Environment and Society Department

2013 Graduate Pre-Project Symposium

April 5, 2013
Welcome to the 2013 Symposium

A difficult challenge for most new researchers is learning how to convey complex, often unfamiliar ideas to a diverse audience of scholars in the space of a few minutes. Today’s event offers Environment and Society graduate students an opportunity to practice presenting their research at a scientific meeting. Rather than waiting for the thesis or dissertation defense, this symposium gives students a chance to present their ideas to an audience of peers and faculty at a time when they’re just beginning to focus on a researchable problem.

We will hear from 2 Ph.D. and 7 M.S. students who seek degrees in Geography, Human Dimensions of Ecosystem Science and Management (HDESM) or Recreation Resource Management. Each will describe how they propose to undertake the research that will form the basis for their thesis or dissertation. Some students are just beginning to determine how best to tackle their topic of interest. Others may have already started their research process, but still can benefit by further developing their ideas as influenced by the insights of their colleagues in the department, college, and university.

Comments and questions, then, are not only welcome but also necessary. Today is a venue for helping each other do the best science we can. The pace of presentations is rapid: each student has been asked to speak for no more than 15 minutes, leaving about four minutes for questions and suggestions. If you have an idea or question and don’t get a chance to raise the issue in the time allotted, please take advantage of the comment forms scattered around the room.

Also at this year’s symposium we’re introducing a new feature called Tweet Your Thesis: A Communications Challenge. Even experienced researchers who are practiced at giving talks to scholarly audiences can find it hard to explain complex research topics to non-scientist audiences. Just about every researcher has struggled at some point to help a relative or friend understand what they do and why. Often we have no more than a minute, maybe less, to capture the attention of people we'd like to know about our work. To test our skills in that realm, we’ve invited anyone associated with the ENVS Department to compose a “tweet” of their work. Participants have been challenged to submit a synopsis of a current research project, distilled into 140 characters or less (including spaces, no "tiny URLs" allowed). At the close of today’s symposium, see how well they did. Submissions will be judged on how well the participants encapsulated why their work was worth doing and what they’re learning.
Opening Coffee Social 8:45

Opening Remarks – Mark Brunson

SESSION 1: SOCIAL DIMENSIONS OF ENERGY AND CLIMATE CHANGE
9:10 – 9:30 Shelley Arnold (major professor: Joseph Tainter)

9:30 – 9:50 Blake Thomas (major professor: Roslynn Brain)

9:50- 10:10 Lisa Green (major professor: Claudia Radel)
“A Livelihoods Perspective on Climate Change Vulnerability in Calakmul, Mexico: Insights into Sources, Differentiation, and Extra-Local Connections”

10:10-10:30 Jamie Laatsch (major professor: Zhao Ma)
“US Forest Service Perspectives on Forest Management in a Changing Climate – Key Issues in the Intermountain West”

10:30-10:50 BREAK

SESSION 2: TOURISM AND RECREATION POLICY AND MANAGEMENT
10:50-11:10 Chase Lamborn (major professor: Robyn Ceuvorst)
“Exploring Visitor Attitudes toward the Great Canyonlands National Monument Proposal: A Survey in Utah’s Indian Creek Corridor”

11:10 – 11:30 Kevin Bennett (major professor: Steve Burr)
“Heritage Business: An Examination of the Relationship Between the Bear River Heritage Area and its Affiliated Businesses and Artisans”

11:30 - 11:50 Ben Sugar (major professor: Steve Burr)
“The Online Trails Toolbox for Utah: Application of a Capacity Development Model to Local Recreation Resource Development and Management”

LUNCH BREAK
SESSION 3: LANDSCAPE PERCEPTION AND CULTURAL PERSPECTIVES

1:00 – 1:20  Melissa Lambert (major professor: Ann Laudati)
“Old Roots: Place-Making and Hybrid Landscapes of Refugee Urban Farmers”

1:20 – 1:40  Voravee Chakreeyarat (major professor: Mark Brunson)
“Socio-Cultural and Environmental Influences on Wildfire Risk Perception and Risk Reduction Behavior”

1:40 – ??   TWEET YOUR THESIS: A COMMUNICATIONS CHALLENGE
ABSTRACTS

Shelley Arnold, M.S. HDESM
Major Professor: Dr. Joseph Tainter


The United States commercial aviation industry faces a significant energy problem in the near future. Energy return on investment (EROI) is declining for all fossil fuel sources including petroleum products like aviation kerosene. There are currently few alternatives of significant EROI that could possibly replace fossil fuels as a source of liquid fuel. One of the major consumers of liquid fossil fuels within the United States is the transportation sector. Within that sector between 15 and 18% of that fuel is used for aviation. Three main methods of adaption are used to address the concerns of declining EROI; substitute the current fuel source for one with a higher EROI, improve technology to increase efficiency, or three, adjust prices and subsidies to account for the decrease of profit. Alternatives such as Coal-to-liquid and Gas-to-liquid using the Fisher-Tropsch process along with alternatives such as jatropha, camelina, algae, and halophytes, are some possibilities the aviation industry is exploring and where research on EROI can be expanded. Along with focusing on the problem of energy supply directly, an analysis must be done that addresses increases in the efficiency of aviation technology over time. Technological developments can combat the effects of declining EROI, but only in the short term due to diminishing returns. Lastly, financial inquiries must be done that incorporates society and the effects of declining EROI within the United States showing price modification and subsidy increases over time.

Kevin Bennett, M.S. RRMG
Major Professor: Dr. Steve Burr

Heritage Business: An examination of the relationship between the Bear River Heritage Area and its affiliated businesses and artisans

Heritage areas are a growing part of the tourism. Simply put, heritage areas are a public/private consortium seeking to preserve heritage, promote tourism and generate economic development in the regions that they cover. In addition to historical places and events, an essential part of the draw to many heritage areas are the numerous privately owned
small businesses and artisans who are affiliated with the heritage area and are related to the region’s heritage in some way through their products and services. These so called “heritage businesses” enliven and preserve the area’s heritage and enrich the consumer’s experience while striving to make a profit. The purpose of this study is to gather data regarding the heritage businesses and artisans of the Bear River Heritage Area (BRHA), located in the Bear River watershed of northern Utah and southern Idaho. These businesses have been officially endorsed by the BRHA Council and are advertised in the heritage area’s published materials. The study will investigate the effectiveness of the BRHA’s advertising efforts, the willingness by the heritage businesses and artisans to financially contribute to the BRHA in the future, and whether or not a mutually beneficial social exchange relationship exists between the heritage businesses and the BRHA entity.

Voravee Chakreeyarat, Ph.D. HDESM
Major Professor: Dr. Mark Brunson

Socio-cultural and Environmental Influences on Wildfire Risk Perception and Risk Reduction Behavior

Wildfire risk perception is an important issue in private land management. It plays an important role on an individual land management decision to mitigate wildfire risk hazard. Critical factors affecting decisions may include socio-cultural background, demographic characteristics, and individual bio-physical setting of one’s property. Individual reaction to wildfire risk is influenced by the demographic and socio-cultural background as it interacts with the world views or values of each person. Individual bio-physical setting factors such as topography, vegetation cover, and proximity to fire-protection resources affect his responses and constrain risk management options in an area. These attributes are interactive and further inter-correlated across land owners. Understanding this complex issue will lead to more efficient risk communication strategies for influencing actual behaviors on private property. In this study, we provide an approach from a well-known structural equation model (SEM) to investigate wildfire land management decision preferences. A mail survey will be conducted in a multicultural location along the wildland-urban interface to obtain directional (regression path) and non-directional (correlations) and latent variables related to the three critical factors. Applying the Markov chain Monte Carlo (MCMC) technique to estimate model parameters in the SEM provides a comprehensive and insightful spatial correlation relevant to behavior intention to answer the following questions: How do these cultural, attitudinal, household, and property-level factors interact with risk reduction behavior? How does acceptability of practices used in wildfire risk reduction programs vary across a landscape? Which factor is the most likely to prevent acceptance in wildfire-prone area and why?
A livelihoods perspective on climate change vulnerability in Calakmul, Mexico: Insights into sources, differentiation, and extra-local connections

As evidenced by the presentation of the 2007 Nobel Peace Prize to the Intergovernmental Panel on Climate Change, human vulnerability to climate change is a pressing concern. Although a global issue, climate change vulnerability in rural areas of developing countries elicits special attention. Researchers discuss vulnerability in varied terms across policy contexts and research communities, leading to multiple attempts at conceptualization and a host of analytical frameworks. As a result of this multiplicity, several neglected and emerging questions exist in the vulnerability literature. Proposed research in Calakmul, Mexico will employ qualitative and quantitative methods informed by a livelihoods perspective to explore some of these questions. In-depth interviews and focus groups will be conducted in three ejidos (communities) from May to August 2013. Existing data from a 2010 household survey of 225 households across Calakmul will be quantitatively analyzed. Particular attention will be given to: 1) Key sources of perceived and experienced vulnerability; 2) Differentiation in vulnerability among communities, households, and individuals within households; and 3) How sources of vulnerability may be unbounded by geography. Ultimately, the proposed research will increase understanding of climate change vulnerability in Calakmul and provide information relevant to policy responses.

US Forest Service Perspectives on Forest Management in a Changing Climate – Key Issues in the Intermountain West

The U.S. Forest Service is facing unprecedented management challenges due to an ever-changing climate and uncertain future conditions. Especially in the Intermountain West, understanding managers’ perceptions of key issues like bark beetle outbreaks, fire management and aspen dieback will provide invaluable insight into the challenges they face. This research gathers the Forest Service perspective at multiple levels of the agency to reveal potential solutions and strategies of support that could greatly improve managers’ ability
to adapt and improve forest resilience to climate change. It also conducts key informant interviews with Forest Service personnel to shape the obstacles and potential keys to success that will be targeted in a multi-level management survey of the Forest Service in the Intermountain West. As climate change has become a top priority for forest managers in theory, their ability to implement adaptation plans has not improved due to a lack of specific policy or direction for on-the-ground action. However, this does not mean that managers are not already applying what they know about climate change into current practices, like managing for forest resilience. Despite a lack of specific national policy in regards to management for climate change, the U.S. Forest Service is finding ways to adapt through projects and strategies that they can incorporate into existing management plans. What they need now, to move forward and more effectively protect our national forests from threats like bark beetle outbreak and extended wildfire seasons, is support and direction to give them the “teeth” they need to fight back and make a real, positive impact.

Melissa Lambert, Ph.D. HDESM
Major Professor: Dr. Ann Laudati

OLD ROOTS: Place-Making and Hybrid Landscapes of Refugee Urban Farmers

Arriving as a refugee in a new place is an exercise in place-making in the new social and ecological worlds of resettlement. There is tension, for refugees, between the value of sustaining one’s original cultural landscape(s) and place attachment(s), and mastering the nuances of the new place and culture as quickly as possible in order to survive and thrive in a new environment. The complex cultural landscapes that result from this tension and the pursuant practices of place-making may reflect simultaneously, to varying degrees, both integration and resistance. The academic literature on refugees has focused primarily on the process of displacement and social integration, leaving a gap in our understanding of the agented place-making processes utilized by refugees, as well as a gap in our understanding of the ecological emplacement of refugees. This proposed research aims to examine the creation of new and hybrid cultural landscapes through the place-making strategies of refugees, using ethnographic techniques and the autotopographies of urban farmers in a local refugee community garden as a case study. It asks the question: How are both integration and resistance expressed in the social and ecological place-making strategies of refugees, and what sorts of hybrid landscapes result from these activities? The research will analyze how land—and not just the vision of it, but the working of it—can draw upon traditional geography-centered notions of physical landscapes and expand them to contain cultural landscapes, memoryscapes, and landscapes packed with hybridity. By making the research itself “emplaced” (in a refugee community garden and the places connected to it), the ground is laid for an examination of both social and ecological place-making techniques, and evaluation of the hybrid landscapes that emerge from these techniques—a garden and its crop hybridity, as well as hybrid social worlds.
In August of 2012, the Outdoor Industries Association (OIA) sent a letter to President Barack Obama asking him to designate the Greater Canyonlands National Monument (GCNM). This 1.4 million acre monument would surround Canyonlands National Park, and would include land from five Utah counties. The OIA’s goal is to preserve the landscape for quality outdoor recreation by decreasing the amount of off-highway vehicle use and eliminating the possibility of oil/gas drilling and mining. Because outdoor recreation is the driving factor of the GCNM proposal, we are surveying recreationists in the Indian Creek Corridor—an area within the boundaries of the proposed GCNM—to explore their attitudes toward the GCNM and the management of the area.

A decade ago, Governor Leavitt directed the establishment of an Olympic Legacy for Trails in Utah. One goal was to help local jurisdictions and non-governmental sponsors meet their goals for quality trail development. The creation of an online “Trails Toolbox” was a means to that end, by providing a site with relevant information and links to resources to help stakeholders develop and manage recreational trails statewide. Governor Herbert’s recently announced Outdoor Recreation Vision for Utah echoes the aims of the Olympic Legacy, and since many recreation activities depend on trails, the need for an online trail clearinghouse specific to Utah still exists. However, over the past ten years the Trails Toolbox has become outdated and nonfunctional, and is in need of a full rebuild.
This project will consist of creating a new Trails Toolbox via a Capacity Development (CD) approach, an applied theory of local empowerment with origins in international development. Its hallmarks include not just technical assistance, but content specific to local context, informed by local needs, and developed with direct participation from local stakeholders. CD models have been applied to many settings and purposes worldwide, but never to local/regional outdoor recreation in the U.S. In doing so here, the new Trails Toolbox site will be populated with content derived largely from semi-structured key informant interviews from past and present target end-users and other stakeholders of both the old website and the new Trails Toolbox. The former will generate useful feedback, while the latter will assess perceived needs going forward. In keeping with the CD approach, interview questions will be drafted with input from stakeholders interested in participatory research. The ultimate goal is a new online “trail-centric” resource for Utah communities and groups informed directly by their identified needs.

Blake Thomas, M.S. HDESM
Major Professor: Dr. Roslynn Brain

Renewable Energy Outreach and Cooperative Extension:
A Mixed-Methods Needs Assessment

A large-scale transition to renewable energy (RE) sources will be necessary as the issues of climate change and fossil fuel scarcity become more prevalent. RE sources are preferable to fossil fuels because they emit little to no pollution and are capable of regeneration. RE sources include, but are not limited to, biomass, water, geothermal, wind, and solar. Although RE remains to be a small portion of the United States’ energy portfolio, it has followed an upward trend in recent years. Cooperative Extension (CE) should play an integral role in the transition to RE on the local, state, and national level. The purpose of CE is to provide objective, research-based, and credible information to improve local communities. There is great opportunity for CE Agents to be experts in educating and assisting farmers, ranchers, and homeowners in transitioning their energy sources to RE technologies. This Plan A thesis will involve a two-part mixed-methods needs assessment to find the gaps and barriers in current CE RE programmatic efforts. A needs assessment will allow for CE to find its niche in RE education and implementation amidst various governmental entities and offer future directions for energy programs.