

# The Urban Ecology Research Lab Team



## Marina Alberti

*lab director; phd director; professor*

My research aims to understand the dynamics of cities as hybrid ecosystems. I am interested in the emergent properties of urbanizing regions resulting from the interaction between human and natural processes. I am particularly interested in understanding the complex mechanisms that control their resilience and innovation. Through empirical studies, simulation modeling, and scenario planning my research team collectively address four questions:

1. What interactions and mechanisms control urban ecosystem dynamic?
2. What qualities of urban ecosystems facilitate adaptation to unexpected change?
3. What elements generate opportunities for innovation towards resilience? And
4. What are the implications of this knowledge for urban design and planning?



## Julia Michalak

*phd candidate*

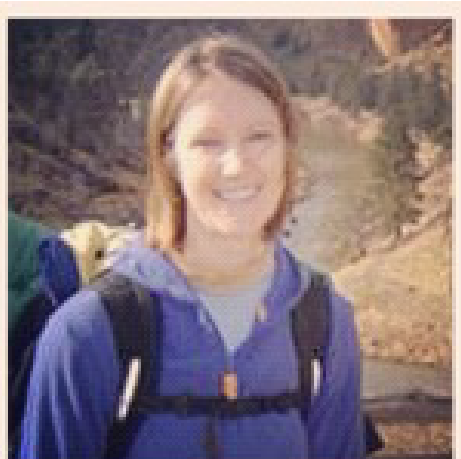
My current dissertation research investigates whether regeneration patterns and processes differ in urban versus non-urban landscapes, with a particular emphasis on regeneration stages controlled by animal communities. Specifically, I have investigated regeneration patterns by documenting the distribution and abundance of oak seedlings and saplings across an urban gradient, and differences in regeneration processes including acorn predation, dispersal, and germination between urban and non-urban oak woodlands.



## Mary Roderick

*phd student*

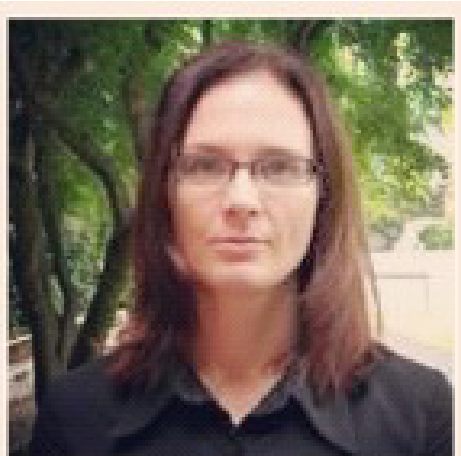
While broadly interested in the synthetic nature of social and ecological systems, she is specifically focused on water management issues. Water is the perfect litmus to measure the cumulative impacts of development, consumption/production, cultural values, engineering practices and policy decisions on ecosystem health at local and regional scales, as well as to assess our responses to these impacts.



## Karis Tenneson

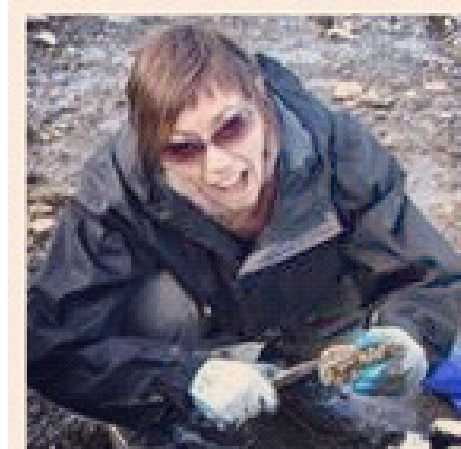
*phd candidate*

In coupled human-natural systems, vegetation simultaneously provides ecological function (i.e., carbon storage, rainwater interception) and human services (microclimate regulation, reduction of stormwater runoff). However plant communities are significantly altered by urbanization as development transforms and fragments natural cover and land management alters community composition. Forest structure, such as plant community composition and tree abundance, influences ecosystem functions and the provision of ecosystem services. We have learned a great deal about vegetation structure and function in urbanizing environments. Yet most studies have not fully integrated human-environment interactions or fully represent the heterogeneity of the urban landscape. I am interested in applying urban gradient analysis and conceptual frameworks from coupled human-natural system theory to better understand urban ecological dynamics.



## Jenni Partanen

*phd student*



## Daniele Spirandelli

*phd candidate*

My research interests involve three broad questions:  
1) What is known about the relationships between patterns of urban development, ecological integrity and human well-being in nearshore environments?  
2) What is the relative importance of land use, land cover, and wastewater infrastructure for nearshore conditions and shellfish habitat in an urbanizing region?  
3) When examining health risks that are elusive and mostly hidden from management efforts, such as non-point source pollution, are principles of complexity theory transformative to the contemporary risk assessment framework



## Yan Jiang

*phd candidate*

To apply GIS, remote sensing techniques and my statistical knowledge in landscape ecology research is really an enjoyable experience. I did multivariate analysis to predict parcel land development type by investigating parcel level land cover composition and looking into the neighbor parcel characteristics, which turned out a considerable accuracy. Currently, I am working on land cover classification accuracy assessment derived from LANDSAT TM time series data. I am a 5th year Ph.D. from China; I have a BS in Environmental Science and a MS in Landscape Ecology.



## Karen Dyson

*phd student*

Two objectives drive my research—conserving biodiversity in urbanizing and human-dominated landscapes, and re-connecting people to nature. My current research specifically addresses conservation opportunities and bird diversity on commercial land and focuses on four main questions:

1. What species live on commercial land? This includes office parks, corporate campuses, and other facilities zoned commercial or light industrial.
2. What landscaping practices or other variables impact bird diversity on commercial land?
3. What conservation techniques are used on commercial land?
4. Why are managers motivated to use conservation friendly landscaping practices? Theories include conservation adoption and visual preference.



## Jesse Sayles

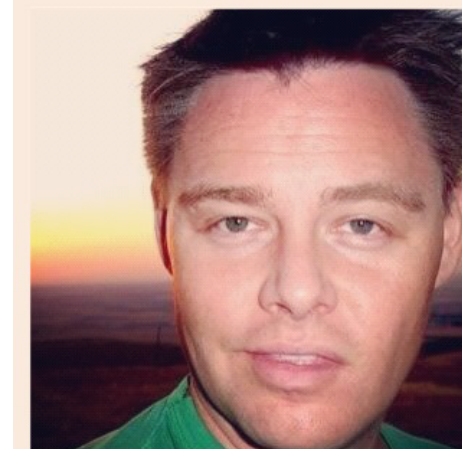
*phd student*

Why do we remake our world in the way that we do? What are the consequences? At a meta-level, these questions drive me. I explore them through environmental restoration, which I approach in a unique manner. We mourn the loss of opportunities once held in our landscapes and these opportunities are what we seek to restore. Seen like this, human society and culture become part of restoration. This view also makes restoration forward looking and part of adaptation. To better know our world, I try to learn from, and integrate, different types of human-environment traditions including geography, sustainability, resilience, and urban ecology.



## Sara Turrabian

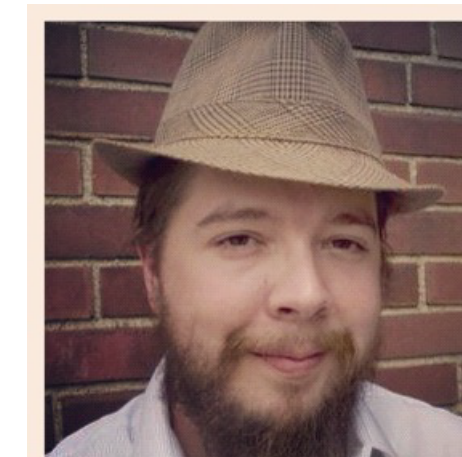
*phd student*



## J.D. Tovey

*phd student*

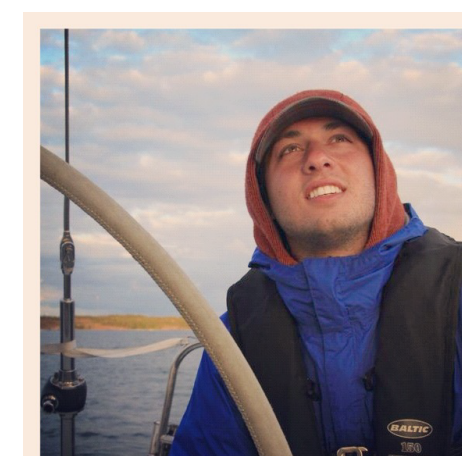
My research interest is in the long term cycles of resiliency by studying historical indigenous villages in the Columbia Basin and Traditional Ecological Knowledge and how that long term knowledge can be utilized for contemporary rural and small town development. My motivation for this research is partially influenced by my own background of growing up in a small farming community as well as being an enrolled member of the Cayuse and Joseph Band Nez Perce of Northeastern Oregon. I grew up seeing the disproportionate impact of development on small towns and its cultural and agricultural base as opposed to larger urban areas and truly believe that the flip side of improving the world's cities is to improve their surrounding rural areas.



## Matt Patterson

*phd student*

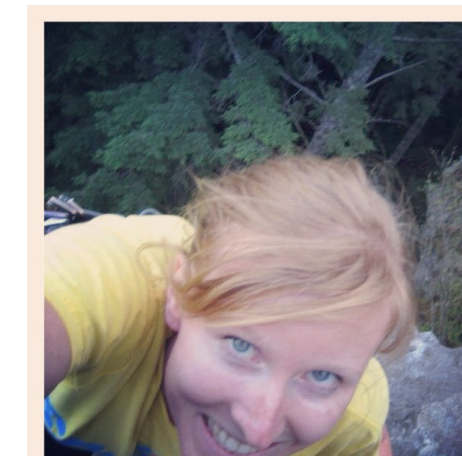
Matthew Patterson is a recent graduate of the School of Public and Environmental Affairs MSES/MPA program at Indiana University. While at SPEA he assembled a program on Urban Ecology, and has been a part of the Center for the study of Institutions, Populations, and Environmental Change. He will be pursuing his PhD in the Urban Ecology Research Laboratory, and is a recipient of the Hall-Ammerer-WRF fellowship at UW. His research thus far has focused on the interactions between people and urban forest ecosystems, with an emphasis on how management practices on single family residential parcels and institutions impact urban forest structure. He is currently planning to investigate the development of a suite of social-ecological assessment tools for policy makers in urban systems. The aim of this toolkit is provide policy makers with straightforward and cost-effective ways to measure socio-ecological outcomes within the systems they manage, in order to lead to more efficient policy development.



## Bobak Talebi

*masters student*

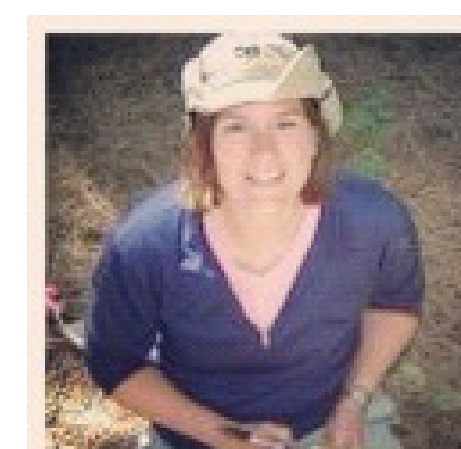
Bobak is completing a concurrent Masters degree in Urban Design and Planning, and Marine and Environmental Affairs. Prior to his matriculation at the University of Washington, he has worked in land use and shoreline planning for local and state agencies, in addition to his most recent experience with the San Francisco Bay National Estuarine Research Reserve Coastal Training Program. Bobak currently focuses on addressing the impacts of climate change, and is working with NOAA and Washington Sea Grant in developing social indicators for human well being in Puget Sound and California Current coastal communities.



## Maria Sandercock

*masters student*

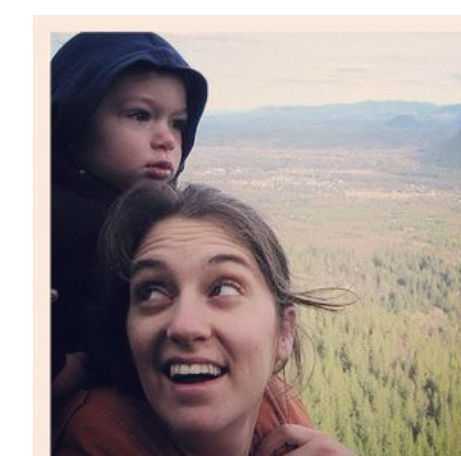
I am working towards two Masters' degrees at UW – a Master of Science in the School of Environmental and Forest Resources and a Master of Urban Planning in the College of the Built Environment. My research is focusing on the role of different patterns of urban development and infrastructure on stream health (as measured by the benthic index of biotic integrity).



## Tracy Fuentes

*phd student*

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## Michal Russo

*lab manager; research scientist*

I am interested in how diverse decision makers, at various scales, conceptualize urban ecosystems and how those partial worldviews come together to shape the emergent collective response (i.e. behavior, policy). I am broadly motivated by diversity, resilience, uncertainty and creativity..

## UERL Alumni

**Ahmed Al-Noubani**

Interdisciplinary PhD 2010

**Christina Avolio**

Interdisciplinary PhD 2003

**Jeremy Bunn**

*University of Washington*

**Bekkah Coburn**

Masters Urban Planning 2003

**Adrienne Greve**

Interdisciplinary PhD 2006

*California Polytechnic State University*

**Jeff Hepinstall - Cymerman**

postdoc 2003-2006

*University of Georgia*

**Michelle Kondo**

Interdisciplinary PhD 2007

**Debashis Mondal**

Interdisciplinary PhD 2007

*University of Chicago*

**Matthew Marsik**

Postdoc 2008 - 2010

*Natural Capital Project, NOAA*

**Vivek Shandas**

Interdisciplinary PhD 2006

*Portland State University*

**Steve Walters**

Postdoc 2006-2008

*UW, College of Forest Resources*

**Andrew Bjorn**

Interdisciplinary PhD - 2009

*O2 Planning + Design Inc., Alberta*

**Lucy Hutyra**

Postdoc 2008-2010

*Boston College*

**Elizabeth Larson**

Postdoc 2008-2010

*NASA*