable" agriculture, should not assume a progressive logic.

Yes, GMOs are palliatives used to justify the continued existence of large-scale industrial agriculture, but what are these bans that "challenge" them? Bans (whether legislative or juridical) cannot be separated from the law, and therefore the state, which reproduces productivist logics at every step (subsidies, public-private partnerships, etc.) In order to assess the potential of GMO bans as emancipatory instruments, these bans must be more fully theorized in the historical context of state-led attempts to address hunger and poverty.

"Miracle Foods" and the depoliticization of hunger
Emma McDonell (Anthropology, Indiana University)

Since the post-WWII "discovery" of global malnutrition and concomitant rise of the development apparatus, various "Miracle Foods" have been proposed as solutions to chronic undernourishment and food crises in developing countries. These foods initially generate media fanfare, generous monetary support, and a gush of nutrition and agronomic knowledge production, and yet all have fallen far short of projected impacts. Based on media analysis, development project missions and scientific reports, of the respective research booms, this paper explores the construction of the Miracle Food narrative in three Miracle staple grains: high-lysine corn, Golden Rice, and quinoa, paying attention to the politics of scientific research in each case study. By situating Miracle Foods in development discourse, my work demonstrates how Miracle Food narratives are not unproductive because they do not "solve" hunger, but are very productive in depoliticizing and medicalizing hunger. The promotion of Mircale Foods effectively obscures the structural violence and historical oppression that have produced inequality in food supplies and in turn portrays hunger as a technical, not political problem. I also examine the "curative" metaphors utilized in the discursive practices and how the implication that malnutrition is pathology that can be "cured" by a single substance demonstrates about popular conceptions of malnutrition and feasible policy responses. I conclude exploring the current enthusiasm for quinoa as a "sustainable development" solution to global malnutrition, as evidenced by the UN's declaration of 2013 the International Year of Quinoa. Quinoa represents a variant of the Miracle Food narrative that responds to disenchantment with modified, technified, "superfoods," by proposing to resurrect nutrient-rich indigenous foods and promote them in food insecure locales. While this narrative is similar in structure to other Miracle Food discourses, the roles of science and technology are ostensibly secondary and the glorification of "indigenous" technology is central. To what extent is this effort to promote "ancient" foods rather than new technologies a rejection of technification of development and does it represent a new trajectory of food aid programs?

The reproduction of productivism A: The productivist agricultural state and the politics of hunger.
Brian Williams (Geography, The University of Georgia)

In the sense of Malthusian ideologies, the rationales of productivism are thoroughly dependent upon the idea of hunger abstracted to region or population. Encountering the unruly specificity of resistant people and political challenge, however, productivist approaches to agriculture are also dependent upon the threat of hunger--as a biophysical need and a precondition for social reproduction--as a disciplining tool. In the 1960s USDA, southern white supremacist agrarian politics and Malthus-inflected geopolitics found common ground in productivist policies. In this paper, I intend to highlight the regional and internal contradictions of the productivist state. US productivism's international articulations were geared towards stabilizing the geopolitical threat of Cold War communism and the spectre of global population expansion. Concurrently, hunger was deployed domestically to neutralize the political threat to exclusionary state order posed by the southern Black freedom struggles. In the Yazoo-Mississippi Delta in the 1960s, as the productivist foundation of industrializing plantation agriculture was under challenge by Black political and labor resistance, the withholding of food assistance represented a strategy to maintain political power while intensifying southern productivism. Productivism, from this perspective, is maintained as both a capital-intensive and technical response to the problem of hunger, and the reserved potential to deploy hunger as a disciplining technology. For this reason, I intend to center productivism as a technology of state power and capital accumulation that always exists, alongside hunger, as a potential response when the interests of the state and capital are threatened. Attention to plantation agrarian politics, in which there is no room to imagine a golden age of food production on the ecologically-sensitive family farm, has contemporary relevance.

Agrobiodiversity is a Driver for Rural Food Security: Implications for Food Security at Local and Global Scales.
Devon Sampson (Environmental Studies, University of California, Santa Cruz)

There is a resurgence of interest and funding in "another green revolution" in agriculture as a means to alleviating hunger among the growing world population. This project focuses on closing the "yield gap" between theoretical yields for food crops as measured on research stations and the actual yields of the same crops on small farms. I argue that the productivist logic of closing the yield gap ignores the many benefits of diverse, small scale agriculture that may not be captured in yield measurements. I use original data from rural Yucatan, Mexico, to illustrate an example of a place where the vast majority of organisms on small farms would not be captured in yield measurements of key crops, and that the diversity of organisms is an important driver for food security, especially during a drought event. Advocates of closing the "yield gap" generally treat agrobiodiversity and small farms as desirable but expendable features of global food systems, given the urgency of meeting growing demand for food. I argue that agrobiodiversity on small farms is an essential strategy for strengthening food security and building resistance and resilience in rural livelihoods.

6. **The Production and Negotiation of Landscape**

Location: Student Center 228
Organizer: University of Kentucky Political Ecology Working Group
Chair: Malene Jacobsen (Geography, University of Kentucky)

Sacredness and Science, Environment and Economy: Vietnam's Agarwood Industry
Tuyen Le (Geography, University of California Los Angeles)

The focus of this paper is on the harvest and trade of Aquilaria, a genus of tropical trees native to South and Southeast Asia. Regulated by the Convention on the International Trade in Endangered Species (CITES), this genus has been harvested from the wild and traded throughout the East and Middle East for centuries. Aquilariatrees are the source of agarwood, an oleoresin-infused heartwood prized in nations from Saudi Arabia to Japan for its distinct fragrance and medicinal properties. Agarwood is not a normal component of the tree; resins are produced as a defense against internal infection, and thus it occurs naturally in very small quantities. It is traded in the form of solids or distillates and may sell for thousands of US dollars per milliliter or kilogram. Trade restrictions, bans on wild harvesting, and concern over biodiversity loss have created an incentive to advance the agricultural science of agarwood; successful advances in turn have spurred an economic opportunity to develop the agarwood market in ways that were not previously possible. Projects to bring the tree under cultivation, growing it in plantations and pockets of countryside, aim to establish sustainable harvests while also providing additional income for rural families. Assessing the agarwood trade and its cultivation has offered insight into the roles of governments, NGOs, private businesses, and regulatory bodies in the commodification of nature, the process of defining what is "wild" and what is not, and drawing the fine line between legitimacy/legality and illegitimacy/illegality.

Landscape scale conservation and neoliberalism in England: are post-politics enough?
Dimitrios Bormpoudakis (Durrell Instutute of Conservation and Ecology, School of Anthropology and Conservation, University of Kent, UK)

The relation between nature conservation and capitalist crises in the global North remains an understudied concept. The majority of existing studies often lacks historical and geographical grounding on the material world of conservation practice as well as proposals for alternatives. We attempt to fill in these lacunae by studying the effects of the ongoing crisis in the reshaping of conservation in England. Our emphasis lies on large-scale conservation, in particular on the transition from Integrated Biodiversity Delivery Areas to Nature Improvement Areas. Drawing on interviews with twenty key informants and policy analysis, our empirical data include information budgets, competition among and within partnerships, monitoring frameworks, the role of technoscience; in a few words, we delve into the messy world of conservation, attempting to provide an account of the transformations currently reshaping conservation globally. By engaging with the literature on de-politicization (post-politics, anti-politics, utopian studies) we relate the material transformations neoliberal conservation to a radical rethink of politics. In the continuations and divergences of the neoliberal project and its discursive, regulatory and governing architectures before and after the financial crisis we discern an attempt to deepen the hegemonic neoliberal view of

social ordering, contra readings of an emergent post-neoliberalism. Fiscal austerity along with competitive funding and novel monitoring frameworks play a crucial role in this attempt: they act as powerful mechanisms at the state's disposal to canalize or discipline conservation into pragmatic market logics. We conclude by identifying behind these conditions political strategies for radical political ecology: contra enforced pragmatism, utopia as prerequisite for disruption.

Perception of Risk and the Transition to Resilience: Two Communities in Transition
John Johnson (Sociology, University of Kentucky)

Human-induced changes to ecology and the creation of global risks have prompted the sociologist Ulrich Beck to spend the better part of his career studying what he now calls "world risk society." Following Husserl and other phenomenologists, Beck contends that the only basis of a theory of world risk society is found in the operation of "everyday lifeworlds." This paper is based on ongoing dissertation research examining the lifeworlds of community members taking part in transition efforts, or attempts to transition to greater levels of community resilience. More specifically, the research is a comparative case-study of Berea, Kentucky and Oberlin, Ohio. I am examining the transitions in the communities at large, and also the ongoing collaborative efforts between each college and the larger community. Sustainable Berea, the community organization in Berea working on this transition, is a member of the international Transition Town Network. The Oberlin Project is not a member of the Transition Town Network, but is one of 18 global communities in the Clinton Foundation's Climate Positive Development Program, and one of only 3 in the United States. Both communities have set some audacious goals for achieving greater community resilience, particularly related to food, energy and local economies. I will pose two questions of the data for this paper: 1. What specific risks are these communities seeking to address? 2. What are the underlying political and economic support structures needed to address these perceived risks?

Forestland Parcelization and Fragmentation: 'incremental accumulation by dispossession' in the amenity transition?
Yuxi Zhao (Geography, The Ohio State University)

Forest resilience has occurred in the post-industrial age. As a portfolio of natural resources, forestland nowadays is often valued more for its amenity consumption, rather than its timber production. On the surface, this trend might indicate an exuberant forestland; the underlying reality, however, is quite grim: not only is forest ownership increasingly parcelized, but the forest cover is increasingly fragmented as well. Literature explains this phenomenon as: old-timer landowners who traditionally use timber production to finance their forest management activities, now due to their more meager income generated from a smaller forest product industry, have no choice but to sell part of their forestland to cover the operating cost. On the other hand, new-comer landowners who are amenity driven have subsequently fragmented the forestland by building second home or recreational facilities on the property. I argue that this is an 'incremental accumulation by dispossession' process that happens through the land market as land as a consumption asset outbids land as a productive means during the amenity transition. Unlike traditional capital accumulation, new-comers now gradually purchase small pieces of forestland as consumption assets with amenity values, which gradually dispossesses old-timers and leads to their ownership parcelization and landscape fragmentation. A narrow minded focus by policy makers on parcelization v.s. fragmentation is causing them to overlook the underlying socio-economic processes during this amenity transition.

Bumpy waters: producing a landscape of waste in Chittagong, Bangladesh
Elizabeth Sibilia (Geography, The Graduate Center, City University of New York)

An industrial battleground of astounding scale can be seen on the 12-mile shoreline of Sitakunda, Bangladesh; a landscape scarred by shipbreaking, one of the most environmentally destructive industries in the world, a graveyard colored by rust, asbestos and oils, where populations of people labor on transforming the detritus of global capitalism into valuable material for a "developing" economy. Ship breaking is the process of dismantling a vessel's structure for scrapping or disposal, whether at a beach, pier, dry dock, or dismantling slip. What is unique to the way ship breaking is done in Bangladesh is that the practice takes place directly on the beach, without the use of dry docks, slips, or piers. The scale of environmental destruction combined with the toxic and hazardous work conditions for laborers who work at the yards positions these spaces as what could aptly be referred to as global sacrifice zones, spaces that have been sacrificed for the benefit of the global trade economy. This research calls

forth the question: how has Bangladesh come to carry the world's toxic burden for ship breaking, and, what are the historical-geographic conditions that helped to produce this landscape of waste? This critical geographic research investigates the historical conditions under which Bangladesh has been produced, and has produced itself, as a space for this global salvage operation. In this localized space of labor, global flows of commodities and capital are salvaged and repurposed. In this zone of reset and salvage, who and what are being sacrificed, and what do these sacrifices—of human and ecological health, facilitate and rescue economically? The intersecting factors explored in this research are, the development program in the post-liberation years; international environmental laws related to toxic trade; maritime regulatory frameworks; the global shipping industry; and the social relations of production and reproduction that bring a steady supply of laborers to the yards. In using geographer Don Mitchell's new axioms for understanding the landscape, this research will reveal how this particular landscape is a function of capitalist production, and in turn highlight the processes, histories and struggles that were factors in producing it.

7. The Politics of Measuring Harm

Location: Student Center 230
Organizer and Chair: Max Liboiron (Science and Technology Studies, Northeastern University)
Discussant: Rebecca Lave (Geography, Indiana University)

From DDT to Phthalates: A History of Biomonitoring at the US Centers for Disease Control and Prevention (CDC)
Rachel Washburn (Sociology, Loyola Marymount University)

In 2001, the Centers for Disease Control and Prevention (CDC) published a landmark report called the National Report on Human Exposure to Environmental Chemicals as part of its newly established National Biomonitoring Program. At the time, the report provided the most extensive account of the presence of environmental chemicals and/or their metabolites in the blood and urine of a nationally representative sample of U.S. residents. Since 2001, the CDC has published several additional reports, each of which has described Americans' exposures to an increasingly large number of environmental chemicals, including those found in common consumer products. The data contained in these reports have prompted new questions about the safety of many chemicals used in common consumer products as well as the adequacy of U.S. chemical regulations. They have also aided health scientists and environmental health activists in mapping inequitable burdens of chemical harm. In this paper, I connect the rise of the National Biomonitoring Program to an uneven, yet enduring, institutional expertise in exposure assessment cultivated at the CDC over the course of the latter part of the twentieth century. I describe how a variety of health concerns and chemical events animated exposure assessment activities at the CDC, culminating in the creation of the largest biomonitoring program in the U.S. in the mid-1990s.

Becoming Jane: The Making and Unmaking of Hanford's Nuclear Body
Shannon Cram (Geography, University of California, Berkeley)

This paper examines the politics of "permissible exposure" in American nuclear remediation. At its heart is Washington State's Hanford Nuclear Reservation, the nation's largest and most expensive nuclear cleanup effort. According to Superfund regulation, nuclear landscapes are considered "remediated" once acceptable carcinogenic risk levels have been met. The challenge of remediation, then, is to measure and manage the conditions of carcinogenic encounter—controlling not only the site's contaminants, but, also the future humans that will inhabit remediated space. This paper follows the genesis and development of "Jane," a future human designed for life in post-cleanup Hanford. Jane embodies a distinct set of regulated movements and activities—each specifically calculated to ensure legal compliance within the terms of "acceptable" risk. By tracing Jane's genealogy and the impact of her implementation in remediation policy, this paper examines the history of radiogenic science, standards, and social administration to critique the nation's officially-imagined nuclear future.

Cheap, Quick, and Human: Constructing Chemical Evidence in the 21st Century
Katelyn Parady (Environmental Social Science, Arizona State University)

Over the past decade, scientists at the U.S. Environmental Protection Agency's Office of Research and Development

(ORD) have been trying to understand and prioritize chemical toxicity and risk in new ways, framed by the National Academy of Sciences as necessary in the 21st Century (NRC 2007). Central to their efforts are rapid screening techniques that generate observations of chemical effects in cellular and biochemical assays—in vitro tests derived from human origins—rather than in the bodies of legions of laboratory animals. Radically increasing the agency's capacity to gather data about large numbers of chemical-biological interactions, these approaches imbue discourse about chemical harm with a seemingly de-contextualized, high-speed, automated, and mechanismal ethos. In developing high-throughput in vitro techniques, agency scientists are tending to new chemical registers and opening contested space for a rethinking of the scalar, temporal, and relational qualities of toxicity. And yet, in part because of the mammalian underpinnings of regulatory and scientific gold standards for proof, notions of toxicity within ORD continue to cohere around accepted morphological and clinical markers of harm in rats, mice, zebrafish, and other "whole, intact" test subjects. Examining both the ascendancy of fascination with cellular assays and the persistence of traditional toxicological practices for generating chemical knowledge, this paper analyzes the shifting evidentiary regimes that will construct and govern what comes to count as chemical harmor absolution in the contemporary United States.

Calculating Allowable Limits of Pollution: Defining Harm in Rivers and Bodies
Max Liboiron (Science and Technology Studies, Northeastern University)

In the early twentieth century, as American waterways became saturated with municipal and industrial wastes, how to determine if a waterway was polluted, and to what extent, became a pressing concern. Different definitions of pollution proliferated, looking for "the arbitrary line" between pollution and non-pollution. A solution was found by calculating assimilative capacity; the amount of pollutant a waterway could handle before harm occurred. Over time, a quantified assimilative capacity was also leveraged to explain the age-old adage in toxicology that the "danger is in the dose." In both cases, pollution was defined as the moment when a body (of water, or of an animal) could no longer successfully metabolize contaminants. This "natural threshold" of harm was identified, calculated, standardized, and codified in pollution regulation. This presentation covers the notion of "allowable limits" and its use of human bodies and landscapes as metabolizing workers as a technical hallmark of pollution definition and thus of pollution control, and how it is now being defied by twenty-first century waste like plastic pollution and endocrine disruptors.

8. Landscapes of Enclosure and Uneven Development

Location: Student Center 231
Organizer: University of Kentucky Political Ecology Working Group
Chair: Leif Johnson (Geography, University of Kentucky)

Translations of Tenure: Heirs' property and the revitalization of the family commons
Brian Grabbatin (Geography, University of Kentucky)

This paper contributes to political ecology's deeply rooted insights into the destruction, perseverance, and revitalization of resource commons. Using field data from coastal South Carolina, this paper explores how a form of collective landownership (called heirs' property) has persisted despite enormous legal and economic pressures to privatize. Historically, heirs' property is based on a tradition of orally communicated collective inheritance, which was widespread among African American families who sought to protect the means of their livelihoods from dispossession during the post-Reconstruction and Jim Crow eras. Despite the efficacy of routine legal practices that have facilitated the privatization of land in the United States, this form of collective land tenure remains prevalent throughout the American South, and particularly in South Carolina where more than 41,000 acres of heirs' property can be found in the state's six coastal counties alone. This paper describes how the practices and values that have reinforced and reproduced this form of collective tenure, linger among landowners in Beaufort and Charleston Counties. Further, this paper points out that the persistence of heirs' property as a de facto commons and its simultaneous legal status as a de jure commons has created new and conflicting combinations of rights and obligations for today's landowners. Heirs' property owners now find themselves caught in a crossfire of legal vulnerabilities and economic burdens that have prompted some to embrace the security and opportunities of fee simple ownership. While others remain weary of the liabilities of full exposure to circuits of capital, from which they

have been insulated for generations. The conflict between these sentiments within a group of heirs has resulted in a diversity of tenure arrangements that blend common property rights with the legal protections of private ownership.

Peri-urban landscapes and uneven development: post-apartheid landscape change in Polokwane, South Africa
Jennifer Smith (Geography, West Virginia University)

The lasting effects of apartheid such as problems with service delivery, ineffective land reform, high unemployment, and persistent poverty remain at the forefront of South Africa's democratic transition. While race-based legislative barriers to economic advancement and security have largely been removed, a different set of economic barriers have been erected across space. This paper explores the manner in which social processes have contributed to the growth and expansion of peri-urban areas in Polokwane, South Africa. As post-apartheid space is being transformed and re-scaled, poverty is shifting from traditionally rural areas - to areas just outside of cities, also called peri-urban spaces. Through the analysis of survey data and semi-structured interviews conducted in Polokwane, South Africa in 2012 the continued spatial inequality and uneven development accompanying peri-urban growth is documented. Landsat and GeoEye images are also used to visual represent peri-urban growth since the end of apartheid. The research data has found that peri-urban growth has contributed to existing spatial inequalities between communities in South Africa. Households in the suburbs have an average house hold income (the sum of all household economic activities) around sixty times larger than that of a peri-urban community less than twenty kilometers away. Furthermore, median household incomes are still twenty-eight times larger. This article explores the physical manifestation of economic inequality in the landscape and the economic policies, planning procedures, and livelihood activities which coalesce to produce uneven development in Polokwane, South Africa.

Counterinsurgency Eco-Tourism in Guatemala's Mayan Biosphere Reserve
Jennifer Devine (Geography, Whitman College)

Through ethnographic analysis of a Guatemalan eco-tourism project, this article examines how tourism development is driving the militarization of conservation through a modality of violence I identify as counterinsurgency eco-tourism. I look at four manifestations of counterinsurgency eco-tourism: the repurposing of the army to enforce conservation law; the creation of an environmental "predator" discourse; the eviction of peasants from protected areas; and the construction of military outposts. These practices illustrate that eco-tourism development has become a mechanism by which the Guatemalan state is militarizing conservation spaces in ways that revive and repurpose tactics of counterinsurgency warfare from the country's civil war (1960 – 1996). Furthermore, this militarized approach to eco-tourism obscures the structural production of poverty, insecurity, and deforestation in northern Guatemala and undermines environmental conservation and social justice efforts. The counterinsurgency eco-tourism practices identified in Guatemala resonate with many other conservation and eco-tourism spaces found across the world, such as UNESCO Biospheres, as well places across the Global South with histories of counterinsurgency warfare.

"To Grow is to Prosper": Oral History and Rural Gentrification in South Central Appalachia
Rhiannon Leebrick (Sociology, University of Tennessee)

This project is designed to explore the relevance of gentrification, a concept largely applied to urban settings, in rural and small town Appalachia. Decisions over economic development and community planning are complex in gentrified areas and are often tied to global economic trends such as deindustrialization, the mechanization of agriculture, and the emergence of an affluent entrepreneurial class. I draw upon political economy perspectives within environmental sociology and human geography to highlight these complexities. Implicit in these seemingly local conflicts are issues of environmental privilege, class prejudice, and the maintenance of ideology. Examining tensions between community members illustrates the intricacies of political participation and economic development agendas in small, rural communities where gentrification is occurring. This project involves a series of oral histories and open-ended interviews with public officials, real estate agents and realtors, landowners, members of the chamber of commerce, and representatives of local non-governmental organizations (NGOs) in order to develop a better sense of economic and social changes in south central Appalachia as the result of rural gentrification.

An-other Bluegrass
Richard Schein (Geography, University of Kentucky)

Manumitted African Americans in the upper South after the Civil War found themselves in a peculiar position: once considered property themselves, they now had the occasion to acquire real property. This presentation starts with that transformation and those acquisitions (and their opacity) to explore African American relationships with land and landscape from the late 19th century through the present. It will attempt to tell some of the stories of former slaves and their descendants as they negotiated their place in a new world. Those stories – as descriptions and interpretations – will draw from insights, especially, in landscape studies and historical political ecology including attention to livelihoods, resource access, identity, and belonging; and will highlight the methodological problematic of: (a) telling stories about ostensibly marginalized people (who gets to tell the stories, in what voice, for what purpose) and; (b) reconciling how to "recover" such stories (through records kept by other people) with decisions about what constitutes "valid evidence." This foray into historical (first world) political ecology hopes to present an alternative settlement geography of community and resource use that generally is invisible in dominant stories of land and life even as it was integral to the American experience. The presentation will close on this point, raising questions about social justice and the place of historical political ecologies in the present and the future of American social formations.

9. Political Ecology Dimensions in Maritime Governance

Location: Student Center 249
Organizer and Chair: Maria Hadjimichael (Political Ecology, Centre for Innovative Fisheries Management)

Making Tourism More Just?: Bringing Geotourism to Útila, Honduras
Brittany Davis (Geography, Middle Tennessee State University / University of Arizona)

Marine tourism has been widely discussed as a development strategy for coastal communities. Yet the influx of tourists can result in conflicts as tourists' behavior and attitudes lead to negative effects in the destination community. These can include destruction of natural resources, social changes, and economic leakages. This paper focuses on the backpackers and scuba diving tourists who form the core of those arriving on Útila. While these groups and the associated businesses should ostensibly be active participants in conservation, my research shows that they show limited interest in and financial support for marine conservation efforts in Útila's waters. In the summer of 2012, a geotourism initiative aimed at promoting sustainable tourism while protecting the destination's culture was proposed to the community. Examining why this project failed to successfully get off the ground sheds light on how the tourism industry may not be interested in or in a position to support initiatives aimed at ameliorating the social and environmental justice issues raised by tourism.

Rational Use of the Sea: Zoning and Marine Governance in China
Young Rae Choi (Geography, Ohio State University)

Oceans in the world are increasingly becoming legible through spatial zoning techniques which have been "proposed as the ideal conduit for weighting different uses of the ocean" (Olson, 2010). China is one of the earliest nations that institutionalized ocean zoning as a national policy, based on which implements multiple socioeconomic and environmental plans (Mu et al, 2013). What justifies and is the ultimate purpose of zoning is 'rational' use of the sea. This paper interrogates this rationality- how is it defined, valued, and judged? What are its effects? This paper examines the discourses around the idea of rational use of the sea in policy texts and traces how this idea is translated and interpreted by decision makers and those who practice the zoning and planning policies. I argue that the ambiguity of the concept engendered the multiple ways to mobilize rationality as governing power and as such zoning has become a central mechanism in governing the sea space and the coastal population whose lives are grounded on sea use, transforming both as subjects of development as well as underdevelopment.

The Right to the Sea
Maria Hadjimichael (Political Ecology / Marine Governance, Innovative Fisheries Management)

In the current climate of the global financial crisis, developed countries are increasingly focused on economic growth and development and the crisis is continuously being used to entrench a neoliberal agenda allowing for further

deregulation of the economy and privatization of public assets. The expansion of privatization of space for corporate interests has moved from primarily in-land and the coastal space to marine space. Following part V of the United Nations Convention on the Law of the Sea (UNCLOS), the State is managing its EEZ on behalf of its citizens. The leasing of an area of public domain, which is also a common property, often means the exclusion of others who would normally have access to that area, and this is the case with maritime development. This paper will use the idea put forward by Harvey (2008) in his essay 'The Right to the City' (followed 'the right to the city' proposed Lefebvre (1968) in his book Le Droit à la ville), suggesting the 'Right to the City' is a human right. Following Harvey's suggestion, this paper will discuss and advocate another right; that of 'The Right to the Sea'. A right that does not need to be created as Harvey discusses in his essay, but rather one that needs to be protected or reclaimed. The increase of maritime strategies promoting 'sustainable exploitation of marine resources' will be examined but also the introduction of specific instruments, such as the Individual Tradable Quotas as what Naomi Klein described as a Shock Doctrine, and ecolabels with a result of excluding the least powerful from today's capitalist neoliberal markets. Finally, the paper would bring forward the need for a global radical movement that will bring activists, academics and communities together to join other grassroot movements and reclaim 'The Right to the Sea'.

Sovereignty Submerged: Deep Sea Mining, Governance, and Accumulation in the Pacific Ocean
Katherine Sammler (Geography, The University of Arizona)

"We are at the threshold of a new era of deep seabed mining" was the declaration made recently by Michael Lodge of the International Seabed Authority (ISA; Shukman, 2013). The United Nations regulatory apparatus is responsible for administering mineral resources in international waters. The ISA has been issuing exploration permits since 2001 and extraction of minerals from the sea floor is expected by 2016. Many Pacific nations have also been issuing permits in their Exclusive Economic Zone (EEZ), which extend out to 200 nautical miles from shore. The EEZ, a jurisdiction quite candid in its title, defines sovereignty in this area based on resources instead of territorial control (Vidas, 2011). The extension of state space into the ocean is challenging conventional institutions of governance and demanding new management regimes, prompting concerns over economic fairness and environmental impacts. Furthermore, limited regulatory and operational capacities within an amorphous and turbulent ocean space compounds the difficulties associated with managing environmental and financial issues in a complex marine management regime that combines multilateral governance interests and international state-sponsored corporate endeavors. What are the implications of ocean space development for state practices of resource governance, sovereignty, and territory? This paper will focus on events developing in the Pacific Ocean, as deep seabed minerals become economically and technically viable, and national and international governing apparatuses struggle to create a feasible framework dedicated to seabed governance.

How do we design, implement, and manage a system of ocean zoning?
Porter Hoagland (Marine Policy, Woods Hole Oceanographic Institution)

The uses of the coastal ocean are growing more numerous and becoming more closely packed, leading to an increasing need to allocate ocean space among competing users. In many places, ocean space has become a scarce commodity, and, as for other resources in short supply, institutions should evolve eventually in ways that minimize transactions costs in its allocation. Historical patterns of use, entrenched policies, distributional effects, mismatches, and adverse political conditions may slow institutional evolution, however. To allocate ocean space fairly and efficiently, academics and practitioners now are calling for new policies to zone the ocean. Ocean zoning policies call for collective action to decide upon the most appropriate use or combination of uses for specified geographic areas and periods. These policies would establish limited property rights in ocean space, although typically such rights are not envisioned to be transferable. Many questions exist about information needs, enforceability, permanence, equity, and efficiency. It has become clear from numerous studies that there may not be a single optimal governance form applicable to all jurisdictions or to all marine resources. Three broad institutional approaches to governance can be distinguished: government or centralized ocean zoning; ocean zoning through a community, also known as a common property regime; and private property or decentralized ocean zoning. Conditions affecting the dynamic emergence of institutions for ocean zoning are explored, including factors affecting the evolution from one particular institutional approach to another. Conditions favoring the emergence of hybrid forms of governance as feasible and potentially optimal institutions for managing ocean zoning are

characterized. Several real-world examples from the New England region are used as illustrations.

10. Panel: Strategies for Teaching Social Justice in Environmental Classes

Location: Student Center, Center Theatre
Organizers and Chair: Autumn Thoyre (Geography, UNC-Chapel Hill) and Pavithra Vasudevan (Geography, UNC-Chapel Hill)

Political ecology has provided valuable insights into the social justice dimensions of environmental issues, but these dimensions are often difficult to translate into our teaching. By "social justice," we mean critical analyses that incorporate understandings of power, privilege, and oppression; these might include, but are not limited to, antiracist, Marxist, queer, and feminist approaches. In the classroom, we see such approaches as aimed at transformative learning, helping students to engage with environmental concerns in more just ways. We conceive environmental classes broadly, to include both natural science- and social science-oriented classes, from a range of theoretical and disciplinary perspectives. We aim to assemble, share, and discuss skills, toolkits, and other strategies for helping students connect social justice approaches with environmental concerns.

Panel participants will present a lesson plan, activity, assignment, case study, concept, or other teaching unit for 10 minutes. They will share concrete interventions, activities, and assignments that engage undergraduates in active learning and help them connect with and broaden beyond their own experiences. Participants may share any handouts, visual media, or other materials that they use in framing their interventions. Following the short presentations will be a discussion with Q&A for drawing out commonalities, strategies, challenges, and further insights.

Panelists:
Melissa Y. Rock (Geography Department, Bucknell University)
Patrick Hurley (Environmental Studies, Ursinus College)
Kate Darby (Department of Environmental Science, Allegheny College)
Abby Hickcox (Honors Program, University of Colorado)
Anne-Marie S. Hanson (International Studies, Trinity College)
Shannon Elizabeth Bell (Department of Sociology, University of Kentucky)

DOPE 2014: FRIDAY, FEBRUARY 28TH

Friday Schedule Block #2:
10:00 am – 11:40 am

Sessions 1-10 in this block are located in the Student Centre. Session 11 is located in the Fine Arts Library.

1. Activist Engagement

Location: Student Center 113
Organizer: University of Kentucky Political Ecology Working Group
Chair: Alison Harnish (Anthropology, Albion College)

Towards Developing a Framework for Initiating Participatory Action Research
Melanie Barron (Geography, University of Tennessee)

Many emerging scholars in geography are interested in Participatory Action Research (PAR) methodologies, particularly for the promise PAR brings to researchers interested in concretely applying social justice principles to their research. While PAR literature presents a dearth of guidance about how to effectively plan and structure PAR methods, it offers a plethora of critiques of previous attempts at PAR and other participatory methods and schemas. First, this work assays these critiques in search of common needs for positive improvements in PAR research, which include: a thorough analysis of researcher positionality before and throughout the research process; thoughtful and timely incorporation of research participant and community needs and opinions early in the research design process; meaningful and sincere trust and rapport-building with impacted communities and individuals; and, finally, allotting concrete benefits to research participants, particularly for those in low-income and marginalized communities. In light of these needs, we propose a twofold agenda: first, we argue for increased and more rigorous observation and assessment of participatory-based research. Based in part on our own field experiences, we argue the need to consider how participation is structured into state-sponsored decision-making processes. At present, we find that many participatory engagements fall short of the needs outlined above and result in deep rifts between affected communities and decision-makers. Second, we propose a research agenda to develop best practices for PAR that can be applied in academic, policy, and activist contexts. In sum, we advocate for a participatory action research agenda that respects and prioritizes local knowledges, experiences, and desires, while concurrently imploring researchers to be conscious and reflexive about their position and interests throughout the entirety of the research process.

Mining Post-Communism, Rethinking Justice: An Extended Case-Study
Irina Velicu (Political Ecology, ICTA-Universitat Autonoma de Barcelona)

The title of this article is also a metaphor: one can think of mining for gold, another one can think of 'mining' for memories. Rosia Montana in Romania and Krumovgrad in Bulgaria are such places, where both types produce conflicting encounters. Becoming an emblematic socio-environmental movement in Central and Eastern Europe (CEE), the "Save Rosia Montana" triggers the following question: how can one speak of 'environmental justice' in a post-communist region? How is it different from other regions? CEE has usually been researched for its environmental injustice. Moreover, following the fall of communism, environmental concerns have been portrayed as a 'luxury' in this region: people cannot supposedly privilege 'mountains over gold'. Similar to other regions like Latin America, economic projects in CEE have ab(used) the discourse of free market to portray themselves as beneficial irrespective of human and ecological costs. CEE's current environmental problems easily move across borders as for example, the 2000 Baia Mare cyanide spill which has affected the Somes River in Romania, Hungary and Serbia. Global economic interests in new energy resources bring about corporate plans for intensified exploitation of gold, uranium, shale-gas etc. This situation coupled with economic shortages has triggered public disillusion and apathy often resulting in economic migration, and perpetuation of illegalities. As elsewhere, environmental justice claims in post-communist states also refer to recognition of affected communities (their rights to nature, livelihood, health, property or sacredness) as well as to genuine participation in decision-making (as opposed to 'fake' public

consultation or fabricated consents). However, there is widespread perception that the context of post-communist 'fragile' democracy has actually been the nurturing ground for corrupt practices in the transition towards a market capitalist society. Romanian and Bulgarian activists have insisted on the socio-political implications of environmental concerns: their struggle has been about the right to economic autonomy as well as to (mental) health, the right to self-determination as well as to beauty. Most importantly, it has not merely been about a local/national demanding of these rights but has hinted to the fragility of the democratic ideal more globally and to the universality of such rights which belong to all people as equal political human beings. In this context, environmental justice is infused with interesting political equalitarian overtones that deserve serious consideration.

Political Ecology and Pedagogy: Using political ecology to engage with policy makers
Katherine O'Gara (Environmental Justice, University of Michigan) and Joshua Cousins (School of Natural Resources and Environment, University of Michigan)

Political ecology offers powerful tools for understanding social and environmental problems. Yet it offers little in the way of how to engage with key actors and policy makers influencing socio-ecological change outside of academia. How can coursework in political ecology prepare students to engage with policy makers for a professional career in which they use political ecology to develop policy and action? This paper describes the structure, evolution, and execution of a course that attempts to formalize an interaction between key actors in government and civil society to make political ecology useful for policy makers and students enrolled in a professional graduate studies program at the University of Michigan. The course developed out of an introductory seminar in political ecology where students became increasingly dissatisfied with how traditional classroom methods prepared them for communicating and doing political ecology outside of the classroom. The new seminar was structured around readings that focused on how policy makers and scientists often come to different or competing diagnoses of environmental conflicts, taking climate change as an example. The course culminated in a field trip to Washington D.C. to engage with global environmental managers. We found that successful execution of the course is highly dependent on student initiative and the networks that make access to policy makers and funding possible. We also find a number of institutional barriers that inhibit the use of political ecology by global environmental managers and perpetuate dominant narratives that generate simplistic linkages between climate change and conflict.

2. The Political Ecology of Activism: Mobilizations, Fragmentations, and Stagnations I

Location: Student Center 115
Organizers: Pavathry Binoy (Geography, Syracuse), Emily Billo (Environmental Studies, Goucher College), Heather Plumridge Bedi (Environmental Studies, Bucknell University)
Chair: Heather Plumridge Bedi (Environmental Studies, Bucknell University)
Discussant: Shaunna Barnhart (Environmental Science/ Studies, Allegheny College)

Activist resistances to the socio-technical network of the Kayenta Mine and Navajo Generating Station: A study of non-profit scientific and technical organization
Gregory Nelson (Science and Technology Studies, Virginia Tech)

In Arizona, on the Western Navajo Nation, a non-profit called Forgotten People organize themselves to resist the socio-technical network of the Kayenta Mine and Navajo Generating Station (NGS). This group of indigenous and non-indigenous activists mobilize scientific expertise to challenge the enframing of their environment by the U.S. Government and Peabody Western Coal Company. Due to the long history of colonialism on Black Mesa, Forgotten People's activism challenges the dominant neoliberal regime of coal extraction by taking control of the tools and methods of science. As activists they produce knowledge which directly contests the discourse of the US Department of Interior who is the largest stake holder in the Navajo Generating Station and acts as the owner (USDOI), operator (Salt River Project) regulator (Office of Surface Mining) of the network.I argue that the challenges to resist such a powerful network requires innovations in the practice of activism. Rather than direct action, Forgotten People challenges the policies, practices, and discourses of the Navajo Nation and the United States' Government with an approach that combines litigation, scholarship, and building projects in an area subject to a 43 year freeze on construction and maintenance known as the Bennett Freeze. Forgotten People's activism seeks to rebuild an area

where the government has systematically denied the inhabitants of the Western Navajo Nation access to basic amenities such as water and electricity. Using the model of the non-profit, Forgotten People's activism seeks to build new structures, author white papers on the environmental challenges the region faces, and mobilize public support for the people subject to environmental and natural resource colonialism for coal and uranium.

Social mobilizations against extraction as assemblages of resistance
Kundan Kumar (Forestry, University of Toronto)

Translocal social justice mobilizations can be reframed as assemblages. Traditional social movement concepts such as mobilization structure, resource mobilization, framing, repertoires of contention, and opportunity structures can be interpreted using assemblage theory. This allows the strategic visualization of social movement mobilizations as rhizomes, which flow into spaces afforded by the assembled nature of state and capital, and seek to transform these powerful assemblages. I draw from my work with social movements against extractive industries in Odisha, India, to show how such assemblages of resistance emerge to challenge the state-capital nexus. I argue that thinking in terms of assemblages can provide a strategic depth to social and environmental justice movements that totalizing discourses of capital, state and revolution often foreclose.

Science led activism: the co-production of scientific and local knowledge for activist purpose
Marta Conde (Political Ecology - Extractive Industries, ICTA - Universitat Autonoma de Barcelona)

The article sheds light on a particular process where unequal power relations are contested through the co-production of scientific and local knowledge. Lay citizens, communities and local grassroots organisations immersed in socio-environmental conflicts are increasingly engaging with professional scientists to understand the impacts a polluting activity is causing on their environment and themselves. Together they co-produce new and alternative knowledge that gives the local organisations visibility and legitimacy allowing them to engage in practical activism challenging the manufactured information and uncertainty produced by the state or companies running the projects. This is what I have termed Science Led Activism (SLA). These processes are locally driven by activists with agency, and are generally based on voluntary work. When compared to other participatory processes, SLA differs primarily in that co-optation is sidestepped because the process is driven by the local organisations, both the activists and the scientists are independent financially and the grassroots organisations avoid using technical language and scientific knowledge as their main tools. This analysis is based on two uranium mining conflicts in Niger and Namibia where two local organisations are trying to confront the manufactured uncertainty of the nuclear industry through a SLA process.

Interpreting the 'zone of influence': Activism, corporate social responsibility, and indigenous subjects in Ecuador
Emily Billo (Environmental Studies, Goucher College)

Building on recent studies by political ecologists that highlight the role of private corporations in shaping environmental decisions, this paper examines corporate strategies to ensure continued oil extraction by re-framing indigenous identities through corporate social responsibility (CSR) programs. Designed to respond to the social and environmental impacts of oil operations in Ecuador, and coinciding with neoliberal reforms of the industry in the 1990s, the Ecuadorian state mandated implementation of CSR programs following a period of organized indigenous mobilization. Indigenous peoples and others highlighted impacts of the industry on communities, while successfully calling on the state to recognize indigenous territory and rights and representation. My paper, focused on the CSR programs of the Spanish-owned multinational oil company, Repsol, and its operations in indigenous communities, uncovers a different story. Ethnographic research reveals how the social relationships that emerge through CSR programs circumscribe indigenous identities, undermining indigenous peoples' ability to organize collectively and actively contest corporate presence that contaminates land and livelihoods. Corporate discourse and practice reshapes indigenous activism in the context of the state's ongoing push for additional oil extraction, and continued marginalization of indigenous populations in Ecuador.

3. Finance and Forests: Political Ecologies of Ecosystem Service Provision I

Location: Student Center 205
Organizer and Chairs: Niki vonHedemann (Geography, University of Arizona) and
Tracey Osborne (Geography, University of Arizona)
Discussant: Thomas Bassett (Geography, University of Illinois at Urbana-Champaign)

Presumptions of Indigenous Sovereignty and the Ecuadorian REDD+ Program
Juliet Erazo (Cultural Anthropology, Florida International University)

Socio Bosque [Partner Forest] is an Ecuadorian governmental program in which the Ministry of Environment pays landowners an annual amount for conserving forested land over a span of twenty years, designed with the specific intent of attracting international REDD+ monies. Many indigenous organizations in the Amazonian Basin have come out strongly against REDD+, going as far as comparing its potential harms to the suffering caused by petroleum extraction and mining. Given the reactions by some indigenous groups, it is perhaps not surprising that scholars who have begun to think about the sociopolitical aspects of REDD–type programs have described them as "new frontiers of land control" (Peluso and Lund 2011) or, more dramatically, as "global land grabs" (Borras et. al 2011). While Socio Bosque can be seen as a type of enclosure as well as a state challenge to indigenous sovereignty, what plagues the program more deeply, I will argue, are its "presumptions of sovereignty." Specifically, Ecuador's Ministry of Environment is treating indigenous territorial governments as if they practiced a high level of sovereignty, by which I mean "authority and control over territory." This paper will examine four presumptions of sovereignty that underlie the program's design as well as the financial, social, and political implications of these presumptions for indigenous participants. It will also demonstrate how these presumptions have contributed to a highly inequitable payment structure that places indigenous participants at a serious disadvantage when compared to non-indigenous ones.

Equitability in large-scale international forest conservation programs: REDD+ and FSC in southeastern Tanzania
Meghan Cornwall (Environmental Policy, University of Michigan), Brian Schaap (Environmental Policy, University of Michigan), and Katherine O'Gara (Environmental Justice, University of Michigan)

Reducing Emissions from Deforestation and Forest Degradation (REDD+) and Forest Stewardship Council (FSC) Certification are two significant international socio-ecological programs concurrently being implemented in Tanzania as a means to conserve forests and create livelihood options for forest dependent communities. The REDD+ pilot projects have increased capacity at the local level, augmented financial capital for nongovernmental organizations, and encouraged dialogue between the national and local government on issues regarding conservation and development. Meanwhile, communities implementing FSC have been mildly successful in securing revenue from the sustainable harvest of timber, in part due to poorly developed domestic and international market connections for these products. Our research analyzed how the international, market-based forest governance schemes of REDD+ and FSC are being applied at the local level to conserve forests, and considers impacts of the programs on equity at the village level. Through household surveys, community focus groups and national government interviews, our research team collected field data using International Forestry Resources and Institutions methodology. According to our study, the potential of each program to provide equitable outcomes with regard to decision making and benefit sharing depends greatly on the nature and requirements of the programs themselves as well as the depth and breadth with which the implementing NGO's included villagers in education programs and community meetings. Furthermore, preliminary spatial analysis of household surveys indicates differing levels of satisfaction, knowledge of programs and opportunity costs stemming from program implementation across varying gradients of distance from the forest reserve and distance from the village center.

REDD: Definition of an object and dissonant discourses
Raquel Machaqueiro (Anthropology, George Washington University)

The goal of my wider research is to analyze how forests are locations of power through the use certain environmental conservation policies as political instruments of dominance. I am particularly interested in a policy mechanism called REDD: Reduced Emissions from Deforestation and forest Degradation. Using a Latourian

approach, this research "follows the network" of REDD policies, using Washington DC as an entry point, since it is here that these policies are being created and designed in the form of projects. The network expands then to Brazil - where I conducted research this past summer - and, in the future, to Mozambique. When starting this research I did not expect to be surprised by the dissonance in the definitions of this mechanism. Thus, whereas my DC interlocutors focus on REDD as a strict climate change mitigation mechanism, implemented on a narrow project and market-based logic, in Brazil, REDD assumes a much more flexible stance. By working through these differences, one realizes the paradoxes that are inherent to a market-based mechanism applied to nature. One also confronts the necessarily dissonances between what is designed as a project, and what is in fact implemented. But finally, one also come to understand the political positions assumed by international environmental NGOs, state, and local authorities when providing their own definitions of REDD. In the end, REDD emerges as an object around which older debates evolve and power asymmetries are disputed.

Exchange and value in participatory forest management: An ethnographic approach to the nature reserves of Tanzania's Eastern Arc
Jessica Pouchet (Anthropology, Northwestern University)

In this paper, I argue that practices and moments of exchange are an important site of inquiry for the critical analysis of those market-based logics pervasive in the design and assessment of participatory forest management projects. Contemporary debates in conservation governance, for instance, concern compensation for restricted access to lands, eco-friendly income-generation activities, and cost-benefit sharing, and are often cast in the neoliberal terms of economic exchange. Yet pushing social and ecological processes through the market prioritizes commodities at the expense of other, equally significant factors, thereby obscuring much of what shapes the political ecological reality of life inside and surrounding protected areas. With insights gained from preliminary fieldwork in and around the forested nature reserves of Tanzania's Usambara Mountains, I identify key sites of exchange in which residents, private enterprises, NGO representatives, and government officials negotiate the value of forest stewardship labor, natural resources, and compensatory funds. Paying special attention to the role of unequal material, spatial, and cultural-linguistic positions with which people approach exchange in the rural but highly globalized sites of Tanzania's nature reserves, I outline an ethnographic approach to studying the multiple ways in which the value of forest resources are created and contested. In opposition to a focus on strictly economic calculations of ecosystem services, I explore how an anthropological perspective on exchange and value, which brings the material and social dynamics of exchange into the same analytical frame, can contribute greater nuance to the study of forest governance and conservation finance.

4. Political Ecologies of Bordered Spaces I

Location: Student Center 206
Organizers: Lily House-Peters (Geography, University of Arizona) and Sarah Kelly-Richards (Geography, University of Arizona)
Chair: Casey Walsh (Anthropology, UC Santa Barbara)

Fluid Entanglements in Fugitive Spaces: Environmental Knowledge and Power Regimes in Riparian Social-Ecological Systems in the Sonoran Borderlands
Lily House-Peters (Geography, University of Arizona)

In the Arizona-Sonora border region, the bi-national San Pedro River watershed is marked by complex, overlapping political and environmental governance regimes. In these semi-arid borderlands, local governance of transboundary waters is subject to a host of anxieties, including drought, resource privatization, and international border securitization, resulting in differentially positioned subjects vis a vis natural resources and the state. However rivers are dynamic sites of flows, movements, intersections, and entanglements. Overlain with multiple borders, the transboundary fluidity of the San Pedro River and its underground aquifer defy these boundaries, revealing that rather than fixed lines on a map, borders and boundaries are always in process, continually being performed, constructed, and transgressed. Riparian social-ecological system dynamics are characterized by the strong coupling of groundwater-surface water hydrology that links groundwater table levels to surface water streamflow. Thus, declines in the water table due to long-term drought and overpumping in the transboundary aquifer have

significant impacts on streamflow. Although the San Pedro River transgresses the political boundaries imposed upon it, environmental knowledge production and water resource governance regimes remain thoroughly bordered. Focusing on the riparian corridor of the San Pedro River, I argue that borders are productive of natures. Borders affect how knowledge claims are produced, distributed, accepted, and denied, impacting the types of riparian management that are possible in certain places at certain times. As social-ecological imaginaries are constructed and contested through biophysical data collection, analysis, and modeling, the politics of knowledge production are imprinted on landscapes with very real material consequences for the differentiation of subjects vis-à-vis access to natural resources and state-based aid.

The power of boundaries: Political ecologies of Canada-US Shared Waters
Alice Cohen (Earth & Environmental Science, Acadia University)

This paper draws on debates in border studies, political geography, and political ecology to explore tensions at the heart of transboundary environmental governance. In particular, the paper is concerned with waters that flow across and along the Canada-US border, and, more specifically, with tensions between political and ecological boundaries. We suggest that current challenges to contemporary transboundary water governance can be understood as products of bordering processes rather than simply as a result of the historical context of the negotiations that lead to the signing of the 1909 Boundary Water Treaty, which governs waters shared between the two countries. Written in 1909, the much-vaunted Treaty contains no provisions for Aboriginal Treaty rights, environmental protection, or public participation and community engagement. Using the upcoming Columbia River negotiations as an example, we suggest that the absence of these three important points from the 1909 Treaty can be understood not only as a product of historical context, but also as constitutive – rather than a complication of – international boundaries themselves. Indeed, the colonial imposition of the Canada-US international boundary had the effect of disconnecting environments, disempowering transboundary communities, and downplaying the importance of Aboriginal communities spliced by the border's delineation. Beyond the Canada-US context, the paper explores ways in which binational environmental agreements – even more recent ones – can be antithetical to these phenomena, and theorizes ways in which political ecology might usefully inform the crafting of alternative models.

The Politics and Perceptions of Infrastructure in an Informal Colonia of Nogales, Sonora
Sarah Kelly (Geography, University of Arizona)

This paper situates the political economy of infrastructure in Nogales, Sonora within the broader context of security and sanitation infrastructure funding along the U.S.-Mexico border. During the 2013 fiscal year, the Border Patrol budget eclipsed the total funds allocated by the North American Development Bank for environmental infrastructure, primarily wastewater treatment and potable water provision, since its inception following the North American Free Trade Agreement. Local infrastructure issues along the border are embedded in these larger political economic processes, where security concerns overshadow other infrastructure needs. Within this context, I examine how sanitation and potable water infrastructure form an important political object at multiple scales, from one area within an informally settled neighborhood, to binational funding agreements between nation-state entities. In Nogales, infrastructure is central to a series of perceived linear steps toward becoming a formal neighborhood: first comes electricity, then paved roads, then piped water and sanitation. Yet the materiality of infrastructure, as it interacts with the hilly topography and informal settlement patterns of the city, thwarts sanitation provision efforts. Focusing analysis on infrastructure within Nogales reveals the confusion generated by the legal plurality of land tenure status, and the historical biases toward residents of these informal settlements, primarily laborers of the maquiladora sector. I draw from political ecology, legal pluralism, and feminist geopolitics to trace the effects and spatial implications of informality and infrastructure, pointing toward the broader implications of these processes along the border.

Undercurrents: Non-water flows along a transboundary river
Kimberley Thomas (Geography, Rutgers University)

On August 17, 1947, the same stroke of Sir Cyril Radcliffe's pen that established Pakistan and India as independent states also transformed the Ganges River into an international watercourse. Fed by tributaries originating in Nepal, flowing 2240km across India, and culminating its overland journey in Bangladesh, the river

carries vital water resources across two national borders and has been the focus of protracted and on-going transboundary disputes for decades. While water conflicts over the Ganges have been well-documented, an unconventional analysis of the articulation of the river with the Indo-Bangladeshi border exposes surprising dynamics of non-water flows. This paper traces the peculiarities and consequences of the 1947 boundary designation, from India's disinclination to recognize the river as an international watercourse to the militarization and securitization of the river's banks, to argue that attention to non-water flows along the Ganges is critical to understanding how the river-border complex mediates the differential concentration and distribution of wealth and risk exposure across the international divide.

5. Killer T-Cells to Global Biomics: A Critical Political Ecology of Health I

Location: Student Center 211
Organizers: Sophia Strosberg (Geography, University of Kentucky) and Adam Mandelman (Geography, University of Madison-Wisconsin)
Chair: Sophia Strosberg
Discussant: Paul S.B. Jackson (Geography, Dartmouth College)

Risk and Responsibility: Discourses of Health in Workers' Safety Training in the Marcellus Shale
Arielle Hesse (Geography and Women's Studies, Penn State)

Scholars have expanded geographic understandings of health to challenge conceptualizations that reproduce neoliberal, individualizing logics that characterize health as an individual responsibility. As such, this scholarship has provided important understandings regarding the relationships between capitalism, the body, and health. To engage these insights, this paper explores the tensions that arise within individualizing logics of health by examining concepts that are used to justify why individual employees are responsible for securing and protecting their health at work. Using theorizations of relationality developed in feminist geography, this paper examines workplace health and safety training for workers in Pennsylvania's regional natural gas industry. It investigates the relationships between two kinds of worker responsibilities advanced in training coursework: workers' responsibilities to others, and workers' responsibilities for the self. The paper traces how the concept of workers' responsibilities to others, although emblematic of workers' embeddedness in social and environmental systems, paradoxically enables workers' identities – as parents, spouses, employees, and citizens – to be leveraged to consolidate responsibility for health within the individual and to de-emphasize institutional forms of power.

Risky and At Risk: HIV/AIDS, Women and Post-War Health Citizenship
Helen Olsen (Geography, Rutgers University)

During times of war, reductive and gendered assumptions of women and girl's health needs are reified through global health discourses and enacted through specific forms of healthcare programming that render their bodies as both 'risky' and 'at risk.' Throughout the eleven year civil war in Sierra Leone, women and girls experienced levels of bodily trauma and sexual violence that exposed them to a variety of potential physical and mental ailments, including STIs, infertility, fistula, maiming, and chronic depression. In Sierra Leone, reports of sexual violence during the war resulted in international concern over a potential 'crisis' of HIV/AIDS in the country. In order to manage the imagined impending outbreak, international actors partnered with the Ministry of Health and Sanitation to create the Sierra Leone HIV/AIDS Response Program (SHARP) – a narrowly focused technical, verticalized series of biomedical interventions. Through a critical discourse analysis of SHARP, I illustrate the ways in which this program constructed Sierra Leonean women and girls as both abject victims in need of care (read: at risk) and potential sites of HIV/AIDS infection in need of control (read: risky). These dual discursive claims to care reveal the production of a specific discourse of health citizenship in post-war Sierra Leone – one that this highly selective and informed by global narratives of gender, health and biosecurity.

Eating to eradicate: bodies caught in the matrix of medicated salt during the war against malaria
Jennifer Sedell (Geography, University of California, Davis)

Between 1958 and 1963, the World Health Organization (WHO) and United States Overseas Missions (USOM) pursued experiments in Southeast Asia and Eastern Africa to eradicate malaria through the use of table salt

enhanced with prophylactic drugs. The projects were short-lived, yet drug resistant strains of the disease persist in the experimental areas today. Drawing on archived communications between WHO and USOM officials, this paper presents preliminary research on the material and discursive significance of bodies in the experimental regions. Bodies were treated as both reluctant consumer subjects charged with controlling their environment through their eating habits as well as sites of evaluation—program success was measured through biomonitoring. From the medical standpoint of the time, the medicated salt projects could only succeed in reducing malaria rates if a critical mass of the population in the experimental area was regularly consuming the prescribed salt. Therefore disciplining subjects into eating for the health of themselves and their community became paramount. The projects also required total control of the salt supply chain to ensure that only medicated salt was available for daily consumption and that it indeed was consumed. Methods of monitoring control over the commodity chain were intimate and invasive: inventories of product leftover in households and the analysis of urine. Ultimately, the experiments were abandoned because of the development of two kinds of resistances that seemed in contradiction to one another. News of strains of malaria resistant to the specific drugs used in the projects began to surface, which appeared to indicate that a certain level of drug absorption had been met in those areas, at the same time that WHO and USOM officials were chronicling the impossibility of achieving total control over consumption habits.

The Biopolitics of Community Health Promotion: Behavioral Surveillance and the Construction of Healthy Spaces

Curtis Pomilia (Geography, Indiana University)

Over the last decade, the Centers for Disease Control and Prevention has begun to implement an "upstream" approach to chronic disease prevention which targets communities and environments through a process of surveillance, intervention, and evaluation. A core principle of these community health promotion projects is that chronic disease epidemics can only be contained by addressing the physical and social conditions which produce poor health to begin with. This paper will critically assess this State management project by examining the ways in which health promotion activities are defined and implemented. Key aspects of this analysis include: the U.S. government's establishment of an 'evidence base' in the late 1990s to serve as the gold standard for legitimate community intervention strategies, the increasing application of behavioral surveillance in grant-receiving communities, and the neoliberal congressional mandates which fund and evaluate health promotion activities. Ultimately, this paper argues that community health promotion is best understood as a kind of behavioral crime prevention, which attempts to construct spaces of self-regulating subjects and criminalize behaviors and activities at odds with neoliberal city visions. By tracking the processes through which the State constructs and implements ideal categories of health, we gain important insight into emerging strategies of biopolitical governance.

6. Rebel Landscapes I

Location: Student Center 228
Organizers: Emma Gaalaas Mullaney (Geography & Women's Studies, Penn State) and Lilian Brislen (Sociology, University of Kentucky)
Discussant: Tad Mutersbaugh (Geography, University of Kentucky)

Alternative food networks as landscapes of resistance: Political ecology, resiliency, and change

Russell Hedberg (Geography, Penn State)

A significant body of literature has accumulated over the past two decades analyzing farmer's markets (and alternative food networks (AFN) more generally) as nodes of resistance to neoliberal/capitalist global food systems. And while environmental benevolence is often touted as one of the hallmarks of AFNs, there has been relatively little research examining the ways in which AFNs contribute to agroecological practices or change the ecology of the regional landscapes in which they exist. Using the New York City Green Markets as a model case, this paper draws together tools and perspectives from landscape ecology and political ecology to construct a theoretical framework for exploring the myriad ways that AFNs might contribute to resilient landscapes that are better able to 'resist' the pressures to climate change and rural development. In the processes, I consider the potential linkages between this ecological resistance and more documented social forms of resistance in AFNs. I also critically examine the ways that the political-economy of AFNs might encourage and confound the potential for

AFNs to establish landscapes of ecological resistance.

Replacing Politics: Landscapes of Rebellion within Ethical Commodity Networks
Bradley Wilson (Geography, West Virginia University)

Over the past decade the promotion of ethical commodity networks has led to significant changes in the way people produce, consume and think about global goods. Initially envisaged as a means of reconnecting consumers and producers through relations of solidarity however, these ethical commodity networks have come under greater scrutiny in recent years for the way that they fetishize and smooth over conflicts within spaces of ethical commodity production. In this paper I explore an explosive movement of peasant farmers in Nicaragua who challenged violent land grabbing by an estate owner whose coffee plantation and supply chain is certified by Rainforest Alliance. Taking their street protests and legal struggle to maintain control over land as a point of departure, I deconstruct the social text of Rainforest Alliance's recent campaign called "Follow the Frog" which urges consumers to support their conservation efforts by purchasing their ethically labeled coffees. The Follow the Frog campaign I argue, illustrates the depoliticizing tendencies and political cul-de-sac created for consumers and producers as private NGOs and corporations take greater control of affective sentiments, information networks and discursive practices of social movements and use them for the purposes of cause marketing. I conclude by arguing that the overt invocation of Rainforest Alliance by peasant protest leaders also highlights the evolution of rebellion within ethical commodity networks as subaltern groups not only challenge the direct perpetrators of injustice but also begin to target the institutions that indirectly legitimize their actions.

Beans, Y'all! Wicked Heirlooms in Appalachia.
Lilian Brislen (Rural Sociology, University of Kentucky)

A presentation of an auto-ethnographic account of building a collaborative Appalachian heirloom bean enterprise, and early theorizing of the non/reformist nature of values based food chains.

Cultivating DismodernitycPeasant Persistence, Maize Diversity and Agricultural Imaginaries in Mexico's Central Highlands
Emma Gaalaas Mullaney (Geography & Women's Studies, The Pennsylvania State University)

This paper examines everyday practices of maize production in Mexico's Central Highlands to show how competing agricultural imaginaries are constituted and contested by the relationships between diverse actors, both human and otherwise. Drawing on ethnographic research, oral histories, and my own corporeal experience of living and working in the region for twelve months, I traverse the two distinct maize systems that dominate this agrarian landscape and are produced in tension with one another. Whereas the first centers on locally-adapted genetically-diverse criollo varieties that farmers have bred themselves, the second is defined by non-renewable, high-input-demanding, genetically-uniform hybrid varieties. I examine how maize germplasm and high-altitude volcanic valleys work to constrain and enable particular practices of maize cultivation and commodification and how, as collaborators in our daily lives, they shape our visions of a possible and desirable agricultural future. These nonhuman actors disrupt the livelihood struggles of diverse human collectives – including members of smallholder farmer families, agricultural extension agents, and scientific researchers at work in the region – and they present unexpected challenges to decades of agricultural modernization interventions, particularly concerted government attempts to effect the widespread adoption of hybrid maize seed. Here, I am following the lead of geographers who consider the material processes of everyday discourse and practice and how they are productive of certain bodies and certain political and economic landscapes. This approach allows for an analysis of the collective performance of farmers and maize, of agrobiodiversity and social difference, as a form of refusal, with the potential to illuminate new, more accountable agricultural possibilities.

7. Pluralizing the Approaches to Urban Political Ecology in a 'World of Cities' I

Location: Student Center 230
Organizers: Henrik Ernstson (Human Geography & Political Ecology, Stanford University) Jonathan Silver (Geography, Durham University) and Mary Lawhon (Geography, University of Pretoria)
Discussant: Mary Lawhon (Geography, University of Pretoria)

Provincializing Urban Political Ecology: Towards a Situated UPE Through African Urbanism
Henrik Ernstson (Human Geography & Political Ecology, Stanford University)

Urban political ecology (UPE) has provided critical insights into the sociomaterial construction of urban environments, their unequal distribution of resources, and contestation over power and resources. Most of this work is rooted in Marxist urban geographical theory, which provides a useful but limited analysis. Such works typically begin with a historical-materialist theory of power, then examine particular artifacts and infrastructure to provide a critique of society. We argue that there are multiple ways of expanding this framing, including through political ecology or wider currents of Marxism. Here, we demonstrate one possibility: starting from theory and empirics in the South, specifically, African urbanism. We show how African urbanism can inform UPE and the associated research methods, theory and practice to create a more situated UPE. We begin suggesting what a situated UPE might entail: starting with everyday practices, examining diffuse forms of power, and opening the scope for radical incrementalism. Here we will extend our reasoning by reflecting on new writings and elaborating through case studies what radical incrementalism could mean in practice and what theoretical problems and possibilities it poses.

Accidental Jakarta: Experiments in Urban Historical Ontology
Cameron Hu (Anthropology, University of Chicago)

This paper reflects on the operation of time in the political ecology of a postcolonial capital. This comes by way of a slightly unfaithful deployment of the analytic techniques of historical epistemology and historical ontology. These techniques — meta-styles of reason most famously deployed by Michel Foucault (1979), and later given more explicit formation and a Wittgensteinian hue by Ian Hacking (2004) — direct our attention to the contingent emergence of forms of life and its reckoning, and to the specific potentialities immanent those forms. Do these and related modes, more often applied to regimes of knowledge and kinds of personhood, have anything to offer the study of cities? Drawing on an ongoing ethnographic study of "accident" and "catastrophe" and their material and virtual mediations in urban Jakarta, this paper experiments with a a series of temporalizations that emphasize an urban political ecology addressed in terms of event over against those of structure. How might we rigorously approach— for example — the postcolonial urban present as variously made up of a) the labile conditions of possibility for specific scenes of transformations or of repetitive occurrence (cf. Rheinberger 1997); b) an historically-particular set of sensibilities, embodied capacities, habits, or dispositions, and c) the diverse materializations of temporally-embedded ethical projects? These and other questions capture something different of post-colonial urban transformation — they direct our attentions to the the form rather than content of that transformation. Moreover, they quickly refer us back to the historical contingency of our own modes of urban analysis, unsettle the obviousness of their ethical and epistemic commitments, send us in search of their "axial points" (Wittgenstein 1972), and thereby draw theories of the urban into foundational questions of political theory.

Pluralizing 'the State' in Urban Political Ecology: State Formation and Water Politics in Bangalore, India
Malini Ranganathan (Global Environmental Politics, American University)

How can our theoretical grasp of 'the state' be pluralized in urban political ecology? Drawing from anthropology and post-colonial studies, this paper argues the importance of a 'state formation' approach in urban political ecology, thus moving us beyond an approach to state power that has primarily been informed by Marxian historical-geographical thought. By 'state formation', I refer to a denaturalized approach to the state—one that is grounded in the heterogeneity of state practices and actors, and is dedicated to demystifying the apparent cohesiveness of the state idea. Too often in urban political-ecological research—particularly in research on urban infrastructure reform and politics—the state is either relegated to the background because if its purported 'retreat'

in the neoliberal era, or it is portrayed as a unified entity with an internally coherent set of discourses and practices of capitalist accumulation and rule. Rarely are the messy politics emanating from within the state itself broached, or the fact that the seemingly totalizing projects of infrastructure rule are always reworked by 'informal sovereigns', 'shadow states' and the 'everyday state'. Through contemporary and historical research on Bangalore's water supply, this paper deepens and expands the horizon of theorizing related to 'the state' in urban political ecology.

Vanished in Gaps, Vanquished in Rifts; Social Ecology of Urban Spatial Change in a Working Class Residential Area: Peykan-Shahr, Tehran, Iran
Ilia Farahani (Human Ecology, Lund University)

The article aims to understand the forms and processes of socio-ecological changes following socio- geographical dislocation of workers in a working-class neighborhood (Peykan-Shahr) in Iran. The article integrates theories of gentrification and metabolic rift. Existing studies on urbanization in Iran refute the possibility of gentrification. This study, in contrast, by drawing attention to peculiarities of the capitalist economy in Iran, adapts the basic economic mechanisms of gentrification such as the rent/value gap and the concept of absolute rent, concluding that Peykan-Shahr is indeed in a process of gentrification. The theory of metabolic rift adds theoretical dimensions and complexity to the analysis and provides a richer understanding of the case. Grounded in Marx's labor theory of value, the analysis shows that by mediating the exploitation of labor/nature by capital through displacing workers from their houses, gentrification in Peykan-Shahr has caused a socio-ecological metabolic rift in terms of labor reproduction and deterioration of labor power.

Doing Identity in Urban Political Ecology
Alec Foster (Geography & Urban Studies, Temple University)

While questions of identity have recently proliferated within the wider field of political ecology, unfortunately this has not been extended within the realm of urban political ecology. This research argues that investigating questions of identity can be a valuable approach in efforts to expand the concepts and methodologies of urban political ecology. While the theorizing of environmental identities began with a strong emphasis on Foucauldian governmentality, here inspiration is drawn from more recent work that has highlighted the importance of integrating material, performative, embodied, affective, spatial and narrative considerations of identity formation. Environmental identities are seen as relational, co-constituting both urban subjectivities and material urban environments. A focus on everyday practices is advocated for as a means of understanding the ways in which these complex processes continuously offer up choices of identifications to urban residents, and how individuals make choices between the multitude of subject positions that are available to them. A methodology for examining environmental identifications in Philadelphia, Pennsylvania is developed. Multiple in depth interviews, walking tours, and other non-traditional research experiences are proposed as a program for understanding the environmental identifications of individuals participating in environmental activism. Different levels of activism, from park stewardship and tree planting to environmental direct action are chosen to understand how a suite of differential everyday environmental practices interact with the classed, gender, racialized, sexualized, and spatialized aspects of everyday life to produce identity.

8. Working Political Ecology: Affective Accounts of Socio-Environmental Encounters I

Location: Student Center 231
Organizers and Chairs: Jessa Loomis (Geography, University of Kentucky) and Sarah Watson (Geography, University of Kentucky)
Discussant: Anna Secor (Geography, University of Kentucky)

Biopower of Environmental Care Labor: Participatory videos in Odisha, India
Neera Singh (Forestry, University of Toronto)

In Odisha, India several thousand villages are involved in conserving state-owned forests through community-based patrolling arrangements. These conservation practices can be seen as 'affective labor' to regenerate forest that engages mind and body, intellect and emotions, thinking and acting simultaneously. The forest-care labor of

patrolling, weeding, fire control, etc. and of creating new institutions, not only grows forests but also cultivates new subjectivities. These laboring practices also articulate biopower from below, or what Negri terms as biopotenza, i.e. the power of life, to bring about new ways of being and relating. In this paper, I discuss my experimental use of participatory visual ethnography to study affective socionature encounters in the conservation landscapes of Odisha. In two villages, rural men and women are using video cameras to document their forest conservation practices and explore issues of subjectivity and affects. I discuss how their visual ethnography helps illuminate aspects of the 'liveliness of life' and the complex interweaving of subjectivity from the material world 'out there' and the 'in here' of human beings (Whatmore, 2006). I argue that video cameras in the hands of village women and men not only reveal affective relations and subjectivity transformation, but become tools for 'attunement or education of attention' that allow meanings to be discovered in the environment (Ingold, 2000). In conclusion, I discuss the biopolitical potential of environmental care labor to produce new subjectivities and offer openings for radical politics.

Precarious Work, Precarious Life: Mexican immigrant foodservice workers in Portland, Oregon
Amy Coplen (Urban Studies, Portland State University)

Production and social reproduction are mutually constitutive, a dialectical unity in tension and "under constant threat of dissolution" (Katz, 2013, 488). The expansion of neoliberal capitalism is exacerbating the precarious nature of both work and life, and this precarity is distributed unevenly along lines of race, class, gender, nationality, and citizenship status, to name a few. It is through the labor process, according to Marx, that man "mediates, regulates and controls the metabolism between himself and nature" (Marx, 1976, 283). Under the capitalist mode of production, labor alienates the worker from nature and transforms, rescales, and intensifies the metabolic interaction between humans and the earth. By putting theories of social metabolism in conversation with social reproduction, I aim to develop a research framework to explore how laborers are responding to both increased exploitation in the workplace and cuts to social services. My proposed research will examine the experiences of Mexican immigrants working in three foodservice arrangements in Portland, Oregon: high-end farm-to-table restaurants, small worker-owned food businesses, and fast-food service. Through these cases, I will explore how labor and social reproduction are affected by 1) a perceived "sustainability" ethos in the workplace, 2) the degree of ownership over the means of production, and 3) a growing movement of foodservice organizing. By linking theories of social metabolism and social reproduction, I present a research framework for examining how Mexican immigrant foodservice workers are responding to attempts by capital and the state to dissolve the unity of production and social reproduction.

"Wearing 'Good Luck Polka Dots': Bird Bodies as Affective Biopower at the Aquarium of the Pacific"
Teresa Lloro-Bidart (Education, Society, and Culture, University of California Riverside)

In this paper I show how Lorikeet bodies at the Aquarium of the Pacific are commodified as a Foucauldian form of biopower. Due to the commodification and sanitizing of bird bodies, guests have a safe and satisfying experience, but one limiting their ability to develop empathic and caring relationships with them. Some staff working with the Lorikeets, in contrast, experience the birds as affective biopower as they develop empathic and caring relationships with them. I also explore how affective and emotional relationships with the Lorikeets are mediated by not only positive encounters with them (they kiss staff on the lips; they cuddle in their hands), but also negative encounters with them (they bite; they defecate on clothes). I draw on the work of (1) Foucault and his adherents (Goldman, 2006; Luke, 2000; Rutherford, 2011) who have theorized the production of environmental knowledge in a Foucauldian framework; (2) Callon (1986) and Haraway (1989, 2008) implicating humans and non-human animals as actors; and (3) environmental anthropologist Milton (2002; 2005) who theorizes the development of affective human-animal relationships vis-à-vis person-based identification and egomorphism. Methods I conducted a 14-month ethnographic field study. To do this I: (1) interviewed 40 staff members affiliated with the education department; (2) observed and audio-recorded staff as they interacted with guests; (3) attended weekly staff professional development activities and nightly public lectures; (4) interviewed guests visiting the Aquarium; and (5) collected print and online documents. * "Good Luck Polka Dots refer to the bird poop stains staff members get on their shirts when they work in the Forest. Bird poop actually deters many volunteer staff from taking shifts in the Forest.

Forming Environmentalist Subjectivities through Green Neoliberal Identity Work
Autumn Thoyre (Geography, UNC-Chapel Hill)

In this paper, I examine how green neoliberal subjects are formed through everyday identity work: environmentalist practices of claiming, defining, maintaining, contesting, and policing identities. Using critical perspectives on green neoliberalism and symbolic interactionist perspectives on identities, I develop the concept of green neoliberal identity work, a mechanism through which neoliberal ideologies are translated into everyday environmentalist practices. I use environmentalists' promotions and uses of compact fluorescent light bulbs (CFLs) as a case study, mixed qualitative methods, and grounded theory analysis. Data were collected in North Carolina through interviews, participant observation, and texts. The data reveal five generic patterns of green neoliberal identity work: 1) celebrations and 2) renunciations of particular technologies, 3) inclusive-talk, 4) performing moral math, and 5) technological progress-talk. These patterns show that framing green neoliberal subject formation through the lens of identity work illuminates how these subjects form themselves through talk and opens up different ways of thinking about resistance.

9. Intersections of Critical Development Studies and Political Ecology

Location: Student Center 249
Organizers: Catherine Bishop (Geography and Anthropology, Indiana University) and Harry Fischer (Geography, University of Illinois at Urbana-Champaign)
Discussant: Majed Akhter (Geography, University of Indiana-Bloomington)

Pastoralists hedging climate variability? Index insurance in Northern Kenya's arid lands
Leigh Johnson (Geography, University of Zurich)

In Northern Kenya's arid and semi-arid lands, index-based livestock insurance (IBLI) has recently been piloted as a subsidized market-based mechanism to reduce pastoralists' vulnerability to drought. Moving beyond simple critiques of the commodification of risk, this paper positions IBLI as the still-evolving outcome of several intersecting paradigms of development. It draws on interviews, focus groups, and ethnographic fieldwork to discuss the limitations and possibilities raised by this form of insurance. Because the index that triggers payout is based on remotely sensed pasture greenness (NDVI) linked to territorially defined grazing areas, the contract can pose basis risk for pastoralists, whose individual loss may not match index predictions. However, the indexical nature of the coverage also creates possibilities, two of which are explored here. First, indexicality allows buyers to hedge consumption risks without owning assets, which holds implications for women's access. Second, indexicality allows for the mobility of livestock beyond the territorial division in which the insured has purchased coverage, which holds implications for grazing practices. These possibilities illustrate the practical and savvy ways in which pastoralists may turn the market in drought risk to their advantage. The paper concludes by identifying the relative roles of other market actors in shaping the form, price, and availability of the product and its expansion to new regions, including the growth of Shariah-compliant Takaful index insurance in the ethnically Somali northeast.

Urban garbage, Wild nature, and expectations for development in Yucatán
Anne-Marie Hanson (International Studies, Trinity College)

This paper will address the urban-natural divisions that permeate current politics and practices surrounding sustainable development in conservation areas throughout Mexico and many parts of the world. I use a case study of community garbage governance and sustainable development politics in Celestún, Mexico – a small urbanizing city amidst the protected coastal wetlands of Yucatán. Drawing from three years of ethnographic research, I address the historical and political relationships that produce gendered spaces of exclusion through overlapping policies and expectations for urban development and environmental protection. I demonstrate the links between historical campaigns for urban progress and current increases in household consumption of plastics, as well as the extension of colonial policies and concepts of coastal wilderness through contemporary environmental management technologies and conservation-as-development subsidies. I argue that the presence of garbage, above all other urban features, situates residents of Celestún and other coastal cities between overlapping urban and rural expectations and policies, where they are considered both as unnatural environmental stewards and as unclean victims of urban poverty in need of modern, sustainable development and environmental education. My findings elucidate how women produce new socio-environmental subjectivities through recycling and wetlands cleanup projects, and how informal garbage use and disposal redefines urban and conservation space to create alternative

development opportunities.

Democratic politics, development, and the state: Changing governance of common-pool water systems in the Indian Himalayas

Harry Fischer (Geography, University of Illinois at Urbana-Champaign)

This paper explores the integration of state institutions and development resources within traditional water management systems in the Kangra district of Himachal Pradesh, India. For at least several hundred years, maintenance has been organized by traditional systems of collective action – managed by culturally-sanctioned authorities, governed by norms of social responsibility, and etched into the spiritual beliefs of local resource users. Now, growth in the cash economy, increasing labor migration, and changing social dynamics have placed traditional systems of collective action in a state of decline. Nevertheless, water systems persist, while the state has come to assume a greater role in their management. In this paper I seek to document: (1) Emerging forms of co-governance at the intersection of state and society and (2) The ways in which citizens mobilize within state institutions to ensure water access and improve delivery infrastructure. To date, the role of the state has received comparatively little attention within commons literature. I reveal how political engagement within state institutions have served to perpetuate water systems during times of social transition, redrawing lines and linkages between state and society in the process.

Palm Oil Production, Income Generation, and Community Empowerment: Impacts of Appropriate Technology in Liberia

Catherine Bishop (Geography, Indiana University)

The Appropriate Technology Movement emerged in the 1970s as an alternative paradigm of local and international development and technology diffusion. Works such as E.F. Schumacher's Small is Beautiful (1973) responded to and shaped the concerns of a generation of activists, researchers, inventors, and experts involved in international development at the end of the twentieth century. A key element of Schumacher's vision of a more just and sustainable world was "technology with a human face." Technologies based on compassion and equity could assist humanity to achieve radical deindustrialization and, importantly, reduce energy consumption and conserve natural resources. The impacts stemming from the brief reign of the Appropriate Technology Movement in development policy and practice are far reaching, in some cases triggering profound transformations in human-environment relationships at local, national, and transnational scales. Why have some technologies invented during the Appropriate Technology Movement persisted over time and spread in geographic scope and what are the impacts? This paper provides a detailed description and analysis of the circulation, adoption, and impacts of a small-scale palm oil technology invented in Cameroon in the 1980s and currently promoted by USAID in Liberia. Using Appadurai's model in The Social Life of Things (1986) I describe the characteristics of different categories of technology users, the cultural and environmental context of their activities, and how they obtain the technology. I then discuss their reasons for adoption and the social, economic, and environmental impacts of the technology. Finally, I reflect on the potential political impacts and sustainability of the technology at regional and local scales.

The Politics and Pragmatics of Governing GE crops in India

Julia Freeman (Interdisciplinary Studies of Environment, McGill School of Environment)

The regulation of genetically engineered (GE) crops in India has been fraught with practical and ideological challenges as the country navigates its agricultural development. The current regulatory regime is based on biosafety risk assessment. This regime has undergone near constant critique despite the widespread cultivation of India's only commercialized GE crop, Bt cotton. Current literature celebrating the "participatory turn" in the governance of risky technologies (such as GE crops) has raised interesting theoretical questions for the Indian case. This paper takes three concepts commonly found in the literature: legitimacy (of the governing institution), credibility (of the same) and participation (of the broader public) and uses a number of key events and considerations of the Indian case to examine their viability and contribution to India's regulatory challenges. The paper is based on interviews carried out with key members of India's biotechnology regulatory body, scientists, and scholars (n=17) as well as drawing from relevant policy documents. In it, I suggest that biosafety risk assessment and the governance of

GE crops are currently conflated, and the need for their distinction lies at the core of the debate. Effective regulation will involve greater legitimacy, credibility and participation, as advanced in the literature. However, these concepts require their own careful definition and thoughtful integration. In particular, India's status as a vast, agrarian country with a highly differentiated population requires that the matter of participation is addressed with great care.

10. Panel: Reaching a wider audience: disseminating results in non-academic outlets

Location: Student Center, Center Theatre
Organizer: Christopher Hartmann (Geography, Ohio State University)

While publishing research results in peer-reviewed journals is important for advancing knowledge production within the discipline, results from political ecology work are often disseminated outside academic channels to the broader public. Examples include writing for broad audiences (e.g., newspapers, magazines), art performances (e.g., theatre, film), town hall gatherings, and many others. This session seeks to create a forum for discussing the advantages and challenges to alternative publications and research dissemination. During this session, panelists will briefly describe their research, their dissemination activities to non-academic outlets, and challenges encountered during the dissemination process. Time will be devoted to audience participation so that the session functions as a hybrid panel, round-table discussion.

Panelists:
Patrick Hurley (Environmental Studies, Ursinus College)
Aimee Leon (Intermedia & Interdisciplinary Studies, Arizona State)
Kate MacFarland (National Agroforesty Center, U.S. Forest Service, Nebraska)
Kendra McSweeney (Geography, Ohio State)
Tracy Perkins (Sociology, UC Santa Cruz)
Moderator: Chris Hartmann (Geography, Ohio State)

11. Perspectives in Ecomusicology

Location: Niles Gallery, Fine Arts Library
Organizer and Chair: Donna Kwan (Ethnomusicology, University of Kentucky)

Prolegomenon to a Political Ecology for Ecomusicology
Presenter: Aaron Allen (Sustainability / Musicology, UNC Greensboro)

Military Expansion on the 'Island of Peace:' Protest through Song
Tanner Jones (Ethnomusicology, University of Kentucky)

Currently, the U.S. and South Korean governments are constructing a naval base on Jeju Island, South Korea, located at the southernmost tip of the country. Prominently known as "The Island of Peace," Jeju Island has been deemed one of the "New Seven Wonders of the World," and is the first place in the world to obtain three separate UNESCO designations. However, pushed by the U.S. to shore up defense against the growing Chinese military presence in the area, the South Korean government has ignored national and international natural preservation laws to continue the construction of the naval base. Thus, the "Island of Peace" is under eminent threat of becoming central to U.S. military interests in East Asia. Along with the destruction of the natural habitat, the local way of life that is dependent on those resources is under similar danger of being disrupted. Peaceful protests of the base have been ongoing since its inception in 2007, and protesters have maintained an active presence at the construction site. This paper will attempt to illuminate the atmosphere of these protests by focusing on the overwhelming presence of song. Music from local folksongs with new words, Catholic hymns, Buddhist chants, shaman rituals made for this protest, to K-Pop songs, satirical musical numbers, etc., all play a large role in these protests. I posit that the sonic sphere of these protests can at once elucidate the local struggle and the international solidarity of the activist community, as well as show the agency of music as a powerful protest tool and unifying force.

Appalachia: Community in Distress. An Emergency Room Episode in Five Scenes

Ron Pen (Musicology, John Jacob Niles Center for American Music, University of Kentucky)

Appalachia is both a land and a people; an inextricable union in which the health of the people is linked directly to the health of the land, and the health of the land is dependent on the people inhabiting its hills and hollers, its mountains and its valleys. Life in the mountains was never easy, but prior to the twentieth century, the land and the people understood one another. The Cherokee had their shamans, their herbal lore, and their ceremonial rites. European-American settlers developed natural remedies from native plants such as goldenseal, ginseng, and sassafras. Granny women ushered folks in and out of the world with great skill born of experience. Life was hard and death was easy, but people lived on the land in a sustainable balance. The streams ran clear, wild game filled the woods, and the vast oaks, tulip poplars, and chestnuts provided mast for the hogs and lumber for their building needs. The pinched rocky bottomland reluctantly yielded crops while sorghum and honey sweetened hard lives. Music was the stitchery that bound the community together in shared song and dance. Labor activist and musician Aunt Molly Jackson said: "This is what a folk song realy (sic) is the folks composes (sic) there (sic) own songs about there (sic) own lifes an there (sic) home folks that live around them." Through the lens of music, this presentation will survey the contemporary state of physical and social distress in the Appalachian region with a focus on East Kentucky. I shall posit ways in which traditional Appalachian musical culture may be applied as a restorative force capable of restoring balance to the relationship of people and place, the "lifes and homefoks that live around them" that have been gravely injured through cancerous resource extraction and social fragmentation.

The Placing of Max Neuhaus's Sound Works
Megan Murph (Musicology, University of Kentucky)

Max Neuhaus (1939-2009) was a pioneer in the creation of site-specific auditory works entailing social interaction, and today he is recognized as one of the first artists to extend sound as a medium into the world of contemporary art. The pieces he produced between 1966 and his recent death have been dubbed "sound art," a term that covers a wide variety of work related to sound and aural perception, yet one associated more closely with the realm of visual and performance art than with music. Neuhaus's curiosity regarding sounds within a specified place has been problematic for critics and historians who want to categorize his artistry. Over the last several decades, he has been called a sound artist, an aural artist, an environmental composer, a sound environmentalist, a composer, a sound sculptor, an audio artist, and more. Regardless of categorical preference, all of these terms have something in common: an addressing of Neuhaus as an artist creating sonic works in relation to place. Through his works, Neuhaus simply wanted to encourage listeners to "think about [sounds] in new and unexpected ways," but what he created has prompted further questions about his medium. Since sound or music has traditionally been conceived through time, how do we study sound within place? How does that place influence the artist? Is the artist adapting or manipulating the environment in order to create their art? How are these site-specific works interpreted? This paper will examine two of Neuhaus's most popular creations, his Listen series (1966-76) and Times Square (1977), in regards to cultural ecology and the complex relationship between the artist, environment, and society.

Green Metal: Environmentalism in Metal and Punk Music
Ben Norton (Ethnomusicology, University of Kentucky)

Environmental politics is not something most readily associate with metal and punk music. While many know that the two tend to be political, few know that environmental themes are prominent in this overt musical politics. In this work, I discuss the history of environmental politics in metal and punk music. I begin with the relative merging of the metal and punk communities in the latter half of the 1980s and the subsequent emergence of subgenres heavily imbued with themes of environmental politics and activism, including metalcore, anarcho-punk, grindcore, black metal, and more. I adopt a variety of analytical approaches and methodologies, including close examination of environmental themes in prominent bands' lyrics, exploration of the ties between key bands and environmental activist organizations, and discussion of the lifestyles and personal practices of metal and punk musicians and fans. I conclude positing that, without an environmentalist lens, we fundamentally limit our understanding of these musics, and suggest that, through an understanding of this important thematic legacy and these formative historical conditions, we can conceive of metal and punk music as popular manifestations of widespread disapproval of—as sonic activism, if you will, against—a world of ever-increasing environmental degradation and destruction.

DOPE 2014: FRIDAY, FEBRUARY 28TH

**********LUNCH 11:40 am – 12:45 pm**********

AND MEET THE EDITOR: Journal of Political Ecology
Location: Student Center 115
(Lunch is on your own, but stop in to meet Casey Walsh and learn more about the *JPE*.)

DOPE 2014: FRIDAY, FEBRUARY 28TH

Friday Schedule Block #3:
12:45 pm – 2:40 pm

Opening Plenary Panel:
Engaging Difference: Displacing the Subject in Political Ecology

Location: Student Center, Worsham Theatre

Moderator:
Rebecca Lave (Indiana University)

Panelists:
Laura Ogden (Florida International University)
Dianne Rocheleau (Clark University)
Sharlene Mollett (University of Toronto at Scarsborough)
Carolyn Finney (University of California Berkeley)
Melanie DuPuis (University of California Santa Cruz)

DOPE 2014: FRIDAY, FEBRUARY 28TH

Friday Schedule Block #4:
3:00 pm – 4:40 pm

Sessions 1-7 in this block are located in the Student Center. Session 8 is located in the Fine Arts Library and has a later start time of 3:30pm.

1. The Political Ecology of Activism: Mobilizations, Fragmentations, and Stagnations II

Location: Student Center 115
Organizer: Pavathry Binoy (Geography, Syracuse), Emily Billo (Environmental Studies, Goucher College), Heather Plumridge Bedi (Environmental Studies, Bucknell University)
Chair: Emily Billo (Environmental Studies, Goucher College)
Discussant: Ann Kingsolver (Appalachian Center and Appalachian Studies Program
University of Kentucky)

Neoliberal Environmental Governance and the Evolution of California Environmental Justice Activism
Tracy Perkins (Sociology, University of California, Santa Cruz)

Since the early 1980s, environmental justice advocates' resistance to corporate efforts to locate polluting industries in low-income communities of color and their efforts to strengthen the regulation of existing pollution sources placed them in opposition to neoliberal, free-market ideologies that argue that the best societal outcomes result from unrestricted trade. The influence of neoliberal ideology in shaping the political terrain in which environmental justice advocates work has increased over time. This paper draws on interviews with environmental justice leaders across California to trace the increasing importance of markets on environmental justice advocacy in California through two key examples. First, I analyze the rise of green capitalism and sustainable consumption and the resulting embrace of environmental and environmental justice rhetoric by groups that have environmental justice advocates have formerly cast as opponents. I argue that the growing popularity of environmentalism and environmental justice complicates the terrain through which advocates must navigate as they distinguish their political allies from their opponents, and as they make their case to society. Second, I analyze the creation of a new California market in greenhouse gases, which deepened fissures between some environmental groups who support it and the many environmental justice groups who actively worked against it. Now that the market is in place, I also analyze the new splits it has created within the environmental justice movement. Overall, I argue that most environmental justice advocates continue to pursue work that fundamentally opposes neoliberal ideology, but that there also exists a growing trend of engagement with this increasingly strong form of environmental governance, and that these pressures are creating new forms of friction within environmental justice advocacy.

Special Economic Zone Resistance: Interpreting diverse visions of Industrial Political Ecology
Heather Plumridge Bedi (Environmental Studies, Bucknell University)

Drawing from ethnographic research on resistance to Special Economic Zones (SEZ), this paper applies a political ecology analysis to understand distinct visions of industrialization and related activism in India. Scholars argue that the current trajectory of Indian industrialization unsustainably exploits India's natural resources and provides justification for internal colonialism and marginalization of vulnerable communities (Bhaduri, 2007:1599). While there is valor in these broad conclusions, a review of the nuanced ways that development is experienced daily in India (Baviskar, Sinha, & Philip, 2006:189) unearth distinct interpretations of industrialization. National advocates of the SEZ model branded the anti-SEZ resistance as 'anti-industrial'. Close research reveals how some SEZ affected respondents don't oppose industrialization per-se, but rather contest the scale, scope and form of the SEZ model. Examining interpretations of industrialization in the Indian state of Goa provides insight into the context for how and why related activism accommodated diverse opinions. Along with challenging the homogenization of environmental protest as 'anti-industrial', localized activism reflects particular interpretations of the political ecology of resistance.

In particular, this paper reaffirms that the agency of rural social movements to address development and environmental issues in particular manners responds to and shapes distinct political ecology contexts (Bebbington 1996: 396). Further, the examination of contradictory points of contention underscores the range of competing political, social, environmental and economic interests in contemporary India and how these are reflected in disparate resistance to SEZs.

Counterhegemonic Spaces and Fragmentation in a Neoliberal Kerala, India
Parvathy Binoy (Geography, Syracuse University)

Since the decade of the 1990s, the South Indian state of Kerala has witnessed several social movements against corporate hegemony and dispossession that have received worldwide attention. Kathikudam is an agricultural village located along the Chalakkudy River in Kerala. In the last decade, it has become the site of a long-standing political struggle against a Japanese gelatin corporation, Nitta Gelatin Industries Limited (NGIL). Drawing on fieldwork research and ethnography, this paper demonstrates how the contemporary social movement spaces in Kathikudam have produced complex, fragmentary and contestatory spaces for counter-hegemonic praxis. It illuminates how the movement has also provided a space for rural working class collectives to organize, negotiate and resist corporate hegemony and dispossession in India. By engaging with debates within Political Ecology and Marxist geographical scholarship on social movements in the Global South, this paper explores the complex spatio-political dynamics of political resistance against corporate-led development in contemporary neoliberal India.

The Ecology of Repression: Insurgency, Counterinsurgency, and the Green Scare in the United States
Kevin Van Meter (Geography, University of Minnesota / Team Colors Collective)

Since the early 2000s the United States government has indicted, arrested, and imprisoned radical earth and animal liberationists in what is commonly referred to as the "Green Scare." While the US Department of Justice, Bureau of Prisons, and other government agencies, at the behest of the Federal Bureau of Investigations, have deemed those rounded up during the Green Scare as ecoterrorists, scholars have been remiss in incorporating this development into the literature on political repression, social movements, and environmental governance. In fact, the scant literature on the subject – including special issues of Mobilization and Interface – only address repression at the site of protests or of recognized Social Movement Organizations while ignoring the troubling trend of FBI social mapping and other counterinsurgency techniques. Counterinsurgency developed following the unrest of the 1960s and 70s, and arose concomitantly with neoliberalism as an attempt to prevent domestic proto-insurgencies from fomenting. I argue that a narrow view of ecological movements replicates divisions that are useful for state discourses – as movements have be targeted for "identification, prevention and disruption," to use the FBI's own statements. Rather, a multiscalar and situated approach to examining mobilization and repression, one that centers the Green Scare and related disruptions, provides the possibility of a scholarly and organized response to the attempt to stagnate, fragment, identify and prevent challenges to neoliberalism and current environmental governance.

2. Finance and Forests: Political Ecologies of Ecosystem Service Provision II

Location: Student Center 205
Organizer and Chairs: Niki vonHedemann (Geography, University of Arizona) and
Tracey Osborne (Geography, University of Arizona)
Discussant: Morgan Robertson (Geography, University of Madison-Wisconsin)

The World That PES Made - An Immense Collection of Ecological Commodities
Saptarshi Lahiri (Political Ecology, Independent Researcher)

Geographers and critical PES researchers such as Morgan Robertson often facetiously wonder how the world we live in came to be viewed as "an immense collection of commodities". While Marxian commodity fetishism, Polanyian theories of fictitious commodities are frequently used as analytical concepts, commoditization theory, a crucial yet underrepresented dimension within Political Ecology can add to our understanding of ecosystem services. Commoditization is an institutional process "involving subtle economic pressures that 'select' those options for satisfying wants and needs that are most suited or fit to enter the marketplace" (Manno, 2000: 21). This process

creates a simple (though not simplistic) binary classification of goods and commodities into categories of high and low commodity potential. In the context of PES, this high-low distinction parses ecosystem services into stocks and flows variously characterized by incomplete pricing. In this paper, I propose to develop a comprehensive genealogy that tracks the transformation of ecosystem services into ecological commodities – mainly, adding to Robertson and Wainwright's 2012 discussion on Marxian value theory by formally yoking it to the explicitly Ecological Economics framework of commoditization. I ultimately argue that without the formal invocation of commoditization theory we're left to the somewhat unmoored and unsatisfying relational explanations of Marxian value theory to explain the genealogical transformation from ecosystem service to commodity. This resolution gives us a firmer ground to appraise the question of ecosystem service value.

Stewardship Contracts, Good for Services, and The Bush Administration's Healthy Forest Initiative: Public Participation in a Changing World
Andrew George (School of Government, University of North Carolina Chapel Hill)

This paper presents the Bush Administration's 2003 Healthy Forest Initiative (HFI) as a case study to explore conflicting policy objectives aiming to increase commercial forestry while decreasing scientific environmental review required by the National Environmental Policy Act. The Bush Administration's HFI ushered in a new payments for environmental/ ecosystem services (PES) or Goods-for-Services (GFS) commercial logging contract system for U.S. National Forests and other federal public lands. Designed purportedly to break policy gridlock and "analysis paralysis" (Bosworth 2002), the HFI expedited project-level commercial forestry in federal lands by, 1) replacing conventional forms of public participation with new strategies (Cooperative Conservation) based loosely on stakeholder-driven collaborative management; 2) exempting broad new categories of logging from scientific environmental review (Categorical Exclusions), and 3) implementing a new GFS contracting system (Stewardship Contracting) to incentivize industrial logging. As the HFI example shows, conflicting management objectives (e.g. requiring stakeholder participation while decreasing scientific assessments necessary to ensure meaningful participation) provide many lessons for scholars today about the role of science in commercial forestry, public decision-making, and spurious GFS and PES systems. In fact, the Obama Administration has moved to expand new Stewardship Contracting. Through multiple lenses of conservation science, political ecology, and environmental communication, this paper addresses issues relating to GFS and PES in the context of climate-justice in order to develop a better understanding of the role of industrial logging and public participation in environmental conflicts.

Household resource politics: Examining PES implementation in La Visite National Park, Haiti
James Goetz (Natural Resources, Cornell University)

Use of payments for environmental services (PES) has gained attention in part because of hopes that it can both protect biodiversity, and alleviate local poverty. Many studies have sought to assess the environmental impact of PES, but still little is known about the effect that the payments and the concomitant land use restrictions, as well as other impacts of program participation may have at a household level. A pilot PES project funded by international donors to protect and restore habitat for migratory bird and other endemic fauna and flora in La Visite National Park, Haiti, provides a ready case study of implementation of this cutting-edge conservation tool amid the daily realities of traditional society in rural Haiti. Data from semi-structured interviews, surveys, focus groups, and direct observation conducted with PES program participants, suggest that power asymmetries within the households and extended families cause cash payments to disproportionately benefit patriarchs, while land use restrictions disproportionately disadvantage female conjugal partners and young males, by reducing their access to crop and pasture land. Further, although this conservation project appears to reduce forest loss on contracted land parcels, it may simply shift degradation to neighboring sites outside the project area. I will discuss the implications of these findings for designing PES programs to enhance positive social and environmental impacts, in the context of regions such as rural Haiti, with complex political, class, tenure, conjugal and kin relations.

Communities and Forestry Incentives: Compensation for Ecosystem Services in the Guatemalan Highlands
Nicolena vonHedemann (Geography, University of Arizona)

Payments for ecosystem services (PES) programs in Latin America aim to provide motivation for environmental protection as well as funds for local development. State-run Guatemalan forestry incentive programs are rapidly expanding as the national government provides increased funding and landowners' interest grows. This study

investigates the changes in access, opportunity cost, and forest governance for participants in these programs through interviews in two highland municipalities located in the department of Totonicapán. Participants have often worked on forest conservation for decades, seizing the opportunity to receive payments for their efforts and mobilizing community organization to enroll. Program participants are able to continue to benefit from their land after program enrollment, but participation opens traditionally indigenous-managed forests to technocratic state control. The program can bring significant state development dollars to impoverished rural households, but only for a limited time and often to male heads of households. Overall, participants appeared to appreciate the program's benefits and wanted to expand their enrollment, although additionality of protected forest may be low. I argue that these results show that the structure of this national, development-focused incentive program provide more benefits to recipients than market-based, international exchanges of quantified ecosystem services.

3. Political Ecologies of Bordered Spaces II

Location: Student Center 206
Organizers: Lily House-Peters (Geography, University of Arizona) and Sarah Kelly-Richards (Geography, University of Arizona)

(False) dichotomies, political ideologies, and preferences for environmental management along the rural-urban interface

Colleen Hiner (Geography, Texas State University)

Public vs. private, economy vs. environment, insider vs. outsider, rural vs. urban and other false dichotomies rule the contemporary debate around environmental management. In this paper, I investigate preferences for land management along the real and imagined border between rural versus urban places, exploring how perspectives of private property rights influence policy and management for a variety of stakeholders along the rural-urban edge. A number of issues will be examined, such as: the environment vs. economy debate; perspectives of land use regulations; and views of land as a common resource (i.e., one which provides for a common good). The conflict over private property rights – who has them, what benefits they accrue, and what responsibilities they entail – is explored in the context of the Sierra Nevada region of California and the American West more generally. Ultimately, I (re)conceptualize the rural-urban interface as meaning-model-metaphor to understand how the process of environmental conflict unfolds.

Bound to Fail? The Internal Limits of the Navajo Forest Products Industry

James Erbaugh (Natural Resources and Environment, University of Michigan)

By examining the legacy of the Navajo Forest Products Industry (NFPI) and its relationship to the community of Navajo, New Mexico, I seek to problematize the concept of "failure" on the reservation. I first present the narrative/s by which the closure of NFPI and the contemporary status of Navajo, NM is articulated. I then challenge these narratives using insights from the internal limits of capitalism (crisis points) to trace the function of NFPI, identifying the economic, spatial, and cultural boundaries it required in order to generate capital, and how it was unable to continue functioning without trespassing against these self-defined boundaries. Finally, I bring this concept of boundary and trespass to bear upon the contemporary NFPI sawmill (now a brownfield site), and the community of Navajo, to illustrate how neoliberalization of nature and multiple layers of political constraint combine to generate "failure." I conclude by noting that this text does not serve as an indictment of resource extraction on reservation lands, but promotes a deeper understanding of how and why extraction—specifically timber extraction—on reservation land proves difficult and should proceed cautiously.

The Political Landscape of Conservation in the Southern Dominican/Haitian Border

Luisa J. Rollins (Anthropology, University of Illinois at Chicago)

In this paper, I explore the negotiations, allegiances, and conflicts that emerge through conservation initiatives along the southern Dominican/Haitian border. Environmental conservation and restoration projects sponsored by international organizations and agencies have, at least on paper, become increasingly "binational" or "transborder" in focus. For instance, the Caribbean Biological Corridor initiative hopes to create a single transfrontier conservation area encompassing the Sierra de Bahoruco (on the Dominican side) and Massif de la Selle

(on the Haitian side), both currently biosphere reserves. On the Dominican side, where my research has focused, the area's population has predicated on its position as a natural resource frontier – from wood forests and fertile lands when it was first settled, through open mining of bauxite, and more recently the hope of ecotourism development. Throughout the decades, as these activities have resulted in particular social and environmental changes, population has gone through cycles of growth and decline. These cycles are cited for the "haitianization" of the border, as is the idea that "they've destroyed their lands, and are now coming for ours." I examine the region as a resource frontier, its historical role in "dominicanizing" the border, and how these histories and contemporary sociopolitical tensions articulate with the development and implementation of transborder reforestation and biodiversity conservation initiatives along the border.

Militarization, Conservation, and Commemoration on the Iron Curtain Trail
David Havlick (Geography, University of Colorado - Colorado Springs)

In 1946, Winston Churchill famously declared of Europe, "from Stettin in the Baltic to Trieste in the Adriatic, an iron curtain has descended across the continent." Churchill's words preceded the construction of a tangible barrier, but within two decades an elaborate bulwark of fences, walls, guard towers, trenches and soldiers had transformed the political division of Europe into one of the most formidable militarized borders in the world. Today, in place of a death strip these same Iron Curtain borderlands are marked by national parks, nature preserves, and an extensive "Grünes Band" designated to highlight the "natural" appeal of this broad linear feature. Of course, the Iron Curtain is very much (also) a cultural landscape, as many monuments, memorials, sculptures, open air museums, signboards, individuals and communities along these central European borderlands now testify. In this paper, based on research conducted along 1200 km of the EU-designated "Iron Curtain Trail" cycle route, I consider the transitions taking place in these borderlands and how the emerging relationships between militarization and conservation are being mobilized. By working to understand the Iron Curtain in its historical and socioecological complexity, I suggest that the new uses and representations of this region can be seen not so much as a "museumification" of the past, but rather as a renegotiation of political and ecological space that may effectively translate to similar contexts and processes in North America and beyond.

4. Killer T-Cells to Global Biomics: A Critical Political Ecology of Health II

Location: Student Center 211
Organizers: Sophia Strosberg (Geography, University of Kentucky) and Adam Mandelman (Geography, University of Madison-Wisconsin)
Chair: Adam Mandelman
Discussant: Paul S.B. Jackson (Geography, Dartmouth College)

Critical geospatial technologies of infectious disease dynamics – Buruli ulcer in central Ghana
David Ferring (Geography, Rutgers University)

The use of global positioning systems (GPS) and other geospatial technologies have increasingly become important tools in studying landscapes of infectious disease dynamics. These tools provide important insights into spatial and temporal drivers of disease within socio-ecological systems via data capture and analysis, incorporating the spatial fix and triangulation of people, vectors, and environments. The deployment of geospatial technologies in disease and health research may introduce new modalities of power and forms of coded space. Emergent representations of people and environments, as well as shifting articulations of participants, researchers, vectors, and disciplinary geospatial technologies present new challenges and considerations. However, despite an explosion of studies employing these techniques and tools, few have critically considered the ethical and socio-political implications of these methodologies. This paper therefore interrogates the use of geospatial technologies in infectious disease research, particularly the use of GPS in delineating individual daily activity spaces across landscapes of disease dynamics. This study draws from fieldwork experiences in central Ghana, investigating differential exposures to environmental risks for Buruli ulcer (BU), a chronic debilitating skin infection defined by the World Health Organization as a "neglected tropical disease." Important limitations of measurements of human activity and representations of complex transmission pathways are articulated with new ethical considerations of participatory research practices. This paper contributes to theoretical and applied research practices of deploying geospatial

technologies for individual surveillance and data capture in health geography research, highlighting the importance for considering a new politics of fieldwork in deploying these new methodologies.

Healing with Hookworm: Affect and Contingency in Modern Evolutionary Medicine
Sophia Strosberg (Geography, University of Kentucky)

Immune system disorders are on the rise around the world. From Crohn's disease and MS to allergies and asthma, we can no longer blame these rises on past under-reporting. As scientists research why we get these non-infectious diseases, one theory has grown in popularity—the Old Friends Theory. Our "old friends" are, in this case, organisms that the human species has hosted since its origin, including microbes such as bacteria and macrobes such as intestinal parasites. Their disappearance may render us infection free, but with serious consequences for our disturbed immune systems. Conversely, adding intestinal parasites to the body may mitigate the effects of autoimmune disease and allergies. The practice of parasite therapy, while not legally sanctioned, is growing in popularity. Clinical trials are ongoing, but in the meantime, a DIY community of parasite users has sprung up. Who is inoculating with parasites, and where do these worms come from? How do political ecologies of health matter both outside and inside of human skin? How can something considered dangerous in one part of the world become a medical treatment in another part of the world? How does the meeting of parasite and human produce contingency in bodies and in the practice of medical science? Using online ethnography and interview data from Crohn's disease patients who use hookworm in North America, I assert that affective elements of the human-hookworm relationship cannot be ignored. Indeed, these affective elements are wrapped up with the chemical and social complexity that makes this treatment ripe for adoption by today's growing field of translational medicine.

Louisiana Mudfog: Airs, Waters, and Races in a Toxic Wetlandscape
Adam Mandelman (Geography, University of Wisconsin – Madison)

In the years after World War II, the United States' burgeoning petrochemical industry found an ideal home along a particular stretch of Louisiana's Mississippi River. Large tracts of land made available by a declining sugar industry, paired with the transportation and abundant water resources offered by the river itself ensured that within just a few decades the state boasted one of the most heavily industrialized corridors in the nation. Today, it is also one of the country's most toxic inhabited places and is frequently described as "Cancer Alley." Just as water helped attract industry, it also shaped exposure and vulnerability in the region. Flowing in and out of over 150 different petrochemical facilities, water and steam became contaminating vectors for the air, soil, waterways, and wetlands of predominantly African-American communities. Epidemiological studies of Cancer Alley, however, have been troubled by uncertainties and contestations that are rarely, if ever, far from discourses about race and class. This paper argues that understanding this acutely raced, hotly contested health crisis also depends on untangling the historical-geographical confluence of slavery's legacy and capital in a watery, in-between environment. The wet landscape of Louisiana is something much more than simply a wetland ecology. Rather, it is an assemblage of permeable bodies, industrial infrastructure, toxics, and biophysical environment all intimately connected (and made profoundly political) by flowing water.

5. Rebel Landscapes II

Location: Student Center 228
Organizers: Emma Gaalaas Mullaney (Geography & Women's Studies, Penn State) and Lilian Brislen (Sociology, University of Kentucky)

Rebel Water Scape: Hawaiian Waters Resisting Settler Colonialism
Judy Rohrer (Diversity and Community Studies, Western Kentucky University)

Hawai'i is the most geographically isolated place on earth (or the most oceanic, from another point of view), over two thousand miles from any other land mass. Claims of "national territoriality" and "absorption" into the United States seem more than ridiculous in this light, and have always been difficult to stake. Evidence of this is demonstrated by the way Hawai'i is tacked onto the bottom of U.S. maps, scooped out of the middle of the Pacific and dropped precariously close to Texas. Hawai'i resists the aggressive territorial staking of settler colonial claims. This is because, through an indigenous epistemological frame, the islands exist outside Western conceptions of static

space and linear time. This is clearest when we think about how the islands are much more about water than land. Water is central to Hawai'i, it defines it. Hawai'i harbors one of the wettest places on earth, Mt. Wai'ale'ale on Kaua'i, and it exists in the middle of the earth's largest ocean. The Pacific is a constant, disruptive, erosive presence enabling the unstaking of settler colonial claims, or decolonization. Hawai'i is also constantly (re)making itself through volcanic activity mostly happening below the ocean's surface. In other words, Hawai'i is never still, always resisting colonial desires to control, contain, fix and settle it. This paper argues that thinking about Hawai'i as a rebel waterscape–fluid and dynamic, oriented toward the Pacific and not the continental U.S., having a unique indigenous Pacific history and culture that stretches back for centuries–helps in unsettling settler colonialism.

Biofuel development in (post)colonial landscapes: Maroon communities, palm oil cooperatives, and environmental governance in Bahia, Brazil

Case Watkins (Geography, Louisiana State University)

In contrast to monocultures of African oil palm (Elaeis guineensis Jacq.) prevalent in Southeast Asia, semi-wild or subspontaneous groves of the palm are biodiverse agroecological systems dispersed across Sub-Saharan Africa and the Diaspora. Dating to the early colonial period, the largest of the Neotropical oil palm woodlands developed in Bahia in defiance of colonial agricultural mandates. Bahia's Palm Oil Coast (Costa do Dendê) endures as a landscape of resistance where smallholders supply local markets with palm oil essential in Afro-Brazilian cuisine and religion. Many of the state's maroon communities, or quilombos, continue to harvest and process oil palm fruit for consumption and commerce. In 2004, the Brazilian federal government began subsidizing palm oil production for use in its national biodiesel program. Quilombo communities are accessing public funds to form cooperatives and construct mini-industrial processing facilities linked to Petrobras, Brazil's semi-public energy corporation. Emergent results of that initiative are mixed. While the influx of funds is improving conditions for some, the program is exacerbating price struggles in the local economy and replacing diverse polycultures of food crops with oil palm monocultures processed for fuel. Drawing on ethnography, fieldwork, archives, and digital geographic data, this paper examines Bahia's palm oil economy using case studies of two cooperatives associated with quilombo communities. The analysis connects colonial landscape transformation with environmental governance, biofuels, and international commodities production to extend narratives of resistance from the colonial past to the neoliberal contemporary. Results underscore the challenges of biofuel development in the Global South, revealing a disconnect between public policy and socioecological sustainability.

Study in Decolonial Abolitionism: Environmental Justice Struggles beyond the Colonial/Modernist Education Regime

Eli Meyerhoff (Political Science, University of Minnesota)

For the project of modernity/coloniality, a key mechanism of reproduction has been a regime of study based on education, but this has always been in conflict with alternative regimes of study. Through examining historical and contemporary examples of marronage, Zapatismo, and environmental justice struggles, I show how movements of exodus, abolitionism, and decolonization can intersect, focusing on tensions between different regimes of study. The discourse around 'Maroons' was used to stigmatize formerly enslaved people who not only escaped from slavery but also created their own communities, which enacted radical alternatives to the capitalist, white supremacist state. These practices constitute freedom dreams that open up possibilities for radical change. Further, they create communities, in intimate relationship with land, flora, and fauna—across the normal boundaries of 'nature' and 'society'—as commons for composing alternative modes of association and resistances. All of these processes entail practices of study. On modernist/colonialist assumptions, particularly the 'nature'/'society' dichotomy, these alternative regimes of study tend to be ignored and, thereby, their value practices are de-legitimated in comparison with education. In order to counter-act scholars' neglect of the political importance of marronage, my account situates it in relation to, and contrast with, the more established abolitionist movement, and I make parallels with the contemporary Zapatista communities. I draw implications from this analysis in relation both to the critical political ecology literature and to struggles around regimes of study in contemporary movements, particularly those in North Carolina over environmental injustices of sewage sludge spreading, CAFOs, and fracking.

'Going to the Bush': Local knowledge and landscapes of political resistance in South Sudan.
Léonie Newhouse (African Studies/Geography, The Pennsylvania State University)

In South Sudan, 'going to the bush' is the most common way that people talk about their participation in the armed struggle for national liberation. Given this history, 'the bush' is imbued with a set of political meanings and values that extend beyond more common economically oriented definitions. The bush as a place of both danger and self-knowledge articulates with southerner identity based in struggle against occupation and political domination. So, rather than a place at the margins of government control, the bush carries with it a sense of political power or authority based in intimate knowledge of the local physical and social landscape. Dangerous only for outsiders, the bush is interpolated through local knowledge. For those not familiar with the area, the bush then becomes a place to fear and avoid, while those who posses critical local knowledge can move through these spaces, make use of the resources there and extract wealth without fear of violence. In the paper I explore how the bush continues to function in this ambivalent way as a symbolic and material resource for local people struggling for political voice and economic survival.

Wild people and wild nature rewriting urban landscape narratives
Janice Astbury (Geography, University of Manchester)

Landscapes have tremendous power to construct reality and shape behaviors (Cosgrove & Daniels, 1988; Duncan, 1993; Mitchell, 1994). It is thus significant that many existing urban landscapes convey a city both disconnected from natural systems (Heynen, Kaika, & Swyngedouw, 2006) and offering no role for citizens in its transformation (Gandy, 2006). Urban landscapes often communicate resistance to any kind of change, i.e. they display 'obduracy' (Hommels, 2005). There are however a growing number of examples of people acting on the city (Borasi & Zardini, 2008) and collaborating with nature within urban social-ecological systems (Barthel, 2006). This 'guerrilla urbanism' (Hou, 2010) and 'civic ecology' (Krasny & Tidball, 2010) are serving to 'loosen' urban spaces (Franck & Stevens, 2007). My empirical research in the UK has shown how dissenting interventions in the landscape can loosen landscape meanings and set in motion positive feedback mechanisms that invite more people-nature collaboration with the potential to enhance urban resilience. These evolving landscapes and the processes that create them challenge both dominant narratives and power hierarchies within cities; opening the way for new relationships between citizens and local government, landowners and land users, and people and nature. At the same time, it must be considered that dissenting landscapes can both include and exclude certain kinds of people and nature. This suggests a need to also ensure space for diversity within dissent and inscribe this in landscapes.

6. Pluralizing the Approaches to Urban Political Ecology in a 'World of Cities' II

Location: Student Center 230
Organizers: Henrik Ernstson (Human Geography & Political Ecology, Stanford University), Jonathan Silver (Geography, Durham University) and Mary Lawhon (Geography, University of Pretoria)
Discussant: Henrik Ernstson (Human Geography & Political Ecology, Stanford University)

Seeking Socio-Environmental and Spatial Justice in African Cities
Garth Myers (Urban Studies, Trinity College)

Understandings of the relationships between social justice and environmental justice in urban Africa appear to diverge from patterns and processes debated for Western cities and articulated in and around urban political ecology. Grand concepts of socio-environmental justice or spatial justice – to say nothing of race, class, gender, nature, or non-human agency - as developed in the West sometimes are situated uncomfortably atop the everyday life of people in cities in Africa. With empirical illustrations from Nairobi (Kenya), Dakar (Senegal), and Lusaka (Zambia), this essay examines possibilities for rethinking the theorization of social and environmental justice for cities in Africa, building from the everyday consciousness of the popular majorities. Specifically, I will examine the inspiring Marxist and neo-Marxist theorizations of justice in and around urban political ecology for the gaps which appear in them in these African urban contexts, seeking organic alternative articulations from within African urban thought.

Media Representations of Urban Environmental Conflict in South Africa
Mary Lawhon (Human Geography, University of Pretoria)

There is a growing demand for urban political ecologies to take into consideration everyday understandings of power and contestation over urban resource flows. Media representations are an abundant (albeit imperfect) data source for beginning to understand diverse representations of conflict as they both shape and are shaped by public discourse. In this paper, I examine stories of urban water from 1994-2013 in the Sowetan, a prominent newspaper with a primarily black readership. I critically analyse the coverage, including an assessment of what issues are raised, what actors are included and how, what problems and solutions are identified, and how reporting on urban water has changed over the last twenty years of democracy in South Africa. In short, there is a shift from a technological optimism in the immediate post-apartheid moment towards an increase in protest and frustration, however, the analysis also provides deeper insight into how these positions are framed in the public discourse.

Constructing nature in a global city: Political, discursive, and material practices of urban forestry and agriculture in New York City
Lindsay Campbell (Geography, USDA Forest Service, Northern Research Station)

How are the politics of urban sustainability planning and implementation negotiated in the current era of green infrastructure investments in global cities; whose claims are included in that process; and with what effects on the transformation of urban land and natural resource management practices? This paper centers on New York City's municipal long-term sustainability plan, *PlaNYC2030*, created under the Bloomberg mayoral administration in 2007 and updated in 2011. From that starting point, it examines the broader network of actors, institutions, discourses, and socio-natural environments that co-constitute urban forestry and urban agriculture. It explores the ways in which sustainability planning and urban natural resource management occur through a grounded study of 'actually existing sustainabilities' (Krueger and Agyeman 2005). By examining a single city in a relatively narrow period of time, this study holds constant certain political-economic factors and institutional structures that are often examined by Urban Political Ecology. It interrogates how two different natural resource systems fare in municipal agenda-setting processes. Empirically, this study reveals the complex, networked nature of sustainability planning and environmental stewardship in a competitive city of the Global North. Theoretically, it continues the project of 're-naturing urban theory' by bringing a concern with materiality into the study of urban policymaking. And vice-versa, it brings concepts of urban politics, urban regimes, and networked governance further into conversation with Urban Political Ecology and nature-society geography. Presented as in-depth case studies, findings draw upon semi-structured interviews with 65 subjects engaged in natural resource management in New York City, as well as social network analysis and participant observation of forestry and agriculture actors citywide.

Governing the urban wetlands in developing cities: A political-ecology
Missaka Hettiarachchi (Environmental Management, The University of Queensland, Australia)

Urban ecological features such as urban wetlands in many developing cities have completely disappeared or undergone irreversible ecological transformations in the last century. The efforts to re-engineer and control these ecosystems have resulted in unforeseen environmental consequences and have extreme negative social impacts. The drivers of these ecological transformations are linked to global political-economic and climatic trends on the one hand, while being shaped by national level government policies, community level decision-making and location specific ecological idiosyncrasies on the other. Therefore, the dynamics of ecological transformation of urban ecological features such as urban wetlands cannot be understood without placing the problem in a broader ecological, historical and geographic context. In this research, we investigated the changing governance and ecological transformations of urban wetlands in Kolkata, India and Colombo, Sri Lanka using a combination of analytical tools from policy studies, political ecology and spatial ecology. The similar pre-colonial ecologies of the two wetlands have diverged widely in the past century through the colonial, post-colonial and post-reform (neo-liberal) periods. Development oriented 'wetland re-engineering' policies dominated both cases in all periods. The ensuing environmental change and social impacts disproportionately burdened the urban poor and invoked a multitude of struggles. The recent wetland conservation policies are ineffective and inadequate to mitigate these impacts. However, Kolkata presents a unique example of a successful urban ecosystem use, where a community-based wastewater fishery industry emerged in the wetlands outside the formal governance and institutions. We

conclude that urban environmental sustainability in economically fast expanding post-colonial countries depends more on the struggle for social justice and ecological democracy than further normative conservation policy reform.

Islands of Urban Metabolism Research and Prospects for Interdisciplinary Scholarship
Joshua Cousins (School of Natural Resources and Environment, University of Michigan)

Three 'ecologies'—Marxist ecologies, industrial ecology, and urban ecology—have emerged as the primary thought traditions to conceptualize urban space as a 'metabolism.' Some theorize it as stocks and flows of materials and energy; others, as complex, dynamic socio-ecological systems; and still others, as hybridized socio-natures that produce uneven outcomes. Through literature review (1965-2012) and bibliometric analysis we map these scholarly islands and unveil how disciplinary cultures shape the metaphor. We propose urban metabolism as a 'boundary object' to enable cross-fertilization through collective empirical experiment and interdisciplinary friction. The research informs broader discourses advocating for epistemological and methodological pluralism.

7. Working Political Ecology: Affective Accounts of Socio-Environmental Encounters II

Location: Student Center 231
Organizers and Chairs: Jessa Loomis (Geography, University of Kentucky) and Sarah Watson (Geography, University of Kentucky)
Discussant: Jenny Rice (Writing, Rhetoric and Digital Media, University of Kentucky)

Intimate Ecologies of Social Reproduction
Sallie Marston (Geography, University of Arizona) and Sarah Moore (Geography, University of Wisconsin-Madison)

Socio-ecological futures are already in formation in a range of sites where young people participating in alternative forms of knowledge production are forging relationships with one another as well as plants, animals, soil, water, and air. In this paper we approach one such space – school gardens – and the groups who sustain them, as sites and subjects of socio-ecological change where an experiential politics struggles towards the establishment of practices that are sustainable and socially just. Drawing from feminist geographers interested in social reproduction, diverse economies/ecologies, and micro-politics, we argue that for some children, perhaps especially those in "struggling schools", school gardens become spaces of belonging where the alienating aspects of "traditional" US schooling may be overcome by forging lively connections with classmates, university students, plants and animals. In these intimate urban ecologies, solidarity, mutual care and affective labor become the basis for a mode of social reproduction distinct from the jobs-driven "human capital" emphasis of typical school spaces. Our empirics derive from a community-based learning project involving university interns and school children in three under-resourced schools in poor neighborhoods in Tucson, Arizona. The narratives articulated by school children through photographs and stories about the garden spaces and their connection to home life and community open windows into students' emergence as socio-ecological beings produced in concert with the intimate urban ecologies of school gardens.

Working with Vines: Skill and Practical Knowing of Indeterminacy
Anna Krzywoszynska (Geography, Durham University)

While recent years have seen a slow but steady growth in research on human-plant encounters (e.g. Hitchings 2006, 2003, Hitchings and Jones 2004), social scientists are still struggling to 'get all agrarian and dirty-handed' (Whatmore 2003) in their work on plants. In this paper I draw on my experiences as an apprentice vine worker to explore the role of plant materialities and temporalities in a particular area of agri-food production: winemaking. I problematise the idea of agricultural work as an execution of abstract plans on the canvas of passive nature, and I uncover the everyday uncertainties and indeterminacies of vineyard labour. Working with Ingold's concept of taskscapes (2000) and Pickering's concept of temporal emergence of socio-technical phenomena (1995, 2005) I argue that we need to appreciate the deep co-dependence of agricultural materialities and agricultural workers. In my analysis vineyards emerge as spaces of intra-activity (Barad 2007) in which bodies of vines and skilled bodies of workers are 'substance[s] in [their] intra-active becoming' (828). I show that the skills of vineyard work can only be acquired through sensitive, imaginative, and responsive interactions with the material characteristics of the field

of practice. I also argue that this sensitive, embodied, and temporal knowledge of vines and vineyards impacts on the way workers deal with uncertainty. Uncertainty is recognised as an inherent element of working with vines, clashing with the idea of fully controlled agro-food production, and pointing to the importance of the practical knowing of indeterminacy (Hinchliffe 2001) in skilled agri-food work.

Countervisuality: Laboring Artists and Worms
Erica Damman (Environmental Humanities, University of Iowa)

A number of contemporary artists' practices engage eco-aesthetics, the combination of art, ecology, and politics. These critical art endeavors refuse to bracket human from nature, extending representational politics to materialist and affective concerns. This paper analyzes the practices of artists Nance Klehm and Claire Pentecost whose works focus on generative becomings that remain attentive to material and affective considerations of human and nonhuman agricultural laborers working together. Their particular modes of representation posit alternative valuation of and collaboration with denigrated substances such as soil, compost, and worms. Extending Mirzoeff's decolonial critique of visuality to agriculture through Knobloch's theorization of agri/culture as a colonial project bolstered by capitalism's partner science, and including new materialist conceptualizations of vibrant matter, this look to Klehm and Pentecost's eco-aesthetic art practices allows us to recognize nonhuman laborers as co-creators of healthy (or not) soil, food, and bodies. The nonhuman and human laborers in these art practices offer tactics for countervisuality, a co-constitutive claim to a different real than current agricultural discourses permit.

On the Researcher's Antennae: Energetic Attunement and Political Force
Gabriel Piser (Environmental Studies, Ohio State University)

On of the best qualities shared by political ecology's community of practice is a strong commitment to scholarship that catalyzes political power. This commitment is often expressed through the fine-grained examination of socio-natural assemblages as they produce and are producing divergent effects on bodies, subjectivities, and landscapes. Too often, however, the labor of the scholar within these assemblages is left under-examined. And when the capacity for the scholar to affect and be affected by his or her areas of analysis is present, it risks being read as self-indulgent second-wave reflexivity, rather than as a rich site for theoretical analysis and practical insight. In this paper I offer an account of an ongoing project with my research partner. By attuning ourselves to the energetic circuits of the extraction zones of North Dakota, our project experiments with the mapping and reconfiguration of affective and material flows. Extraction zones rapidly reconfigure socio-environmental assemblages of landscapes, bodies, labor, and social reproduction. These assemblages bind together the fates of such disparate elements as local and migratory labor forces, global economies and hydrocarbon markets, declining profits and farm ownership rates, and increased ecological harm. Alongside the growing imbrication of landscapes and bodies within assemblages of extractive development, are well-documented increases in gendered and sexual violence, human trafficking, drug abuse, and property crime. How, then, to better explain and contest the divergent effects of neoliberal extractive development and the violent orderings it creates and exploits? I suggest the recent turn towards affect in social scientific and humanities scholarship can undergird new humanities-based research tools to map these relations and suggest new interventions in scholarship and action.

Please note that the below session has the later start time of 3:30pm.

8. Interacting Bodies, Spaces and Voices: BaAka Music and Dance and the Central African Rainforest

University of Kentucky School of Music, Rey M. Longyear Colloquium
Location: Niles Gallery, Fine Arts Library
Organizer: Donna Kwon (Ethnomusicology, University of Kentucky)

Speaker: Michelle Kisliuk (McIntire Department of Music, University of Virginia)

The BaAka "forest people" who live in the Southeastern Central African Republic and Northern Republic of the Congo have a musical culture that is highly interactive on many levels. Their song style is intensely polyphonic as well as polyrhythmic, and it depends on a fluency with structured improvisation, layering variations upon cycling melodic themes. On another level, BaAka interact musically and otherwise with their rainforest environment, which at once

provides an echoing canopy to toss a yodeled phrase back to a singer, while that forest also has provided a rich subsistence of forest game and wild fruits, nuts, roots, and vegetables. Increasing pressures on this environment by international loggers, neighboring slash-and-burn famers, and deforestation caused by global climate change, however, has affected BaAka life and performance, forcing many BaAka to relocate from forest camps to ramshackle villages located along logging roads, while they adjust to a decrease in available wild game and a shift to subsistence farming. These shifts have resulted in an increasingly vulnerable BaAka identity, which becomes evident within expressive culture as people adapt dance forms to these challenging circumstances. This talk will offer examples of these circumstances from my field research which has spanned from the mid-1980s through mid-2000s. The talk and will include a participatory workshop element wherein attendees can learn some of the basics of BaAka ensemble singing, with a focus on how voices and spaces shape performance.

DOPE 2014: FRIDAY FEBRUARY 28TH

Friday Keynote Address
5:15 pm – 7:00 pm
Memorial Hall

Environmental Racism as a Form of State-Sanctioned Racial Violence
Laura Pulido (University of Southern California)

Exide Technologies is a battery recycling facility in the Los Angeles area that has a long history of pollution violations. Nonetheless, the state allows it to continue to operate. I argue that this particular instance of environmental racism can be seen as a case of state-sanctioned racial violence. Indeed, Exide Technologies, as I will show, is but the latest in a long line of such violence that has shaped the lives and deaths of communities of color in Los Angeles over the last several centuries.

Opening Reception
7:00 pm – 11:00 pm

Light dinner provided, cash bar
University of Kentucky Boone Center, 500 Rose Street

DOPE 2014: SATURDAY MARCH 1ST

Saturday Schedule Block #1:
8:00 am – 9:40 am

All sessions in this block are located in the Student Center.

1. Knowledge, Agency, and Desire in Making the Urban

Location: Student Center 203
Organizer: University of Kentucky Political Ecology Working Group
Chair: Derek Ruez (Geography, University of Kentucky)

Logistics of Liberation: infrastructure, agrarian change and resistance in Angola
Aharon de Grassi (Geography, University of California, Berkeley)

The recent boom in scholarly literature on infrastructure and mobility largely eschews engaging constructively with advocacy, as well as precisely situating experiences of infrastructure within geographical theorizations of capitalism and associated international development initiatives. This presentation contributes to moving the discussion forward by examining two distinct but related episodes in the north central Angolan hinterlands: the role of the control of transport in the 1961 nationalist revolt by cotton workers and farmers, and, since 2002, the post-war, oil-boom-fuelled national reconstruction campaign to rebuild the transport system. The first example points to the diversity of mobility and both the political agency in the revolt's use of road blocks and its limits when confronted with colonial air power. The second example points to the ways in which changing global economies propel infrastructure investment and enable the powerful symbolism of roads, but do not determine local interpretations or practices. These episodes shed light on historic transformations in Angola that illustrate how to conceptually integrate mineral resource rents and the construction of transport within theories of capitalist dynamics, while avoiding economically reductionist view of their politics and effects.

The centrality of experience: collaboratively reclaiming the poetic in urban political ecology
Zbigniew Grabowski (Portland State University)

Emerging urban sustainability initiatives frame overcoming systemic power inequalities as core objectives. Such approaches, dealing with institutionalized inequity, aim to restructure social institutions in line with goals defined by historically disenfranchised groups and their representatives. Other pragmatic approaches define sustainability as a process of public talk about the goals and aspirations of urban inhabitants (Moore, 2007). Both of these approaches assume a social field that is amenable to rational discourse, potentially ignoring individual and non-institutionalized articulations of a desirable urban future. Such an excessive focus on 'rational' discourse in the public sphere and through public institutions, as an Aristotelean ideal of democracy (from Purcell, 2012), to achieve sustainability outcomes, can be counterproductive to legitimating other modes of experiencing urban space, urban nature and relationships between humans and non-humans that underpin a sustainability rooted in place and nature. The supremacy of rationality itself was rejected by William James himself in seminal essays on Pragmatism (1882), a position reaffirmed by critiques of the Habermasian speech ideal (Cooren 2000), critiques of the supremacy of empirical science in social knowledge production (Feyerabend, 1993), and more subtly in re-conceptualizatons of epistemological equity in interdisciplinary science (Miller et al 2008). Alongside such critical and pragmatic scholarship, reclaiming the poetic and creative aspects of living in Lefebvre's (1991) 'moments of everyday life' is a vital and viable strategy for stimulating the human emotional capacity to imagine and desire alternative urban states. In this talk I explore strategies for creative interventions in urban space (ranging from the modes of *detournement* (after Debord and Gil, 1956), to progressive forms of public art, architecture and infrastructure). A key focus will be on strengthening the unmediated relationships (a reconceptualization of Deleuze and Guattari's 'rhizome (1987)) of scientists, planners, non-humans, community activists, visual artists, writers and culture jammers of all stripes to facilitate a collaborative revolution in urban political ecology.

A new breed of alienation: the production of farmed animal bodies
Connie Johnston (Geography, University of Oregon)

The critical tradition has typically focused on human society or on the relationship between human society and a non-human natural world. This non-human world is often presented as relatively undifferentiated in terms of its various living elements or beings. Significantly less attention has been paid to theorizing the role that non-human animals play in human society. This paper seeks to explicitly bring in the non-human as an object of critical theory by examining the concept of "alienation" as it relates to animals raised in industrial farming systems in the US and Europe. In this context, this paper explores the concept of alienation as applied to non-humans and suggests two primary manifestations. The first form of alienation follows an argument from the sociologist Peter Dickens (1996) that farm animals can be seen to be alienated from living beings' normal processes and cycles, such as forming social groups and rearing offspring. With regard to the second form of alienation, it is suggested that these animals are, additionally, alienated from their existence as complete organisms, as many are bred and raised for one component of their total bodily production (e.g., dairy cows raised for milk and "broiler" chickens raised for meat). Through this exploration of alienation as applied to non-human animals, this paper suggests that the bounds of academic theorization can be productively extended to animals whose labor, through bodily production, is part and parcel of human economies and societies.

The Human/Nature Divide and the Problem of the Anthropocene
Christopher Cox (Political Science, Portland State University)

Acting as a mechanism for limitless accumulation of capital, the human/nature divide does much of the grunt work of propping up the neoliberal economistic narrative of historical capitalism. Current history contends that humans are extra-natural and nature extra-human, setting the stage for the systematic exploitation of all of nature for profit. In short, the human/nature divide is a regime of knowledge that waters the deepening roots of capitalist exploitation by seeing nature as economic 'externality,' and therefore subservient to the needs of the human nature at the expense of the extra-human nature. This, the Anthropocene epoch, we are told, marks the point at which humanity became the greatest threat to the Earth system. Few would argue with that general diagnosis, depending upon one's understanding of when the new epoch began, if indeed 'epoch' is the right term. The argument that humanity is overwhelming the planet does not go far enough, for it leaves out of the analysis the power the purveyors of capital possess in regard to organizing the knowledge that society bases itself upon. Drawing upon Jason W. Moore's claim that capitalism is a world-ecology joining the "production of nature and the accumulation of capital in a dialectical unity," I assert that the Anthropocene argument ought to, but does not, offer a challenge to the human/nature divide, making the role of the Anthropocene questionable in critical politico-ecological theory. Anthropogenic discourse and analysis, by seemingly accepting the view that humanity acts upon rather than within nature, reaffirms ecologically destructive binary thought patterns, avoiding the complex questions of the coproduction of human and extra-human nature. In agreement with Moore, I assert the Anthropocene is more accurately understood as the Capitalocene.

2. The Political Economy and Ecology of Coal Extraction in the World-economy Part I: Global Comparative Perspectives

Location: Student Center 205
Organizer and Chair: Paul Gellert (Sociology, University of Tennessee)

Comparing Mountaintop Removal Coal Mining in Appalachia and British Columbia
Paul Ciccantell (Sociology, Western Michigan University)

Mountaintop removal coal mining in Appalachia has been increasingly criticized for its negative impacts on the environment, human health, and local communities. However, the same mining technology has been employed to mine coal in southeastern British Columbia for more than four decades with far fewer negative environmental and social impacts and generally much greater economic benefits for local communities. This paper presents a new historical materialist comparison of these two cases in order to analyze the differences between the two regions. The major causes of the differences between the impacts of the same mining technology in these two

regions that are identified in this analysis are in terms of natural characteristics of the rock in the Canadian Rockies versus the Appalachian mountains, the more stringent environmental regulation and enforcement in Canada than in the U.S., and, probably most important, the very different historical uses and legacies of these uses in the two contexts, with far less extensive and less negative historical legacies in Canada in comparison with Appalachia.

Environmental Liabilities of Coal Mining and Trade in Cesar, Colombia
Andrea Cardoso (Economist, Universidad del Magdalena)

Coal is a basic commodity literally fueling the world economy. The use of coal is increasing. Coal mining in Colombia has increased by 56% during last decade with a production of 89 million tons in 2012. Expansion of large-scale mining has been promoted by the international growth of the social metabolism and by neoliberal policies of recent governments that consider mining exports as a development locomotive. Coal production in the department of El Cesar has increased by 72%. This is generating considerable environmental and social impacts that contribute to the environmental liabilities of multinational mining companies such as Drummond and others. The objective of this study is to identify, evaluate and value socio-environmental liabilities generated by coal mining in El Cesar through an approach of quantifying ecosystem services loss as the bridge that connects environmental liabilities with welfare loss. Interviews to stakeholders and analysis of secondary sources are used to identify and evaluate links between loss of ecosystems services and socio-environmental liabilities. To estimate liabilities monetary value, data was linked to existing comparative literature on the costs associated with such welfare losses and environmental damages at different scales. Results shows that each ton of coal extracted involves ecosystem services loss, welfare loss and socio-environmental liabilities at each step in the carbon life cycle (extraction, transport and combustion) and at different scales (local, national and global). Economic value of socio-environmental liabilities per ton of coal extracted in El Cesar and transported within Colombia to harbours for export, seems to be higher than the price of coal. The results are compared with estimates in China and U.S.A.

Coal extraction and peripheralization in East Kalimantan, Indonesia and Appalachia, US
Paul Gellert (Sociology, University of Tennessee)

In this paper, I compare the extractive regions of Kalimantan, Indonesia and Appalachia, US to illuminate the dynamics of extraction and peripheralization. Although Indonesia and the United States appear at first to be an odd comparison given their strikingly different positions as a peripheral nation-state and the hegemonic power in the world-economy, both nations have coal extractive regions that have experienced increased peripheralization. In the Appalachian region of the US, coal has been extracted for over 300 years, and mountaintop removal mining techniques in recent years have only expanded the scale and decreased the labor-intensity of the mining. In Indonesia, while there were earlier mines in Sumatra, the newly booming coal regions are significant in East Kalimantan where forests have been logged for several decades and there have been large expansions of tree plantations. In both cases, the extractive peripheries have served the economic demand and political interests of classes and geographic zones far removed from the coal. Most of Indonesia's coal is exported despite domestic demand for electricity while US-based coal companies have only recently increased exports to maintain profitability amid the natural gas boom and regulatory pressures. Strikingly, coal capital has spread its ideological message of the so-called inevitability and desirability of coal-based growth to both regions, well beyond the objective limits of the material resource. By examining these two extreme cases, this paper aims to push toward the establishment of a comparative framework to examine the political economy of coal in world-historical perspective.

Political economy of Appalachian coal in comparative-historical perspective
William Wishart (Sociology, University of Oregon)

Although there is a large and long-running body of literature in the dependency and world-system traditions that examines uneven development and unequal exchange between core and peripheral nation-states, integration with ecological studies on the historical development process is a more recent focus. In addition, most studies have not attempted to fully analyze the dynamics of internal peripheries within nation-states and the complex ways in which nation-states' world-system positions mediate the connection of extractive peripheries to raw materials commodity chains. I propose Bunker's model, with an unequal and dialectical relationship between "modes of production" that primarily transform materials and energy and "modes of extraction" in which materials are directly appropriated from nature, is a valuable tool for building such a political ecology of internal peripheries. This paper reformulates

Bunker's insights within a Marxist Ecology approach to analyze the currently declining mode of extraction around coal in Central Appalachia as the most recent "mode" in a chain of extraction dominated economies. It draws attention to both the economic and political drivers of underdevelopment. Such conceptualization provides important questions about the path dependencies generated by modes of extraction. These questions are important for evaluating the possibility of a continuation of this trajectory with growing natural gas extraction and the necessary conditions for breaking away from extractive dependency.

3. Posthuman Political Ecology I

Location: Student Center 206
Organizer and Chair: Daniel Cockayne (Geography, University of Kentucky)

Post-human Traversals: Bruno the Bear and the Multi-sited Critique of Borders
Matthew Rosenblum (Geography, University of Kentucky)

This paper will use the example of Bruno- a brown bear that was part of a bear reintroduction program in the Italian Alps, and in 2006 wondered across the Italian border into Austria and finally into Germany, where he was subsequently shot and killed- to enrich post-human scholarship on bordering, and post-human political ecology more generally. First, it will highlight the ways in which Bruno's agency, in this case his movement across the boundaries that separate nation- states, nature and culture, and national boundaries from the ones that are experienced within nations, is evidence of the capacity of non-humans to performatively challenge to the validity of human bordering enterprises. Secondly, it will use Bruno's contestations of these numerous boundaries to criticize the primacy of national borders in critical scholarship, particularly that of Wendy Brown's book *Walled States*, Waning Sovereignty, to argue for the intimate connection between national borders and more commonplace bordering activities, such as the walls that surround gated communities.

Passed Lives: The Roadside Memorial Project
L.A. Watson (Artist, The National Museum of Animals & Society)

Judith Butler's question, "What makes for a grievable life?" is one that has been fundamental to my artistic practice and it is a question that I continue to pose in relation to "ungrievable" non-human animal lives. This question underpins my current "Roadside Memorial Project," a site-specific installation that has been installed on a rural road in Frankfort, Ky. Each day an estimated 1 million animals are killed on U.S. roadways alone. The accidental nature of road kill, coupled with the sheer numbers of animals killed and encountered on a daily basis has worked to naturalize the phenomenon, and has contributed to a fatalistic atmosphere of disengagement with these animals and their deaths. The animal and our shared vulnerability as sentient beings living in the world are continually passed by and overlooked—seen as an unfortunate by-product of industrialized living. But are there other ways in which we can apprehend the phenomenon of "road kill"? I would like to discuss the question of "What makes for a grievable life?" as it pertains to the creation of the "Roadside Memorial Project" which not only seeks to memorialize non-human animals that have been killed on the road, but also to raise the awareness of drivers, as well as to interrogate the ways in which the road functions as a hybridized space where human technology collides with non-human animal biology.

A Piaffe Into Politics: Considering the Posthuman Reflection of Political Identity from Dressage Training and Horsemanship
Michelle Fuentes (Political Theory, University of Alabama)

Virginia Woolf offers the profound metaphor of women as mirrors in the eyes of men. The looking glass aggrandizes, empowers and creates a sense of self-assurance in the viewer while simultaneously objectifying, diminishing, and repossessing the embodied mirror. Similarly, John Berger asserts that women are trapped as objects of sight which cannot hold our own reflective gaze without taking on the position of the male surveyor. I assert that this exercise of becoming a mirror is not limited to women in relationship to men, but that it is a prevalent process in the gaze that humanity asserts over nonhuman animals, and, thus, linking the way humans view and act with and about nonhuman animals to political identities. My suggestion is that horsemanship training manuals, along with any other animal training program, represent a manner and way of being in which humans should interact with

non-humans. Therefore, these texts can be examined to grapple with revelations about the nature of humans more than the nature and ability of the non-human trainees. Just as Donna Haraway uses her experiences of living with and competing with dogs in agility competitions, I come to this academic engagement with horses through personal relationships, specifically one horse, "my horse," Rolls Royette or Yvette, as she is called around the barn. A concluding mediation on this specific relationship in relation to the previous analysis will speak to the effectiveness of the posthuman worldview against the previously accepted notion of the animal as a mere tool of reflection for the human.

Posthuman Livelihoods: Rethinking Approaches to "Development" Beyond Economy, Society and Environment
Ethan Miller (Geography, University of Western Sydney)

Conventional discourses of sustainability are often articulated in terms of a balancing-act between human "society," a (presumably capitalist) "economy," and an "environment." Yet despite the power and seeming durability of this framing, we are witnessing its destabilization on numerous fronts. The naming of the anthropocene is only one dimension of a moment in which we are challenged to imagine and enact newmodes of post-economic, post-social and post-environmental—indeed, posthuman—practice and thought. How do we unthink the enclosure of "the economy" and its accompanying disciplines and subjectivations? What kinds of concepts might help us to see, strengthen and enact new ethical modes of collective life beyond the old binaries of nature/culture, subject/object and human/nonhuman, particularly when working in the space that "development" has previously constituted? To contribute toward the exploration of these questions, this paper stages an encounter between J.K. Gibson-Graham's theorization of "diverse community economies," the language of "livelihoods" derived from Karl Polanyi and more recently taken up by the "sustainable livelihoods approach" to development, and posthumanist philosophy. Critically engaging and re-working the concept of livelihoods through the lens of Latourian political ecology and biosemiotics, I seek to transpose Gibson-Graham's alternative economic frame workout of the key of "economy" and into a more transversal articulation that wholly refuses the distinction between an economy, a society and environment. Conceptualizing livelihoods as the collective material-semotic negotiation and composition of habitat and commons can, I propose, enable more robust and creative exploration of pathways beyond the perils of both capitalism and humanism.

Being-more: yeast and the extension of self in organic winemaking
Anna Krzywoszynska (Geography, Durham University)

The spaces of food production are where the human and non-human mix most intimately, most forcefully, the spaces where stakes are high for all. What kind of human-non-human assemblages are enabled in food production? How? And, with what consequences? This paper addresses these questions in the context of organic winemaking in Italy, and concerns itself with brewer's yeast. The practices of working with yeast are at the heart of ethical debates within wineries and in the sector as a whole. Crucial as a producer of alcohol, aroma, and flavour, yeast is also a dangerous, unruly, and unpredictable entity. The scientific, technological and skill infrastructure designed to investigate and control yeast is huge. At the same time, a counter movement of the friends of 'wild' or 'natural' yeast (as per Bingham 2006) persists. Moving beyond the simple binaries of ally/foe which inform much debate on microbes in public life (as noted by Paxson 2008), this paper draws on Whatmore (1997) in arguing for the recognition of a relational ethical self in winemaker-yeast relations. I demonstrate that the ethical dimension of working with yeast is, firstly, associated with the general importance of 'nature' as an ethically charged concept in organic winemaking. Secondly, I argue that the acts of making yeast ethical cannot be dissociated from the work of creating individual ethical identities (Holloway 2002). The practical relationships with yeast become inseparable from the understandings producers hold of themselves as the particular (ethical) persons they are.

4. Geographies of Infrastructure I: Struggle

Location: Student Center 211
Organizer and Chair: Kerri Jean Ormerod (Geography and Development, University of Arizona)
Discussant: Majed Akhter (Geography, Indiana University - Bloomington)

Contemporary Land Rights in Pakistan and the Cultural Legacies of Colonial Infrastructure
Mubbashir Rizvi (Anthropology, Georgetown University)

For the last ten years, the Pakistan Army has not been able to collect rent from tenant farmers on its military farms. During this time, the Army has launched two successive military operations to force the farmers into accepting the change in land tenure. However, these operations were called off after popular outcry and international pressure against military repression. Such acts of state repression further radicalized the tenant farmers who raised slogans like "Ownership or Death", which clashed with long held assumptions about this region as the base of support for the Army and a recipient of its patronage. In this essay, I analyze the significance of this peasant movement by using insights from classic anthropological literature on gift exchange, infrastructure technology studies and postcolonial theory to illustrate the contingency of rule in Punjab. I argue that place-based movements are not simply bound by their locality. Instead, these movements can radically challenge our understanding of place by giving a relational account of land as both a material substance and a crucial link in the set of relations that define moral, economic and political life.

Good City Form: Infrastructural Solidarity in the Southern City
Laura Cesafsky (Geography, University of Minnesota-Twin Cities)

An overarching narrative of disconnection and social segregation organizes our view of Global South cities today. Recent studies of infrastructure implicate unequal, exclusive and/or non-functional systems for provisioning basic goods with the production and reproduction of these fragmentations in Southern cities (Bakker 2010, Gandy 2008, Graham 2009, McFarlane & Rutherford 2008). In this context, as Amin (2006) notes, our vision of the good city—especially in the Global South—lately centers on extending access to basic infrastructural services to poor neighborhoods, in hopes that a (often vaguely defined) social solidarity will emerge with the technical integration of the cityscape. Western planning theory has long held that infrastructure networks are integrators of urban space that add cohesion to territory in the name of some public interest (Graham & Marvin 2001). This paper charts the contemporary resurgence of this axiom in the theory and practice of city building in the Global South. I try to place the current interest in infrastructural solidarity within an overriding academic and policy interest in the multidimensional fragmentation of the urban fabric. To illustrate these arguments, I draw especially on the experience of Bogotá, Colombia. Bogotá became a pioneer of infrastructural solidarity projects when it opened two renowned transportation infrastructures in 2000: the world's "gold standard" bus rapid transit system (Transmilenio) and the Global South's most expansive system of separated bicycleways (las ciclorutas). The paper concludes by speculating on these questions: If urban infrastructures bind cities, in what sense(s) exactly do they do so? And what counts among the "us" that infrastructures assemble?

Homelessness and the Right to Infrastructure: A Struggle For Space and Sanitation in Fresno, California
Jessie Speer (Geography, Syracuse University)

Although the homeless are increasingly excluded from urban public spaces, literature on homelessness has not thoroughly explored where the homeless go once they are evicted from public spaces. In Fresno, California, thousands of people have established encampments in the interstitial spaces that surround large urban infrastructure -- along canal banks and railroads and under highway overpasses. Although technically the land surrounding large urban infrastructure is often privately owned, it nevertheless offers unique respite from the neoliberal commodification and regulation of urban space. On the other hand, homeless encampments that develop in the shadows of urban infrastructure have no access to basic infrastructural services: running water, sewage, or trash facilities. Indeed, the lack of infrastructural access can provide the pretext for state intervention: for the past decade, the city of Fresno has cited sanitation concerns to justify bulldozing people's tents and shanties. This paper explores this fundamental ambivalence (as simultaneously haven and threat) of urban infrastructure to the homeless. While the latest trend in homeless policy scholarship focuses on access to housing, Fresno homeless movements struggle for access to sanitation infrastructure, and for the right to remain in these interstitial spaces. My exploration of homelessness in Fresno thus provokes new directions in the conversation about the right to the city, homelessness and urban infrastructure.

Infrastructures of democracy: John Dewey and the politics of water technology
Katie Meehan (Geography, University of Oregon)

What kind of democratic environmental politics are possible through individuated technologies? In this paper, I examine the political dilemma of water supply alternatives: the charge that decentralized water infrastructure--such

as the household rain barrel and water collection system--are private, individuated, and thus anti-democratic, contrary to the mission of universal water supply and the impulse of social justice. In confronting this critique, I make two interrelated claims. First, to advance geographic understanding of democracy in technological society, I draw on the work of John Dewey: a political theorist, activist, and lover of pragmata, or "things in their plurality." With his redefinition of the 'individual' against atomistic, self-interested, Lockean properties, I argue that Dewey is key to understanding how individuated technologies are generative of new publics and democratic possibilities. To ground this point, I draw on empirical research in Mexico City to show that even as city dwellers self-provision water through individuated technologies, they continue to rely on or encourage municipal supply, resulting in a proliferation of water supply practices and infrastructures. In effect, such pragmata--the parts and labor of water provision--result in new and emergent publics. To conclude, I contend that what the evidence demands is not an abdication of individuated water supply alternatives, but new efforts to understand and enact democratic environmental politics, including those between and beyond the (neo)liberal grid.

5. Ctrl +/- EARTH: A Critical Analysis of Multiscalar Environmental Governance I

Location: Student Center 228
Organizers and Chairs: Nicolle Etchart (Geography, Ohio State University) and Samuel Kay (Geography, The Ohio State University)

Scalar Politics in Productions of Nature in Environmental Governance
Jason Beery (Department of Geology and Planetary Science, University of Pittsburgh)

While scale is a central feature in much political science and environmental governance literature in the analysis of how natures are regulated, managed, and used, it is often treated as ontologically given. Neither the scale of the nature – as global, transboundary, domestic, local, nor the scale of the institution or actor governing the nature – international, regional, state, provincial, local, are seen as constructed or produced. In such cases, the given scale of the nature often determines de facto the scale at which it is to be governed (e.g. the atmosphere is a "global resource;" therefore, it should be regulated internationally). What is missing in such an approach, however, are questions of why natures are produced with particular scalar dimensions and of how producing these scalar dimensions of nature serves to reproduce existing scaled hierarchies of governance. Such questions focus attention on questions of power over how, by whom, and for whose benefit natures should be governed. Using examples from the production of outer space as a "global" nature, I consider how actors work to produce the scale of nature in order to affect how it is governed and to reify their own power to produce nature and scale. I argue that it is necessary to critically analyze the political-economic relationships, agendas, and hierarchies behind the construction and production of the scales of natures in environmental governance arrangements in order to understand who benefits from these arrangements. Such analysis is necessary to achieve the just management of current and future natures.

Reallocating Resources, Rebuilding Community: Adaptive Governance at a Bioregional Scale
Brian Chaffin (Geography, Oregon State University)

Adaptive governance is an increasingly distinguishable form of environmental governance flexible enough to manage a desired state in social-ecological systems in the face of uncertainty. Adaptive governance often emerges in response to the need to govern scarce resources or to confront complex environmental challenges such as coordinating landscape-scale restoration of degraded ecosystem function. Research on adaptive governance has shown that empirical examples tend to emerge at a bioregional scale—a scale shaped by the spatial and temporal nature of contested resources, as well as by the political realities, legacy conditions, and adaptive capacity of resource governance institutions. Such is the case in the Klamath River Basin (USA) where conflict over the allocation of water for irrigation, endangered species, and hydropower has led a network of local leaders, agency scientists, and high-level federal officials to draft a vision for governing ecological restoration in spite of conflicting statutes and stagnant politics. In this paper I examine empirical evidence from the Klamath case—public records, government documents, and roughly 45 semi-structured interviews—to unravel the politics that created a bioregional approach to governing a large-scale social and ecological restoration effort. I demonstrate that informal mechanisms indicative of adaptive governance (networks, shadow politics, and personal relationships) have

shaped environmental governance more so than strict ecological goals, but not necessarily to a compromising ecological end. The Klamath case highlights a transition to a bioregional scale of environmental governance—a scale at which community values and the persistence of culture and livelihoods underlie ecological restoration goals.

Environmental Governmentality at the Intersection of Community Forestry and Biogas Technology in Nepal
Shaunna Barnhart (Environmental Science, Allegheny College)

Community forestry and biogas technology are two programs in Nepal which independently have been heralded as success stories, despite their shortcomings. This paper investigates the intersection of these two programs: community forest groups that support, promote, and fund household biogas technology to reduce firewood dependence for cooking. While the decision to build biogas (an anaerobic digester that traps methane for direct energy use generated from decomposing organic matter, primarily cow manure) is at the household level, those decisions are connected to perceived and experienced communal benefits in addition to household benefits. Biogas is a registered clean development mechanism and as such, the government and approved agencies can cluster household biogas units into projects for trade in carbon emissions based on the reduced emissions realized through the technology. However, those building biogas are often unaware of this surplus value accrued to national agencies (even though it is a part of the construction contract), which is only possibly through household adoption of the technology. This paper utilizes the framework of environmental governmentality, specifically focusing on knowledge production and power, to explore how community forestry influences environmental subjectivities resulting in an extension of changing other environment-related behaviors, in this case energy choices, and how such choices are connected to and influenced by climate and carbon governance structures at national and international levels. This study is based on 17 months of qualitative field work conducted in Jhapa and Gorkha districts with nine community forest user groups conducted over a 3 year period.

Geo-engineering and Biofuels: the Convention on Biological Diversity's Foray into Governing Scale-Dependent Technosciences
Deborah Scott (Geography, Rutgers University)

No organization within the UN system specifically evaluates emerging technologies. In this gap, civil society movements, NGOs, and certain States have begun to take their concerns with new technologies to a seemingly unlikely venue: the Convention on Biological Diversity (CBD). This UN treaty has had a unique relationship with scientific knowledge and claims of authority from its start. In the early 1990s, during the negotiations for the Convention text, developing countries demanded that the treaty's scope go beyond the natural sciences to recognize the political role of scientific knowledge in international environmental governance (McGraw 2002). In the 20 years since, the treaty body has struggled to actively recognize and incorporate other kinds of knowledge, particularly "traditional knowledge" from indigenous peoples and local communities, as well as ecology, economics and other social sciences. In recent years, the CBD's main decision-making body, the Conference of the Parties (COP), has examined emerging technoscientific objects whose potential impacts are deeply scale-dependent. This paper focuses on the CBD's engagement with geo-engineering and biofuels. From participant observation at COP 10 (2010) and COP 11 (2012), document analysis, and interviews, I examine the contending definitions and ways of describing these technoscientific practices and objects, the different types of knowledge and sources of authority deployed in the negotiations, and how the CBD ultimately attempts to address scale-dependent impacts on biodiversity and related concerns.

Uneven Adaptation and Atmospheric Governance in Beijing
Samuel Kay (Geography, The Ohio State University)

Something is floating in the air in Beijing that is slowly killing people. Effective mitigation measures to reduce the amount of air pollution in the city are stalled. In the absence of timely mitigation, the only thing standing between Beijing residents and an increased risk of disease is adaptation, but Beijing's adaptation landscape is highly uneven. While a small portion of Beijing residents take extreme measures to limit their exposure to air pollution, most people go about their daily lives more or less fully exposed and indifferent to air pollution. Drawing on ethnographic fieldwork conducted in Beijing and a database of nine months of Chinese micro-blog posts on the topic of air pollution, I examine how techniques of knowledge production and dissemination – along with everyday practices of adaptation, maladaptation, and exclusion – are productive of a particular regime of urban atmospheric

governance. This regime of governance is characterized by a societal norm of uneven distribution of the negative health effects of air pollution. I argue that the Chinese concept of social harmony (héxie shèhuì) plays a key role in this status-quo by bracketing inequality in general and uneven adaptation in particular. In other words, not only is exposure to air pollution highly uneven, but through a series of practices and discourses, this unevenness is normalized. It is my goal to open up possibilities for resistance and contribute to a popular politics of the atmosphere by offering a critique of the present regime of urban atmospheric governance.

6. The Agrarian Question- the Original Political Ecology?

Location: Student Center 230
Organizer and Chair: Karen Rignall (Agriculture, Food, and Environment, University of Kentucky)

Coffee and Socialism in the Venezuelan Andes
Aaron Kappeler (Anthropology, University of Toronto)

This paper explores the recent efforts of the Venezuelan government to increase domestic coffee production and support internal growers, suggesting that attempts to insert the state into the rentier structure of the coffee economy have somewhat inadvertently fostered proletarian consciousness. Based on ethnographic fieldwork in the rural areas of Venezuela, the analysis describes the key relationships introduced as part of the reform of the coffee trade and the potential impact of twenty-first century socialism on peasants. The social awareness of the Venezuelan peasantry has formed against the backdrop of the transition from a mostly rural society based on the export of coffee, to a largely urban society oriented toward the export of petroleum and the consciousness of coffee growers has developed in accordance with the growth of various regimes of accumulation. The Venezuelan government, I argue, has introduced a new regime of accumulation into the coffee trade with critical implications for the social awareness of the peasantry. My ethnographic vignette illustrates the present relationship of Venezuelan state functionaries with coffee producers and narrates a popular analysis of the material conditions. The rest of the analysis discusses the potential effect of the reforms on the process of state formation in Venezuela and offers a few observations about the future of peasant politics in Latin America.

21st Century Agrarian Questions, or Paradoxes of US-Cuba Agricultural Relations
T. Garrett Graddy (Global Environmental Politics , American University School of International Service)

This paper surveys historical agricultural relations between the US and Cuba so as to analyze the paradoxes underlying contemporary agricultural relations between the two countries. After an overview of Cuban agricultural history and present features, I focus on two aspects of current US-Cuba agricultural relations: 1) mounting trade tensions—with US growers and industries desiring to export to their neighboring island nation even as the US government clings to the half-century blockade—and 2) the rise in agroecologically oriented educational tours, wherein US students travel to Cuba to learn about urban and low-input farming. The longstanding tensions driving US-Cuba relations demand an agrarian-question analysis, even as the current situation has outgrown the classic question of how and why peasant agriculture survives an overarching, encroaching capitalist agro-economy. Firstly, the rise in Cuba's (private property-based) Credit & Service Cooperatives and their new capacity to sell food wholesale begs the question of peasant identity and working-class consciousness in a post-Cold War setting. Secondly, growers pride themselves on a generation of low-input agriculture, now attracting global attention and investments. I trace how US interest in Cuba's agroecology is grounded in a post-Cold-War acknowledgement of the parallel ecological exploitation of capitalist accumulation and communist industrialism. Finally, advanced capitalism is not monolithic, but fragmented, heterogeneous, continually constructed anew and painstakingly upkept. Drawing upon my own experience leading a graduate seminar on agricultural politics to Cuba, I argue that learning from Cuba means lessons on cooperative labor, land-based politics, place-based knowledge, and victory over United Fruit Company. Here, key agrarian principles have persisted through capitalism and communism; could they be penetrating the encroaching agro-industrial hegemony to the North? The apparent contradictions of current US-Cuba agricultural relations—from trade tensions to agroecological solidarity—are geopolitical openings that could empower smallholders and/or destabalize them. This situation proves the ongoing relevance of the agrarian-question, even as it expands and updates it in telling ways.

The new rurality of a Moroccan oasis: agroecology and the meaning of farming in the pre-Saharan periphery
Karen Rignall (Agrarian studies/Anthropology, University of Kentucky)

This paper addresses the "new rurality" in an oasis system of southern Morocco by exploring the intimate relation between farming style, labor process, and the agency of nature. For the past 50 years, labor migrants from the oasis have been sending back remittances from European and Moroccan cities to finance an expansion of small-scale commercial agriculture. I situate this process of "peasantization" in contemporary discussions of the agrarian question, especially debates about the fate of the smallholder. Many discussions of the productivity and artistry of the smallholder, especially in the literature on agroecology, emphasize the need to preserve traditional farming systems. However, I argue that emphases on diversity and flexibility that characterize these farming styles are not necessarily relics of a traditional order but products of contemporary labor relations combined with a politicized investment in custom. I question both the pessimistic view that these pockets of peasantization are a futile hold-out against the globalized corporate agri-food system and the romantic view of the smallholder as repository of agro-ecological knowledge from the past.

Territorial governance. Commons dimensions in Local Agro-Food Systems
Gerardo Torres Salcido (Researcher. UNAM-CEIICH)

There are different conceptual uses of that term, considering that it is a new form of public management that emphasizes decentralization of decisions and the involvement of extra-governmental actors. (Aguilar Villanueva , 2006). Regardless of the genealogy of the concept (Moreno, 2012; Sánchez , 2012), interest in pursuing this contribution is to highlight some socioeconomic characteristics of governance and its implications for local and regional development . In this sense, the difference and intersection of two seemingly contradictory positions is highlighted: the neo- institutionalism of Williamson (1996, 1985) on the one hand, and alternative positions, on the other, like Santos, who aims to build an epistemology of "the global south" as a counter-hegemonic globalization taking into account the meaning of the local and ecological knowledge of the communities. (Santos, 2009:229-235)

The Agrarian Question in Political Ecology
Tad Mutersbaugh (Geography, University of Kentucky)

From de Janvry to Kautsky to Michael Watt's Silent Violence, various iterations of the 'agrarian question' have been central to conceptualizing peoples and livelihoods in the environmental milieu. What these works centered, however, were questions of labor, colonialism, and social relations of production—aspects of environmental performance that have been muted in much contemporary political ecology (although with many exceptions!). In this presentation I examine the question of labor, juxtaposing it against contemporary optics such as post- and more-than-human, and reflect on the location of labor in political ecology.

7. Undergraduate Symposium I: Activism, Community and Political Futures

Location: Student Center 231
Organizer: University of Kentucky Political Ecology Working Group
Chair and Discussant: Rebecca Lane (Geography, University of Kentucky)

And Justice for All: solidarity, scale, and integrational organizing in the climate and immigrant justice movements in Georgia
Sara Black (Geography, University of Georgia)

Georgia enters 2014 as a state with some of the most draconian anti-immigrant laws in the U.S. and two of the most carbon intensive coal plants in the world. The immigrant justice and climate justice movements have active front lines in Georgia, peopled by local grassroots organizations navigating issues primarily framed at the state level, albeit rich with the context of national movement strategy and global systems. In the fall of 2012, student organizers from UGA Beyond Coal and the Undocumented Student Alliance at UGA coordinated a direct action tactic that offered not just statements of solidarity, but a unified message and underlying narrative justifying collaboration between immigrant and climate justice activists. This paper documents the continuing effort to deepen the relationships of solidarity and collaboration that were started with that action, and asserts that these collaborative efforts, which are not seen as strategically efficient, nevertheless create power in the form of

relationships, knowledge, and narrative. Using a participant action research methodology, I have worked with local organizers to identify justifications and avenues for collaborations spanning a gradient of strategic value. In developing an underlying narrative that supports and invigorates collaborative action, local actors resisting primarily local ordinances offer frames rooted in the politics of scale which encompass and integrate the large-scale drivers of climate change and migration.

The Speculative Western Gaze in The Windup Girl: Political Visions of the Future
Hector Doguet (Literature, Oakland University)

American author Paolo Bacigalupi penned a Hugo & Nebula award winning cli-fi novel, The Windup Girl, about a future of our world where food insecurity is rife and highly exploitable. While the plot unfolds on a stage in Thailand, this thesis argues that this literary exercise in exploring economic and moral dilemmas of climate change, bioterrorism, and agribusiness is set in a western-centered framework. This old yet newly imagined world positions America as superior yet out of sight, powerful but unquestioned in its continued sustainability, the bearer of fruits of knowledge and freedom and only sometimes the "foreign devil"… while Bangkok is laid out and interrogated, becoming the foreign land explored by the reader. From the embedded racialization of how characters of different national origins are narrated to the marked observations of the Other in areas of religion, gender, weather, and poverty, these projections of problems concerning global economy are rooted in East-West binaries. As a highly acclaimed piece of recent literature for the critiques it raises in the realm of political ecology, it is important to look critically at the foundations on which these critiques are made; how complete is a Western critique of Western dominance? What future visions does a western audience have and readily accept of global food dynamics?

"Coming Down from the Hill" Making Meaning of Undergraduate Community Work
Taylor Hinton (Environmental Studies, Allegheny College)

Over the past two summers, I worked on research projects in Meadville, Pennsylvania—the community surrounding a small liberal arts college known as Allegheny College. In the first of these two summers, we investigated the motivations and practices of low-income gardeners in Meadville. The following summer, we looked at the connections between a family's eating and cooking habits and their level of social capital. While each of these research projects were important in the results they yielded, what was more important was that this community-based research changed the way I thought about and interacted with people of the Meadville community. From my experience, I see that community-based research has the potential to improve the relationships between undergraduate students and people living in the surrounding communities. Doing this kind of work can help students (1) foster a deeper sense of connection with and care for the community (2) challenge the power dynamics between students and community members (3) change our ideas of what knowledge is considered "valuable" and (4) understand the cultural and historical importance of their surrounding community. Ultimately, involving students in community-based research can change their relationship to the people living around them by breaking down the barriers that currently exist between the "town and gown." Through a critical self-reflection of my personal experience as an undergraduate working in a larger community, this paper works to understand the challenges and benefits of undergraduate participation in community-based participatory research.

Unequal Access: Identifying Fresh Food Deserts in the United States
Lindsey Funke (Geography, University of Kentucky)

Food deserts have been an increasingly discussed issue due to their inherently negative implications on communities. This series of maps explores this phenomena in the contiguous United States at the county level. Using a variety of fields from the USDA Food Environmental Atlas data, this metric that ranks the quality of food available to community rather than strictly the presence or absence of food. The index divides counties into four categories from fresh food oases to extreme deserts. Furthermore, this presentation delves into the relationships between fresh food deserts and other socioeconomic and health related statistics. When compared to both poverty and diabetes rates, a disturbing pattern emerges in the data. In both cases healthier and more affluent communities had a higher percentage of fresh food oases. Conversely, unhealthier and less affluent communities suffer from the increased presence of fresh food deserts, compounding detriments to community health and development. It is imperative to acknowledge the inequity of fresh food access across the United States. Whether it is a bi-product of persistent

poverty or a signature of community wide health problems, inadequate availability of fresh foods is a detriment to societal sustainability and community development, meriting further research and action.

Fracking and Activism in Appalachia
Shaun Strawser (Sociology, Murray State University)

This study is particularly interested in the relationship between hydraulic fracturing, or "fracking," and levels of activism within the cultural context of Appalachian communities. With the advent of fracking technology, a "gold rush" has taken place as a flurry of new fracking sites are established throughout the region. In Pennsylvania, for example, where only four deep wells existed as recently as 2005, more than 4000 were in place by 2011 (Ferguson & Smith, 2012). This study will examine the relationship between fracking and activism in Appalachia; Activism in the Appalachian region will be evaluated in order to understand the relationship between density of fracking sites and levels of activity among members of environmental organizations.

8. Green Politics and Sustainability

Location: Student Center 249
Organizer: University of Kentucky Political Ecology Working Group
Chair: Chair: Andrea Craft (Geography, University of Kentucky)

Green City, Clean Waters: An Urban Political Ecology of Green Infrastructure in Philadelphia
Richard Kruger (Geography, Rutgers University)

As American cities continue into the 21stcentury with water infrastructures built in the 19th, hard decisions loom for planners, water department managers, and city officials. Many cities like Philadelphia are stuck with a system of pipes and sewers which are no longer adequate in facing problems like increased storm-water runoff and are in the process of drafting plans to deal with these issues. At the same time the economic and political landscape for city officials and planners remains hindered by the economic crisis of 2008 while concurrently dealing with the increased frequency of extreme precipitation events linked to global warming. In this paper I link work done in urban political ecology and infrastructural geographies to contextualize the city of Philadelphia's "Green City, Clean Waters" plan, an ambitious 25-year storm-water plan that will use 'green infrastructure' to remake the built environment of the city to absorb storm-water before it infiltrates and overwhelms the combined sewers of the present water infrastructure system. I argue that urban political ecology provides a theoretical framework from which to begin an analysis of the impacts and future implications of plans like GCCW and green infrastructure in general. What does the implementation of such a plan say about the acceptance of the sustainability discourse within urban governance? I expand on the notion of the "urban sustainability fix" to explore the possible impacts such large scale green infrastructure program can have on assembling the urban environment of Philadelphia.

Framing Sustainability – Sustainable development narratives among high-income, developed nations
Heather Farley (Political Science, College of Coastal Georgia)

The concept of sustainability has become a widely adopted guiding principle for decision-making among a variety of actors, including national governments. Governments have been using sustainability to steer national and international development policy for the last three decades. Yet, assessments by organizations such as the United Nations indicate that despite the popularity of the concept among national governments, sustainable development (SD) initiatives have not produced the kinds of outcomes needed to address the wide scope of problems SD is meant to address. This is a paradoxical scenario in which policy-relevant actors have all agreed to use SD as a guiding development principle but more sustainable international conditions are not being produced. I argue that this paradox is related to the narratives used by policy actors to frame sustainable development. Approaching the problem from a constructivist perspective, which assumes that language and praxis are mutually constitutive, I suggest that the way SD is defined and framed by national governments also delimits the possibilities for action. I will present the major findings of my 2013 study, which examines the SD policy narratives used by 23 developed, high-income, OECD member nations. Using interpretive, narrative policy analysis methods, I characterize the SD narrative(s) being used by this community of meaning and describe the policy implications. Language shapes action and action reifies language. Understanding how language is being used to shape SD policy, therefore, has far-

reaching implications for the global sustainable development agenda and creates space for re-directing the discourse toward more sustainable outcomes.

Anonymous, Virtual, Personal: A Political Ecology of 'Green' Electrons in Washington, D.C.
Jason Morris (Cultural Studies, George Mason University)

Over the last decade, states and localities across the United States have developed a complex and innovative collection of policies, approaches, and incentives in an effort to expand renewable energy production. The development of this collection has been strongly influenced by 'hard path' fossil fuel dependencies, ambivalent Federal policies, and processes of utility deregulation that began in the late 1970s. However, while neoliberal regulatory frameworks and philosophies may have become dominant in the electricity industry over the last few decades, the application of these frameworks has been diverse. This diversity reflects the uneven, particular, localized, and place-based character of contemporary renewable energy development. Residents of Washington, D.C. and suburban Maryland currently have access to a wide array of options for 'green' electricity consumption. Utilities and third-party electricity suppliers such as Clean Currents offer green power purchasing programs in which customers pay a premium for electricity generated from renewable sources. Property owners can purchase solar photovoltaic systems from one of the many companies active in the region. Those who are averse to, or lack the economic means necessary for, direct ownership have the option of leasing systems from national companies such as Solar City and Sungevity. Customers living in rental properties, condominiums and residences not suited for solar photovoltaic installations will, as the result of recently enacted legislation in the District of Columbia, soon be able to subscribe to installations in other parts of the city and have the electricity generated by those installations 'virtually' credited to their electricity bills. Based on the examples offered above this paper will examine the emerging political-economy and geography of 'green' electricity production and consumption in the Washington, D.C. region. Special attention will be paid to the imaginary, virtual and personal connections that motivate and inform various frameworks for producing and consuming 'green' electrons.

Rural Sustainability Indicators: A Review of the Literature
Celina Szymanski (Political Science, Appalachian State University)
This paper considers the relevance and utility of sustainability indicators to rural areas. A wide range of measures have been developed and applied to track progress and sustainability in local communities across the United States (e.g. Genuine Progress Indicator, Environmental Performance Indicator, the Vitality Index, the STAR Community Rating System). These indicators allow communities to measure changes along the social, economic, and environmental dimensions of sustainability. In this paper, we argue that because the development needs and priorities of rural and urban communities are often so divergent, we need to pay attention to how we define and measure rural sustainability. We provide a review of the literature on the linkages between rural sustainability and measures that exist to quantify the broad and often vague concept of sustainability. The paper presents results from a systematic review of the empirical literature review conducted through Google Scholar and targeted journals, for the period 1990- 2013. Only peer-reviewed, empirical studies were analyzed. We believe that this literature review will be of value to local and regional planners with the need to measure the effects of their sustainability efforts.

An Alternative to Mainstream Conservation and Development? The Social Impacts of Large-Scale Privately Owned Protected Areas in Los Rios, Chile
Christopher Serenari (Human Dimensions of Natural Resources, North Carolina State Univesity)
Recent literature on global biodiversity conservation and human development suggests private protected areas (PPAs) have an increasingly important role to play. To date, there are relatively few studies that explore the social impacts of PPAs and their contribution to achieving a sustainable world. This paper furthers our understanding of how households and communities in Los Rios, Chile negotiate and respond to lifeworld changes triggered by the sudden emergence, evolution, and governance of PPAs. Fieldwork conducted in 2013 in communities near three large-scale PPAs (>500ha and intentionally engaging locals) with differing ownership regimes (non-profit, citizen, and corporation) and intensity of PPA-community relationships revealed locals must negotiate changes to social organization, human-nature relations, intracommunity divisions, unmet expectations, and dependence on tourism development. We found locals respond by harnessing human agency, collaboration, apathy, and resistance. The roles of power, class, ethnicity, gender, and ideology are discussed.

DOPE 2014: SATURDAY MARCH 1ST

Saturday Schedule Block #2:
10:00am – 11:40am

Sessions 1-8 in this block are located in the Student Center. Sessions 9-12 are located in the Whitehall Classroom Building.

1. Urban Land-Use and Food Sustainability

Location: Student Center 203
Organizer: University of Kentucky Political Ecology Working Group
Chair: Alex Rittle (Geography, University of Kentucky)

Registers of territory: Re-thinking territoriality through urban land-use conflicts
Gwendolin McCrea (Geography, University of Minnesota)

In the face of increasing concerns about the effects of global climate change and the difficulties of achieving multilateral agreements to address those concerns, many local governments and individuals have begun to formulate their own plans to improve quality of life, use resources sustainably, and mitigate the effects of potential crises. These types of plans can lead to heated debates over land use and disposition of resources at multiples scales: regional (e.g. transit), local (e.g. green building regulations), and interpersonal (e.g. backyard farming). Such disputes have been productively understood as competing priorities within strategies of risk management or as the multi-scalar interplay of the rights, responsibilities, motivations, and curtailed options of governments, enterprises, and citizens. This paper takes a different approach, exploring the potential analytical benefits of framing urban land-use conflict as struggles over territory. It begins with an epistemological interrogation that holds together ecological, political, and affectual concepts of territory and teases out the ways in which each may inform the other. This re-thinking of territory in turn serves as the backdrop for an analysis of overlapping reterritorializations in the case of urban agricultural practices in the Washington DC Metro Area. The paper concludes by evaluating the usefulness of re-thinking territory—does framing urban land-use conflict as territorial struggle make possible an understanding of "territory" as an iterative process that occurs at multiple scales and registers, and if so, to what effect? Ultimately, can geographers deploy this more expansive territory-as-process to theorize intersections of space, affect, and differential relations of power in assemblages of human and non-human actors?

From Polluted Protection to Gentrification: Gowanus, Brooklyn
Jessica Miller (Geography, The Graduate Center, City University of New York)

The relationship between environmental justice, environmental clean up and gentrification is not well understood. Does gentrification encourage environmental clean up, clean up spur gentrification, or a combination of both scenarios? Further, is environmental justice a result of a cleaned environment? How do conceptions of nature play into how cleaned areas are envisioned for redevelopment? Who gets left out of the decision making process? By using Gowanus, a superfund neighborhood in Brooklyn, New York, this work explores some of the questions other researchers have proposed from their research on green gentrification, including understanding the connections green gentrification has to green policies, previously gentrified neighborhoods nearby and conceptions of nature. What is the tipping point of an area being a polluted barrier to gentrification, and one that spurs it?

Food Sovereignty in the Post-Industrial City
Jessi Quizar (American Studies and Ethnicity, University of Southern California)

This paper examines the use of the term "food sovereignty" in Detroit, Michigan, and the ways that Black farmers in the city have employed it to address the needs of Black Detroiters. Black farmers in Detroit frequently refer to their work as moving toward food sovereignty for Black and poor people in the city. The term food sovereignty was developed in the Global South, particularly to describe peasant struggles and the struggles of indigenous farmers. Detroit farmers have reframed the term somewhat, retaining its sense that food is deeply interrelated with issues of

power and cultural survival, but adapting it to the conditions of post-industrial, North American Detroit. In the analysis of much Black-led urban agriculture in the city, growing one's own food, or having access to an alternate food system may, for instance, allow one to become less reliant on an exploitative job. Ultimately it may allow one to produce for one's self and one's community, allowing for a greater degree of personal and collective autonomy. I argue that Black farmers in Detroit view seeking freedoms around work, and freeing one's self and community from exploitative or non-existent employment as fundamental to food sovereignty. Moreover, while the food sovereignty movement is international, Black farmers draw heavily on much more local legacies of radical Black movements in the city, including economic nationalism, in their theorization of food sovereignty.

Characteristics and Trends of Farmers Markets in Greater Cincinnati: Keystones to a New Food Economy?
John Metz (Geography, Northern Kentucky University)

Farmers Markets have been identified as "keystones" to a new and sustainable food system, one that will replace the current dysfunctional system. The numbers of Farmers Markets in the US have been increasing dramatically since 2000, and Cincinnati, Ohio is no exception. In 2000 the Greater Cincinnati region hosted 10 FM, and by 2013 the number had increased to 38. We identify 5 types of markets in our region: those founded by individual or groups of farmers; those founded by community activists to serve local urban communities; those founded by citizen activists in affluent urban and suburban communities; those founded by employees of local municipalities; those founded by corporations, either to draw consumers to retail venues or to enhance employee wellness. However, markets face significant problems. Most markets rely on volunteer citizen or farmer activists and lack boards or institutional structures to continue the market after the founder leaves. Markets serve a small percentage of consumers, and those who do come spend relatively small amounts. Markets serve few poor or racial minority consumers, even in communities with significant populations of these groups. There is an emerging shortage of fruit, vegetable, meat vendors, and many of these are elderly. During the 2000-2013 period three of the 2000 era markets closed and 10 "new" markets which had started after 2000 closed. We conclude that the rapid proliferation of FM may be the first phase of an emerging sustainable food system, but the trends we see suggest that the movement is at best in an early stage and currently functions as an ancillary part of the existing system.

Conceptualizing a critical political ecology with science and technology studies: a joint theoretical perspective on urban infrastructure
Anthony Levenda (Urban Studies and Planning, Portland State University)

There is much to be gained from joining critical political ecology (CPE) with science and technology studies (STS). There have been several attempts in the past to interconnect these theoretical bases (Forsyth 2003, Furlong 2010, Goldman et al 2011, Latour 2004, Monstadt 2009), and in fact, they share many basic philosophical and theoretical underpinnings, but the subject of urban infrastructure presents a fruitful area for exploring these interconnections further, by expounding a critical theoretical perspective. In this paper, I illustrate how these two theoretical approaches can be combined to offer a systematic vision of urban infrastructure that acknowledges ecological, social, political and technical issues. Political ecology is about rebuilding environmental science in a more politicized way, highlighting the relations of power that underpin our constructions of scientific knowledge. STS is about understanding the interplay between, and mutual construction of, science and society, nature and culture, technology and politics, which I believe is valuable in its ability to create more effective and equitable urban infrastructures by acknowledging the social and political factors that shape and are shaped by S&T. I use energy infrastructures as exemplifying cases to illustrate how the adoption of S&T without acknowledging the political and social aspects provides continuations of environmental, technical and social problems, and introduces new predicaments that are socio-ecological. It is apart of a larger consolidation of politics into a more and more technical realm wherein solutions to our energy and environmental problems are only solved through technological "fixes". By embracing the hybridity of infrastructures, their socio-ecological and enviro-technical constructions, it is possible to reopen up the political sphere such that new political possibilities can emerge. The theoretical basis of this "radical" politics is, I argue, emergent within an enmeshing of CPE and STS.

2. The Political Economy and Ecology of Coal Extraction in the World-Economy Part II: Appalachia in Comparative Perspective

Location: Student Center 205
Organizer: Paul Gellert (Sociology, University of Tennessee)

Displacement in the Appalachian Coalfields: Mountaintop Removal Mining and the Depopulation of Southern West Virginia
Sean P. Bemis (Earth & Environmental Sciences, University of Kentucky) and Shannon Elizabeth Bell (Sociology, University of Kentucky)

The depopulation of coal-mining communities throughout Central Appalachia over the past sixty years has been attributed to the general pattern seen in capitalist modes of production wherein improvements in technology lead to greater efficiency, which in turn leads to the need for fewer workers. Increased mechanization in the coal mines has led to tremendous job losses throughout Central Appalachia, and as a result, many young adults have left coal-mining counties in search of work. While these job losses undoubtedly account for a great deal of the decline in population throughout this region, we examine whether there may be more to the story of depopulation in the post-1990 years. A number of local residents argue that the coal industry is actively working to depopulate coal-mining communities, both through direct buy-outs and through intimidation, in order access remote coal seams for surface mining. We seek to empirically examine these assertions through a geospatial analysis of census and coal mining data for southern West Virginia's ten coalfield counties. Specifically, we examine the relationship between population loss and the percentage of land in each census tract that is permitted for surface mining. Although the effects of smaller mining operations/permit areas is highly variable, we find evidence to suggest that as census tracts experience more than 5-10% of their land area disturbed by surface mining, they also experience declines in their population.

Water Impairment From Coal Mines to the Marcellus Shale:Applying Recreancy to the Examination of Water Quality in Southwestern Pennsylvania
Anjel Stough-Hunter (Sociology, Ohio Dominican University)

The rapid increase in the extraction of natural gas from unconventional sources, such as the Marcellus Shale formation, has led to a potential resurgence of resource dependence in many rural communities. Areas that experienced a decline in extractive industries, such as mining, timbering and farming, and as a result a rapid economic downturn, are now experiencing the potential for growth and change via the quickly developing industry of natural gas extraction. Southwestern Pennsylvania is one such area. Southwestern Pennsylvania has both a history of water quality impairment related to coal mining, as well as is currently experiencing the rapid growth of natural gas extraction from the Marcellus Shale formation. This paper, drawing from in-depth interviews with residents of 4 rural townships, will examine Freudenburg's notion of recreancy, which includes the failures of "experts", at the organizational level, in the process of assessing, communicating and managing risks at the local level. Specific examples are given to illustrate the way in which experiences of regulation, trust and recreancy at the local level differentially impacted the amplification and/or attenuation of risks related to impaired water quality among residents in the 4 townships.

Coal Mining, Community Impacts, and the Political Economy of a Just-Transition in the United States
Linda Lobao (Rural Sociology, The Ohio State University)

This study investigates changes in coal mining and the effects on poverty and other well-being comparatively across U.S. communities from 1990-2010. We build conceptually from economic sociology and the literature on the political economy of "just transition." These two bodies of work call attention to the potential impact of changes in the energy sector on workers, families, and their communities; and they stress the need to look at relationships over time especially since neoliberal development has reduced real earnings and increasingly left communities with little options for improving their economic base. Our focus is a comparative, subnational cross-time analysis assessing the impacts of employment in coal mining across communities in Appalachia (and other U.S. regions. Multivariate models are constructed for the Appalachian Regional Commission (ARC) counties (N=417) and for all U.S. counties (N=2, 611) disaggregated by region. We examine outcomes for adult and child poverty, income levels, and

unemployment. We use unique, detailed longitudinal data on coal employment and assess the effects of coal versus other mining (e.g. gas) and other local industries (e.g. services, manufacturing). In our preliminary analyses, we find cross-time and regional variations in the impact of coal across communities. Coal employment in Appalachia tends to have a more negative relationship to community well-being relative to other regions although the negative effects of coal appear to be weakening over time. However, when compared to employment in gas/oil, employment in coal tends to be related to somewhat better community conditions (lower poverty, higher income). The results explain in some part why a just-transition must entail policies to move communities to economic sectors that offer better livelihoods for their residents and at the same suggest why under neoliberal development, some communities are reluctant to abandon dependence on coal mining.

Dethroning King Coal: Exhausting West Virginia's Socio-ecological Relations in the Rise of the Powder River Basin

Ben Marley (Sociology, Binghamton University)

The following paper discusses the exhaustion of socio-ecological relations in the coalfields of West Virginia. I use the term socio-ecological to signify "the interwoven character and the indispensable unity of social and natural life" (Araghi 2009: 115). In particular I use classic literatures on labor history in the coalfields of central Appalachia and contemporary studies of mountaintop removal to think about phases of socio-ecological relations of the coal industry. I argue for the interrelationality of the social and the ecological rather than how eco-Marxist scholars treat these as independent units. This enables us to situate nature as an active component of capitalist developmental processes. I argue that the exhaustion of socio-ecological relations in the coalfields of West Virginia are an outcome of material practices within the phase of extraction using mountaintop removal, historical changes in the conditions of production in the coalfields, and of competing regions and energies. However, favorable international markets and a specialization in metallurgical coal temper the relative exhaustion of central Appalachian coal.

3. Posthuman Political Ecology II

Location: Student Center 206
Organizer: Daniel Cockayne (Geography, University of Kentucky)
Chair: Matthew Rosenblum (Geography, University of Kentucky)

Rethinking Humans' Placements and Connections with Predators Across the Greater Yellowstone Ecosystem

Hannah Jaicks (Environmental Psychology, CUNY Graduate Center)

Conflicts among predators are a divisive and pressing concern in the Greater Yellowstone Ecosystem (GYE), a 72,000km2 region where humans and animals compete with one another for shared space, resources, and habitat amidst rapid human population growth, real estate development, and consequences of climate change. Researchers have established the critical urgency for more adequate strategies to address these conflicts in this diverse area that harbors all species of large carnivores—grizzly and black bears, wolves, and mountain lions. Yet scholarly attention is needed that reimagines current approaches by examining the implications of people's stake as a fellow predator contributing to the disputes, and that takes seriously the interests and experiences of nonhuman predators. The purpose of my study is to rethink the human-animal connection in order to reimagine alternative strategies for managing the conflicts over the coexistence of keystone predators in the Greater Yellowstone Ecosystem. This paper will discuss one of the three objectives that guide my research. Specifically, my paper will include spatial and social analyses as a strategy to systematically examine and document the overlapping environmental, political, economic, historical, and cultural ecologies of GYE's keystone predators—human and nonhuman. This post-humanist research on intersecting predator ecologies is intended to broaden and strengthen our understanding of human-animal relations, particularly predator conflicts. By exploring struggles to coexist with large carnivores from a perspective that resituates the roles and responsibilities of humans, findings will be used to expand avenues for participation of underrepresented local human and animal populations in future management and planning efforts.

Save 25% on gold standard mice: Re-thinking animal agency in light of global commodity/species use for cancer research

Ekin Yasin (Media Studies, New York University)

Jackson Laboratory, a leading research institution of genomic medicine, is located in Bar Harbor Maine. The laboratory was founded as a research institute that promoted mammalian genetics research and was one of the early advocates of understanding human disease via genetics. Over the years, and initially as a source of funds for research, the institution started to see their mice models as commodities to be sold to members of the scientific research community. Today, almost 70 percent of the laboratory's revenue is generated through sales of different mice species.

Laboratory mice are a global commodity. But what sort of commodity and with what implications for the ways human disease is studied and understood? In this paper, I chronicle the making, selling and distributing of Jackson Laboratory's most popular mice species: the NSG mice. Used for research on both cancer and immune diseases (e.g. HIV), these mice are scientific objects both symptomatic and constitutive of global medical research networks. Based on extensive fieldwork and interviews at Jackson Laboratory, this paper chronicles the life of this animal species. The paper has four focus first, to overview the intellectual ownership battles of NSG mice species; second, to detail the digital infrastructures the institution creates to enable these mice to be used; third, to underscore the various ways these mice are used as currency to fund further research and fourth to explore the relationship between ethics and engagement with affect in light of this particular practice of commodification of laboratory animals. Through these four instances, the paper aims to give a sense of the global networks formed around these mice species and to comment on the make-up and motivations of global disease research and to comment on rethinking agency as a multispecies possibility and a problem.

Governmentality as Situated Responses in Multispecies Worlds: Monkey Management in Shimla

Daniel Solomon (Anthropology, Cabrillo College)

In this paper, I will discuss the strategies deployed by the government of the Indian state of Himachal Pradesh to manage troublesome monkeys. Insofar as these strategies were formulated as responses to the economic and affective value generated by material relationships between humans and monkeys in specific landscapes, government monkey management can be discussed as a form of "world-building" or "niche co-construction." This is to say that wildlife governmentality in this mode built or built upon the existing multispecies social orders in ways that were amenable not only to human desires, but sometimes also to the interests and desires of monkeys who had material claims to the productivity of the shared landscape. This amounted in some cases to a limited, unscientific cull of monkeys led by those who were affected most by them, Himachali farmers. In other situations it resulted in the actuation of monkeys' desires by human political machinery, such as when the wildlife authorities attempted to establish a "monkey park" on the model of a nearby, long-established "monkey temple," Jakhoo Mandir.

Bernard Stiegler and the Rumor of Posthumanism

Lalit Batra (Geography, University of Minnesota)

Bernard Stiegler's elaboration of the Derridian theme of originary technicity is a powerful attempt to account for the singularity of the human through a move that makes anthropogenesis a différance of différance and stages a disjunction between the time of life in general and the temporality of the human. Stiegler challenges the dominant reading of the supplement as an incalculable excess and locates anthropogenesis in the ontic history of the differentiation of the supplement. Stiegler understands anthropogenesis as a process inaugurated by a second différance, a différance of différance, a moment of rupture in life when life begins to be lived by means other than life, that is technics, which opens the passage to hominization. In this paper, I will show the possibilities that Stiegler's account of the doubling of différance opens up as well as closes in terms of how we understand the relationship between life and technics. In particular, I will show how Stiegler goes farther than most in demolishing the humanist myth of an original/originary essence of the human that stands opposed to the technical. However in doing so, it arguably ends up rehabilitating in a different register a sophisticated yet forceful form of anthropocentrism that it sets out to overcome in the first place. I conclude by speculating whether avoiding anthropocentricism is at all possible, or even desirable, if one wishes to retain the notion of human agency as a political category.

The Rugged Border: Homeland Security, the "Virtual Fence," and the Quotidian Excess of Asocial Materiality
Geoff Boyce (Geography, University of Arizona)

The U.S. Department of Homeland Security has long pursued a series of networked technology programs to support its goals of "situational awareness" and "operational control" along the Mexico / United States border. These networks have incorporated remote sensors, ground radar, fixed camera towers, mobile surveillance systems, and Unmanned Aerial Vehicles. Yet consistent challenges have undermined these technology regimes, and by extension the bordering efforts of the United States government – including many precipitated by climate, weather, terrain, wildlife and other non-human agents. This paper examines these challenges, suggesting that the import of non-human actors to political geographic outcomes may as often depend on how such actors exceed or disrupt a given human-oriented network as on their association with human actors. The paper follows the development of technological and juridical innovations implicated in U.S. boundary enforcement, focusing on one high-profile technology program, SBInet, developed from 2006 to 2011. It concludes by suggesting that geographers pay attention to the irreducibility of the non-human when theorizing a more-than-human political geography, and the excessive or disruptive agency that the non-human may carry.

4. Geographies of Infrastructure II: Planning

Location: Student Center 211
Organizers: Majed Akhter (Geography, University of Indiana-Bloomington) and Kerri Jean Ormerod (Geography and Development, University of Arizona)
Chair: Majed Akhter (Geography, University of Indiana-Bloomington)
Discussant: Stephanie Kane (Cultural Anthropology, Indiana University)

Infrastructure as statecraft: Power politics and unfolding urban infrastructure in India
David Sadoway (Urban Studies & Planning, Concordia University Montréal)

This paper inquires about the power politics undergirding infrastructure governance in the cities of India. The focus will be on understanding the unfolding political ramifications of the massive Jawaharlal Nehru National Urban Renewal Mission (JNNURM)—an $11 billion (USD), seven-year infrastructure-led project in Indian urban-regions (2005-2013). JNNURM's attempts to shift India into an urban era focuses not only on traditional infrastructural works, such as pipes and flyovers, but also advances 'technologies of governance' especially those embedded within a package of 23 reforms. The reforms and tripartite funding arrangements—in essence, 'infrastructure as statecraft'—involve contingent cost-sharing agreements amongst the national government, states and city governments of India. Drawing upon empirical research in New Delhi and Bangalore, this theory-building paper toggles between examining JNNURM-funded infrastructure sites where everyday power contestations and displacements take place on the ground and how these relate to the changing machinery of infrastructure governance in India. Central to the premise of infrastructure as statecraft, this paper suggests, are three distinct of power plays. The first, is the centripetal versus centrifugal political power drama—that is the ongoing contested push-pull of central, state and municipal relations—notable as JNNURM treats 65 'mission cities' as nexus of global capital flows and therefore as worthy sites of investment. Second, is the rise of 'business consultancy urbanism' involving forms of project planning shaped by the intersection of JNNURM norms and by g/local consulting and audit cultures. Third, JNNURM the authors identify an array of physical and environmental displacements that lead to questions about ongoing urban injustices in Indian cities, including the apparent inability to link infrastructure governance to explicit socio-economic or environmental objectives. These distinct dynamics suggest that infrastructure—in the Indian context—represents an assemblage of institutional and physical sites for political power plays and ultimately forms of unfolding statecraft.

Mega to Nano: Changing Scales and Socialities of Water Infrastructure in Mexico
Casey Walsh (Anthropology, University of California Santa Barbara)

During the last few decades attention among water engineers in Mexico has shifted somewhat from supply to demand, from quantity to quality, from public works to private, and from the monumental to the individual and the tiny. Faced with serious contamination problems in both surface and subsoil water sources, social movements that demand environmental justice, and extreme economic and technical difficulties in assuring water quality through

conventional means, hopes have turned to technologies that 1) treat water at a much smaller (micro and nano) scale, and 2) treat water closer to the points of contamination and individual human consumption. Fieldwork conducted among scientists, engineers, government officials, businessmen and rural dwellers will help clarify these two historical trends, and shed light on how they are reshaping socio-physical infrastructures.

Automatism and Adaptation: A Prescription for Planned Potable Reuse
Kerri Jean Ormerod (School of Geography & Development, University of Arizona)

Infrastructure is the fundamental technology of modern human life – it is tacitly understood, central to cultural interaction, and essential to environmental transformation. Indoor plumbing and sewage disposal, although hidden from sight, are integral to producing the urban landscape. Given recent advances in treatment technology, the potential to supplement drinking water supplies with highly treated recycled wastewater is currently at the forefront of water development in the United States. The luxury of toilet technology lies in the distance the flush puts between the producer and the product; however, this process has also contributed to massive water waste and contamination. In this paper, I draw on Langdon Winner's (1977) concepts of automatism and reverse adaptation to explain how advances in water treatment technology spur interest in planned potable water recycling projects. Winner's concepts are useful for considering the how water infrastructures condition our daily interactions with the state, the environment, and each other. Infrastructures shape expectations and encourage psychic and social submission to the system through mix of routine, tradition, capital, and maintenance. Increased interest in recycled water is an adaptation to the problems that emerge from modern urban water management. I combine political ecology's attention to dialectical relations with insights from Science and Technology Studies to understand wastewater treatment technology primarily as technique of governance. In doing this, I extend the relational understanding of technology to infrastructure to underscore how urban waterworks (i.e., sinks, toilets, pipes, pumps, meters, and wastewater treatment plants) may be better understood as technique of reproduction, rather than a fixed object or inert artifact.

When unresolved controversies haunt contemporary infrastructure planning: The case of solid waste management in Hawaii
Jordan Howell (Geography and Environment, Rowan University)

Waste history is environmental history. When controversy over the solid waste management system erupts, at stake is more than just the selection of a particular technology or process. Waste infrastructure not only solves a public works problem, but also characterizes the ecologies of a place in a particular way. Incineration with energy recovery (WTE) suggests a very different type of 'urban metabolism' than composting or landfilling; the choice of a particular technology may impose a vision of wasteshed ecology that some stakeholders disagree with. These controversies are rarely resolved to the full satisfaction of all parties, sometimes haunting subsequent solid waste planning efforts for decades. In this paper I consider the legacies of one such techno-ecological controversy, focusing on the impacts of the State of Hawaii's first efforts at comprehensive solid waste planning in the period between 1968 and 1978. Based on a close reading of government, advocacy group, waste industry, and news media documents I first examine the nature of the solid waste controversies of the time, focusing on the ways in which different visions of island ecology were implicated by competing disposal plans. Next, I look at the legacies of these controversies for solid waste infrastructure planning across the Hawaiian Islands, arguing that the variety of infrastructures and plans observable – or absent – today has a direct relationship with the unresolved controversies of this initial planning period. Ultimately, this paper will aid the community of scholars working on questions of infrastructure at the confluence of environmental history and the history of technology while also informing developments in historical, human, and Pacific regional geography.

5. Ctrl +/- EARTH: A Critical Analysis of Multiscalar Environmental Governance

Location: Student Center 228

Organizers and Chairs: Nicolle Etchart (Geography, Ohio State University) and Samuel Kay (Geography, The Ohio State University)

Multi-scalar Environmental Governance on Climate Change

Ian McGregor (Centre for Cosmopolitan Civil Societies, University of Technology, Sydney (UTS))

Dangerous climate change is the greatest threat to sustainability that humanity has ever faced. This paper reviews the global climate change public policy development process, using both governmentality and neo-Gramscian perspectives. It particularly focuses on the failure of that process to agree an effective international agreement to address climate change at the 15th Conference of the Parties (COP15) of the UN Framework Convention on Climate Change in Copenhagen in December 2009 and the subsequent extremely limited progress made towards effective global climate policy. Within the failure of that process, it highlights the major challenge to the hegemonic power of market globalism that occurred in the lead-up and during COP15. This counter-hegemonic movement based around ideologies of ecologism and justice globalism was supported by many developing countries as well as environmental and social justice organisations. The counter-hegemonic challenge was not successfully accommodated at COP15 or in the subsequent climate change negotiations in Bonn, Cancun, Durban and Doha. Further research is currently being undertaken at the Warsaw Climate Change negotiations, however, this will not be completed in time for inclusion in this abstract. It identifies major difficulties which need to be overcome to successfully conclude an effective global agreement to move the world's energy systems rapidly away from fossil fuels to low and zero emission energy sources. Using a governmentality perspective, the research focuses on major problems with our current global climate change governance processes under the UNFCCC. It concludes by identifying major issues that an effective global climate change agreement needs to address and some of the major barriers that need to be overcome to achieve such an agreement.

The fix is in: regulating the slow crisis in the Alberta oil sands

Hugh Deaner (Geography, University of Kentucky)

Environmental governance pervades commodity production in the oilsands of Alberta, Canada. This paper brings into conversation the legal and social frameworks of this environmental governance to highlight the production outcomes that emerge as a result. The oil sands producers' priority remains complying with their provincial operating licenses; but they also are checked by federal oversight as well as civil society organizations with wide origins and varied missions. In addition, while dissenters within the First Nations reject any industrialization, equipment operators and entrepreneurial millionaires indicate a breadth of relations. Finally, the standards of nongovernmental environmental arbiters have spurred voluntary compliance by some oil sands firms. Altogether, these frameworks of environmental governance are accompanied by stark material outcomes in the oil sands: the world's largest surface mining complex, including its virulently toxic waste stream, biophysical recalcitrance, and sheer volume, as well as its de-sequestration of deeply-stored carbon and low net energy yield. Environmental governance promotes these outcomes through legalization, firms voluntarily instituting "sustainable" practices, labor support, provincial and federal global diplomacy, uneven monitoring, and a final reclamation solution to tidy-up the volumetric remnants of waste production yet stop short of neutralizing their menacing materiality, which like liberated carbon will not diminish quickly. Environmental governance in the oil sands thus fits Polanyi's observation that regulation attenuates capitalism's blows—never by dodging them, but rather—by carving out time to habituate to their impacts. This case study demonstrates the deceit of environmental governance. While nominally aimed at constraining waste-driven accumulation, environmental governance is instead the fix that simultaneously legalizes and sanctions widespread ecological degradation, climatic recklessness, and the exposure of workers to myriad hazards in the name of expanding already-rampant consumerism—all by deflecting crises into a pile for future reckoning.

Agricultural Carbon Projects: Can They Be Sustainable?

Corinna Clements (Agricultural Economics, Virginia Tech)

Agricultural carbon schemes are purported to constitute a 'triple win' for sustainable development. Practices such as agroforestry, reduced tillage, and grasslands management can increase yields and improve resilience while

mitigating greenhouse gas emissions and providing revenues through the sale of carbon credits. Scaling up carbon credits involves complex institutional structures for promoting practices and aggregating carbon monitoring, reporting and verification. Scaling occurs across three scales of analysis: micro, meso, and macro. This presentation focuses on an analysis of the meso scale, where multiple levels of intermediaries are involved in governance and management. In the case of most agricultural carbon schemes, an external organization functions as a higher-level intermediary while pre-existing local associations are enrolled as lower-level intermediaries. This presentation establishes criteria which evaluates intermediaries based on two interconnected dimensions of analysis: economic and institutional. Economic sustainability is determined through an assessment of monitoring systems, market linkages, transactions costs, and the provision of incentives. The institutional dimension evaluates the participation of various stakeholders in the project, including intermediary entities, with the understanding that a greater degree of local stakeholder participation and decision-making power improves the overall sustainability of the project.

Climate Change Governance in Miami, Florida and the Question of Scale
Suzana D. Mic (Global and Sociocultural Studies, Florida International University)

Climate change governance in South Florida, and particularly in Miami-Dade County, is bringing back into focus questions on the meaning of scale. More precisely, as Marston et al (2005) invite us to think, understanding climate change governance requires a shift away from an ontology of scale.
Miami is recognized globally as a model in terms of climate change expertise and is largely guiding national politics on climate change. But, Miami's central positioning in the global and national debates on climate change is a result of the impressive body of expertise formed while planning and managing extremely complex environmental issues, such as the massive efforts to design and implement the Comprehensive Everglades Restoration Project (CERP). This expertise emerged in the 1980s and often simultaneously embedded federal, state and local governance positions (Dengler 2007). This paper explores the ways in which today's climate change expertise morphed previous forms of environmental expertise to make Miami a world-renowned site for climate change planning. In doing so I move away from scalar scaffoldings to discuss a "socio-spatiality" (Marston et al. 2005) that defies any pre-established conceptual categories of scale, and focus on the multiple flows, assemblages, blockages and coagulations that climate change governance brings so clearly into light.

Notes towards a Gramscian analysis of global climate change governance
Nicolle Etchart (Geography, Ohio State University)

Climate change is frequently framed as a global problem to be dealt with through proper planetary governance, management and policy. Thus far, climate change mitigation and adaptation policies have placed a black box around the messiness of the politics of climate change, focusing instead on the production of technologies, caps-and-trade, offsets, and other market-based solutions that can manage risks through concrete policies so that 'life as we know it' can continue unaffected. "Confronted as a massive market failure", the current portrayal of climate change is decisively robbing it of any political meaning; this, despite the fact that any attempt to deal with its human dimension requires defining "whose lives will pay the cost of adaptation to a warming planet" (Wainwright, 2013). Nevertheless, climate change is quickly penetrating all facets of human life. The fact that the framework for devising solutions to climate change is shifting every more strongly in the direction of adaptation versus mitigation is, of course, profoundly political. As the climate change crisis begins to impact accumulation strategies and hegemonic modes of regulation prove to be insufficient to stop it, ecological issues are beginning to re-center the political in the social. Within such a panorama, how can a research agenda study climate change politics in a way that breaks the political out of its black box and refocuses the lens on the struggles over the form and quality of planetary management? In attempting to flesh out a theoretical approach to this issue, this paper draws from the work of Antonio Gramsci in order to set out a Gramscian framework through which one can better comprehend the dynamics of current global climate change governance.

6. Kentucky Local Foods Activism: The struggle to create just agro-foods networks

Location: Student Center 230

7. Undergraduate Symposium II: Resources and Resistance in Political Ecology

Location: Student Center 231
Organizer: University of Kentucky Political Ecology Working Group
Chair and Discussant: Kelsey Hanrahan (Geography, University of Kentucky)

The Caribbean Contest Over Adaptive Process: Climate Change Futures of Haïti and Cuba
Henry Peller (Ecological Design and Development, Ohio State University)

The struggle to react to produced knowledge of climate change unfolds through incongruent and contradictory processes whereby political-economic elites attempt to cultivate hegemony and to realize "adaptation." This drive for adaptation must be questioned and critiqued. Drawing from a synthesis of readings and in-country participant observations, two intense and contested arenas for adaptive processes, Haïti and Cuba, are contrasted by focusing specifically on their prospects for adaptation of agricultural ecosystems. Beginning with Haïti, a typology of four "contestants" is offered, and their competing visions of the future and politics are related back to the politics of climate adaptation: (1) neoliberalism of USAID and the government of Haïti; (2) Latin American ecosocialism of Petro Caribe and a Cuba-Haïti-Venezuela partnership; (3) ecocapitalism of corporate philanthropy and donor-funded NGOs; and (4) Haïtian peasant organizations (including those affiliated with La Via Campesina). If the narrative of Haïti's food system should continue as an unchecked struggle with no consolidation of ideology or direction, the well-being of its peasantry is predicted to become still more uneven and compromised across geographic space: each power type effects particular agricultural regions, constructing a spatial mosaic of disparate political-economic and socioecological configurations of varying adaptive success. These contradictions will run headlong into the objective time limits imposed by a changing climate and thereby intensify human suffering. In counterpoint, the possibilities of Cuban socialism and agroecology are extended to consider a more singular and successful adaptive process. However, it must be questioned to what extent Cuba's accomplishments are replicable as products of extraordinary but waning circumstances, or capable of feeding the country as much of staple grains and proteins continue to be imported. By contrast, the conditions of possibility for a similar consolidation of peasant politics in Haïti, yoked to an agroecology and food sovereignty platform, are considered as traction for a more just and successful adaptive process.

Immanent Resistance: Reflections on the Neoliberalization of Social Spatial Relations and the Politics and Possibilities of Love
Mark Ortiz (Political Ecology, University of Alabama)

Drawing from Henri Lefebvre's work on the 'production of social space', I intend to examine the processual 'neoliberalization' of global space. Associated with the deep regulatory reforms and the reconstitution of entire nationstates typical of neoliberalization are a host of alterations to socialspatial relations that serve to legitimize a transactive market logic, intensify intralocal competition and, thus, as Peck and Tickell (2002) argue, delimit the power of bottomup political action (386). Already, much has been written with the aim of critically characterizing and deconstructing the institutions and internal logics of neoliberalism(s), so this will only serve as a minor focus of the presentation in question. Since, however, the academic focus on deconstruction can sometimes marginalize generative accounts and analyses of resistance efforts, the major focus of my presentation will be the discussion of alternative political possibilities stemming from an interpretation of actually existing sociopolitical situations. To constellate what might seem to be a desultory set of occurrences and to formulate an inclusive theoretical framework, I will utilize conceptions of 'love' articulated as a political concept by a variety of thinkers, including (but not limited to): Soren Kierkegaard, Michael Hardt, Cornel West, bell hooks, and Vandana Shiva. At the heart of this theoretical orientation, and, indeed, the impetus for my decision to focus on existing instantiations of radically alternative political moments, is Kierkegaard's assertion that "love is sheer action " (Kierkegaard 1995, 106).

Slum or Settlement? Rewriting the Narrative of Urban Poverty, with a Focus on Community Organizing and Autonomy in Oaxaca, Mexico
Evan Sweet (Geography, University of Kentucky)

Increased population movement to urban space has lead to a large-scale housing crisis across the globe; housing has become informalized, with the majority of urban inhabitants living in impoverished communities, without access to

the public service infrastructure expected in modern cities. Mainstream literature on squatting focuses on economic factors that create this development, without focus on the communities who inhabit these spaces. Understanding these communities without considering the human realities leads to rhetoric and policy that is ineffective at mitigating poverty, or creating policy that benefits informal communities. The purpose of this research is twofold: first, it critiques the rhetoric of the traditional slum narrative; second, it suggests a new narrative of urban community which focuses on the community structure in informal encampments and is based on community members inputs and not third party observers. I conducted three days of interviews with members of the informal Zapata Encampment in Oaxaca, Mexico. Particular focus was placed on how the community creates its livelihood and advocates politically without traditional government support. The interviews indicated that the community was not a poverty stricken slum like mainstream scholars might suggest; instead this community was thriving, even in the difficult conditions they inhabited. Proving that a new language and understanding surrounding the study of informal settlements is necessary. Instead of barren poverty stricken wastelands, these settlements should be understood as organized political organizations attempting to empower and enrich its residents. The research demonstrates that anti-poverty policy makers and urban planners approach informal settlements in a flawed manner that must be adapted. Analysis that solely focus is on economic factors without consideration of community members create policies that do not improve the conditions of the community. New rhetoric is necessary in order to create a new conception of urban poverty and to create new anti-poverty policy.

Fighting Environmental Injustice: How Political Processes Shape Isaan, Thailand as a Space of Inequality
Melanie Ferraro (Geography, University of Colorado)

While there is significant grassroots activism within the region of Isaan, Thailand, particularly in protest of government-sponsored development projects, the effectiveness of these protests is often limited by external factors. Some of these factors include politics at the global and national level, larger economic systems, and discrimination faced by Isaan people as a result of their Thai-Lao ethnic Identity. I examine how these factors impede the effectiveness of community organizing in the region using the village of Na Nong Bong and the neighboring goldmine Tungkum Limited as an example of ways in which villagers struggle to protest severe environmental injustice caused by development projects. For the last few years, the Tungkum Limited goldmine has been leaching hazardous amounts of cyanide into local water sources. This has resulted in negative health effects for villagers, severe environmental contamination, and has compromised community self-determination in the surrounding area. Since the mid 1990s, environmental justice scholars, such as Laura Pulido, have emphasized the importance of examining the processes that create these spaces of inequality. Using this framework, I analyze the factors that contribute to the creation of Isaan and Na Nong Bong as spaces of inequality and environmental injustice, which will provide enhanced understanding of why community protests against the mine have been unsuccessful in stopping its expansion. Further, by examining these processes, I hope to identify ways in which villagers may use these structures to their advantage to enhance activism in the region.

Water Security in Guachthu'uq, Guatemala: A Socio-Political and Technical Issue
Katie Picchione (Mechanical Engineering, Worcester Polytechnical Institute)

"Water security" means having access to adequate quantities of acceptable-quality water. In the case of Guachthu'uq, Guatemala, it is clear that the three dimensions of water security, quantity, quality, and access, rely on technical, political, and social factors. Interviews conducted in the community reveal a web of socio-political conditions and conflicts that compiled with deficient infrastructure, propagate water-poverty. This report identifies political actors and explores various technical, social, and political factors that elucidate the intricacy of water security.

8. Environmental Ethics and Cultures of Extraction

Location: Student Center 249
Organizer: University of Kentucky Political Ecology Working Group
Chair: Kyle Burchett (Philosophy, University of Kentucky)

In the Shadows of Giants: Cultures of Extraction and Resistance in Appalachian 'Coal Country'
Bill McClanahan (Justice Studies, Eastern Kentucky University)

Mountaintop removal mining—MTR—is dramatically altering the geographic landscape of Appalachian America, along the way placing humans, animals other than humans, and entire ecosystems at risk. While there has been substantial scholarship produced across various disciplines addressing the environmental impacts of surface mining practices like MTR, little work has been done that focuses instead on the ways that extractive industry in general—and coal extraction in particular—has the power to both alter and construct the cultural landscape of communities captured by extractive industry. Under the shadow of a historically dominant extractive industry, cultures of extraction emerge that simultaneously celebrate, justify, and naturalize harmful processes of resource extraction. At the same time, cultures of resistance to extraction have emerged, challenging the logics not only of extraction itself, but also the logics of the various cultural movements and productions that support and reify harmful extractive rationales. This paper—which is exploratory in nature—considers several expressions of various Appalachian cultures that are both supportive of and resistant to extraction through the analysis of various cultural productions (e.g., bumper stickers, t-shirts, music, popular discourse, graphic art, and literature). Using theoretical and methodological frameworks provided by an emergent 'green' criminology, geography, and anthropology, this work seeks to develop further theoretical insight into the forces—natural, cultural, and economic—that shape cultures of extraction and cultures of resistance.

While Rome Burns - Denial and Responsibility in an Age of Ecological Dystopia
Kyle Burchett (Philosophy, University of Kentucky)

In this presentation I will discuss what Andrew Fiala has referred to as the problem of Nero's Fiddle (2010). There is a paradox involved when environmentalists point out the enormity of humanity's self-imposed ecological predicament. It appears that only prolonged global cooperation will solve the problem but that nations are not likely to cooperate in this manner; thus, the situation seems hopeless. Accordingly, after considering the situation thoroughly, one may conclude that the rational thing to do is to "fiddle while Rome burns," to adopt just the kind of selfish disregard for the environment and future humans that would reinforce the predicament and make it worse. I will attempt to provide an adequate response to the dilemma--one that favors hope over despair.

Mining the Past, Imprisoning the Future: (Counter) Carceral Geography in Eastern Kentucky
Judah Schept (Justice Studies, Eastern Kentucky University)

In Removing Mountains, sociologist Rebecca Scott (2010: 2-3) notes, "Mountain Top Removal is rapidly becoming part of the everyday landscape, making its drastic alterations of the landscape seem ordinary." She then asks, "Once a mountain disappears, how do we know it was ever really there?" Removing mountains—rendering them invisible—is so quotidian a process that the "drastic alteration of the landscape" appears natural, as common sense. This paper mobilizes Scott's concerns over the naturalized disappearing mountains in order to address the growing appearance of the prison in a similar Appalachian landscape. The dramatic ascent of the carceral state both sediments the prison's common sense prevalence and obscures the all too important questions of what was there before and what could have been there instead. Drawing on ethnographic and photographic fieldwork and theoretical insights from critical and cultural anthropology, criminology, and geography, this paper places coal and prison into the same analytical orbit by examining the ideological and material work conducted in and through their shared eastern Kentucky landscape. Like coal, the visual register of prisons is stitched to a regime of knowledge and a discourse that naturalizes their place. This paper tries to excavate alternative vantages by looking to landscapes (prisons built on top of mines) and bodies (former miners turned prison guards) as indexes of coal and prison's historical, spatial, and economic continuity amidst conditions of uneven development.

9. Political Ecologies and Food Sovereignty I: Global and International Contexts

Location: White Hall Classroom Building 240
Organizer: Ian Werkheiser (Philosophy, Michigan State University)

The Making of a Food Sovereignty Legal Framework: The Case of Ecuador
Karla Peña (Natural Resources and Environment, University of Michigan)

The concept of food sovereignty in Ecuador is developing into a legal framework that is pushing the state to restructure the politics that govern food. In this paper I focus on the Conferencia Plurinacional e Intercultural de Soberanía Alimentaria (COPISA), an Ecuadorian state agency that sponsored food sovereignty policy making workshops between 2010 and 2012 for the making of this food sovereignty legal framework. Based on ethnographic fieldwork (in depth key informant interviews and participatory observations) collected in Ecuador in 2012, this paper argues COPISA has helped create a synergistic relationship between civil society and the state. The COPISA food sovereignty policy-making workshops sponsored participatory and deliberative instances of democracy that strengthen the social capital of social organizations while lending legitimacy to the state. The food sovereignty laws cover an array of new areas of public policy that address issues of gender equality, agroecology, the protection of mangrove fisheries and artisanal fishing. What remains ambiguous is whether these food sovereignty laws will move towards implementation and practice. More so, how will the food sovereignty legal framework of Ecuador articulate with the political economy of food at local, regional and global scales?

Food Sovereignty as a Transnational Agrarian Concept
Anne Portman (Philosophy, University of Georgia)

Food security indicates the physical and economic access to safe, nutritious food. It says little to nothing about a people's ability to determine the structure of their food systems for themselves and is conceptually compatible with industrial-scale corporate agriculture. Food sovereignty, with its focus on local economies and its aim of empowering small-scale peasant and family farm-driven agriculture, has a central role in anti-globalization discourse and movements. It is an intuitive notion that the appropriate counter to global power is local power. Food sovereignty embraces the notion that local food networks manifest the norms of environmental sustainability and social justice in ways that global/industrial-scale foodways cannot. However, there are some worries that emerge with the development and implementation of a potentially subversive concept rooted in localism. The "local" and its norms are often appealed to as intrinsically more natural or wholesome than the "global." The potential is there for a problematic fetishizing of the "local" and a problematic vilification of the "global" in a very general sense, obscuring conflicts embedded in the "local" and/or virtues emerging from the "global." Engagement with the concept of food sovereignty as a "transnational agrarian" concept helps to direct our attention to multiple scales of interaction, allowing for ambiguity and complexity at local, regional and global levels. Emphasizing the local as a multidimensional place and acknowledging the benefits of global coalition-building is important to making food sovereignty a concept that is well-suited to projects of resistance rather than a concept that too easily allows for problematic oversimplification of the nature of local and global interaction.

A theoretical exploration of alternative economies and provisioning systems for a constructive food sovereignty
Kristal Jones (Rural Sociology, Penn State)

One challenge in articulating a constructive (rather than reactive) food sovereignty agenda and theoretical foundation has been in how to engage with broadly with economic activity, and the specific and singular force of market-based capitalist economics in the global economy. In this paper, I combine Polanyian notions of substantive economies with Bourdieu's economic habitus and Marxian description of value generation within economic exchange, in order to build a robust framework to characterize and articulate economic arrangements not based on profit-maximization. I incorporate as well theories of peasant agriculture to explore non-economic contemporary provisioning arrangements used by individuals and communities to meet material needs. Provisioning and substantive economic actions manifestations of social and economic dispositions that are conditioned and in turn influence specific social and natural settings. Using the example of seed systems in West Africa, I apply the theoretical framework developed here to characterize the distinct and interconnected seed systems being instituted as formal

seed markets are currently established in the region. I see the need for pragmatic recognition of food sovereignty's origins in critique of and contrast to formal market-based economics, and recognize that future goals and action must move beyond resistance and toward alternatives. Articulating the internal logic of non-market based economic and non-economic systems will strengthen a constructive food and seed sovereignty agenda that can incorporate economic activity without integration into the global market system.

Seed saving as Satyagraha in Northern India
Amy Trauger (Geography, University of Georgia) and Jayanta Ganguly (Geography, University of Georgia)

Food sovereignty is a set of discourses calling for autonomy and decision-making authority in the food system, a return to peasant ways of life and the guarantee of the right to food for all. The diversity of individual and collective action in the name of food sovereignty indicates that the interpretation of these calls for power varies dramatically by context. In some cases, food security policy changes are advocated, while in others the removal of state-based regulations is the favored route to change, neither of which addresses existing neoliberal frameworks and inequities in the food system. Food sovereignty discourse and action therefore must grapple with what is politically possible as well as address the consequences of acting in the political context within which it takes place. This paper takes up the proposal put forth by Dr. Vandana Shiva to make seed saving of indigenous crop varietals, as opposed to purchasing hybrid and GM seeds, as a "seed satyagraha". Satyagraha refers to non-violent civil disobedience or resistance, and is often interpreted as "insistence on truth." The principles of Satyagraha have been used in civil rights movements in the US, and guided India's collective action for independence. As such, satyagraha may offer compelling purchase on the political problems of enacting food sovereignty through state-based policy remedies. This paper takes up the political consequences of food sovereignty while using the work of Dr. Shiva's foundation Navdanya, as an empirical example of an alternative. The paper concludes by debating the merits of non-violent civil disobedience as food sovereignty strategy.

10. Latent Destiny, Manifest Reversal I

Location: White Hall Classroom Building 242
Organizers: Cleo Woelfle-Erskine (Eco-Cultural Hydrology, UC Berkeley) and July Cole (Independent)
Chair: July Cole (Independent)

Rare Earth: a Film on Scarcity, Speculation, and Resource Extraction in the Mojave Desert.
Elizabeth Knafo (Film and Critical Geography, Independent scholar / Filmmaker)

From the Mojave desert, to the Pacific seabed, to the surface of the moon, the rush for rare earth minerals is afoot. I will present an excerpt from my recently completed film, RARE EARTH: a documentary on the re-opening of an historically toxic rare earth mine in the California desert, and the intensifying land rush for the high-tech minerals. The film is a portrait of changing desert landscapes and the residents who grapple with the impacts of industrial mining: a documentation of the toxic and transformative legacy of treasure hunting and land dispossession in the American West. RARE EARTH looks back at the foundational American ideologies of land-use and resource extraction established during the period of western expansion and traces the continuation of "Manifest Destiny" ideology into our era of mass-production and consumption, computer-aided military strikes and deepening industrial projects around the world. The film marks a distinct phase of resource extraction, further violating Indigenous land rights, and staking claims at some of the most ecologically vulnerable spots on the planet, all at a time of intensifying climate change. With the voices of an investigative journalist, rare earth geologist, desert botanist, National Park's mining historian, mining lobbyists, and industry-friendly politicians, the film traces American ideologies and the resulting conditions of our lives.

The Manifest Reversals of Multi-species Collaborative Watershed Restoration
Daniel Sarna-Wojcicki (Political Ecology, Science and Technology Studies, University of California, Berkeley) and Cleo Woelfle-Erskine (Eco-cultural hydrology, University of California Berkeley)

This paper explores contemporary inter-species collaborative experiments with beavers to restore three Northern California watersheds as potential instances of "manifest reversal". These watershed communities are working across species lines to reverse colonial legacies of land and water management as well as to repair relations

between humans and their other-than-human watershed inhabitants such as beaver and Coho salmon. The many logics and languages of manifest destiny have struggled to contain multiple and often conflicting lines of meaning as they have been articulated in conversation with the particular social and ecological dynamics of these three watersheds. Similarly, attempts to reverse the toxic legacies of manifest conquest gain ground and unfold unevenly across the three watersheds and the various sites that beaver politics play out in such as scientific studies, State, Federal and Tribal regulatory policy, social media and environmental law. Drawing on scientific and management texts, popular and scientific images of beaver, and interviews with tribal members, natural resource managers, scientists, and local residents, we examine the shifting terrain of human-beaver relations. We ask, as different groups of humans re-work their relationships to beaver, are they forging new networks of interdependence with nonhuman others? If so, to what extent are these new and other "worldings" (with thanks to Haraway) also attempts to reverse the programs, legacies or ideologies of Manifest Destiny?

Searching for the Missouri River
Duskin Drum (Perfromance Studies, University of California Davis)

In 2010, a friend and I attempted to trace the Missouri River from Cairo, Illinois to Eastern Montana. I shall perform a diffractive narrative of our drift in critical conversation with Native American Feminisms and STS. We documented our five-day intensive trip in a mini-archive of photos, ephemera, conversations, paintings and embodied sensation. We found the "river" to be fractured and non-continuous, violently interrupted by dams and punctuated by fossil fuel infrastructures. The surprising continuity in the landscape is the thick inscription of the third creation myth of the (dis)United States of America, the Lewis and Clark Corps of Discovery. This inscription is enacted through a plethora of media at numerous scales from the ubiquitous pointing brown highway signs to settler-colonial Latin names of local fish.

11. Representing Disaster/Producing Power I

Location: White Hall Classroom Building 244
Organizer and Chair: Phillip Drake (Environmental Studies, University of Chicago)

The Dual Politics of Criminalization and Consultation in Addressing Environment and Development Disasters in Peru
Lauren Baker (Forestry & Environmental Studies, Yale)

A notable class of environment and development disasters is related to extractive industries, which have often been associated with environmental contamination and social conflict. In response, social movements have arisen in many areas where such projects take place to seek redress for social and environmental impacts. This has been the case in the northeast Peruvian Amazon, where a regional indigenous movement has emerged to denounce impacts from 40 years of oil extraction throughout the region. In this paper, I consider two responses by the Peruvian government to oil-related social mobilizations. On the one hand, there has been the threat of repression and arrest for those that participate in one of the most effective protest events – i.e., shutting down oil facilities. On the other hand, the government has also been keen to promote policies for "social inclusion," including passing a national consultation law in 2011. This law, while lauded by many nationally and internationally, has been criticized as "slippery" by indigenous activists, who have suggested that consultation without the right to consent will mean a continuation of the status quo for centrally imposed development projects. These two approaches to disaster-related advocacy provide very different representations of stakeholders in disaster creation and response, as either antagonists or partners. Meanwhile, asymmetrical power relations have meant that both approaches, while vastly different in many regards, mutually reinforce government representations of oil as vital for development, obscure associations of oil with disaster, and instrumentally facilitate the continuation of oil operations.

Disastrous Development: Competing Knowledges in Development and Hazard Management
Ashley Coles (Geology & Geography, Georgia Southern University)

Manizales, Colombia has endured a persistent disaster for the last five years. Thousands have been forced to relocate, safety and security are declining, and the landscape is riddled with demolished buildings. Although Manizales is vulnerable to earthquakes, landslides, floods, urban fires, and volcanic eruptions, this disaster resulted

from a redevelopment project that was intended to minimize hazard risks while also addressing social and economic issues. From the perspective of the city administration, a sector of Manizales known as Comuna San Jose has been represented as a site of geological, ecological, and social disaster to justify a large-scale urban renovation project that is intended to remove residents from informal settlements on landslide-prone slopes. From the perspective of the residents, representations suggest that the project itself is more of a disaster than the problems it is supposed to resolve. Of particular interest in this analysis is the role of professional knowledge and technical expertise in these disaster discourses. Residents strategically adopt or reject different components of professional knowledge and ally themselves with professionals to strengthen their position, reifying the presumed superiority of technical expertise. At the same time, however, their challenges destabilize this presumed superiority and open the possibility for more meaningful types of participation in this and future development and hazard management projects.

Adaptation to What? Post-Disaster Politics and the Volatile Discourses of Climate Change in Colombia
Alejandro Camargo (Geography, Syracuse University)

In 2010, Colombia experienced one of the worst environmental disasters in its history. Nearly 90% of the national territory was affected in one way or another by heavy rains and flooding associated with the La Niña phenomenon. Since this catastrophe was conceived of as a "natural disaster" caused by global climate change, the Colombian government unilaterally framed its post-disaster humanitarian interventions as an Adaptation to Climate Change strategy. This presentation analyzes the problematic ways in which this globally informed post-disaster initiative is adopted in local context. Drawing on ethnographic fieldwork in Northern Colombia, this presentation argues that the national Adaptation to Climate Change strategy is a volatile discourse that evaporates as it approaches local contexts. Ultimately the victims of the disaster as well as local government officials experience this Adaptation to Climate Change strategy as another wave of developmental projects intended to (unsuccessfully) improve their welfare. Northern Colombia has a complex history of developmental interventions that paradoxically resulted in the spread of rural poverty and the deterioration of a number of strategic ecosystems. Therefore, the idea of Adaptation to Climate Change becomes an unfamiliar discourse that at the local level mutates into a "classic" developmental project, thus reproducing the contradictions, asymmetrical power relations, and paradoxes of past developmental interventions.

Preventing the Watery Inevitable? The Construction of Floods and the Politics of Control
Esther G. Kim (Environmental Science, Policy, & Management, University of California, Berkeley)

While urban floods are powerful hydrological events that can produce devastating material consequences, they are also discursively and symbolically constructed as manifestations of disorderly natures in need of taming for the sake of human progress. In Los Angeles, unpredictable flooding events—centuries-old expressions of the region's specific climate, topography, hydrology, and ecology—coincided with an era of rapid (and rampant) urbanization and unerring faith in engineered techno-solutions. As a result, the region's episodes of flooding were increasingly viewed as watery disasters and its rivers represented as agents of ecological chaos and socioeconomic disturbance. The 20th century urban landscape of Los Angeles thus emerged alongside discourses, land management regimes, and technoscientific institutions that framed waterways as forces of destruction and utilized narratives of past floods as natural disasters to justify costly flood control measures. This paper utilizes an environmental justice framework in order examine how the persisting representation of urban rivers as sites of potential disaster perpetuates inequitable conditions and reinforces power imbalances throughout Los Angeles County. It argues that even amidst recent environmentalists' efforts to release the river from its "concrete straitjacket", the logic of controlling water through feats of engineering; the methods of mapping, calculating, and communicating flood risk; and the enduring narrative of disastrous floods as inevitable outcomes of less-controlled watershed management continue to dominate policies, practices, and popular thinking. Moreover, it demonstrates how both technocratic bureaucracies and restoration advocates discursively frame flood prevention in terms of "natural" limits, thus obfuscating the structural inequalities that shape the landscape.

12. Impact of Conservation in and Around Protected Areas I

Location: White Hall Classroom Building 246
Organizers: Priyanka Ghosh (Geography, University of Kentucky), Jackie Monge (Geography, University of Kentucky) and Kelly Watson (Geography, Eastern Kentucky University)

Protected area heterogeneity among barrier islands: implications of management practices on coastal landforms in light of global climate change
Jackie Monge (Geography, University of Kentucky)

This paper takes barrier islands as objects of analysis to explore the influence of different protected area management strategies on dynamic coastal landforms. Focusing on barrier islands along the U.S. Atlantic coastline, I review the relationship between the scientific understandings of how biological and geomorphic processes shape these structures, and the ways in which protected area owners manage their environmental context. Protected area decisions that permit or mimic disturbance effects through management practices that encourage the development of dune barriers have become increasingly common in the recent decades. While beneficial to stakeholders on the mainland, these actions can negatively influence local communities and discourage future socio-economic activities and related processes within these structures. Conversely, management decisions based on the suppression of disturbances temporarily benefit barrier island residents and their property, but can ultimately have a negative impact on those situated on the mainland due to decreased protection from future extreme weather events such as tropical storms and hurricanes. This presentation discusses ways in which management practices on barrier islands function, and how their efficacy and persistence may be influenced by the effects of climate change.

'Re-wilding' the commons: beekeeping, rural development and the importance of shared lands in Burundi
Kelly Watson (Geography, Eastern Kentucky University)

In 2005, the small East African nation of Burundi emerged from a debilitating 12-year civil war. Today, the country is investing considerable effort into economic development, education, and political stability, particularly in rural communities. Cattle herding was traditionally of major importance in much of the country; however, contentious land tenure, high population density and mounting pressure on marginal lands threaten the sustainability of this practice. Likewise, the growing popularity of individualized, non-subsistence entrepreneurial activities, such as banana and coffee cultivation, exacerbate existing competition for productive land and have resulted in the loss of nearly all wild lands. Many young people are now migrating to the capital city of Bujumbura in search of work. But the city currently lacks both the necessary jobs and infrastructure to support this influx of rural migrants. As a result, development officials are increasingly interested in finding innovative methods of revitalizing depressed rural regions. One such form of rural development is beekeeping, which has long been practiced using primitive hives and traditional methods, though only for subsistence or supplemental income. More modern methods of beekeeping offer potential as both a livelihood strategy and a means for conserving native vegetation, which is often concentrated on communal or shared lands. These shared lands are owned by the state, but communally managed and used by local people. Beekeepers benefit from these shared lands as they preserve native vegetation, which provides abundant, year-round floral resources for bees. However, the conservation of shared lands is in question, as the government weighs the value of these seemingly "unproductive" parcels of wild lands. This presentation focuses on development projects in two villages in the Burundian provinces of Muramvya and Rutana, where beekeeping offers promise for both the revitalization of local rural communities and the rewilding and protection of the commons.

Hidden resources, 'Illegal' harvests? 'Wild' plant gathering and the role of parks and protected areas in the Philadelphia, PA Metro Area
Patrick Hurley (Environmental Studies, Ursinus College)

There is growing interest in the role that urban greenspace, including forested parks of diverse kinds, play in providing residents with access to nontimber forest products (NTFPs). While urban political ecologists have pointed to problems with uneven access to greenspace by marginalized groups in the city, recent research suggests the potential justice implications of securing access to "wild" foods, medicines, and materials (e.g., NTFPs) found in both regulated and unregulated city spaces. Drawing on in-depth interviews with foragers and park managers as well as document analysis, this paper explores the types of species that are collected in the diverse spaces of the urban

forest in the Philadelphia Metropolitan area, focusing on the relationship of these species to area parks, and the rules that govern harvests of these species. In doing so, we draw on rural political ecology insights about the ways that conservation science and protected area governance have shaped resource access for gatherers. We note the tendency of analyses of access to focus on protected areas associated with the actions of the nation-state at the expense of other levels of state action. Our analysis reveals the strong reliance by gatherers on parks for specific species and the extent to which harvesting complies with the region's complex geography of local, state, federal, and private parks. Further, given the particular species that are illegal to harvest and the spaces where harvesting is prohibited, we document the diverse ways that harvesters negotiate access, including methods that result in sanctioned and non-sanctioned harvests.

Conservation and Conflict on the Jambu Island: A narrative of eviction of marine fisherfolk of the Sundarban Biosphere Reserve, West Bengal, India

Priyanka Ghosh (Geography, University of Kentucky)

Conservation related conflicts in and around the protected areas (PAs) are not very uncommon in India. In most cases, the PAs in India are surrounded by dense human habitation which often creates conservation related conflicts between the PA management and local population, especially when local people's access to PAs for food, fodder, livestock grazing and fuel are curbed. In this background, this paper deals with the conservation related conflict occurred on the island of Jambu in 2003. The island of Jambu or Jambudwip is part of the Sundarban Biosphere Reserve (SBR), which is one of the 18 biosphere reserves of India. At least 10,000 marine fisherfolk involved in dry fish business or *shabar* business, were evicted from the island in the name of conservation and protection of ecology. Since the 1950s the marine fisherfolk of West Bengal used to visit the Jambu Island to dry fish during the winter. In 2003, the West Bengal Forest Department declared Jambudwip as a restricted zone following the Supreme Court's order to the effect that fish drying cannot be allowed on the forested island as it is a non-forest activity. Soon after the Supreme Court's order, thousands of fishermen were evicted from the island of Jambu resulting into a loss of livelihood of many others directly or indirectly involved in the trade of dry fish. The paper demonstrates how the fisherfolk were brutally evicted from the Jambu and examines the immediate impacts of eviction on the overall dry fish business in the southwestern Sundarban.

DOPE 2014: SATURDAY MARCH 1ST

**********LUNCH 11:40am – 1:00pm**********

DOPE 2014: SATURDAY MARCH 1ST

Saturday Schedule Block #3:
1:00pm – 2:40pm

Sessions 1-8 are located in the Student Center. Sessions 9-11 are located in the Whitehall Classroom Building.

1. Breaking Ground in Political Geology

Location: Student Center 203
Organizer and Chair: Kai Bosworth (Geography, University of Minnesota)
Discussant: Sara Nelson (Geography, University of Minnesota-Twin Cities)

Experimental Transduction: Towards a Nomadic Science of Energy
Gabriel Piser (Environmental Studies, Ohio State University)

Energy must no longer be thought of as an object, but as a process. No longer hydrocarbons 'out of place' or subterranean deposits waiting for humans to extract and release them, but rather the everyday material and activity of the universe. On earth, energy is a process binding the universe to assemblages of humans, non-humans, and landscapes. Conventional ideas about energy constrain political possibility through a paranoid spatial focus on capture, privatization, and management by human intervention. In order to imagine and create a revolutionary politics of energy new concepts of energy, as material and affective relations among human and non-human assemblages, are needed. Instead of considering energy as endogenic and inaccessible hydrocarbons requiring massive investments of capital and state resources to extract and direct towards the needs of a capitalist economy, a new conception would reposition human and non-human activity as always-already engaged in the capture and transduction of energy flows. Deleuzian metaphysics becomes useful in reframing energy politics around transduction between forms of energy. I propose the distinction of Nomadic and Royal sciences to describe this new energy politics. Royal energy science facilitates the maintenance and accumulation of a constant and commensurable substance, and its teleological transduction towards dissipated heat. In contrast, nomadic energy science enables one to 'follow' singularities through non-linear transductions between affective, material, and energetic economies. Rather conceding political possibility to be simply the re-energizing of existing systems, this politically enabling distinction confronts received limits to political and economic change by enjoining us to lodge in various strata in order to experiment with new transductions.

Neoliberalization, Mining and Areas of National Interest in Sweden
Marcus Wallner (Human geography, Uppsala University)

Competing land use interests in Sweden are partly managed through a criticized planning system that stems from the consolidation of the welfare state in the 1960s. Areas can be declared by central authorities as being of national interest with respect to, for example, environmental protection, indigenous reindeer herding or – as is the focus of this paper – mining. The designations made by the Geological Survey of Sweden are taken into account in concession processes and serve to juridically defend extractive interests against both other national interests and municipal developments. The paper examines how the liberalization of the Swedish mining sector in the 1990s, which was part of a broader and still ongoing neoliberalization process in Sweden and beyond, has impacted on that part of the national interest system concerned with the protection of deposits of metallic minerals. By analyzing legislation, preparatory works and official decision documents two points are made. First, it is argued that the national interest system originally assisted resource nationalism whereas it nowadays supports resource liberalism. Thus the market-oriented approach to resource management that underpins the current mining boom in Sweden benefits from a system that ironically originates in a political-economic period largely based on state interventionism. Secondly, it is argued that from 2008 and onwards the national interest system has been subject to a more direct process of market orientation in which the notion of national interest itself has been gradually redefined, initially in practice but eventually also in formal terms.

Between a rock and a hard place: Regional regulatory regimes and the political ecology of critical mining development in the rural American west

Jeffrey Jenkins (Environmental Studies, UC Santa Cruz)

Energy projects in the development phase of environmental review often generate conflict between socio-economic and ecological interests held by corporations, the state, and civil society. Throughout this process efforts to avert conflict, such as the collaborative planning processes are further obfuscated by local environmental epistemologies. These differences often emerge from differences of livelihood-land interface, knowledge value, and perceptions of risk, especially in regions where environmental legacies from extractive industries pervade the material of the land and memory of people. Global economic restructuring from WWII industries, 1980s neoliberal reforms, and the current post-recession era have successively transformed the socio-economic and ecological landscape of the West from traditional extractive industries to service-based or amenity value, and now an uneven ecotransformation of the two. This Next West is emerging in regions that are again seeing the possibility of old west economies; most notably in the boom of 'critical' hardrock mining projects proposed on federal lands, which otherwise support local economies through multiple use tourism economies. Regulatory regimes of mining development may be uniquely considered in the socio-ecological production of space given the transformative nature of regional institutions (USFS regions; state resource agencies; environmental NGOs) in mediating the implementation of regulations and accumulation of capital between the scales of local geology [rocks] and federal bureaucracies [hard places]. Regime theory, originally conceptualized in the context of urban growth machines may be extended to rural settings of federal lands management to understand how changing conservation standards and guidelines from the Forest Service's 2012 Planning Rule have prioritized "sustainability" over "biodiversity" in environmental review as the most recent example of flexible accumulation of natural resources for critical societal needs.

Breaking ground on political geology: possible ecologies for the Anthropocene

Kai Bosworth (Geography, University of Minnesota)

With the announcement of the Anthropocene, stratigraphers and geologists proposed that humanity has for the first time begun to leave its mark in the geologic record of the planet. While political ecologists and other critical scholars have been skeptical of such wide generalizations (especially within the context of global capitalism), our planetary entrance into the Anthropocene nonetheless compels us to rethink the massive scale of geologic processes and materials and their impact on and augmentation by contemporary and future planetary sociopolitical formations (Zalasiewicz 2008). If forms of life, art and politics are constructed through relations with earth forces and materials, we must begin to rethink social relations, geopolitics, and even the history and future of capitalism. For political ecologists and others, this has prompted investigations into a wide range of geologic topics, including earthquakes and other vibratory earth forces (Clark 2011), political economies of energy, extraction and clandestine activist networks (Bebbington 2012, Bridge 2011, Mitchell 2013), the construction of subterranean spaces, holes, and territories (Braun 2000, Elden 2013, Scott 2008), and possible political responses that attend to the gravity and scope of a dynamic planet. These situations impel us to take the forces and materials of the Earth seriously. In this paper, I point towards new areas of interest for political ecologists in the Anthropocene, asking how a disciplinary concept of political geology might challenge some of political ecology's theories, practices, and methodologies. What different relations must be attended when the systems we attend to are nonliving, inorganic, or geologic rather than ecologic or ecosystemic? What specific engagements with institutions, human and nonhuman actors, and other social systems might investigations into the geologic require? And how might a practice of political geology - combining insights from political economy and geology – lead us toward new modes of inquiry, writing, and political organization?

2. Environment and Design I

Location: Student Center 205
Organizers: Eric Nost (Geography, Wisconsin-Madison) and Jairus Rossi (Geography, University of Louisville)
Chair: Eric Nost (Geography, Wisconsin-Madison)

Re-designing Evolution? Cyborg Tortoises and the Debate over Ecological Restoration in the Galápagos Islands
Elizabeth Hennessy (Geography, University of North Carolina at Chapel Hill)

Debate between species-focused or ecosystem-scale approaches to restoration work have been long running in conservation biology. In the Galápagos Islands, this debate is shaped by broad goals to "conserve evolution" in what is often called "Darwin's natural laboratory." Historically, "conserving evolution" in the Galápagos meant protecting the isolation of individual islands and the specific species that evolved on each of them. But as ecosystem restoration approaches have become increasingly common, a problem has arisen in the islands: how best to restore islands whose native tortoises—the largest herbivores and thus a "keystone" species—have gone extinct? Should the islands remain without tortoises because the species that evolved there is gone, or should tortoises from another species be introduced to aid in the restoration of ecosystem function? This paper traces the story of 39 giant tortoises at the crux of this debate in the Galápagos. In 2010, these tortoises, which had been living in captivity at the Galapagos National Park's Giant Tortoise Breeding Center, were sterilized, outfitted with radio transmitters, and shipped to Pinta Island in the north of the archipelago, where they were released as part of a pilot restoration program designed to study the animals' impact on the landscape. The tortoises were the first to set foot on the island since the last native tortoise there was brought into captivity in 1972. After nearly 30 years of unsuccessful attempts to breed the last "native" Pinta tortoise in captivity, these sterilized tortoises emerged as a compromise solution to a long-running debate among Galápagos scientists and conservationists about what to do with Pinta. This paper examines the debate that led to this compromise to analyze how different actors rationalize and justify human interventions in nature and how tortoise bodies are manipulated to serve them. The sterilized cyborgs highlight the tenacity of human will to design nature, but also the limitations of attempts to remake "natural" evolution.

Reversing Complete Streets Disparities Through Equity Planning: Portland's Community Watershed Stewardship Program
Erin Goodling (Urban Studies, Portland State University)

It is well established that, unless social justice objectives are pursued explicitly in sustainability and complete streets planning and management, such initiatives tend to reinforce existing disparities (Agyeman 2005, Krueger and Gibbs 2007). Yet, critiques of sustainability planning, though often rooted in Marxian dialectics, rarely offer concrete suggestions for more emancipatory ways to move forward. Examining exceptional cases in which municipal leaders have already taken alternative paths, on the other hand, provides a window into the politics, power dynamics, and practices and rationalities of those involved in actually existing complete streets/sustainability planning and governance. Moreover, bringing attention to such examples may provide inspiration and the foundations of a strategic approach for other municipal leaders seeking to cultivate a more just sustainability (Agyeman 2005) to draw upon. In this paper, I outline how one municipal program in Portland, Oregon, the Community Watershed Stewardship Program (CWSP) has begun to overtly prioritize the needs and desires of underrepresented groups as part of its watershed health mission. I argue that the theory and practice of equity planning is one useful way of operationalizing abstract urban political ecology concepts, and interweave examples from CWSP with Norman Krumholz's equity planning framework to describe how other city bureaus and programs might also operationalize a more explicit social equity approach to sustainability and complete streets-oriented programs.

"It shows what ought to be": Benton MacKaye and the 'geotechnics' of the planned state
Garrett Nelson (Geography, University of Wisconsin-Madison)

In 1950, the forester, conservationist, and regional planner Benton MacKaye launched a series of articles for the social-reform magazine _Survey_ entitled "Geography to Geotechnics." MacKaye's own life work had passed through many of the most important land-management movements of the first half of the twentieth century, as a

deputy to Gifford Pinchot, leader of the Regional Planning Association of America and the Wilderness Society, advisor to the Tennessee Valley Authority, and mastermind of the Appalachian Trail. Borrowing the term 'geotechnics' from his mentor Patrick Geddes, MacKaye laid out the case for a forward-looking fusion of technical and political goals focused on promoting the 'habitability' of the earth. Though MacKaye's 'geotechnical' vision was emphatically state-centered and rationally planned, it also insisted on democratic horizontality as well as a organicist—perhaps even mystical—view of human settlement. A close study of the intellectual history of era of environmental design offers a way of re-examining and critiquing current attitudes towards 'engineering nature,' and offers up the possibility of a forgotten ideological synthesis.

3. Political Ecology and Environmental Sociology: Towards Productive Engagement or Sustaining the Contract of Mutual Indifference?

Location: Student Center 206
Organizers: Alan Rudy (Central Michigan University), Damian White (Rhode Island School of Design), Christopher Oliver (University of Kentucky), and Brian Gareau (Boston College)

The political ecologist Piers Blackie has observed in a stock-taking of political ecology that "a review of Environmental Sociology, a textbook by Hannigan, finds no mention of Political Ecology and yet most of its contents might well be claimed as Political Ecology" (Blackie, 2008: 772). One could similarly work through many political ecology textbooks and find little or no discussion of environmental sociology. Given the ritualistic appeals to "inter-disciplinarity" in the environmental social sciences, how can we account for the extra-ordinary disengagement between political ecology and environmental sociology? How can these seemingly overlapping and aligned sub-disciplines largely ignore each other? Why has political ecology taken socio-natural hybridity, post-human ethics and non-equilibrium ecologies so much more seriously than US environmental sociology has? Alternatively, why have both sub-disciplines increasingly marginalized macro theories or generalizing narratives? Why is it that understandings of the relationship between capital and ecology are widely divergent between environmental sociologists and political ecologists? Are both fields increasingly disabled by their dis-engagement with each other? The panel will consist of a series of short thought pieces en route to an open discussion. The aims of the panel will be to gain greater understanding of the blockages that prevent broader engagements between political ecology and environmental studies. It will also consider how we might imagine more productive relations between political ecology (especially - but not exclusively - within geography) and environmental sociology.

Panelists:
Alan Rudy (Central Michigan University)
Damian White (Rhode Island School of Design)
Christopher Oliver (University of Kentucky)
Morgan Robertson (University of Wisconsin, Madison)
Paul Gellert (University of Tennessee)

4. Geographies of Infrastructure III: National Space

Location: Student Center 211
Organizers: Majed Akhter (Geography, University of Indiana-Bloomington) and Kerri Jean Ormerod (Geography and Development, University of Arizona)
Chair: Kerri Jean Ormerod (Geography and Development, University of Arizona)
Discussant: Majed Akhter (Geography, University of Indiana-Bloomington)

Transformation of Natural Land to Renewable Energy Production Site Through Small River Hydropower Development in Turkey
Aysen Eren (Environmental Sciences, Yale University & Bogazici University)

The Turkish state's hydropower development efforts have escalated and intensified in the past decade, especially over small rivers. This policy change means that in many river valleys, multiple Run-of-River hydropower generation projects will be built in succession. Targeted river valleys are free-flowing watercourses, mostly forestland, with some protected as natural conservation areas. To transform the flow of the river first into a resource and then into

an internationally fungible commodity, hydropower infrastructure requires transformation of surrounding space both on land and in rivers. Hydropower companies manipulate the natural stream by diverting most of flow and leaving only limited flow in the riverbed, the "Minimum Water Requirement", a contested quantity meant to maintain ecological sustainability of both the river and riparian system. Within this context, in this paper, by using Polanyi's "fictitious commodity" concept and Henri Lefebrve's work on "production of space", we aim to explore the efforts of the state to transform river valleys into sites of hydropower production by creating a fictitious commodity out of the river, through river use-rights, transferring the river use-rights by selling licenses to hydropower companies, legitimizing massive hydropower infrastructures and ignoring the overall impact of these on ecological sustainability of the river and riparian system and socio-ecological sustainability of river valleys. We argue that in spite of the state's claim that these projects are for "sustainable" development of "renewable energy", they are hardly "sustainable" with respect to riverine ecology and local community livelihoods.

The Face of the State: Border Security Objects, Ethical Subjects and the Lacanian Gaze
Jessica de la Ossa (Geography, Dartmouth College)

In this paper I examine the relationship between US-Mexico border security objects and ethical subjectivities through a critical engagement with the question of the Lacanian gaze. While the state's surveillance techniques produce a state gaze that is not only embedded within the landscape but extends beyond the material fence, this research specifies how citizens position themselves as counter-gazers towards state security objects. Drawing from the Visual Q-Method, I argue that the production of ethical subjects, therefore, is related to the affects and emotions sensed by the direction of citizens' gaze towards security objects. I suggest that material objects 'move' citizens towards or away from particular non-citizen and citizen bodies within symbolic urban and rural landscapes. Citizens' gaze towards security objects aimed at observing, viewing or detecting, then, become a site of agency, where objects and subjects find a spatial expression of either distance (negation) or proximity (care) from non-citizen bodies. Based on these findings, I bridge literature from Science and Technology Studies (STS) and affective/psychoanalytic geography in order to provide spatialized understandings of how objects and subjects come into relation with one another in the visual field along the US-Mexico border.

Always a Tragedy: Histor(icit)y, Development, and Risk in Guyana's Drainage and Irrigation Scheme
Joshua Mullenite (Global and Sociocultural Studies, Florida International University)

It is seemingly impossible to write about the present state of Guyana or to think about its future without looking toward its past. As has been made clear by Allan Pred (2004) and others (e.g. Mbembe, 2001), history is not a sequence of events that have happened only in the past with no bearing on the present. Instead, it is an ongoing, structuring process that is itself structured by modern interpretation. Thus, Guyana's experience as a post-colony requires an understanding of the effects of colonialism, in its many forms, on the present. It is from this view that I argue that, by (re)tying the focus of economic development along the Guyanese coast to the expansion and rehabilitation of its already massive drainage and irrigation systems, development actors are replaying aspects of Guyana's colonial past and continuing to put populations at environmental risk due to ongoing threats of climate change in the present. More theoretically, I argue that this occurs due to the use of certain taken-for-granted aspects of colonialism; namely the State and Market. These ideas have become so embedded in everyday thought that they are often excluded from postcolonial and development criticisms (Springer 2012). Thus, I argue from a position that problematizes the role of the State as well as the idea that there are no possibilities for survival outside of a global Market. Rather than viewing the State and Market as inevitable or logical, I argue that they are instead (bi)products of colonial enterprise which are perpetuated by the modern development project.

Turbulence & Scale: The Lived Uncertainty of Hydropower Development in Nepal
Austin Lord (Political Ecology, Yale University)

Hydropower development is intensifying in Nepal, as environmental, political, and economic resources are mobilized in response to recurrent social and spatial urgencies at a variety of interrelating scales. The 'scale making projects' of hydropower (Tsing 2002) use particular spatial logics to restructure and reorient existing physical and human geographies, creating new landscapes of risk and opportunity. The current push for hydropower development creates an expanding resource frontier that is the site of complex processes of location and dislocation, connectedness and fragmentation. Hydropower projects and their infrastructures enter territories already engaged

in other processes of change – creating a turbulent interface where differently placed and differently mobile populations incorporate, resist, and refract the spatial logics via their own projects of transformation and future-making. This turbulence produces, catalyzes, and elaborates polyvalent patterns of social and spatial change – creating new geographies of mobility and power. Long understood as the primary resource and the necessary future of Nepal, hydropower is supported by complex flows of labor, capital, imagination, and performance – all of which opportunistically locate projects and project goals within different calls to action, green development agendas, and frames of socio-ecological justice. These framings sponsor interlocking crisis narratives that reinforce the need and inevitability of hydropower, producing a discourse of developmental stagnation that perpetuates and attenuates certain definitions of scarcity, growth, and progress. Yet development rarely arrives upstream in the form imagined – each project exists as a plurality of uncertain experiences with fluid boundaries, defined by variegated forms of participation, resistance, or translation, by a complex series of local articulations and interventions. There is the theory about hydropower and the future of Nepal, and there is the muddier praxis. My research uses political ecology to interrogate the 'scale making projects' of hydropower development and to disaggregate patterns of social and spatial change occurring unevenly along the expanding hydro-resource frontier. This work represents an ethnographic study of the turbulence and uncertainty of hydropower-making within the Upper Trishuli and Upper Tamakoshi watersheds – presenting an alternative narrative of hydropower development that describes plurality within the lived experience of hydropower in Nepal.

5. Water Governance and Water Security: Sources of Power in Water Politics I

Location: Student Center 228
Organizer and Chair: Laureen Elgert (Development Studies, Worcester Polytechnical Institute)

Coyotes, Concessions, and Construction Companies: Illegal water markets and public water supply in Toluca, Mexico

Nadine Reis (Department of Geography, University of Bonn)

The valley of Toluca is one of many regions in Mexico facing huge challenges due to rapid industrial and urban growth and the simultaneous overexploitation of groundwater resources. The 1990s water management reform introduced individual water rights concessions granted through the Comisión Nacional del Agua (CONAGUA). In overexploited aquifers like Toluca, acquiring new water rights for the expanding city has become extremely difficult as concessions can only be obtained through rights transmissions from users ceding their rights. With the law prohibiting the sale of water rights, a highly profitable illegal market for these rights has emerged, controlled by brokers called 'gestores' and 'coyotes'. Municipalities, unable to directly participate in illegal market activities, extend their hydraulic reach by making strategic use of their power to approve the construction of lower middle class fraccionamientos (housing colonies). For gaining approval, private housing construction companies have to acquire additional water rights through the illegal market, over and above those needed for the colonies they seek to build. Municipalities use these additional rights to supply water to other parts of the city, including irregular settlements. 'Coyotes' expertly manage the transformation of rural agricultural water rights into urban water rights. The local state in Toluca actively seeks to fulfil its role as public service provider for a broad range of the urban population, including the poorer segments, by sourcing water through illegal private markets. Municipalities thus pursue urban water security through a contradictory combination of informal (illegal) marketization and public service delivery, in the context of centralised water governance and populist politics.

Buying and Drying in Colorado

Jeff Sellen (Environment & Sustainability, Western State Colorado University)

Colorado's population is predicted to double by the year 2050. Much of that growth will occur in the urban corridor along the state's Front Range. Given that over 80% of the water use in the state is committed to growing crops and animals, agricultural water resources have been targeted as a potential means of meeting the projected urban demand for water. The Colorado Doctrine, an extreme version of the principles of prior appropriation, encourages the transfer of water to the highest of beneficial uses. Increasingly, these highest uses, from a strictly economic perspective, are not agricultural. This presentation examines the perceived threats to agricultural producers and the rural communities in which they are grounded, as represented in the discourses of water use. It begins by situating

the Colorado experience within a broader global and national context. The "buy and dry" phenomenon, in which water rights are transferred from agricultural to municipal uses and agricultural lands are dried up, is not unique to Colorado. It occurs from Nevada to Ethiopia. In Colorado, although the governor and the state bureaucracy maintain a strong commitment to agriculture, there is a great deal of mistrust in rural communities, as is evident in the dramatic but unsuccessful recent efforts by several rural counties to secede from the state. Yet, rural communities are not the homogenous entities often imagined from urban vantage points or represented in secessionist discourse. This presentation seeks to explore an array of complex and competing discourses that are determining the distribution of water resources in Colorado.

Grey Epistemologies and the Urban Political Ecology of Water Governance
Michael Finewood (Geography, Chatham University)

As urban regions across the United States grow and transform, water systems present a unique set of challenges. Municipalities often struggle to pay for and maintain aging infrastructure as stricter regulations, socio-ecological fragmentation, and a changing climate continue to drive costs up. In this light, managers must develop systems that are more adaptable and sustainable in the face of an uncertain future while feeling pressure to meet regulatory requirements through conventional engineering approaches. This paper considers such a case in Pittsburgh, PA, where tensions have emerged over efforts to meet urban water system challenges through grey infrastructure solutions. Urban water flows, in this sense, are posited simply as an engineering problem and resolving stormwater issues is just a matter of getting the calculations right. Thus, local debates about urban water governance center on a technomanagerial discourse that binds possible solutions to a set agenda, and limits alternative approaches. I utilize an urban political ecology framework to explore these debates about Pittsburgh's water challenges and the uneven outcomes they produce. In particular, a grey epistemology reveals both the power of engineering discourse and the uneven participation of stakeholders in planning for a sustainable future for the city.

One size does not fit all: the dynamics of water governance, expertise, and equity in Peru
Rachel Will (Geography, Kent State University)

Naturally occurring water scarcity is a prevalent concern in the arid regions of Peru. The heterogeneous social landscape incorporates large urban centers in addition to many indigenous communities. Accordingly, water management ranges from large-scale technocratic systems to long-standing local knowledge based traditions. Despite the overarching concern of natural water scarcity, different communities experience greatly varying levels of water security. In a country known for a variety of physical and social environments, effective water management cannot be achieved with a "one size fits all" mentality. In order to separate natural water scarcity from human induced scarcity, this study explores the effects of different types of water management and policy at different community scales within Peru.

Engineers Without Borders (EWB) and Water Governance in Guatchthu 'Uq Guatemala
Laureen Elgert (Development Studies/Environmental Studies, Worcester Polytechnic Institute)

When sections of cities and towns are underserved by governments, and thus unsupplied with vital utilities such as water, citizens might take matters into their own hands and seek resources and support from non-governmental entities. Sometimes, particularly in poor countries, international organizations become part of infrastructure projects that supply water to urban and peri-urban households. One such organization is Engineers Without Borders (EWB), an international organization that in part, facilitates student-led engineering projects in the developing world. An EWB water security project, taking place in Guatchthu 'Uq, a peri-urban area outside of San Cristobal, Verapaz, Guatemala, aims to supply individual households with rainwater harvesting and storage systems to alleviate chronic water stress, particularly during the dry season. Such technical projects have long been recognized as having political effects; this paper considers the global-local nexus of influences on water governance in the context of this project. What are the impacts on water governance when the norms, goals, standards and reporting requirements of international organizations emerge in developing-world community contexts? How are power structures in water governance (re)configured in light of such external intervention?

6. Scholar/Activist Panel: Working Across Borders: US/Latin America Collaborations for Social and Environmental Justice

Location: Student Center 230
Organizer: University of Kentucky Political Ecology Working Group

The scholar-activist panel at DOPE brings together academics and activists who have built successful alliances to discuss their collaborative efforts. Based on their experiences, they highlight opportunities for and challenges to doing academic research and teaching that goes beyond the walls of the academy. The panel provides an opportunity for interactive discussion between panelists and attendees to consider themes of praxis in scholarship.

This year the scholar-activist panel will focus not only on alliances between scholarship and activism but also across national boundaries to challenge the economic and political structures that foster dispossession and even death in Latin America and the United States. The panel will feature two scholar-activist pairs. Simón Sedillo and Geoff Boyce have worked together on issues of migration and militarism, especially as they are connected to neoliberalization in Mexico and the United States. Avi Chomsky and Vanessa Hall have both worked for many years to document and expose the destructive labor and environmental practices of the coal industry and its consequences for local communities, and will discuss their participation in exchanges between coal mining regions in Colombia and Kentucky.

Panelists:

Simón Sedillo *(Organizer and Filmmaker)*
Sedillo is a community rights defense organizer, filmmaker and community based political economist. Through lectures, workshops, and film, Sedillo breaks down the effects of neoliberalism and militarism on indigenous communities, immigrant communities, and communities of color in the U.S. and Mexico.

Geoff Boyce *(School of Geography and Development, University of Arizona)*
Geoff Boyce has studied and contested the militarization of the U.S.-Mexico border for the past seven years, especially through his work with the Tuscon organization No More Deaths. He is also a critic of disciplinary complicity with geopiracy and militarization and an advocate for ethical geo-spatial research.

Aviva Chomsky *(Department of History, Salem State University)*
Aviva Chomsky is a labor historian with long-standing interest in migrant labor and immigration as well as organizing for social change. Her primary research areas include the Cuban revolution, Colombia's coal industry, and immigration and undocumentedness in the United States.

Vanessa Hall *(Activist)*
Vanessa Hall is a Pike County based community organizer and activist. She has worked both regionally and nationally to expose the damage wrought by mountaintop removal coal mining, such as reductions in mining-related employment, devastation of the United Mineworkers Union, and ecological impacts.

Ann Kingsolver, Moderator *(Appalachian Center and Appalachian Studies Program, University of Kentucky)*
Ann Kingsolver, a cultural anthropologist, has listened to how people make sense of capitalist globalization in the U.S., Mexico, and Sri Lanka. Her books include *More than Class: Studying Power in U.S. Workplaces* (ed.); *NAFTA Stories: Fears and Hopes in Mexico and the United States*; *The Gender of Globalization: Women Navigating Cultural and Economic Marginalities* (co-ed.); and *Tobacco Town Futures: Global Encounters in Rural Kentucky*.

7. Political Ecologies and Food Sovereignty II: Theoretical Questions in Food Sovereignty

Location: White Hall Classroom Building 240
Organizer: Ian Werkheiser (Philosophy, Michigan State University)

The Individual, Autonomy, and The Problem of Choice
Anthony Chackal (Philosophy, University of Georgia)

The prevailing discourse on environmentalism, food, and philosophy tends to focus on how one can be an

environmentally ethical consumer. What is most often underscored is the power of individuals to combat the harmful effects of the food industry through consumer choice. Individuals are held responsible for, and are socially judged by, what they consume because it is taken as a given that they have free choice to do so and varying options available. The choice of food is one of the most basic people make and the emphasis on an individual's freedom to make and enact choices that are his or her own has been shaped by enlightenment-era concepts. One such concept is the individual conceived as the Cartesian disembodied, atomistic, and isolated self. Another concept is autonomy, which was held by Kant to be imperative for the individual to cultivate, and which along with reason, is the basis for moral responsibility and agency. However, discussion of the underlying presumptions about individuality, autonomy, and choice coupled with a critical examination of the structural forces that shape, limit, or undermine choice is necessary in order to expose the problematic nature of such notions, and to confront the conditions which characterize the social contexts in which individuals and communities actually make choices. This essay argues that choices are constrained, manipulated, and are often not genuine choices at all. I highlight two categories of structural constraints that obstruct choice. The first category refers to the external constraints within communities and concerns what is available and accessible. I point out that although people are operating at different levels of practical attainability, the autonomy imperative is laid down universally without consideration of the depth of limitation brought on by unequal access to goods. I explore what the conditions for autonomy are in terms of resources that contribute to its cultivation for both individuals and communities. My primary example of such external constraints is the phenomenon of food deserts. I appeal to Lorraine Code as representative of a social and eco-feminist approach to epistemology in order to interrogate the enlightenment-era concepts and to properly contextualize individuals as socially embodied, complex, and interdependent.

Detaching, Determining, Democratizing: Thoreau and the Politics of Food Sovereignty
Russell Powell (Religion and Society, Princeton Theological Seminary)

In this paper I propose to interpret the contemporary movement for food sovereignty in light of the democratic impulse found in Henry David Thoreau's political writings. In so doing I aim to elucidate some of the political premises that underwrite dominant food security models. While many read Thoreau's political essays, and especially his renowned Walden; Or, Life in the Woods, as a tale of disaffected Romantic individualism escaping the rigors of modern society, scholars have recently suggested that Thoreau's aim was not to fatally separate himself from political community. He instead encouraged the cultivation of self-directed autonomy, which he believed entailed full participation in democratic social life. Hence mere detachment from human communities or institutions was not Thoreau's goal. Rather, Thoreau's essays work to reorient the focus of politics away from institutions and towards the people such institutions are ostensibly in place to serve. We see a similar development in the contemporary movement for food sovereignty. Like Thoreau, food justice circles envision the transition from industrial oligarchies (i.e., the corporate monopolization of the food and agriculture industry) to alternative strategies of self-determining local productivity. Thoreau's political writings, I will argue, help us to interpret the ways that the movement for food sovereignty does not aim to simply disengage from political networks of food production, but rather to transform them by developing forms of local agricultural self-determination. This self-determination, I will illustrate, re-imagines the ways we might participate as autonomous agents and communities in the current state of industrial food production and distribution.

Food Sovereignty and Community Epistemic Capacities
Ian Werkheiser (Philosophy, Michigan State University)

The discourse around food sovereignty often conceptualizes autonomy and self-determination in an unusual way: as something that happens at the community level, and needs to be fought for both by the external pressures a community is under, and by developing the community in a way that they can exercise autonomy meaningfully. In this paper, I will explore some of the implications of this use of autonomy and self-determination in food sovereignty by looking at some of the capacities a community must have as a prerequisite to act meaningfully in political processes. In particular, I will argue for a list of necessary epistemic capacities of the community. I will also look briefly at other academic work on requirements for community participation, coming out of such discourses as Environmental Justice and the capabilities approach. I will argue that, though they often have much to contribute, none of these approaches adequately addresses what a community needs in order to meaningfully be said to act. Meaningful autonomy and self-determination, as it is conceived of in food sovereignty discourse, is an achievement

for a community, and there are particular epistemic capacities which are necessary but rarely mentioned components of it. I will end the presentation with a brief look at what this means for policy makers, experts intervening in a community (e.g. development professionals), and activists working to help their own community.

8. Whose Recovery? The Politics of Socioecological Redemption

Location: Student Center 249
Organizers: Kendra McSweeney (Geography, Ohio State University) and Darla Munroe (Geography, Ohio State University)
Chair: Darla Munroe (Geography, Ohio State University)

A critical political ecology of wildlife rehabilitation
Rosemary-Claire Collard (Geography, University of Toronto)

Rehabilitating injured, ill or trafficked wild animals for possible release into marine and terrestrial environments is an increasingly common conservation practice following both mundane events and spectacular disasters. Little is known, however, about the efficacy of rehabilitation practices. Even less attention has been paid to the embodied multispecies labours of rehabilitation itself, and how these labours perform particular human and animal subjects. In this paper I examine the case of formerly trafficked exotic pets rehabilitated at a centre in Guatemala. In traditional political ecology fashion, I inquire into the uneven geopolitical relations that constitute rehabilitation labours – paid and volunteer – at the centre. Less traditionally, I also address the uneven power relations between humans and animals that underpin rehabilitation efforts. Based on participant-observation and interview research at the centre, I find that in this case, rehabilitation attempts to craft an unencounterable animal. It does so through misanthropic practices that are designed to instil in animals a deep fear of humans. These efforts are undertaken through the performance of dominant human subject and a subordinate animal object, roles to which humans and animals at the centre are required to adhere in order for animals to qualify for release, and roles that are ripe for political ecological critique. At the same time, rehabilitation does offer some animals the opportunity for an un-captive life. Based on this case study, I suggest the need for a critical political ecology of wildlife rehabilitation, and conclude by briefly outlining future research plans along these lines.

Whose Tradition? The Politics of Wilderness Protection, Subsistence and Civil Rights in Alaska's Wrangell-St. Elias National Park and Preserve
Margot Higgins (Environmental Science, Policy, and Management, University of California Berkeley)

In 1977, most of the two thousand people who testified in Congress in favor of establishing vast swaths of Alaskan wilderness, had never set foot in the state. Yet national visions for Alaska were voiced with moral conviction. Fifty years after the 1964 Wilderness and Civil Rights Acts, the dominant narratives in our biggest national park -- Wrangell Saint Elias National Park and Preserve (WRST) -- are still entangled with national wilderness and civil rights debates. Here, statehood, civil rights, native claims, law enforcement and wilderness protection are inextricably intertwined. The meaning of civil rights, access to subsistence, native claims to territory, local governance and wilderness protection in Alaska, have yet to be fully realized. Alaska was coined the "last best chance" to protect wilderness and a novel opportunity to extend subsistence lifestyles for both "Native and Non-Native Alaskans." Yet this compromise was racially and economically charged. Cooperation between preservationists, the government, native and non-native Alaskans has remained fragile. Native claims in Alaska were unprecedented, yet the access most Native Alaskans received was insufficient for the continuation of traditional lifestyles and in some cases was further reduced through Park establishment. Conflict over wilderness is often told as a story pitting commodity development utilitarians, including corporations, local communities dependent on resource extraction, and federal agencies co-dependent and captured by them, against alliances of nationally-based, non-resource dependent, non-local primarily urban stakeholders who intentionally design federal agencies to be nonresponsive to locals. Behaviors by NPS and others, that otherwise might appear irrational, dysfunctional or inexplicable are likely driven in part by this history and alliance with national stakeholders. This paper examines the role of local and national narratives in molding management conflicts and uneven access to resources in WRST.

Narrating Forest Recoveries in Appalachian Ohio
Kendra McSweeney (Geography, Ohio State University)

In Southeastern Ohio, the 20th century was marked by widespread recovery of forests on previously logged, farmed, and mined land. In line with forest transition frameworks, this ecological renaissance is often ascribed to agricultural abandonment by smallholders together with the far-sightedness of state actors, who bought up and transformed "the lands that nobody wanted." Hidden in this narrative, however, is the important persistence of smallholders and the key role that they have played in forest recovery. Moreover, the state's involvement (particularly through the CCC and other programs) often benefited mining and lumber interests who were able to sell degraded land cheaply. As long as these narratives are buried in contemporary understandings of forest dynamism and management, then long-term resident smallholders will continue to be demonized by forest managers as 'bad' for forests. We argue that the forests' future hinges on a better grasp of how this narrative is perpetuated and thus might be undone.

The Comparative Politics of Reforestation: Socioecological Drivers of Forest Recovery in the US and Brazil
Tatyana Ruseva (Public Policy, Appalachian State University)

Understanding the transition from deforestation to reforestation has major implications for climate change mitigation, biodiversity conservation, and stabilization of soils, and water supplies. Research has documented the experiences of many countries that have undergone transitions from a period of high deforestation to declining deforestation or even net reforestation (Rudel 1998; Rudel et al. 2005). However, studies that aggregate data at a national scale, particularly for large countries, can miss the dynamics of change that take place at sub-national scales. In this paper, we compare the dynamics of household-level driven reforestation in the states of São Paulo (Brazil) and Indiana (United States), using surveys, landowner interviews, and satellite imagery for six counties/ municipalities in the two states. Survey responses were integrated with land-use and cover change data to produce household and sub-regional characterizations of forest-change trajectories. We then analyzed the stated motivations of rural landowners to protect or increase the forest area on their land using a factor analysis of 15 identical survey items. We found three common motivational drivers of household-level reforestation: conservation ethic, economic incentives, and land protection. The paper emphasizes the importance of human drivers as a foundation of forest change and recovery across cultural contexts, and the implications of local land-use decision-making for the production of direct and indirect, local, regional and global ecosystem benefits.

Saving Louisiana: Collective action and socio-spatial cleavages in restoration politics
Joshua Lewis (Urban Ecology, Tulane & Stockholm Universities)

An extensive and detailed ecological restoration plan to strategically divert the Mississippi River's freshwater and sediments into its rapidly eroding deltaic plain has recently emerged. The $50 billion plan, developed primarily by a panel of scientific experts convened by the State of Louisiana, aims to mitigate and ultimately reverse decades of coastal land loss - a dilemma laid bare by a series of severe hurricanes beginning in 2005, and complicated by the Deepwater Horizon Oil Disaster in 2010 and increasingly dire projections of sea level rise. While broad consensus seems to exist among delta residents that the coastal erosion crisis is both real and perilous, a vocal and increasingly organized opposition to the use of large-scale river diversions has emerged and been elaborated among a coalition of coastal residents who claim that their communities and ways of life are being sacrificed to save urban areas. The emergence of this anti-diversion movement presents the first direct challenge to the broader delta restoration agenda — an agenda that relies upon a shared understanding of past anthropogenic alterations to deltaic dynamics and the appropriate technologies to "save the coast." In this paper I argue that while the recent public debate typically centers on framing and counter-framing the potential benefits and hazards associated with restoration technologies like river diversions and dredging, an historically situated perspective reveals how this dispute mirrors a highly contentious and spatialized politics between urban and rural communities long evident in the region. Disputes over the appropriate restoration strategies and technologies are imbedded in a particular web of local culture, resource dependent livelihoods, urban fixed capital investments and economically vital infrastructures, and a pa!ern of hydro-spatial power relations at least a century in the making. What is emerging is a struggle with clear cleavages between understandings of "natural" and "restored" pa!erns of socio-ecological relations — yielding a politics riven by divergent visions and strategies for "saving Louisiana."

9. Latent Destiny, Manifest Reversal II

Location: White Hall Classroom Building 242
Organizers: Cleo Woelfle-Erskine (Eco-Cultural Hydrology, UC Berkeley) and July Cole (Independent)

An Unmoored Frontier: Recovered Footage from the Clovis and Larch Expedition
Sarolta Cump (Filmmaker, The Water Underground*) and July Cole (Independent)*

We explore possible platforms for Manifest Reversals through the consideration of a counter-venture to the notorious Lewis and Clark Expedition. Clovis and Larch—a neurogeologist and a bioprospector from alternative timelines—began as sketchily outfitted Jeffersonian after-thoughts and ended by taking on explorations of their own. Portions of the Clovis and Larch Video Journals have been located and painstakingly reconstructed by early 21st-century revolutionary archivists. We will show parts of this fascinating recovered anti-history, in which Clovis and Larch's shadow-expedition set out to fathom Manifest Destiny's sewers, sample its played-out mines, and enter its sacrifice zones. They undertook to gather intelligence on the potential fallout of Lewis and Clark's "opening of the West," until the latencies they stumbled across jeopardized their mission. Tactically, our project attempts to undermine received history and forge possibilities for invented futures by means of parody, fantasy, and multimedia collage. We assert that restoration in the wake of Manifest Destiny will depend on fabrication of voices as well as their recovery, on continued proposals of what doesn't exist, and on assembly of apparatuses for experimental vision from utopic and dystopic lenses.

Who Controls the Fire: The future of a politic adapted to fire
Brian Peterson (Ecology, San Francisco State University)

Fire is humanity's oldest and most powerful tool. Humans have used fire to alter vegetation composition at the landscape level for over 400,000 years (Wiener et al. 1998). In the Western United States indigenous economies depended on the use of cultural fire for hunting, improved forage, root crops, and basketry material (Anderson 2006). Such a powerful and accessible tool was central to the autonomy of the diverse indigenous cultures that lived in the West. However, cultural fire was also an unruly threat to the United States project of Western colonization and resource extraction. Fear of wildfire and desire to protect standing timber justified the nascent U.S. Forest Service's adoption of total fire suppression policies in 1905 (Stephens 2006). However real the desire was to protect resources, the philosophical underpinning of fire suppression practices evoked Manifest Destiny. A desire to alter the landscape to fit American agrarian aesthetics coupled with American exceptionalism, not to mention a little help from Smokey the Bear, proved effective in creating a whole society deeply afraid of and disconnected from one of the most defining ecological drivers and oldest human collaborators in western ecosystems: fire. My research investigates the origins of this fear of fire and its relevance for landscape-scale ecosystem management in the 21st century. Faced with mounting ecological and economic consequences of catastrophic wildfire, and increased risks to firefighters and residents of fire-prone landscapes, managers are reconsidering the risks and benefits of low-intensity fire (Pyre 2001). Drawing on historical accounts and participant-observation with prescribed fire practitioners I explore recent re-examination of fire as a tool to meet management objects by scientist, managers, and policy makers. I argue that the current collapse of decades old policy that attempted to extinguish fire on the landscape offers a valuable opportunity to identify and critique the influences of the Manifest Destiny on land management practices in the west.

Goodbye Gauley Mountain: An Ecosexual Love Story
Beth Stephens (Art and Performance Studies, University of California Santa Cruz)

This proposal will combine a 3-5 minute video/introductory text with a 10-15 minute excerpt of my new film Goodbye Gauley Mountain: An Ecosexual Love Story (with Annie Sprinkle). The film's story is told from my perspective as a native West Virginian. Using humor, situated knowledges, dialogical art, and sexuality Annie and I propose romantic/sensual/ecosexual love to create alternative relationships with the Earth, as well as to help alleviate the despair caused by the mass destruction of vast regions of our planet. This film addresses the Appalachian Mountains, which are being wiped out under the patriotic rubric of "national energy security." Creative strategies deployed in Goodbye Gauley Mountain are offered to help queer environmental activism in order to reach different audiences, as well as to counter corporate propaganda that labels anti-mountain top removal (MTR)

coal mining activists as "outsiders." "Outsiders" implies that activists are not qualified to protest MTR and do not belong in the coalfields, reinforcing xenophobic stereotypes of hillbillies represented in films such as Deliverance. As both an insider and an outsider living in California my film attempts to counter stereotypes that justify the destruction of the land by building unlikely alliances between queers, hillbillies, and activists. We celebrate love for the Earth and marry the Appalachian Mountains. The film's heretical use of heterosexuality's most sacred institution strikes at core of the kinds of controlling normative beliefs, assumptions, practices, and borders that manifest destiny establishes and enforces to maintain the current economic colonialism practiced in the coalfields of Appalachia.

10. Representing Disaster/Producing Power II

Location: White Hall Classroom Building 244
Organizer and Chair: Phillip Drake (Global Environment, University of Chicago)

Mapping Wildfires, Producing Priorities and Threats
Katrina Petersen (Communication and Science Studies, University of California San Diego)

This paper explores the materiality of disaster politics through the practice of mapping during the 2007 wildfire disaster in Southern California in order to trace how disasters come to have meaning and are acted upon. These wildfires were among the largest in California's history. Their intensity and velocity required new communication techniques between responding agencies and the public. Maps played a major role in these interactions. Two sets of maps that emerged during these fires stood out in their use: one produced by the county leading the response and the other by an ad-hoc group of academics and public media. I examine how the socio-technological interactions necessary to make the maps produced competing and conflicting understandings of the environment under duress. Among these issues are challenges to jurisdictional boundaries, accurate descriptions of the threat, priorities of disaster preparedness and response, and uncertainty over the disaster's time and scale. I draw on data collected through textual analysis of government and scientific documents from the wildfires, interviews of key actors involved in producing the maps, and observations of their present day mapping practices. I argue that in this interplay it becomes possible to see different community conceptions of what constitutes the space of a disaster as well as the improvisational practices that took place making visible the normally invisible relationships that produce power.

Catastrophe and Climate Change: Interrogating Extremophile Life
Robert Geroux (Political Science, DePauw University)

My paper is part of a larger political genealogy of "extremophile life," especially as it occurs under the sign of a catastrophic future of climate change. What I mean by this is an interrogation of the turn in evolutionary biology and biotech towards life forms which thrive under conditions of high pressure and heat, low oxygenation, an absence of light, high salinity or alkalinity, and so on. As Melinda Cooper argues in her book Life as Surplus (University of Washington Press, 2008), a growing assumption in some scientific circles is that while both animal and human ecosystems will be adversely and even catastrophically altered by climate change, extremophiles will survive. If this is true, extremophilia comes to signify not only survival, but becomes in a larger sense a post-apocalyptic standard or principle, a kind of biometric for all life. I want first of all to examine the means by which the biometric of "extremophile life" shapes the fantasy-image of a perfectly universal organism, a living being capable of adapting and surviving under almost any pressures, having the ability to thrive in any specific environment without any attention to the subtle cues of particular eco-contexts. Second, I want to examine this new vision or understanding of life as it ramifies and extends/expands into politics, where it structures new understandings of life and risk for the individual, as well as encourages an appetite for extremes in the economic sphere under neoliberalism and financialized capital.

Managing Invasive Species in the Wake of the Tsunami
Jonathan Clark (Sociology, Ursinus College)

On June 5, 2012, more than a year after a devastating tsunami struck Japan, a commercial fisheries dock washed ashore on Agate Beach, one mile north of Newport, Oregon, home to Oregon State University's Hatfield Marine Science Center. Attached to its surface was what appeared to be an intact subtidal community of organisms, including marine algae and invertebrates. The dock was quickly traced to the coastal town of Misawa, where the

tsunami had dislodged it with these "biofouling" organisms already attached. It was as if the ocean had lifted the community from one shore and deposited it on another, some 5,000 miles away. Soon after arriving on the scene, scientists from Hatfield identified several potentially invasive species. As a precautionary measure, managers from the Oregon Department of Fish and Wildlife scraped the dock clean, dumped the organisms into trash bags, and then buried them alive, above the high-tide line. Invasive species management should be understood as a form of ecological biopower over nonhuman organisms. And like other biosecurity practices, this is a form of biopower with thanatopolitical dimensions. It's about who lives and who dies, who suffers and who flourishes, in the name of some particular conception of the "native" environment. And, most importantly of all, it's about who gets to make these political and ethical decisions. Based on an analysis of interviews, videos, press coverage, and other sources of data, this paper describes how the scientists and managers involved with the dock resolved these questions on the ground.

Multiple Renderings of a Mud Volcano: Disaster Politics in Java
Phillip Drake (Program on the Global Environment, University of Chicago)

The Lapindo mudflow is one of the most expensive and controversial disasters in Indonesian history. Since erupting in 2006 in a suburban district in East Java, the mud volcano has blanketed entire neighborhoods, displacing over 40,000 people, causing dozens of deaths, and devastating local biodiversity. Despite its unique geophysical features, most consider the mudflow a social disaster, as scientific conflicts about the disaster's main trigger have evolved into legal disputes over accountability and rights. With mud still flowing today, there remains a sustained effort to control the disaster and bring assistance to victims, in spite of a series of controversial court decisions and government proclamations that have provided legal protection to several of Indonesia's most prominent political and economic figures who are involved in the case. This paper examines this "trigger debate," the stakes of scientific contention, and the broader social and natural dynamics that frame the terms of this debate. Through readings of government reports, scientific studies, and victims' accounts, this paper observes the uneven power relations that influence representations of the mud volcano and its stakeholders. Driven by a constructivist impulse that is informed by Bruno Latour's work in Actor-Network Theory, this project aims both to refine understandings of complex disasters and to promote more just responses to ecological crises.

11. Impact of Conservation in and Around Protected Areas II

Location: White Hall Classroom Building 246
Organizers: Priyanka Ghosh (Geography, University of Kentucky), Jackie Monge (Geography, University of Kentucky) and Kelly Watson (Geography, Eastern Kentucky University)
Chair: Kelly Watson (Geography, Eastern Kentucky University)

The politics of transitioning to recreational fishing in the Galápagos Marine Reserve
Kim Engie (Geography, University of North Carolina Chapel Hill)

While many small-scale fisheries around the world are under strain from growing exploitation, fishing in the Galápagos Marine Reserve (GMR) is undergoing a remarkable shrinkage, after decades of fluctuating markets, participants, and harvests. Broadly accepted as beneficial to biological conservation, the socioeconomic recovery to fishing changes remains unexamined. This paper demonstrates the highly uneven ability of fishers to transition to the multimillion-dollar Galápagos tourism industry via a new recreational fishing activity, locally known aspesca vivencial (PV).Using regulations over time and interviews with 20 license holders and policy makers, I trace negotiations of stakeholders with varying interests, needs, and levels of authority. I use regulatory debates to analyze the political nature of PV as a recovery strategy for declining fisheries, utilizing a complex adaptive systems (CAS) framework. PV was envisioned as a route for artisanal fishers to find alternate livelihoods that extract fewer resources, originally proposed as a demonstrational activity where fishers would use their old vessels, not alter their practices, and explain their culture to tourists. However it has evolved to include practices akin to big game sport fishing that favor luxury boats and require a naturalist guide to explain Galápagos fishing culture. I find that current regulations benefit the tourism industry at least as much as the fishers who originated the PV idea, reflecting broader political dynamics within the GMR. This paper highlights how social struggles as well as environmental declines shape the specific pathways chosen to reduce fishing extraction, and who benefits from them,

in marine reserves.

Who's Got the Money Now? Myths and Reality in Southern Mexican Conservation-Development
Nora Haenn (Anthropology, North Carolina State University)

Research on ICDPs emphasizes their social hierarchies and environmental consequences. Researchers rarely place ICDP's in larger economic contexts. This contextualization is necessary to answer a series of questions: What is the relative weight of ICDPs in an economic setting? How might ICDPs compare with other opportunities? How do recipients gauge the value of ICDPs? The paper answers these questions for the municipality of Calakmul, Mexico, home to the Calakmul Biosphere Reserve. The area has housed ICDPs for two decades. In the early 1990s, Calakmul was characterized by a male-dominated primary sector closely linked to regional patron-client ties. Today's economy, however, includes important innovations. An expansive government sector oversees new welfare programs aimed at women and children. Crucially, around the year 2000, Calakmul became incorporated into international migration. Migrants' earnings are so important that one long-term participant in ICDPs reacted with careful calculation at their mention: "They're the ones with money now." The paper explains how, despite these changes, ICDPs continue to reflect an earlier period. Local understandings of a "conservation economy" only selectively take into account the broader economic setting. This selectivity allows myths regarding ICDPs to crop up – especially about cattle and ecotourism – while conservationists ignore some economic realities. In particular, in today's diversified economy, the financial import of ICDPs has been diluted in Calakmul. The paper suggests that, in places like Calakmul, the idea that conservation pay people to protect needs reconsideration.

The Makira Project: Neoliberalism Reaches a Remote Region
Katherine Browne (Environmental Justice, School of Natural Resources and Environment, University of Michigan)

While the definition of neoliberalism is contested, there is no denying that it has brought a radical change to environmental governance in the past sixty years. As environmentalism increasingly hybridizes with neoliberal orthodoxies, it ever more frequently aims to save or manage nature through its commodification. Driven by environmental agendas and building on colonial and neocolonial legacies of appropriation, these processes of "green grabbing" are restructuring rules of authority and access in ways that can have immensely alienating effects on local resource users. This paper presents an important and unfolding case study of neoliberal conservation tactics in the Makira protected area in Madagascar, and investigates the specific forms, logics, and mechanisms that enable such appropriation. It concludes that the implementation of REDD+ in this remote and largely unscrutinized region has serious, unexplored implications for the people of Makira and Madagascar, as well as broader implications for the modern conservation movement.

When Mandates Become Barriers: Legislative Obstacles to Climate Change Decision-Making within the National Park Service
Kathleen Hauser (Geography, University of Tennessee – Knoxville)

As climate change becomes an ever more pressing issue, public land agencies are developing strategies to make-decisions in the context of a changing climate. While many obstacles stand in the way of climate change mitigation and adaptation on public lands in the United States (US), legislative mandates and enabling legislations of National Parks present particularly complicating barriers to climate change planning within the US National Park Service (NPS). This paper considers these legislative barriers in the context of the Alaska Region of the NPS and their efforts to incorporate scenario planning into climate change decision-making. I conducted participant observation and interviews during and after two planning workshops in the Alaska Region of the NPS to investigate the climate change planning process. My findings related to legislative barriers of climate change planning within the NPS are three-fold. First, involving non-NPS stakeholders in the planning process expands decision-making beyond NPS legislative constraints. Second, as long as climate change planning efforts remain at the Secretarial Order level, land managers will prioritize mandates that are legislated such as those specified within the Endangered Species Act over climate change related-goals that have no specific legislative mandates. Third, as climate change continues to alter public lands, the specific wording of enabling legislations of National Parks may become problematic and could potentially threaten the mere existence of some National Parks. These barriers must be addressed in order for National Parks to adequately respond to climate change, and to protect the existence of National Parks themselves.

DOPE 2014: SATURDAY MARCH 1ST

Saturday Schedule Block #4:
3:00pm – 4:40pm

Sessions 1-9 are located in the Student Center. Sessions 10-13 are located in the Whitehall Classroom Building.

1. Race, Nature and the State

Location: Student Center 203
Organizers: Levi Van Sant (Geography, University of Georgia) and Richard Milligan (Geography, University of Georgia)
Discussant: Richard Schein (Geography, University of Kentucky)

Towards a Renewed Political Ecology of Soil: Science, Race, and Governance in the 1971 Charleston County (SC) Soil Survey
Levi Van Sant (Geography, University of Georgia)

In March of 1971 the USDA published an 82-page soil survey of Charleston County, South Carolina. This exhaustive document was the result of nearly a decade of collaborative work between the USDA's Soil Conservation Service, Forest Service, and the South Carolina Agricultural Experiment Station. At the time, the South Carolina Lowcountry - the coastal region centered on the port city of Charleston - was one of the world's leading producers of fresh tomatoes. Scientists from the nearby USDA truck crop experiment station provided the knowledge that fortified the increasingly centralized and capital-intensive monocropping of tomatoes, while DiMare Fresh - an enormous, vertically-integrated produce firm - extended loans to growers and offered them the only pathway to market. This paper uses the 1971 soil survey to accomplish two tasks. First, it highlights the racially "color-blind" knowledges and capitalist logics that inform the survey in order to refocus broader political-ecological analysis on the politics of soil. Second, it examines the ways that the soil survey inscribed the logics of colonial capitalism into the Lowcountry agrarian landscape. Most broadly, this paper argues that governance is not only a political economic project but also a racial one.

White Environmental Subjectivity and the Politics of Belonging
Abby Hickcox (University of Colorado Honors Program)

The purpose of this paper is to explicate how the construction of the ideas and actions around “nature” and “environment” are complicit and necessary in the creation of white environmental subjectivity through the maintenance of racial and class exclusion and white privilege in Boulder, Colorado. White city residents’ geographic imaginary of the developing world as a space where environmentalism is impossible reinforces their assumption that immigrants and non-immigrant Latinos do not participate in Boulder’s environmental lifestyle. The deployment of this assumption is performative of environmental subjects and racial subjects. The environmental self is constructed through discourses of the non-environmental, geographic, and racial other who lives in Boulder but does not adhere to the Boulder environmental norms or participate in normative environmental activities. In Boulder, whites perceive immigrants and non-immigrant Latinos as not knowledgeable about environmentalism, not interested in environmentalism, and/or too busy or poor to participate in environmentalism. White residents of the city reproduce dynamics of privilege and exclusion through environmental discourses and so reinforce their own white environmental subjectivity as the norm. The insider / outsider division established through environmental discourse in Boulder is a specific example of how exclusion is enforced through the racialization of environmental spaces and activities. That exclusion is reinforced by government deployment of cultural forms such as environmentalism and progressivism for the purposes of governing the specific population of Boulder.

Political Ecology at the Intersections: Heritage, Identity, and Land Tenure in Texas’ Freedom Colonies
Andrea Roberts (Community and Regional Planning, University of Texas – Austin)

In the decades following the Civil War, ex-slaves founded more than 400 sovereign towns or “Freedom Colonies”

across East and Central Texas. Land ownership in Freedom Colonies represented the first opportunity for formerly enslaved Texans to produce and accumulate intergenerational social capital and wealth. Strong social networks and institutions anchored these now invisible, forgotten, or destroyed settlements. Currently, few Freedom Colonies remain intact. Residents and descendants are losing land to higher taxation and urbanization threatens traditional use of these predominately-agrarian landscapes. Often, legal land tenure systems facilitate African American land loss in these communities. Formal and informal planning agents deem many culturally based land ownership claims illegitimate. Spatial inequality makes lines of government accountability unclear or nonexistent. These communities and their remaining residents' challenges exist at the intersection of rural governance, knowledge and identity production, cultural hegemony, and neoliberal constructions of progress. While, planning and development has become increasingly concerned with inequity in the context of regional sprawl, housing, and transportation equity, these modes of inquiry fail to encompass the unique circumstance of rural landowners in Freedom Colonies. This paper seeks ways to address gaps in discourse around land tenure, social justice, and heritage in Texas using political ecology. This paper identifies themes and methodological approaches within political ecology that may potentially address the gap in planning research. The paper also asks how feminist political ecology discourse and intersectionality might inform such a research agenda. Finally, the article suggests ways political ecology could inform planning praxis in these settlements.

Watershed Subjects and the Territory of Biopolitics: The Political Materiality of Whiteness and a Southeastern US River Basin
Richard Milligan (Geography, University of Georgia)

In recent years, political ecologists have increasingly turned to the concept of biopolitics to develop an analysis of social natures capable of accounting for the deeply racial aspects of most environmental struggles. The purpose of this paper is to suggest that it is worthwhile for such scholars to take up a problem with Foucault's theory head on; namely, that the elaboration of an adequate concept of territory is a well-known absence in Foucault's development of biopolitics and governmentality. This paper engages environmental organizing around rivers and watersheds in the southeastern U.S. state of Georgia in order to examine the political materiality of a river system as well as particular materializations of race that accrue in the viscosities of riparian whiteness. Drawing on over two years of participatory ethnographic engagement with environmental activists working on watersheds and rivers in the Altamaha River System, I demonstrate how the materiality of watersheds and the materiality of whiteness are significantly bound up with one another under a regime of neoliberal governmentality. While biopolitics offers a useful framework for understanding the imbrications of state, (racial) subject, and environment underwriting neoliberal environmentalism, it provides markedly less access to the materiality of riparian environments and fluvial dynamics. Building upon critiques of Foucault by Braun and Elden, this paper suggests a means of strengthening Foucauldian approaches to political ecological analysis by recuperating a concern for the *qualities* of territory that are traditionally treated as givens under the rubrics of biopolitics and governmentality.

2. Environment and Design II

Location: Student Center 205
Organizers: Eric Nost (Geography, Wisconsin-Madison) and Jairus Rossi (Geography, University of Louisville)
Chair: Jairus Rossi (Geography, University of Louisville)

Fueling Consent? Theorizing Spectacular Waste-to-Energy Infrastructure
Ingrid Behrsin (Geography, University of California Davis)

The Spittelau waste-to-energy (WTE) facility in Vienna, Austria burns 270,000 tons of municipal waste every year. The incineration, in turn, generates "renewable" electricity and heat for a nearby public hospital. The Spittelau incinerator, however, serves more than just an infrastructural purpose; it is also one of Vienna's most visited tourist sites due to its startling combination of form and function. Hundertwasser's whimsical motley motif blankets the facility's façade, and the building's iridescent blue smokestack, punctuated by a golden orb, reflects the city's skyline. This fantastical veneer contrasts starkly with banality of the refuse circulating within. Inspired by Spittelau's popularity among tourists, other municipalities worldwide have begun to commission spectacular designs for proposed WTE incinerators, some, allegedly, to promote local economic development. Drawing from literature

in environmental design, tourism, and governance studies, this paper explores the political ecology of waste-to-energy production, focusing particularly on the role of infrastructure aesthetics and spectacle. Ultimately, it aims to forward existing theoretical work on the ways in which spectacular constructions facilitate the production of consent in infrastructure development.

An Exploratory Study of Current Restoration Worldviews
Marissa Matsler (Urban Studies and Planning, Portland State University) and Sarah Kidd (Environment, Portland State University)

Ecological restoration is a process driven by human actions. There is active debate, however, in the field of restoration regarding the appropriate degree of human intervention in 'natural' ecosystems required to produce desired ecological outcomes from restoration projects. Within the restoration practitioner community, there is further disagreement regarding how these restoration interventions are tied to ecological theory. We utilize Q-method as an exploratory mixed methods approach to describe a variety of ecological worldviews found in the restoration community to better understand this contestation over appropriate restoration implementation. Over 50 restoration practitioners participated in our study during the Society for Ecological Restoration (SER) World Conference in 2013. Conducting the surveys at this biannual gathering allowed us to interact with restoration practitioners involved in all levels of on-the-ground restoration project implementation and management. Using Q-sorts and follow-up interviews, we identify the ways in which restoration practitioners prioritize contrasting ecological theory (in particular ecological succession and novel ecosystems), creating hybrid theories and frameworks to justify different restoration techniques; we also begin to understand how practitioners classify 'designed'/'man-made' nature vs. 'natural' nature by exploring their perceptions of the required human input/management/intervention in short-term and long-term maintenance of restoration projects. The continued professionalization of the field of restoration makes this a timely investigation. SER's development of a certification program will have an influence on restoration implementation around the world; standardization will impact the use of different management techniques and ecological theories. Our study's exploration of current ecological worldviews and theoretical perceptions will provide a basis for understanding how these new programs may align or conflict with current mindsets; organizations need to consider these perspectives, negotiating the associated values, assumptions, and ecological understandings that people hold. Such negotiations will be essential to the ongoing success of ecological restoration and management as the field continues to grow and mature in a changing world.

Climate machines: optimization in the era of resiliency
Eric Nost (Geography, University of Wisconsin-Madison)

Resilience is a way of describing individual and systemic capacity to deal with change, one that has proven a prolific though not uncontested design model across a number of fields, including ecological science, computer programming, and, in particular, climate adaptation. In this paper, I chart these three interwoven deployments of the concept to identify one reason why its use should continue to be questioned by political ecologists. They have made a number of criticisms of resilience as applied to environmental management: resilience abstracts from concrete socioecological relations in the hope of avoiding political "bias"; assumes a return to the status quo or equilibrium; conflates nature and society, ignoring important distinctions; legitimizes disaster and shock. These are valuable points, but I argue that key to resilience is the conceit that with the right information and tools individuals or communities will optimize themselves in relation to their surroundings. Resilience in this sense is not necessarily about a return to the status quo, nor is it the platitude that social well-being depends on environmental well-being, so much as it demands the most effective use of an environment or situation, no matter how distressing. In this way, optimization and resilience are not separate paradigms, as some have suggested; optimization is the goal of resilience. However, it is a vision that bears unrealistic and inhuman expectations about how individual and community knowledge can lead to climate adaptation. Dismantling such a vision would not be new to political ecologists, but it is a task that should be front and center.

From Deconstructive to Reconstructive Political Ecology: Futures by Design?
Damian White (Rhode Island School of Design)

Concrete speculative thinking about socio-ecological futures was once central to political ecology. Yet, as the field has become more sophisticated in its deconstructions of socionatures, it has had less and less to say about

reconstructive possibilities. Even some of the most promising contemporary attempts to think about futures, whether via historical geographical materialists and talk of "the democratic production of nature", or new materialist concerns with "cosmopolitics", are stemmed by a curious reticence to envisage institutional or material forms that might facilitate such understandings of politics. Indeed, it might be argued that the widespread fear in political ecology of discussing the future, fear of speaking for others and fear of making concrete propositions could well contribute to the current "post political" milleu that political ecologists (eg: Swyngedowu,2010) have otherwise railed against. This paper suggests one route forward may be opened up by excavating potential points of engagement between design, critical design studies and urban political ecology. Design has long been a space where speculative futures and prefigurative inquiries are actively welcomed. More radical currents of social design and design activism are additionally becoming tightly woven into multiple forms of urban ecological reconstructive praxis. This is also an alliance though which is not without dangers. Critical forms of design can potentially bring to political ecology a much needed materialization of its understanding of politics. However, design – even critical design currents - are easily colonized by neo-liberal imaginaries, anti-statist rhetoric, the cult of the entrepreneur/"creativity" and underpinned by Malthusian forms of catastrophism. A creative space might thus emerge from re/constructive critique and mutual learning.

3. Labor and the More-Than-Human

Location: Student Center 206
Organizer and Chair: Sophie Lewis (Geography, University of Manchester)

From natural capital to vital labor: towards a symbiopolitical ecology
Alyssa Battistoni (Political Science, Yale University)

Concern about the ecological destruction wrought by industrial capitalism has prompted efforts to assert the value of nature in economic terms. Nature must no longer be treated as a free amenity to be taken for granted, but priced and integrated into economic functions: "natural capital" needs to be added to the balance sheet of the global economy. Conceived of as natural capital, ecosystems are seen as productive assets in the manner of machinery, infrastructure, or financial instruments, and understood as self-organizing, self-renewing resources consisting of stocks that produce flows of goods and services that can be divided, bundled, circulated, managed, invested in, and accumulated. For all its claims to bring nature back into the economy, the framework of "natural capital" simultaneously reifies an anthropocentric view of an objectified, passive natural world organized to serve humans, and erases the role of both humans and nonhumans in the "work of nature." Resistance to this framework often rests on claims that nature is priceless and immeasurable, or too complex to be so crudely simplified. While sympathetic to these critiques, I argue for the need for new theoretical articulations of "nature" in terms of political economy. Instead of understanding "eco-economies" in terms of natural capital, therefore, I argue for understanding them in terms of hybrid labor. Extending the insights of feminist theories of labor, I articulate an expanded idea of labor that understands the "work of nature" as a collective, distributed undertaking of humans and nonhumans acting to (re)produce, (re)generate, restore, and renew each other and themselves—as well as to kill, degrade, destroy, decay—in the process of creating a world in which many species can live. I describe various forms of this labor, and suggest the implications for understandings of work, subjectivity, sociality, and solidarity, as well as for the way "nature" is studied and understood.

Synchronicity, Labor, and Ecological Politics: Temporality in Negri and Compositionism
Zachary Piso (Philosophy, Michigan State University)

Compositionism articulates the ontological conditions of the continual constructing and reconstructing of a shared world. While compositionism opens this reconstruction to agents formerly marginalized or rendered invisible, it simultaneously problematizes the distinctions that ordinarily admit of moral theory. Once we observe that all objects on our horizon participate in this reconstruction, and that all norms informing existing institutions were similarly constituted, we abandon the transcendental grounds that historically legitimize ethics. This has led some liberal-leaning theorists (see response to Chantal Mouffe below) to accuse compositionism of denying real politics. The task of this essay is three-fold. First, following Bruno Latour and Antonio Negri, I introduce the language of compositionism by locating its principle political project: the composing of a common world. Second, drawing on

Negri's Spinozan account of agency, I articulate the ontology of this political project: cooperation in the composing of a common world is properly temporal. Third, in reviving debates from environmental ethics, I begin to develop an ideal of synchronicity: interspecies cooperation in the composing of a common world must strive to realize a shared temporality.

Hybrid labors: humans and gators
Adam Keul (Geography, University of Connecticut)

Animal geographies are capable of blurring the binaries of human and non-human, but often do so at the cost of specificity. Despite the importance of recognizing physical and political differences between humans and non-humans, efforts to avoid anthropocentric functionalization of non-humans can ignore some of the specific experiences shared between the two groups. The performance of labor is one practice that may emerge from human political economic networks but is acted out in spaces and encounters where humans and non-humans share agency. Many animal geographies are similarly motivated to dissolve boundaries between people and animals, often by referencing hybridity. While Actor-Network-Theory and Cyborgs are useful ontologies for conceptualizing hybridity in our shared relationships, both have the epistemological problem of blurring the lines of agency so much that we cannot justify who or what has the power to effect these relationships. In this paper, I apply a contextual, experience-based hybridity during human and gator performances for swamp tours. This approach allows for the observation of 'workers' and can successfully complicate the notion that the performance of commodified labor is a uniquely human endeavor. Theorizing non-human performance via a labor theory of value is made possible by treating labor as a practice performed by embodied beings more generally. I illustrate this theoretical conjecture with research findings pertaining to the roles of alligators on swamp tours throughout the US South. In this context, alligators act as labor both by reacting to guides and tourists and, more specifically by responding and performing for food. I suggest that in many ways, alligators are the 'star of the show' positioned (at least) on par with the tour guide and therefore present an intriguing challenge to dualistic thinking about labor and nature.

Latour, Marx, and the Politics of Ecosocialism
Daniel Boscov-Ellen (Philosophy, New School for Social Research)

I begin by using the thought of Bruno Latour to question our "common-sense" view of nature, arguing that the insistence on creating a sharp and ahistorical division between human society and the rest of physical existence prevents us from producing a viable alternative to present forms of environmental exploitation and degradation. I then go on to interrogate Latour's own position from a heterodox Marxist perspective, highlighting both Latour's genuine insights and his shortcomings. I conclude by suggesting a way to negotiate what I characterize as the possible tension between the desire for democratization and inclusiveness beyond traditional humanist bounds, on the one hand, and the practical political exigencies of broad-based systemic transformation on the other.

Nature', Eco-Marxisms and the revolt against value
Sophie Lewis (Geography, University of Manchester)

In this paper I provide an overview of ecoMarxisms and tease out some paradoxes attributable to reluctance within the critique of value. Notwithstanding some unorthodox attempts at bringing nonhuman animals within the class relation (Perlo 2002; Dickens 2003; Hribal 2003), the nature-oriented current of Marxian thought fell short of animating the more-than-human. More recently, albeit in different fields, Haraway (2009) and Kosek (2013) have gone some way towards redressing this. My proposition is that combating capital's ongoing subsumption of life necessitates a realist more-than-human materialism capable of taking up the struggle to become persons. (The struggle is primarily ours; people's.) This more-than-humanism—which capitalist society has fostered as its gravedigger—will need to be armed with a politics of revolt against both the 'father' and the 'mother' of value. Rather than vindicating workers and as-yet-unvalorized 'environments', its task would be the undermining of the powers of both labour and nature. This communism suggests to me a movement abolishing not only 'the rationality of value' but also the societal centrality of production itself and production's core accompanying humanist ideology, nature. Far from announcing 'planning' as an antonym of capitalist economics and synonym for 'politics'—whose 'primacy' I also defend—the commoning process implied by the abandonment of the human-nature-value nexus would begin to undo the thick and turgid class-reproducing planning elaborated in neoliberalism. What, then, takes the place of value-rationality is, rather, life worth living. Politics perhaps can get us to this world in which production

(even unalienated) is not the fundament. And with the opening up of life through the destruction of capital comes the opportunity to determine, make, use and enjoy materials—which is subtly but importantly different to 'seizing control of the means of production' and—admitting that this were possible—thoroughly reorient towards use-value.

4. Water Governance and Management

Location: Student Center 211
Organizer: University of Kentucky Political Ecology Working Group
Chair: Chair: Jonghee Lee (Geography, University of Kentucky)

From Urban Cesspool to Nature's Kidneys: Wetland Restoration and the Work of Nature Along San Francisco's Industrial Waterfront
Lindsey Dillon (Geography, University of California Berkeley)

The paper explored the conversion of parts of San Francisco's industrialized waterfront into wetland habitats. Here, the "greening of brownfields" is not simply the conversion of industrial land to parks or open space, but the re-creation of salt marshes and tidelands which had characterized the Bay Area until those watery lands were diked and filled for the expanding needs of urban and industrial growth. Although these wetland projects are imagined as a restoration of the waterfront to a pre-industrial ecological space, my research foregrounds the ways they are in fact admixtures of persistent chemicals, synthetic liners, and methane diversion systems – all which are just as much part of these new wetland ecosystems as their marshy grasses and the daily inundation of the tides. The idea of these wetlands as restored nature therefore obscures their modernity. Constructed wetland habitats are also produced through multiple forms of human labor, including environmental justice campaigns for "green space" along the industrial waterfront, human health risk assessments and engineering work performed by multi-billion dollar corporations, and the constant plucking of non-native plants which maintain the notion of these wetland sites as pre-industrial natures. Foregrounding the synthetic materialities and multiple forms of human labor that constitute these postnatural wetlands can alter our ideas urban ecological life in the twenty-first century.

Affective Encounters: Water Politics and Practices in the American West
Kirsten Rudestam (Sociology, University of Califronia Santa Cruz)

Previous research suggests that one of the major impediments to attaining equitable and cooperative water governance is the failure to recognize the multiple and incommensurable meanings that people make of water (Linton 2010; Strang 2004). To this end, this my research explores how it is that meaning making practices are a powerful part of the production of multispecies waterscapes, as well as the knowledge produced about them. Drawing primarily from the fields of affect and science and technology studies, I demonstrate in my case study area, the Deschutes Basin of the Pacific Northwest, how meaning-making is not just an addendum to or a by-product of water politics, but an everyday practice that changes both human and more-than-human bodies and relationships. A primary goal of my research is to investigate that which exceeds categorization. In Deschutes water politics, irrigators, Warm Springs tribal members, fishermen, and environmentalists have all been relegated to specific stakeholder categories, with associated rights and agendas. These invocations of identity shape the formation of political subjectivities, designating what counts as legitimate in terms of water access, equity, and utilization. This research provides an alternative perspective – in it, I illustrate how water practices and water agents in the Deschutes can be considered socio-natural phenomena, contingent upon various encounters between landscape and salmon, rocks and real estate. I demonstrate how competing ideas about what the waterscape is and means have force in the world, shaping local landscapes and the relationships between people and place.

Land Tenure on a Fractionated Reservation: Patterns of Land Use/Land Cover on the Prairie Band Potawatomi Reservation, Great Plains, USA
Heidi Mehl (Geography, Kansas State University)

In the largely agricultural Great Plains region, watershed restoration often involves a series of conflicts and compromises between different stakeholder groups. Watershed restoration within the boundaries of a fractionated Indian reservation adds another level of jurisdictional complications and potential cultural conflicts. This is the situation being faced by the Prairie Band Potawatomi Nation in northeastern Kansas. Streams and wetlands are

valued by the tribe as important cultural and subsistence resources. However, their reservation is highly fractionated between allotment land, tribal trust land, and privately owned land, which has had a pronounced effect on land use/land cover (LULC) patterns that drive stream conditions. GIS analysis reveals that a majority of row-crop agriculture area is located on privately owned land within the reservation, as are a majority of major stream miles. The implication of these findings are that any tribal restoration program must be implemented with the cooperation of private landowners on the reservation, meaning compromises must be found between the goals of the tribe and those of private landowners. Interviews were conducted with members of the tribe, as well as those who own or farm land within the reservation, to determine what common goals exist and how implementation of best management practices (BMPs) may help fulfill the goals of both the tribe and private landowners.

Water Governance in São Paulo, the biggest urban center in Brazil
Alexandre Souza (Environmental Science, University São Paulo)

Governance became central in environmental management in Brazil since eighties. Water management laws have modified to encourage more social participation and a new territorial approach. Before, water management territoriality was political division, now it is river basin. In this context, studies have proposed a new territoriality necessity to water manager around São Paulo city in the São Paulo state. This new territoriality includes eight river committees which respond for water management on 180 municipalities with 30 million people living in urban centers. This area in Brazil responds for 16% of the population on 0,6% of territory producing 28% Brazilian GDP. In the Environmental Governance Lab of São Paulo University we observed three biggest river basins practices. Using governance and social learning approaches on ecological modernization environmental reform perspective we asked how the decision making processes has been happening and whether or not they create agreement face the diversity of interests and view point . Committees' debates occur between different interests from farmers, water companies' supply, industrial, environmentalists, public power and civil society. Different situations characterize each river basin committee. Alto Tietê's river basin conflict remains such as main characteristic; Médio Tietê and PCJ committees, different practices have built important agreements. They have reached enhanced quality and quantity of water and also they have a dynamic process creating continuously new practices.

Political economy of a cap and trade groundwater allocation system: the case of the Edwards Aquifer
Zachary Sugg (Geography, University of Arizona)

The full or over-allocation of surface water systems, historically permissive water rights doctrines, and the relatively low cost and high accessibility of groundwater have led to increasing pressure on aquifers around the world. Although the idea of tradable water rights is not new, the portability of a cap and trade market-based groundwater rights allocation system to large-scale aquifer governance and attendant physical and legal issues have not been well studied. The 1993 Edwards Aquifer Authority Act created a cap and trade system for groundwater allocation in the Edwards Aquifer in South Central Texas. Over 1.7 million people including two major metropolitan areas, San Antonio and Austin, and numerous farmers and rural landowners, rely heavily on the aquifer. This paper evaluates the performance of the program based on analysis of 14 years of trading activity records. This evaluation is couched in the conflicted political genesis and implementation of the Act, giving special attention to modifications of the land-based groundwater rights its creation brought about. It also considers the future regulatory implications of the most recent manifestation of conflict, the 2012 Day decision by the Texas Supreme Court which affirmed the doctrine of private land-based absolute "ownership" of groundwater. These recent legal developments may further jeopardize efforts to bring groundwater pumping to a level that maintains the health of the riparian ecosystems that depend on springflows from the aquifer. More broadly, the case study highlights persistent questions about the potential of tradable permit systems to resolve a classic common pool resource dilemma.

5. Water Governance and Water Security: Sources of Power in Water Politics II

Location: Student Center 228
Organizer and Chair: Laureen Elgert (Development Studies, Worcester Polytechnical Institute)

The role of communitarian water providers in peri-urban areas: the case of the water cooperatives of Cochabamba.
Francesca Minelli (Sociology, University of Glasgow)

In many cities of the global South, "municipal" providers supply water to affluent, central neighbourhoods while informal and/or peri-urban settlements have to resort to a multitude of different providers, be they private, communitarian, formal or informal. This reality pushes the debate beyond the public/private dichotomy by underlining the necessity to analyse the role of informal and communitarian providers (Bakker,2010). My research focuses on communitarian water providers— water systems that are that built and administered through neighbourhood self-organization—in peri-urban areas of the Cochabamba department, and specifically on water cooperatives . Cooperatives are one of the various kind of community-built water providers (specifically in the examined area, not all water cooperatives are communitarian) and they are characterised by their institutional form, defined and protected by the General Law of Cooperatives (2013). I aim to understand the role that that these organisations play in water service delivery in Cochabamba, analysing their continuously evolving relations with state institutions at multiple levels, including municipal providers. This is done through the analysis of a series of in-depth interviews with presidents of water cooperatives and other key actors. Specifically, I engage with the cooperatives' perceptions of state intervention (or lack thereof), as well as on their desires regarding the role of the state. Preliminary results reveal instances of collaboration and conflict which underline issues related to power relations and popular participation. I identify an underlying tension between the need for a greater state intervention and the desire of water cooperatives to protect their autonomy from State authority interferences.
Bakker, K. (2010) Privatizing Water: Governance Failure and the World's Urban Water Crisis, Cornell University Press, Ithaca, NY.

Agricultural water sustainability and social equity impacts of groundwater intensification in Mexico's premier wine region
Chantelise Pells (Geography, University of California Davis)

In this paper I argue that local level governance of groundwater resources contributes to social inequities in a rapidly developing wine region in northern Baja California, Mexico by creating resource access asymmetries that favor large-scale viticulture producers. Local governance of water resources is a product of government decentralization, a popular strategy promoted by international lending agencies and adopted by many less-developed nations to confront environmental sustainability, economic efficiency and social equity. Results from a household survey conducted in 2011 of groundwater users in Guadalupe Valley, Mexico (N=167) demonstrate that the local association favors the viticulture producers and has produced power asymmetries in the allocation of institutional knowledge and benefits. In addition, well survey data show that the large-scale viticulture producer's intensified groundwater use via deep wells precludes the small-scale user's access to good quality water. Viticulture irrigation and fertilization has contaminated the region's soil and water with excess salts and nitrates. The shallow wells of small-scale producers and water users are vulnerable to contaminated waters especially in the lower watershed. In sum, the sustainability of groundwater resources and agriculture system is jeopardized by the inefficiency of the local association to effectively and justly mediate groundwater consumption. As this case study shows, local governance of groundwater resources may require policy improvements that enable and secure greater representativity of the diversity of users and uses and to ensure long term groundwater productivity.

Human Security Dimensions of Dam Development: The Grand Ethiopian Renaissance DamWater Governance and Water Security: Sources of Power in Water Politics
Jennifer Veilleux (Geography, Oregon State University)

Large-scale dam development involves costs and benefits, whether potential or actual, to political, socio- cultural, economic, and environmental systems. Countries currently developing water resources through dam projects are doing so in response to existing poverty issues, coupled with pressures from increasing population and changes to

the climate, and, in specific, changes to water resources. This paper considers the human security dimensions of contemporary dam development of the Blue Nile River's Grand Ethiopian Renaissance Dam. Two scales of human security, national-level communities and local-level communities, were investigated through semi-structured interviews, field site visits, existing literature, and official documents and websites. Analysis of the collected data found that dam development has far- reaching impacts to include changes to existing political, socio-cultural, economic and environmental systems. These changes include providing a political symbol of national modernity, power, and identity; providing employment and economic development through hydro-electricity generation; providing a buffer against climate changes to water resources; but also altering and destroying traditional lifestyles and local level identity as well as altering and potentially destroying ecosystems at national and local resources levels. The type of human security risk reduction or amplification changes according to the scale considered.

Forced Adaptation? The micro-politics of environmental displacement in the Okavango Delta, Botswana
Jamie Shinn (Geography, Penn State)

Increasing environmental variability associated with global climate change is expected to produce social instability and human displacement in future decades. At the same time, researchers and policy makers routinely identify migration as one potential adaptation strategy. This raises questions about understandings of displacement and migration within an era of climate change. This paper investigates processes of displacement, migration, and adaptation through a case study from the Okavango Delta, Botswana (OD). The OD is a dynamic wetland landscape characterized by temporally and spatially variable floods. However, annual floods in 2009, 2010, and 2011 were higher than in recent decades and spatially distinct from previous flooding regimes. In some villages, these floods permanently displaced residents. This paper reports findings from qualitative interviews conducted during May-June 2011 in one such village, Etsha 13. Between 2009-2011, the Government of Botswana permanently relocated hundreds of residents to a nearby dry land area, arguing that new settlement patterns were needed to reduce risks within the secondary floodplain. However, many residents depend upon livelihoods oriented around wetland resources and did not want to be relocated. This paper explores the micro-politics of the relocation, focusing on competing responses to increased flooding between the state and residents. Etsha 13 serves as an example of implications of environmental variability for people across sub-Saharan Africa, and highlights the importance of understanding the micro-politics behind displacement and migration. We conclude that environmental displacement and migration resulting from climate change must be understood not only as ecologically generated, but also socio-politically produced.

6. Panel Session: Citizenship, Identity, Knowledge, and the Anthropocene

Location: Student Center 230
Organizers: Jennifer L. Rice (Geography, University of Georgia) and Kate Derickson (Geography, University of Minnesota)

The Antropocence, beyond marking a new geological epoch dominated by the influence of humans, also signals the emergence of complex socio-environmental problems that cannot be understood or addressed through any one epistemology. The interactions between environmental change, industrial capitalism, and neoliberal policy produce an astonishing array of experiences and inequalities, most of which are marginalized in dominant modes of political debate. At the same time, current efforts to address socio-environmental challenges, like climate change, have been characterized as "post-political" because of broad consensus regarding technocratic governance and a systematic failure to engage with the fundamental moral, ethical, and economic dimensions of capitalist societies and their relation to nature. This panel considers what engaged, inclusive, and democratic forms of citizenship and identity—built in direct opposition to mainstream science and politics—look like in the Anthropocene. Panelists will discuss questions of what it means to "know" the environment, as well as specific approaches for opening up new pathways of participation and influence by multiple counter publics to imagine what might constitute a just social formation in the Anthropocene.

Panelists:
Jessica Barnes, Assistant Professor, University of South Carolina
Brian Burke, Post-Doctoral Researcher, University of Georgia

Kate Derickson, Assistant Professor, University of Minnesota
Mary Lawhon, Lecturer, University of Pretoria
Jennifer Rice, Assistant Professor, University of Georgia

7. Race, Gender, and Environmental Justice in the US South

Location: Student Center 231
Organizer: University of Kentucky Political Ecology Working Group
Chair: Andrew Ashley (Geography, University of Kentucky)

Environmental Justice and the Politics of Embodied Exposure: Anti-Toxics Activism in Institute, West Virginia
Allyssa Sobey (Geography/ Women & Gender Studies, West Virginia University)

On December 2, 1984 a lethal cloud of Methyl Isocyanate (MIC) - a key chemical ingredient used to manufacture agricultural pesticides- leaked from a Union Carbide plant in Bhopal, India. While the Bhopal disaster captured global headlines and sparked transnational anti-toxics and environmental justice movements, the largest production and storage facility for MIC in the world was located in the Institute Industrial Park- just a few miles west of Charleston, West Virginia. Situated within a predominantly African American community, the Institute Industrial Park had been producing noxious chemicals to manufacture pesticides since the early 1960s. The Bhopal disaster reinvigorated a local anti-toxics group in Institute- People Concerned About MIC (PCMIC) - that was able to successfully eradicate MIC from the Institute plant. Rooted in discussions of scale, environmental justice and locational conflict literatures, and the role of complex structural processes, this paper explores the geographic context through which PCMIC activists form and frame their grievances. Through an examination of protest materials and public documents published by PCMIC, as well as key informant interviews, I describe how activists interpret their positions within the chemical valley of WV and how these individual motivational frameworks compare with those of the activist group, PCMIC.

"Modern man set about to put a bridle on the roaring, plunging wild river:" The Hawks Nest Project and the Tragedy of Development.
William Hunter (Geography, Cultural Resource Analysts, Inc.)

The Hawks Nest Development, a large scale hydroelectric project in Fayette County, West Virginia, was self-consciously modern in its scope, scale, method of execution and aesthetic style. The project was part of a larger movement of bringing modernity to the rural hinterlands, "a systematic, rational and scientifically planned marriage of nature, technology, capital and human labor intended to reshape an iconic physical environment" in service of development and industrial production. The construction of engineering marvels such as the Hawk Nest Development has historically exacted a human toll, and it is intimately tied to the highly contested histories of the "Hawks Nest Tragedy," which resulted in the premature death of as many as 764 workers, many of whom were African-American migrants from the Deep South. Over time, their deaths have been largely forgotten and the resulting socio-natural industrial environment has become naturalized, in part because of its enormous scale, although the entire landscape of the New-Kanawha valley remains a fundamentally cultural artifact. This paper explores how the sum of the extant material and natural characteristics that comprise the Hawks Nest Development clearly convey the scope and ambition of the engineering project, its relationship with the special physical environment of the place, and the even the significant events and patterns of events now absent or hidden from the landscape: the role of the workers, many of who suffered grave health effects from their work on the project. The outstanding engineering achievement of the project and its reworking of a vast hydraulic system in the service of industrial development challenges historians, resource managers and state agencies responsible for the interpretation, commemoration and management of this massive socio-natural imbroglio to account for the human costs and large scale ecological transformation now hidden in the seemingly natural environment of the New River Gorge.

Women's Roles in Resistance Movements in Appalachia
Gabby Gillespie (Social Responsibility and Sustainable Communities, Western Kentucky University)

Storytelling plays an important role in Appalachian communities, however the public narratives we ordinarily hear are imbued with stereotypes and misconceptions. Such distortions perpetuate the image of expendability of the

people and remove roadblocks for industries attempting to access the natural resources of the region. Visitors, scholars, filmmakers, journalists and the like have both embraced the stereotypes and attempted to replace them with romanticized images. Many stories, such as those featuring women leaders, have been marginalized. Women of Appalachia have played a pivotal in the movements to end destruction and social injustices occurring in the coalfields. Whether in the mines, on the picket lines, or in the hollers singing the songs of change, women greatly impacted the movements for social justice in the coalfields. Many stories of coal mining and other industry in Appalachia highlight the work done by men, but women were equal partners in resistance, and were often found on the frontlines of movement work. This thesis examines women's roles in resistance movements in the region, including their work in coal mining unions.

Politicizing Superfund: Citizens Views of the North Birmingham Project
William Holt (Sociology/Law, Birmingham-Southern College)

This paper examines local citizens' views about the US EPA's role in the North Birmingham Superfund Site. After speculators discovered large deposits of coal and iron ore in the Jones Valley area, the Elyton Land Company developed the city of Birmingham, Alabama in the 1870's. Unlike pre-antebellum cities of the American South, Birmingham developed as an industrial city with absente leadership held by steel and banking interests. Birmingham's steel industry played off race and class divides in the Jim Crow South. By the early 1960's the American Civil Rights movement exploded in Birmingham. By the 1970's the American steel industry began to collapse due to globalization pressures. While Birmingham redeveloped the city's economy around medical and health-based industries, many of these older industrial neighborhoods never recovered. In the late 1980's through RCRA, the US EPA began environmental testing in what would become the North Birmingham Superfund Site today. Drawing on political ecological approaches to this issue, this study involves a survey of 150 citizens about their attitudes towards the US EPA and Superfund in general as well as specific remediation efforts in this site. The study helps explain how local citizens understand the EPA's work on Superfund projects.

8. The Anthropocene and Transdisciplinary Projects and Learning

Location: Student Center 249
Organizer and Chair: Kathleen Smythe (History, Xavier University)

Using Environmental Ethics to Teach an Interdisciplinary Approach to the Anthropocene
Zev Trachtenberg (Philosophy, University of Oklahoma)

The teaching of Environmental Ethics provides an appropriate setting for the presentation of interdisciplinary work on the environment. In any course on the topic students need some grounding in natural and social science, in order to understand the material linkages between social systems and their physical settings. But a course I am teaching uses the Anthropocene, as seen from four disciplinary perspectives (geoscience, ecology, anthropology, and political science), to thematize the interrelation between nature and society at the conceptual level. A key position in Environmental Ethics has been that nature has "intrinsic" value, independent of the good it does for human beings—a view that rests on the conceptual distinction between nature and society. But that distinction is discredited by the Anthropocene proposal in geoscience, and related research programs other fields, which jointly convey an emerging interdisciplinary understanding of the pervasive and longstanding influence human beings have had on their physical environment. In learning how putatively "natural" landscapes have been shaped by human activity students will learn about a challenge to the idea that nature has intrinsic value. And that raises the central philosophical questions of the course. If we are not morally constrained by nature's intrinsic value, does it follow that human activity in the environment is not subject to moral norms? If norms do apply, what are they, and how are they to be justified? And, can the ideas presented by the variety of approaches to the Anthropocene fruitfully inform our ethical thinking?

Recovering Ecology's Civic Aspirations: Can We Write an Ecological Narrative for the City?
John Fairfield (History, Xavier University)

As many of the older cities of the United States lose population, wealth, and power, no compelling narrative has emerged to define a future and a strategy for these cities. The narrative of the creative class, in largely ignoring

the tangible sector, misses the crucial role of innovation in the use of energy and other natural resources in the rise and fall of cities. Our thinking about the future of cities should reflect a deeper appreciation of their dependence on natural processes and materials. But the narratives we have inherited, including ecological narratives, tend to treat nature as something quite apart from cities. Drawing on a variety of disciplinary sources, this paper explores ecology's civic aspirations in an attempt to provide a foundation for our rethinking of the future of cities.

Engaging Future Vulnerability and Adaptation Using Landscape-scale Iterative Scenario-Building
Daniel Murphy (Anthropology, University of Cincinnati)

Landscapes and communities in rural areas of the United States are already facing considerable impacts from anthropogenic climate change including altered fire regimes, more intense and prolonged drought, loss of snowpack, disease outbreaks, and numerous other hazardous threats. A key component of rural adaptation is the assessment of both ecological and social vulnerability. The research featured in this presentation describes an innovative interdisciplinary methodological technique for assessing future climate change vulnerability and adaptive capacity called Landscape-scale, Iterative Scenario-Buiding (LISB). This method was conducted in three diverse settings across the rural United States: 1)Big Hole Valley (Montana) 2) Grand County (Colorado) and 3) Appalachian communities of southeast Ohio. Comparison of the three case study sites demonstrates a number of beneficial elements to this methodology. Ultimately, we argue that by embracing a broader notion of socio-ecological systems that includes a deeper appreciation of political dynamics, locally situated knowledge, and uncertainty, researchers and communities can navigate the complex futures that climate change presents.

Rethinking Humanity in the Anthropocene: Evolution, History and Global Climate Change
Kathleen Smythe (History, Xavier University)

Scientists and humanists are now referring to our current era as the Anthropocene, acknowledging that humans have become geological actors on the order of plate tectonics and tsunamis. As part of a book length project in which I seek the transdisciplinary answer to the question: "How the hell did we get to this point?" this paper builds on the view that the Anthropocene is defined by the intersection of history and geological time (particularly the Pleistocene and Holocene). This paper examines the implications of that intersection, including the fact that the disciplinary foundations as well as scales of time differ significantly and require reconciling. The focus is on the importance of species history for illuminating both our human capacities for narrative and meaning and for global dominance through technology and reproduction.

Facilitating Human Sustainability in the Anthropocene through Transdisciplinarity
Earon Davis (Transdisciplinary, Indiana University)

Our culture has sought to conquer and subordinate the natural world to meet our social needs and our appetite for what is new and improved. Over time, through the increasing use of specialization and compartmentalization, this has evolved our cultural frame of reference and re-defined our "reality." Today, through our omnipresent communications systems, we focus on what we know today and what is promised for tomorrow. Downplayed, almost hidden, is what we don't know. The dominance of our consumerist "feeding frenzy" social "reality," fueled by popular culture and media, functionally hides what we don't know. More than that, there is an almost "shunned" role for those who challenge the uniqueness and essential omniscience of humanity. This creates a systemic dissonance that prevents our culture from properly facing our role in the anthrogenic ecological crises that threaten our world. Specialization and complexity present opportunities for humans to distinguish ourselves without needing to conquer armies or bring everyone to our way of thinking. Yet, they can undermine the larger wisdom and vision paths that have traditionally kept human societies sufficiently flexible and adaptive in the face of challenges that require basic cultural change. Transdisciplinarity holds promise for re-aggregating our knowledge into a base sufficiently holistic to inform broader vision and to engender wisdom. This paper will explore some of the ways in which our specialized social orders have dampened the human survival instinct and, instead, cultivated over-stressed lifestyles, disconnection from our natural world, and self-destructive impulsivity. It also discusses possible solutions.

9. *Guarda Bosques*: Film Screening and Q&A with Filmmaker and Community Organizer Simon Sedillo

Location: Student Center, Center Theatre
Organizer: University of Kentucky Political Ecology Working Group
"Guarda Bosques" (Forest Keepers) 45 min. 2013

On April 15th 2011, when organized crime thugs teamed up with the logging industry and different government agencies to pillage precious and sacred forests at gun-point, the indigenous Purepecha community of Cheran, Michoacan, Mexico rose up with sticks, rocks, and bottle rockets against what can only be described as their local narco-government. Since then, they have taken the authorities offices, weapons, and pick-up trucks, ousted all political parties and all local and state police, and have re-established a traditional form of self-governance that includes its own council of elders, a community "police", known as a "ronda", and its own forest defense team, or forest keepers, known as the "Guarda Bosques."

10. Political Ecologies and Food Sovereignty: Food Sovereignty in the US Context

Location: White Hall Classroom Building 240
Organizer and Chair: Ian Werkheiser (Philosophy, Michigan State University)

Envisioning Food Sovereignty Through DIY Community Action
Patrick Gantert (Geography and Ethnic Studies, University of Colorado, Boulder)

The growing food justice movement seeking to reveal widespread food insecurity issues in our country has gained a solid foothold in recent years. Boulder, Colorado is on the front lines for much of the local, organic, and ethical foods initiatives and has one of the highest densities of health food stores in the country. Despite the apparent wealth in Boulder, the city is not immune to the problems of pervasive food insecurity. The current food system has disenfranchised upwards of 15,000 people living in Boulder County, leaving them without access to nutritional food. In response, a local non-profit called Boulder Food Rescue has developed a just-in-time bike powered model that redirects food "waste" from grocery stores and other establishments towards food insecure populations throughout the city. These efforts have promoted food sovereignty by offering an alternative to the current inequitable capitalist food system, and by challenging the charity-oriented models that only address the symptoms of food insecurity.

"I'm just a little nervous about our world": Food sovereignty among Rural Rustbelt Gardeners
Kate Darby (Environmental Studies, Allegheny College)

In the current U.S. milieu, "local food" evokes romanticized images that often fall into one of two categories: 1) an urban community garden that embraces ideals of communal food production as a salve for an assortment of ills including declining social capital, food insecurity and urban blight or 2) a system of small organic producers that provide their food through alternative marketing mechanisms such as CSAs and farmers markets. Very little attention has been given to the motivations of U.S. household gardeners as food provisioners. There has been little place in the discussion of local food production for individual households, and certainly not for low-income households in rural areas and small towns. In this paper, we examine ways in which household gardening provides a strategy for rural U.S. residents to address food security and, perhaps even, food sovereignty. We draw from ethnographic work, including surveys, interviews, and garden visits, with low-income household gardeners in rural, Western Pennsylvania. While our initial survey work suggests that these households grow their own food for many of the same reasons that popular discourse suggests (e.g. connecting to food sources, recreation, taste), our in-depth interviews suggest a stronger connection to food sovereignty values of self-sufficiency and independence from imposed food policies and practices. We suggest that the concept of food sovereignty may be useful in understanding the motivations of food provisioners in the U.S. who fall outside of the cultural and social space carved out by the local foods movement.

The Carrot IS the Stick! Potentials for a biopolitical approach in exploring US Food Sovereignty.
Kari Hicks (Geography, Indiana University)

Food sovereignty has rocked the developing world, taking under its activist umbrella the concerns of peasants, indigenous peoples, and marginalized populations. In recent years, food activists in the US have engaged with food sovereignty, raising questions about how to situate a movement that began as a peasant-based call to action within the Developed World. In the US, critical research on food movements by political ecologists has discovered discontinuities between food movements in reaching transformative potential. While some movements succeed in advocating lasting improvements to food sovereignty, many alternative food campaigns struggle to break away from neoliberal and market-based solutions for animating change. While the material power of politics and agro-business has been a well-documented source of suppression for the mobility of food activism, there remains a potential for exploring the role that discursive power relations and ideology play in this process. This presentation explores the potentials for a post-structural biopolitics approach to understanding expressions of food sovereignty activism in the United States, through unpacking the discursive layers of power-ridden knowledge production around food, the body, and the self, and how this approach offers new ways to understand the transformative potential of food sovereignty movements in a US context.

Awareness of Intersecting Barriers to Justice as Transformational Potential in Food Systems Organizing
Adán Martínez (Interdisciplinary, Yale School of Forestry and Environmental Studies)

Considerable scholarship attempts to situate the critique of the corporate food regime (McMichael 2009) on a spectrum from 'oppositional' (where the fundamental structures that perpetuate food injustice are contested) to 'alternative' (where the fundamental structures that perpetuate food injustice are not contested) (Holt-Giménez & Shattuck 2011, Schiavoni 2009, Fairbairn 2011, Alkon & Mares 2012, McClintock 2013). Given the political and cultural success of neoliberal capitalism, it make sense that much of the debate around oppositional or alternative practice is fixed on the role of the market, personal responsibility, and on contestations of the market as the site for food regime change (Padup 2008, Allen & Guthman 2006). Drawing on fourteen months of participant observation of food movement activism in Connecticut and New England at large (focused on the activities of the Connecticut Food Systems Alliance, Vermont Farm to Plate, and Food Solutions New England) and on 12 interviews with food movement leaders in Connecticut, I contend that by focusing attention on neoliberal subjectivities in aspirationally oppositional movements we run the risk of missing the role of economic justice in substantively contesting other structural barriers to justice, namely patriarchy and structural racial violence. Furthermore, I contend that the concern with social justice in Connecticut food systems activism is resulting in the transformation of individuals' understandings of structural injustice as state wide community building promotes confrontations of race, class, and gender based privilege and deprivation. Through transformative understanding of privilege and deprivation, alliances are built that have greater potential to use food systems activism to mount a substantive challenge to intersecting structural barriers to justice (Crenshaw 1991, Guinier and Torres 2003).

11. Risk, Vulnerability and Disaster

Location: White Hall Classroom Building 242
Organizer: University of Kentucky Political Ecology Working Group
Chair: Jackie Monge (Geography, University of Kentucky)

Uncovering Guyana's flood problems: Neoliberalism and a neglected coastal infrastructure
Enkeshi Thom (Sociology, University of Tennessee Knoxville)

Extreme rainfall in January 2005 triggered the worse "natural" disaster Guyana has seen within its recent history. A disaster it was indeed. However, especially in the post Katrina world, it has become increasingly evident that catastrophic flood disasters involve more than nature. Often what are experienced as natural disasters and the ways in which these experiences are felt by different populations, are a result of humans' interaction with the environment. Furthermore, The Great Flood of 2005, as it was called, cannot be separated from frequent minor flooding that threatens coastal life in Guyana every year, as the two forms are overwhelming linked in a deteriorated coastal infrastructure. Whether it is catastrophic or frequent minor inundations triggered by breaches in sea defense or usual amounts of rainfall, flooding is a constant and seemingly irresolvable issue for Guyana. In transforming Guyana's seventeenth and eighteenth century coast from in hospitable mud banks and marshes to sugar plantations, the colonial settlers of the regions created a flood hazard. After decades of struggle, in 1941

the colonial government passed the Drainage and Irrigation Act, which placed the responsibility for flood protection and coastal infrastructure management in the hands of the Guyanese state. From that period, the extent to which flooding was a problem in coastal Guyana depended on how state resources were allocated for the necessary works of maintenance and prevention. Flood protection and infrastructure management was maintained to a significant degree after 1941, but since the adaptation of neo-liberal policies in the 1980s, Guyana has seen a drastic deterioration in it coast environmental. At the time of the flood, canals were overflowing with rubbish and vegetation, kokers and pumps were malfunctioning and the sea defense wall was in a state of despair making it very difficult to drain water after a few hours, much less a few days of rainfall. Thus the Great Flood of 2005 demonstrated the post-colonial state's neglect of the coastal environmental management and flood protection. This paper employs a political ecology theoretical framework of analysis to discuss how the adaptation of neoliberal policies in Guyana over the past 30 years has resulted in a deteriorated coastal infrastructure which made possible the devastation of January 2005. I argue that reduced state spending, a limited workforce and a debilitated local government are the main factors that contribute to the ill-managed coastal infrastructure needed to protect against flooding.

Investigating Social and Environmental Vulnerabilities in Relation to Radioactive Contamination in Chelyabinsk Oblast, Russia
Rosibel Roman (Geography, Florida International University)

Numerous scholars of Russian social-environmental relationships have noted ongoing environmental risks posed by the 1957 Kyshtym nuclear accident which occurred at a nuclear processing plant in Chelyabinsk Oblast in what was then the Soviet Union. The existing literature also documents subsequent accidents and serious ongoing contamination which has persisted into the present day. The present preliminary study draws from environmental justice literature to frame questions about how socioeconomic conditions intersect with environmental and health risks affecting local communities living with radioactive contamination.

'We Are All Vulnerable': Understandings of Vulnerability and Risk in Santa Fe, Argentina
April Colette (Geography, University of Illinois at Urbana-Champaign)

Critical scholarship on vulnerability in the face of change has led to the development of indicators and methods for its measurement, emphasizing biophysical elements to assess exposure, evaluate impacts, and analyze risks. Yet, there is still much to be learned about how people exposed to climate stresses understand the causes of vulnerability. Asking why and how people understand themselves to be at risk is important to sensitize scholars to the ways in which the concept of vulnerability frames and shapes the effects of socio-political processes and climatic events in history, like floods. Responding to the challenge, this paper seeks to locate the point where, in practice, political preference, personal conviction or geographic location shape people's accounts of what vulnerability means, and what they do about it. Drawing on interview data from four neighborhoods in Santa Fe, Argentina – a city with a long history of flooding – this paper explores how the concepts of vulnerability and risk are conceptualized, framed and understood by citizens and state agents. By examining different neighborhoods' experiences of flooding, socio-economic standing, political organization and historical founding, I analyze how different places, experiences, statuses, and interactions with the state and state agents shape how people understand vulnerability, the actualities of loss, the capacities to recover, and the abilities to access resources. I argue that these understandings influence policy and practice and, in particular, have both day-to-day and extraordinary consequences for both citizens and state agents.

Locating drought coping strategies among border communities in Southeast Kenya
Maingi Solomon (Geography, West Virginia University)

This study examines the spatial and socioeconomic variations of drought coping strategies among border communities in Taveta, Kenya. Through the use of mixed methods, the study utilizes a political ecology approach to demonstrate the nature of spatial and socioeconomic differentiation in livelihoods and drought coping strategies in a dryland community in southern Kenya. The study results suggest that livelihoods are dynamic and change with broader shifts in livelihood. These changes reflect social processes and greater climatic uncertainty. It shows that access to certain types of livelihood capital such as natural capital is an important determinant of coping capacities. The study also provides evidence of the role of local and national institutions to show how these institutions mediate

differential access to different forms of capital on which coping is based. Such institutions may include both formal and informal arrangements that have a substantial influence on resource access and conflict mediation. The results of the study support the notion that approaches to disaster risk reduction (DRR) and climate change adaptation must take into account the diversity of local patterns of livelihood if they are to address the root causes of peoples' vulnerability.

12. Panel: From Silicon Valley to Mason-Dixon: Risk, Technology, and Discursive Narratives

Location: White Hall Classroom Building 244
Organizer: Jennifer Henderson (Science and Technology Studies, Virginia Tech)

This panel explores four geographies of risk and how dominant discourses of technological systems mask social inequity and environmental injustice. Jen Henderson analyzes how weather forecasters construct tornado risk, specifically through Tornado and Dixie Alleys. She argues that these maps displace underrepresented populations from risk discourse and reinforce incomplete frameworks for understanding population vulnerability. Consequences include gaps in governmental policies and instances of social injustice. Crystal Cook examines the risks associated with developing a single-sector economy. She focuses particularly on hinterland energy extractive communities in Appalachia but draws comparisons to monotowns globally. To contrast these risks, she outlines the factors that strengthen communities in a contemporary US context. Keith Johnson studies the material and discursive construction of Virginia's technology corridor by programs such as Accelerate Virginia and eCorridors. He makes visible the attendant risks of the underlying ideology of innovation as it clashes with local knowledges and practices, and seeks to expose the gendered, racist, and corporatist dimensions of these burgeoning relations. Travis L. Williams critically examines the narrative of 'clean industrialization' historically associated with Silicon Valley's high tech industry, in light of the industry's toxic manufacturing underbelly. Resisting common narratives that have often depicted high tech industrialization as exceptional vis-a-vis traditional modes of industrialization, he focuses on a historical case study of early grassroots environmental health movements in Silicon Valley that emerged in response to the documented exposure of workers and communities to industrial toxins.

Panelists and Topics:
Corporate Accountability and Environmental Health Movements in Silicon Valley
Travis Williams (Science & Technology Studies, Virginia Tech)
From Silicon Valley to the Mason-Dixon: Risk, Technology, and Alternate Discourses
Crystal Cook (Science & Technology Studies, Virginia Tech)

Southern Discomforts: Unpacking Virginia's Technology Corridor
Keith Johnson (Science & Technology Studies, Virginia Tech)

Geographies of Risk: Mapping Tornado and Dixie Alley
Jennifer Henderson (Science & Technology Studies, Virginia Tech)

13. Producing Race: On (and in) the Ground in North Carolina

Location: White Hall Classroom Building 246
Organizers: Co-organized by all session presenters

"Dirty" Work, "Dirty" Bodies: Hygiene, Institutional Racism, and the Potential of More-than-Human Political Lives
Mike Dimpfl (Geography, University of North Carolina at Chapel Hill)

On the University of North Carolina Chapel Hill's main campus (UNC), there are nearly 400 housekeepers charged with cleaning university buildings, including dormitory, classrooms, libraries, and cafeterias. Their work requires specific skills and tools to make spaces clean: elbow grease and institutional regulations combine with bleach, mops, vacuum cleaners, and rubber gloves to target the daily accumulation of dirt on bathrooms, showers, hallways, common areas, and shared kitchens. In the very same spaces, UNC's students clean their own bodies, eat, sleep and

socialize with peers. These labors differ in meaningful ways such that the efforts of the former are valorized and can preclude the safety and livelihood security of the latter. The uneven distribution of risk and benefit in the everyday practices of becoming clean are tied to the gendered, classed and racialized history of social reproductive labor, particularly in the U.S. south. The result is a problematic dual invisibility: dirt is swept and washed away just as housekeepers' bodies are denied presence, autonomy and security in institutional space. With preliminary data from field work that traces these divisions through the objects involved – the soaps, chemical surfactants, mops, hairbrushes, and hand-sanitizer that make it all possible – this presentation wonders after the benefit and risk of thinking about institutional racism through the non-human technologies that populate everyday life.

Racial Violence as Environmental Racism

Willie Wright (Geography, University of North Carolina-Chapel Hill)

Environmental racism is generally believed to be an immoral and illegal outsourcing of waste and toxins into poor and people of color communities. In this essay, I suggest we expand our understanding of environmental racism to include the use of ecological systems (i.e. trees, rivers, and gated communities) in facilitating and concealing physical acts (i.e. direct assaults) of racial violence. This approach to the study of the intersection of racial violence and nature relies, in part, upon an analysis of black writers who have written ecologies of lynching. A study of the present–day assault of black bodies that have infiltrated spaces racialized as 'white' emboldens this conception of environmental racism by bringing to question how black life (rather than contaminated land, air, and water) is considered a pollutant that threatens white life. I conclude with a discussion of why a reconfiguration of the descriptive boundaries of environmental racism is important to the environmental justice movement and its engagement with larger movements for racial justice.

On Remediation and Resolution: Collective Memory in Countering Environmental Racism

Pavithra Vasudevan (Geography, University of North Carolina-Chapel Hill)

Residents of those landscapes and places designated to contain waste often live amidst ongoing uncertainty and fear of toxic contamination. Toxicity and injustice linger, raising questions about the relationship of people to their proximate surroundings. What values are attached to the environment in areas that have or did contain waste? How are negative associations of waste negotiated, ignored, or transformed? This presentation explores the possibilities and limits of collective memory in the aftermath of environmental toxicity and social injustice. Warren County, North Carolina, is often proclaimed the birthplace of the modern environmental justice movement for its 1982 protests against the siting of a toxic landfill in their community. Though these efforts failed to block the landfill, two decades of resident organizing finally resulted in detoxification and the 120-acre property was deeded to the county in 2004. In 2012, the Warren County Environmental Action Team (W.C. E.A.T.), a diverse contingent of grassroots and county leaders, supportive researchers and activists, was formed to commemorate the 30th anniversary of the protests. Through the commemoration, local leaders sought to leverage this iconic history towards current social, environmental or economic development goals. Drawing on ethnographic fieldwork, this presentation focuses on the 30th anniversary commemoration of Warren County's iconic protests. As an attempt to re-center environmental justice locally as a narrative of black resistance, the commemoration actively countered color blind accounts of environmental justice. However, in proclaiming Warren County as a success story and exemplar of environmental justice, I suggest that the commemoration as collective memory-making failed to account for the complicated and ongoing ways that structural racism is interwoven with toxicity in residents' lives.

DOPE 2014: SATURDAY MARCH 1ST

Saturday Keynote Address
5:15 pm – 7:00 pm
Memorial Hall

Political Ecology and the End(s) of Critique
Bruce Braun (University of Minnesota)

For the past two decades political ecology has understood itself as a critical enterprise, revealing the social, political and economic forces shaping ecological change. But has the critical turn in nature-society studies run its course? In recent years, the field has been challenged by a new 'post-critical' vocabulary of 'enchantment', 'experimentation', and 'affirmation'. This talk examines what is at stake in this shift, investigates its promise and potential pitfalls, and asks what political ecology might be – and do -- in the age of the Anthropocene.

After Party
7:00 pm - 11:00 pm

Cash bar
Soundbar, 208 South Limestone Street

Dimensions of Political Ecology Conference 2014

Schedule Overview- Friday, February 28, 2014

Time/ Location	SC 113	SC 115	SC 205	SC 206	SC 211	SC 228	SC 230	SC 231	SC 249	Center Theater	Niles Gallery, Fine Arts Library
8:00-9:40											
	Food & Water Under a Rapidly Changing Global Climate	The Politics of Knowledge	PEs of Hydraulic Fracturing - Campus Edition	Transforming soils/Modeling futures	Productivism, agroecology, and the challenge of feeding the world	The Production and Negotiation of Landscape	The Politics of Measuring Harm	Landscapes of Enclosure and Uneven Development	PE Dimensions in Maritime Governance	Panel: Strategies for Teaching Social Justice	
10:00-11:40											
	Activist Engagement	The PE of Activism: 1	Finance and Forests: 1	PEs of Bordered Spaces: 1	Killer T-Cells to Global Biomics: 1	Rebel Landscapes: 1	Pluralizing the Approaches to Urban PE... : 1	Working PE: 1	Intersections of Critical Development Studies& PE	Panel: Reaching a wider audience	Perspectives in Ecomusicology
11:40-12:45	LUNCH (ON YOUR OWN)										
	MEET THE EDITOR: Journal of Political Ecology Student Center 115										
12:45:-2:40	**DOPE 2014 Plenary Panel** **Engaging Difference: Displacing the Subject in Political Ecology** **Student Center, Worsham Theater**										
3:00-4:40											
		The PE of Activism: 2	Finance and Forests: 2	PEs of Bordered Spaces: 2	Killer T-Cells to Global Biomics: 2	Rebel Landscapes: 2	Pluralizing the Approaches to Urban PE... : 2	Working PE: 2			**START TIME: 3:30** Interacting Bodies, Spaces and Voices
5:15-7:00	**KEYNOTE ADDRESS: Laura Pulido** **Environmental Racism as a Form of State-Sanctioned Racial Violence** **Memorial Hall**										
7:00-11:00	**OPENING RECEPTION** University of Kentucky Boone Center, 500 Rose Street										

Dimensions of Political Ecology Conference 2014

Schedule Overview- Saturday, March 1, 2014

Time/ Location	SC 203	SC 205	SC 206	SC 211	SC 228	SC 230	SC 231	SC 249	SC Center Theater	White Hall CB 240	White Hall CB 242	White Hall CB 244	White Hall CB 246
8:00-9:40													
	Knowledge, Agency, and Desire in Making the Urban	The Political Economy and Ecology of Coal Extraction: 1	Posthuman PE: 1	Geographies of Infrastructure 1	Ctrl +/- EARTH: 1	The Agrarian Question - the Original PE?	Undergrad. Symp: 1	Green Politics & Sustain'ty					
10:00-													
	Urban Land-Use and Food Sustainability	The Political Economy and Ecology of Coal Extraction: 2	Posthuman PE: 2	Geographies of Infrastructure 2	Ctrl +/- EARTH: 2	Local Foods Activism	Undergrad. Symp: 2	Environmental Ethics and Cultures of Extraction		PEs and Food Sovereignty: 1	Latent Destiny, Manifest Reversal: 1	Representing Disaster/ Producing Power: 1	Impact of Conservation in and Around Protected Areas: 1
11:40-1:00	LUNCH (ON YOUR OWN)												
1:00-2:40													
	Breaking Ground in Political Geology	Environment and Design: 1	PE & Environ'tal Sociology	Geographies of Infrastructure 3	Water Governance & Security: 1	Scholar/ Activist Panel		Whose Recovery?		PEs and Food Sovereignty: 2	Latent Destiny, Manifest Reversal: 2	Representing Disaster/ Producing Power: 2	Impact of Conservation in and Around Protected Areas: 2
3:00-4:40													
	Race, Nature and the State	Environment and Design: 2	Labor and the More-Than-Human	Water Governance & Management	Water Governance & Security: 2	Citizenship, Identity, Knowledge, & Anthropocene	Race, Gender, & Enrivon. Justice in the US South	Anthropocene & Transdisc. Projects and Learning	*Guarda Bosques*: Film Screening & Q&A with Simon Sedillo	PEs and Food Sovereignty: 3	Risk, Vulnerability and Disaster	Panel: From Silicon Valley to Mason-Dixon	Producing Race
5:15-7:00	**KEYNOTE ADDRESS: Bruce Braun** **Political Ecology and the End(s) of Critique** **Memorial Hall**												
7:00-11:00	**AFTER PARTY** Sound Bar, 208 South Linestone Street												

The Dimensions of Political Ecology Conference would not be possible without the generous support of our University of Kentucky sponsors:

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