



Adirondack Research Consortium

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22nd Annual Conference on the Adirondacks

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Program Outlines

Adirondack Diversity Advisory Council - Panel Bios

Dr. Donathan Brown, Panelist

Dr. Donathan L. Brown is Assistant Professor in Rhetoric and Communication Studies at Ithaca College. Dr. Brown specializes in Race and Public Policy, Race and the Supreme Court and Presidential and Political rhetoric. He is the Editor of the Journal of Race and Policy and lead or co-author of the books *When Race and Policy Collide: Contemporary Immigration Debates* and *Voting Rights Under Fire: The Continuing Struggle for People of Color*. Dr. Brown is a recipient of the Ithaca College Faculty Excellence Award.

Dr. Brown has presented research and delivered addresses around the world in conjunction with many universities and academic organizations. His research has appeared in the Harvard Journal of Hispanic Policy, the International Journal of Discrimination, the Journal of Race and Policy and many others.

When not teaching, researching or writing, Dr. Brown studies severe weather forecasting, the Fourth Amendment, listens to public radio, hikes the Adirondack High Peaks and watches collegiate football, basketball & track and field.

Paul Hai, Panelist

Paul B. Hai is Program Coordinator for the Northern Forest Institute of the State University of New York, College of Environmental Science and Forestry (SUNY-ESF). He is co-founder of Children in Nature, New York and serves on the Grassroots Leadership Team of the Children & Nature Network. Mr. Hai is a founding member of the Adirondack Diversity Advisory Council.

Paul is passionate about creating interdisciplinary programs using natural history, inquiry-based activities and outdoor experiences as the foundations for teaching the process of science, exploring the Adirondack experience, and for getting children outside. This commitment to using informal science education as a vehicle for reconnecting children to nature will form one of the key programmatic themes of NFI's new Adirondack Interpretive Center.

Mr. Hai and his wife, ecologist Stacy McNulty, Associate Director of the Adirondack Ecological Center, live and work in Newcomb with their two daughters. He first "visited" the Adirondacks at three-months old, returning with his family to camp on the islands of Lake George each summer for the next 14 years. In addition he spent 8 summers attending Adirondack Swim and Trip Camp on Jones Pond, an experience that took him by foot and paddle all over this region of mountains and lakes, and led him to decide the Adirondacks was the place he wanted to live.

Kelly Metzgar, Panelist

Kelly Metzgar is a Transgender, Lesbian, Gay, Bisexual, Gender Queer advocate, long-time resident of Saranac Lake and an avid Adirondack downhill skier and paddler. Ms. Metzgar is a regular speaker to a variety of local and regional colleges, religious and civic groups. She was part of a Saranac Lake based ecumenical group that produced a Tri-Lakes community based presentation on bullying, harassment and the NYS Dignity for All Students Act in January 2015. In February 2015 as a part of the same group she produced a second Tri-Lakes community presentation on Creating Resources for our LGBTQ Youth, Parents, Family and Friends. Ms. Metzgar is a frequent contributor to local and state wide news media organizations writing editorials on a variety of transgender related topics.

Ms. Metzgar has presented at numerous events, including a workshop on Transgender Advocacy at the 2015 Keystone Transgender Conference in Harrisburg and a workshop on Rural Transgender Healthcare in the Adirondacks at the 2015 Equity and Justice Day in Albany. It was through Ms. Metzgar's efforts and work with Adirondack Health that the Adirondack North Country now has a primary care physician working with the Transgender community. She also works with a team at Adirondack Health to create and present cultural competency and sensitivity training for hospital staff based in Saranac Lake. This training will next be presented at the Tupper Lake and Lake Placid Adirondack Health facilities.

Ms. Metzgar is currently involved in facilitating a Tri-Lakes LGBTQ Student Mixer open to all middle and senior high school students and is working to create a Tri-Lakes LGBTQ parent education and support group based on the PFLAG model.

Pete Nelson, ADAC Coordinator

Pete Nelson is a founder and current Coordinator for the Adirondack Diversity Advisory Council. Mr. Nelson has been involved in issues encompassing diversity, inclusion, social justice and equity for most of his life, from his involvement with the United Farm Workers in the 1970's through organizing and activism on tenant's rights on the South Side of Chicago in the 1980's, to numerous projects and work as a consultant and facilitator on diversity issues in corporate and educational settings.

Mr. Nelson is a college mathematics teacher and owns an entertainment business that specializes in circus arts. He is a life-long lover of the Adirondacks and plans to permanently relocate to the park in the fall of 2015. He writes a weekly column for the *Adirondack Almanack* and is an active freelance writer for various North Country publications including the *Adirondack Explorer* and *Adirondack Life*.

John Warren, Moderator

John Warren has been exploring the woods and waters of the Adirondacks for more than 40 years. After a career as a print journalist and documentary television producer he founded the popular online news journal *Adirondack Almanack* in 2005. Since 2010 he has provided Adirondack outdoor conditions reports for North Country Public Radio. John is also a media specialist at the New York State Writers Institute and a historian. He founded and edits The New York History Blog, and is the author of two books of regional history."

Through the *Adirondack Almanack*, John Warren's support and promotion of diversity and inclusion in the Adirondacks gave birth to the Adirondack Diversity Advisory Council. The *Adirondack Almanack* is an ADAC affiliate, hosts a monthly column on diversity and is a sponsor of the annual ADAC symposium, *Towards a More Diverse Adirondacks*.

The Booming Wellness Economy: Can it Be the Adirondack Community Economic Driver and Connector of the Future Born from its Rich Past?

The new wellness economy is a billion dollar industry - and growing. It appeals to younger generations interested in the wellness lifestyle and aging baby boomers seeking to be well. It is more than tourism and also involves target populations seeking healing care.

The Adirondacks, once famous the world over as a health destination because of its clean air and water, and the benefits of being in nature, are prime to once again become a major health destination as the new wellness economy includes outdoor recreation, arts and culture, health, food and tourism as essential components to developing destination “authentic experiences.”

Thus the new wellness economy presents an opportunity to bring a broad range of Adirondack industries together in a collaborative approach.

What is the new wellness economy? What are the trends? Can this be a major economic strategy for Adirondack communities?

Also, can wellness represent a new model for Adirondack community development - one that integrates several industries, connects planning and environmental protection? Can it represent a holistic approach to the Park economy and environment? Is it possible to develop the Adirondacks as a world recognized wellness destination as part of its brand?

How can the communities and the region move forward? Using the Adirondack Wellness Initiative as a case study we will examine these questions, challenges we face, and the great opportunity before us. But the time is now to act.

Neo-Homesteading in the Adirondack-North Country: Crafting a Durable Landscape

This study uses action research as a tool to presents an alternative model for reconstructing and promoting a resilient and durable rural landscape in the Adirondack-North Country of northern New York State. Standing in sharp contrast to traditional rural sustainability strategies that repeatedly focus on economic development or capital infusion as the sole means of revitalization, this research suggests a nested, bottom-up approach that capitalizes on the region’s diverse and burgeoning population of neo-homesteaders. This dissertation argues that, collectively, neo-homesteaders serve as an important catalyst in the construction of durable communities, and the promotion of working landscapes at the bioregional level.

Understanding that the Adirondack-North Country is home to a long tradition of homesteading, and a culture of self-sufficiency, this study begins with a historical overview of homesteading, followed by an examination of three emerging groups of neo-homesteaders: the young and enthusiastic Educated Agricurious; Techsteaders who rely on “green” technology to reduce their environmental impact; and Spiritual Homesteaders which include traditional agrarians such as the Amish. Collectively, these neo-homesteaders possess significant social capital, which contributes to the formation of durable communities through skill and knowledge transfer. These contributions, as well as specific innovations at the homestead level, are examined using ethnographic techniques, with specific innovations

documented for agricultural extension purposes in the author's forthcoming book, *The Woodland Homestead* (Storey Publishing, 2015).

Finally, this study concludes by linking the durable community paradigm with practice through the establishment of the Adirondack Center for Working Landscapes, an institute developed by the author using Participatory Action Research (PAR) to promote working landscape policies, teach practical skills related to neo-homesteading, and serve as an innovation and dialogue hub for bioregionally significant topics and initiatives.

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Student Research in the Adirondacks

Smith, Jesse^{1*}

Inter-reach Movements Of Brook Trout (*Salvelinus fontinalis*) In A Northern Adirondack Watershed.

This field study examined inter-reach movement of brook trout (*Salvelinus fontinalis*) between four reaches in the Smitty Creek Watershed in Franklin County, New York, during the fall season of 2014. The objectives of this study were to determine how many fish moved, the direction of their movement, and differences between age-0 fish and older fish. Brook trout were sampled in mid-September using a backpack electrofishing unit, and again in early November. All individuals sampled in September were given reach-specific fin-clips. Individuals sampled in November were examined for fin clips in order to determine movement and direction of movement. A considerable proportion of fish (n=130 of 186) sampled in November did not have identifiable fin-clips, indicating movement both in and out of reaches in a large percentage of individuals. Only small numbers of age-0 individuals (n=7) were found to have moved to a different reach, and all of these fish had moved upstream to lower-order reaches. These results suggest that a majority of the individuals moved based on the relatively large proportion of unmarked fish sampled and the low proportion of fish with fin-clips sampled in November. The amount of fish making these movements and the direction (upstream or downstream) of their movement could not be determined.

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Beguin, Samouel J.^{1*}, and Stacy A. McNulty²

Adirondack Boreal Wetland Soundscapes: Birds, Land Use, Roads, And Noise.

The Adirondack Park (New York, USA) is a vast protected landscape of public and private lands. Among the habitat types represented, Adirondack lowland boreal wetlands (bogs, fens, conifer swamps) are near the southern limit of their North American distribution. Boreal wetland birds are regionally

prioritized for conservation because they are threatened by climate change, exurban development, and other anthropogenic disturbance. We employed soundscape monitoring methods from May-July 2014 to examine how human activity and land use may influence biophony (higher frequency animal sound). We hypothesized that sites closer to major roads would have decreased biophony (mainly from bird vocalizations) and increased anthrophony (lower frequency mechanized noise) than secluded sites irrespective of land ownership. We compared six acoustic indices derived from 2,310 hours of digital recordings across 21 boreal wetland sites on both state and private lands and with varying distances to major roads. Anthrophony was higher and biophony lower at sites near major roads. The Normalized Difference Soundscape Index (NDSI) ratio of biophony to anthrophony ranged from 0.21 at sites near roads to 0.80 at secluded sites. A strong inverse relationship ($p < 0.0001$) between anthrophony and biophony was observed, suggesting a potential noise effect on bird communities. Acoustic indices were very similar on state and private lands. Truly boreal bird species such as *Perisoreus canadensis* (Gray Jay), though rare, were detected across study sites. No sites were immune from mechanized noise; overhead aircraft were heard even at remote sites. This study can inform Adirondack bird, wetland, and landscape conservation planning.

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Chloe Matillo, Paul Smith's College

A fine-scale examination of *Larix laricina* and *Picea mariana* abundances along gradients of belowground variables in an Adirondack peatland: Implications for species responses to climate change

Eastern larch (*Larix laricina*) (Du Roi) and black spruce (*Picea mariana*) (Mill.) are dominant conspecific tree species in open boreal wetlands in the northeastern United States. Little is known about the relative importance of fine-scale hydrologic and chemical factors that correlate with the relative abundances of these species where they co-occur. We collected pH, conductivity, depth to water table, variability in depth to water table, water temperature, variability in water temperature, dissolved oxygen, and inorganic and dissolved organic nitrogen concentration data, along transects in an Adirondack wetland, where Larch and Black spruce were the dominant tree species. We regressed stem abundances with univariate and multivariate habitat axes (developed using PCA). Larch stem abundance was strongly, negatively correlated with pH of the groundwater, with some additional variance explained by depth to groundwater (PC1). Black spruce stems were significantly negatively correlated with higher water temperature. PC2 included dissolved oxygen (% saturation) and the composite variable explained substantially less of the variance than did the univariate relationship alone. Nitrogen concentrations in the groundwater were not useful predictors of stem abundance in either species. Warming water temperatures, due to climate change, may have a negative impact on spruce abundances. Because northeast climate models predict a lowering of water tables in the growing season with increased winter precipitation, Larch may be less immediately affected by climate change.

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Poster Presentations

TITLE: A Hares Eye View to winter habitat use: fine-scale analysis of using 'runs' or going it alone

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ABSTRACT

Within snowshoe hare (*Lepus americanus*) winter habitat we commonly see tracks of a single animal, and pathways where single tracks cannot be distinguished because the path has been used many times as a 'runway' or a 'run'. We found little published scientific data about differences in fine-scale habitat along these two different types of tracks which might suggest reasons for their respective use. The use of runs may be related to browse availability or ease of rapid movement through dense cover to avoid predators. Alternatively, the packing of snow on runs should increase the ease of movement for terrestrial predators that have a higher footloads than the snowshoe hare which is well adapted to staying on top of unpacked snow. Using backtracking, in the winter of 2014, we conducted a preliminary field study to examine cover and browse characteristics with respect to these ideas. Specifically, we looked to see if there were differences in food availability, browse intensity, and horizontal and vertical cover characteristics along travel paths for animals traveling singly, compared to where runs had developed. We found that browse was no more available along runs than along single tracks and that browse opportunities are rare in winter habitat in general. Our preliminary study suggested that the frequency of slow or non-moving tracks of animals traveling singly are highest at a distance of 0.5m from protective horizontal cover, and those of faster moving animals are approximately 1m from cover. Along runs, the highest frequency of sampling points was at 1.5 m from protective cover, perhaps suggesting extremely fast movement through the habitat along those pathways. Surprisingly, single tracks in areas with an opening in the overstory tended to be approximately twice as far from a piece of horizontal cover (3.5 m) than in areas with more closed canopy, whereas animals traveling in runs tended to consistently be between 1 and 2m from a piece of protective horizontal cover regardless of vertical canopy cover. This pattern may suggest that hare traveling singly are venturing into less safe territory to search for food. Runs do not appear to be browse corridors.

Title: Assessing the Small Mammal Species Community Diversity and Abundance in Adirondack Bog Habitats

Presenter: **Lewis Lolya** (Paul Smith's College, Paul Smiths, NY llolya@s.paulsmiths.edu)

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Abstract: Small mammal communities in bogs in the northeastern United States have received little research attention. Small mammals are important drivers of ecosystem structure and function, and bogs are highly susceptible to climate change effects. The goal of our study was to develop a baseline understanding of the distribution and abundance of small mammals in bogs in the Adirondack Park in upstate NY, which is the southern range-edge of the boreal forest. Furthermore, we assessed the role of variation in the characteristics of individual bogs, including area and tree cover, in influencing small mammal communities. To meet these goals, we established pitfall traps along transects in 10 open bogs in the northern Adirondack Park in the fall of 2014. Each bog was sampled multiple times to account for temporal variation in captures, with a minimum of 120 traps established per site. Pitfalls were left for two nights prior to collection of samples. All captures were identified to species and standard morphometric measurements were taken. Tree density was assessed using basal area prisms. Area of the bog was determined using manual digitization of ortho-imagery. We captured a total of 248 small mammals consisting of 9 species. *Sorex cinereus* (Masked Shrews) were the most abundant, followed by *Microtus* (Voles) and *Synaptomys* (Lemmings). Small mammal species richness per site varied from 2 to 7. We found that species richness was significantly influenced by the density of trees ($P=0.021$, $R^2 = 0.447$) with a higher number of small mammal species found in bogs with a greater basal area of trees. When assessing the drivers of the abundance of individual species of small mammals, we found no significant relationship between the area of bog and patterns of abundance ($P>0.1$ for all tests). However, we did find a strong relationship between the abundance of bog lemmings and the density of trees, with more lemmings found in bogs with a greater basal area of trees as measured by mean prism count ($P=0.0019$, $R^2 = 0.68$). These results will serve as a baseline for continued monitoring of southern range-edge bogs in the face of climate change.

Exhibit Presentation

25 Years of Atmospheric Monitoring at Whiteface Mountain Observatory:

A Data Set Available for the Environmental Research Community

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Long term records of trace gas (O₃, NO, NO₂, NO_y, SO₂, CO) atmospheric constituents and standard meteorological parameters have been collected at the Whiteface Mountain Observatory in the Adirondack Mountains of northern New York. Built in 1971 by the Atmospheric Sciences Research Center (ASRC) of the University of Albany, the observatory sits atop Whiteface Mountain (44.366°N 73.903°W) at 1483 m above sea level. At this altitude, near the 850 mb pressure level, the bulk of the trace gases arrive from long range transport from regional sources. Analysis of the record has shown that local pollution rarely contaminates the summit sampling site.

Tropospheric ozone has been continuously monitored since 1973, with CO and oxides of nitrogen added to the monitoring program in 1988 followed by SO₂ in 1992. Beginning in 1989, trace gas and meteorological data were collected electronically at one minute intervals, then processed and stored as hourly averages. This data set spans a 25 year period as of the end of 2013, and is openly available to the research community for the period 1989 – 2014, with the most recent data added after processing and quality control. Two of these records, SO₂ and O₃ are shown here as examples of far range transport and local background respectively over the period of record. The remarkable decrease of SO₂ from an annual average of more than 1.2 ppbv to under 0.2 ppbv demonstrates the effectiveness of implemented regulatory emission control actions. Pollution roses using NCEP reanalysis wind direction for the grid box at Whiteface's summit show source direction and a general decrease over time. The O₃ annual peak is shifting from summer toward spring. The mechanism of this shift is not well understood, but can be interpreted as a transition to the natural O₃ cycle with anthropomorphic sources of O₃ precursors decreasing during summertime.

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**THE ASRC FALCONER SCIENCE/NATURAL HISTORY
SUMMER 2015 LECTURE SERIES
TUESDAY EVENINGS - 7:00 p.m.**

Free admission and open to the public
ASRC WHITEFACE FIELD STATION, 110 Marble Mountain Lane, Wilmington, NY 12997

July 7 Why So Cold?

Presentation by National Weather Service Meteorologist Conor Lahiff

This talk will highlight general weather across the North Country with a focus on winter weather patterns, including a review of this past winter. Also discussed will be teleconnections such as La Nina and El Nino and how they affect local and global weather and climate change.

July 21 New York State Mesonet Provides Critical Weather Data

Presentation by Dr. Jerald Botzge, Program Manager and Dr. Everette Joseph, Director of ASRC

The New York State Mesonet is a network of 125 weather stations to be deployed across the state by the end of 2016. Funded by FEMA, the network will measure air temperature, relative humidity, wind speed and direction, pressure, rainfall, solar radiation, and soil temperature and moisture at every site. In addition, 17 of the sites will also measure vertical profiles of wind, temperature and moisture, and another 20 sites will measure snow depth. The NYS Mesonet will collect these observations every five minutes, providing real-time, quality-controlled data to users statewide. These data will provide the aviation, ground transportation, energy, agriculture, and emergency management sectors with critical weather information for more accurate, more efficient decision-making. Dr. Jerry Brotzge, Program Director of the NYS Mesonet, will provide an overview of the system and describe how users of the data can be involved.

August 4 The Great Adirondack Moose Count. What is affecting moose across the continent and how do our moose fit in? Presentation by Ben Tabor NYS DEC Wildlife

Discussion of the current and future moose research plans in New York State. We will discuss the effort to estimate the moose population, health, and productivity. The moose project is an undertaking by several interest groups including but not limited to NYSDEC, SUNY-ESF, Cornell University, The Wildlife Conservation Society, Biodiversity Research Institute, and others.

August 18 Altitudinal Shifts of Adirondack Birds in Response to Climate Change?

Presentation by Dr. Jeremy J. Kirchman, Curator of Birds, New York State Museum

Animal species are expected to shift their geographic ranges toward the poles or up in elevation in response to ongoing climate warming. Many recent studies find evidence for latitudinal shifts from citizen-science projects such as the Breeding Bird Survey, or state-wide faunal atlases, but detecting altitudinal shifts with these data is more difficult. In an effort to directly measure altitudinal range shifts of forest-breeding bird species I have repeated a survey conducted 40 years ago along an altitudinal transect up Whiteface Mountain. I find evidence for uphill movement of most bird species over the last 40 years. In this lecture I will describe this study and also discuss others that indicate more changes are in store for the birds of the Adirondack high peaks.