

Celebrating
80 Years
of Adirondack Research

The SPRUCE MOOSE



A publication of the SUNY-ESF Adirondack Ecological Center

Winter 2012

Adirondack Climate Change Research

Adirondack
Interpretive Center
New Leadership – New Future

Adventures with AmeriCorps

Studying Bat Acoustics

Remembering Those Who Came Before

ON THIN ICE?

What lakes tell us about climate change

By Colin Beier

Although much has been said about “global warming,” it is unclear how climate is changing at local and regional levels and how those changes will affect ecosystems and human communities and the relationships between them. In the Adirondack region, which contains both temperate and boreal ecosystems, climate change might have significant impacts, presenting both challenges and opportunities. To better understand and adapt to these changes, we must first get a sense of what is happening and why.

To understand long-term change in the Adirondacks, the AEC maintains monitoring records that include observations of ice on five lakes on Huntington Wildlife Forest (HWF). Lake ice is an excellent indicator of climate conditions as well as changes in these conditions over time. In fact, much of what scientists initially reported about recent climate changes comes from the study of trends in lake ice. To see how the central Adirondacks have fared during this time, ESF faculty members John Stella, Martin Dovčiak, Stacy McNulty and I recently analyzed the HWF lake ice and local climate records. For the purposes of estimating trends, we focused on a continuous period of lake ice records beginning in 1975, though a few records date back to 1873 for Rich Lake.

All five lakes at HWF now have a significantly shorter period of ice cover than in 1975. The largest lakes decreased the most; Catlin, Rich and Wolf lakes each lost two to three weeks of ice. These trends reflect aver-

age changes, meaning there are still years with longer ice cover interspersed with years of shorter ice cover. We learned that most of the decrease in ice cover is due to later freeze-up, which used to occur in late November but is now as late as mid-December. Although HWF lakes are also thawing earlier, spring changes have been quite small by contrast.

We analyzed climate data from the HWF weather station to identify which factors, such as temperature and precipitation, and times of year were the most influential on lake ice. Temperature and snow depth during November and December strongly influenced the timing of lake closure (ice-in), while March and April temperatures and snow depth determined when the lake opened (ice-out). Over the last three decades, warming has occurred in each of these months but most strongly in December. Snow depth, however, has changed relatively little and actually increased slightly in the spring. Because snow insulates the ice cover on lakes, this may explain why ice is not breaking up much earlier in the spring while it is forming significantly later in the beginning of winter.

What are the implications of less lake ice throughout the Adirondacks? Changes in ice cover can affect a lake’s ecological processes and, in turn, its biodiversity and species composition. Recent studies of lake sediments in Arbutus and Wolf lakes by researchers at Queen’s University in Ontario, Canada, indicated that algae populations are changing in a way that is consistent with warmer

lake water. Brook trout and other native fish might become stressed by lowered oxygen concentrations caused by warming of lake water which could also encourage invasion of warm-water fish species. As a result, lake food webs could be highly sensitive to these physical and ecological changes.

The lakes at HWF tell a bigger story about conservation in the face of climate change. Wolf Lake and the rapid changes it has experienced over the last few decades point to the challenge that climate change poses even in the most protected and intact ecosystems. Wolf Lake has been named an Adirondack Heritage Lake because it contains no non-native fish species and has not been negatively impacted by acid rain. In addition, analysis of lake sediments indicates that plankton communities remain similar to those existing prior to European settlement.¹ Wolf Lake is within a mile of the High Peaks Wilderness and HWF staff manage the lake carefully to avoid species introductions and other stressors. Yet we cannot prevent a rapidly warming climate from taking a toll on Wolf Lake and its heritage ecosystem. We can, however, learn much from it in future studies and apply this knowledge to both protect Adirondack lakes and better adapt to the warmer climate of the future.

Colin Beier is a research ecologist at the AEC.

¹Stager, J.C. and T. Sanger. 2003. An Adirondack “Heritage Lake”. *Adirondack Journal of Environmental Studies* 10: 6-10.

Assessing Climate's Effect On Wetlands

Unique fens harbor species diversity

By Patrick Raney

Climate change has already had noticeable impacts on the earth's biota and these changes are expected to intensify this century. Much emphasis has been placed on understanding broader patterns and consequences of biodiversity change, especially for species with well-kept distribution records such as trees and birds. While these studies further our understanding of general patterns, they fail to address the consequences of climate change on rare species and biologically diverse areas.

Wetlands are well-recognized reservoirs of biodiversity. Among wetland types, fens (groundwater-fed wetlands) are incredibly diverse and support disproportionately high numbers of rare species. Because fens are fed by calcium-rich groundwater discharging to the land surface, plants must be adapted to unusually harsh conditions.

Previous evidence suggests groundwater discharging to these wetlands moderates temperature at the soil surface, thus buffering the effects of climate change. Many studies in temperate-zone fens report boreal species more typical of higher latitudes. Although in

the past fens served as refugia (places of refuge) for northerly species following gradual climate change, the susceptibility of rare fen communities to continued, rapid climate change is largely unknown.

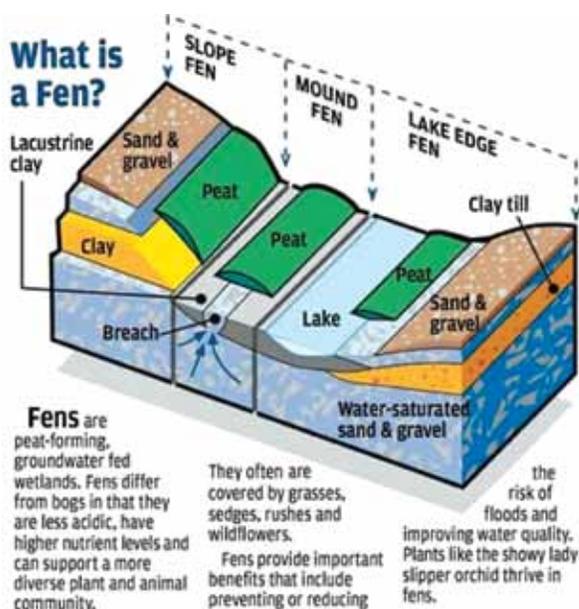
To describe the climatic susceptibility of rare plant communities and identify priorities for protection, I recorded soil and air temperature in 55 wetlands throughout New York state. By recording near-ground air and soil temperatures, we will be able to examine climatic conditions experienced by organisms (ranging from orchids to rattlesnakes). Sites in the study ranged in location from the Huntington Wildlife Forest to areas west of Rochester.

We will compare wetlands with little to no groundwater discharge to those with constant flow (in groundwater seeps). This approach will allow us to better understand how wetland plant communities will respond to temperature changes and to see how fens fit into the range of climatic variation present in wetlands.

The temperature network consisted of approximately 250 temperature sensors making this one of the most extensive studies of microclimatic conditions to date. Despite placement of sensors in saturated conditions (and learning waterproofing protocols essentially on the fly), sensors fared well with 78 percent working after months of deployment.

Already we are seeing differences of more than 4°C between wetlands and similarly large differences within a single wetland. In the coming months, we will examine how easily measured landscape properties, such as site elevation, latitude and solar radiation, influence temperature regimes within wetlands. Our goal is to apply the climate models to help conserve high-priority wetlands in the state.

Patrick Raney is a doctoral student in ESF's Department of Environmental and Forest Biology with Dr. Donald Leopold.



SOURCE: U.S. EPA, Jim Amon, Wright State University

STAFF



Pat Raney working in the field.

Mapping Adirondack Climate Change

By Dan Bishop

Climate change has become one of the leading issues facing society during the 21st century. It has proven extremely difficult to comprehend at local and regional levels where most research is done and policy decisions are made. In an effort to resolve local climatic features into a functional research tool, researchers at the AEC have been mapping changes in temperature and precipitation across the northeastern United States. After recently graduating from Cornell University's atmospheric science program, I joined Colin Beier's research team to study climate change in forested landscapes.

This past summer, working with Beier and Steve Signell at the AEC, I sought to resolve the differences between two gridded historical climate (GHC) products in the Northeast. These GHC products attempt to "fill in" the space between weather stations to produce continuous high-resolution maps of temperature and precipitation across a region.

In earlier work, Beier and his team ran trend analyses on the two products, producing a series of maps indicating the temperature changes across the Northeast between 1980 and 2009. Using these maps, they sought areas of trend agreement and disagreement. One of my tasks was to further examine these climate maps and their differences.

After mapping out our areas of interest, I estimated how landscape variables (such as elevation, terrain ruggedness and distance from the coast shoreline) were related to the trends observed in each map.

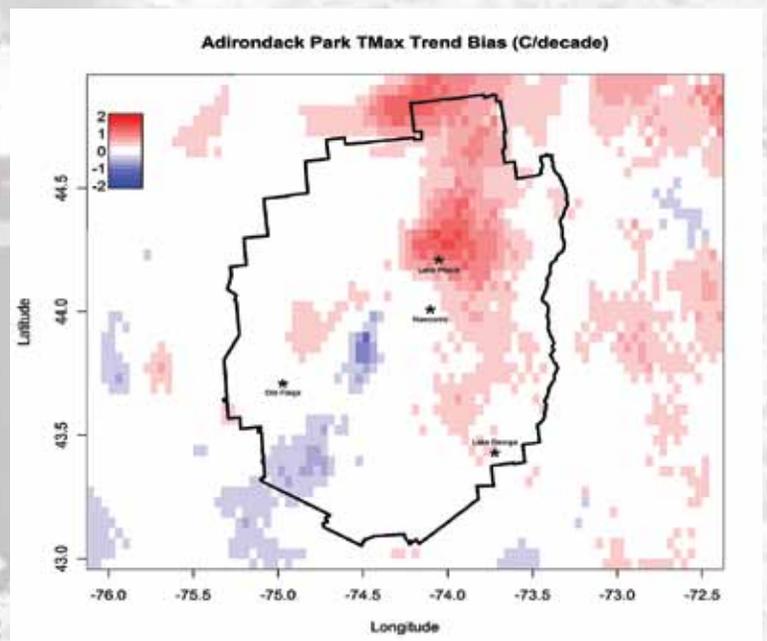
I found most of the map disagreement occurred in mountainous and coastal regions; there were large inconsistencies across the Adirondacks. This is expected, as these regions are the most difficult areas to model due to a lack of

weather stations across an area the size of Vermont and the complexity of local temperature and precipitation patterns in mountainous terrain. These areas also experienced some of the largest warming trends, leading to the question: which climate maps yield the most accurate conclusions?

For example, in the High Peaks region, one set of climate maps exhibits a rapid warming trend while the other shows no trend (see map below). Maps and GHC products can lead to conflicting or ineffective mitigation solutions. To help determine which set of maps is more accurate, we recently completed a validation analysis comparing weather station records and the predictions of each GHC product.

Our early results indicate that the High Peaks are indeed warming and very vulnerable to climate change. We anticipate these analyses will advance climate research and discussion about adaptation in the Adirondacks and northeastern US.

Dan Bishop is a master's degree candidate in the Department of Forest and Natural Resources Management at SUNY-ESF.



Average yearly simple difference between two GHC datasets for 1980-2009 mean maximum temperature trends in the Adirondack region. The darkest red and blue are areas where the two datasets disagree most.

Here's a sneak peek at AIC programs scheduled for 2012:



- The Natural History of Fly Fishing series. Monthly program includes Introduction to Rod Building; Rod Building Workshop; Fly Tying Workshop. Registration fee; spring 2012
- 1st Annual Loons and Logs Day! This daylong event will include hands-on programs about loons, logging, and log driving in the Adirondacks, an exploration of human and natural history tied to the waters of Huntington Wildlife Forest. The day will conclude with a surprise, fun and fundraising event for the whole family. Memorial Day weekend
- The Adirondacks in Mind: Join us for a series of intimate fireside discussions exploring the philosophical legacy and enduring influence of the Glenmore School and the impact the Adirondack landscape has had on American thought. Summer 2012
- The Leopold Legacy: A day of activities revolving around Aldo Leopold, a significant contributor to the modern conservation movement. Activities include a hands-on workshop building an iconic Leopold bench and a showing of the full-length documentary "Green Fire," followed by a conversation examining Leopold's life and legacy. Materials fee; July 21, 2012

Pre-registration is required for all programs; programs are free unless indicated. For more information on dates and times contact the AIC by phone at 518.582.2000 or by email at royer@esf.edu. See www.esf.edu/aic.



By Rebecca Oyer

I joined the team at SUNY-ESF's Adirondack Interpretive Center (AIC) in June. As the program manager, I handle the daily operations. On any given day you might find me walking the trails, making schedules, teaching, creating programs or using a guidebook to identify a wildflower. I have a bachelor's degree in English writing arts from SUNY Oswego and a master's in outdoor education from SUNY Cortland.

I am fascinated with the natural world—specifically the relationships within it and our human relationship with it—and love creating and delivering programs sharing the wonders of nature with others. I am committed to outdoor education as a tool to connect people with their environment. I am truly thankful to be in a field that allows for new learning experiences every day!

I spent the last four years living and working at a residential outdoor education center where I created programming that allowed me to spend most days in the woods teaching middle school students about the world around them.

I grew up in Rochester, N.Y., and have lived all over the state but ever since I heard my first loon wail I have been in love with the Adirondacks. I could not be happier that life has brought me here to live and work! When I'm not at the AIC, I love taking my 2-year-old, hyperactive dog on long walks through the woods and mountains, reading, nature journaling, spending time with my boyfriend and learning new hobbies—this winter I want to learn to quilt!

Rebecca Oyer can be reached at royer@esf.edu.

Meet Rebecca Oyer – New Program Manager at the AIC



The Spruce Moose is a publication of the Adirondack Ecological Center. The mission of the AEC is to provide an understanding of the Adirondack ecosystem through research. The AEC is located on Huntington Wildlife Forest, a 6,000-ha research facility in Newcomb, N.Y., operated by the SUNY College of Environmental Science and Forestry since 1932.

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Research Update

Each issue of the Spruce Moose highlights scientific studies taking place at Huntington Wildlife Forest and beyond its borders. Today, research based at the AEC is more collaborative and cross disciplinary than ever before, ranging from local to landscape scales and drawing on many faculty, scientists and students from ESF and institutions across the world. Here is a sampling of research projects.

Renewable Energy: The New York State Biofuels Roadmap funded by the N.Y. State Energy Research and Development Authority involved several ESF faculty who worked on multicriteria assessment of sustainability indicators for the roadmap and provided expertise on the Adirondack region. A related, key gap in our knowledge of biofuel sustainability concerns the tradeoffs between biomass production and the many ecosystem services provided by watersheds, including clean air and water, climate regulation, flood prevention and wildlife habitat. The Forest Ecosystem Services Toolkit (FEST) will be developed in collaboration with scientists at the Cary Institute for Ecosystem Studies and Hubbard Brook Experimental Forest in New Hampshire. FEST will provide the basis to incorporate ecosystem services and other metrics of sustainability into best management practices and forest certification standards.



For information on the Biofuels Roadmap please contact Tim Volk at tavolk@esf.edu; for FEST Colin Beier may be reached at cbeier@esf.edu.



Photo courtesy of Terry Sohl

Boreal Species: The Adirondacks are thought to be highly vulnerable to climate change because the region contains the southernmost extent of coniferous forest and is separate from similar boreal habitat in eastern Canada. The AEC collaborates with various partners from New York to Maine to study the ecology of rusty blackbirds and other understudied boreal-breeding birds. Other work is focused on understanding how American martens select forest stands within their home range and developing a habitat suitability model for northern New York (see the Summer 2009 Spruce Moose).

For information, contact Stacy McNulty at smcnulty@esf.edu.

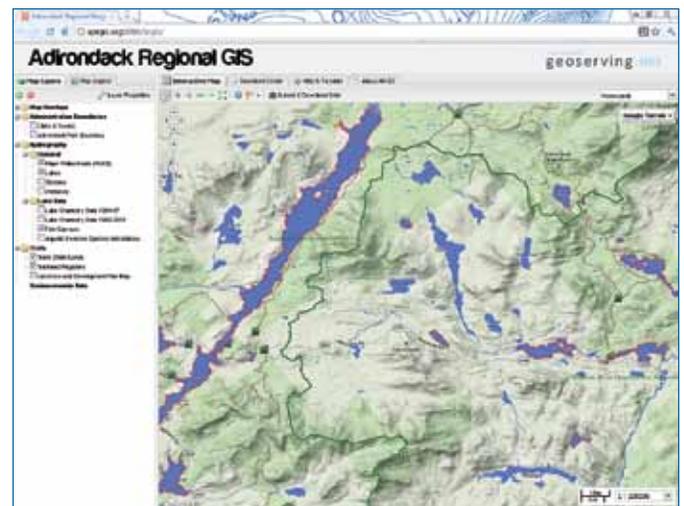
Informatics: Databases are invaluable to organize information and evaluate scientific questions. The Adirondack Park Regional GIS (APR-GIS) consortium, led by the AEC and supported by the New York State Department of Environmental Conservation, continues to work toward improving the spatial data infrastructure of the region. We have launched the Adirondack Regional Geographic Information System (ARGIS), a spatial data portal built using open-source software. ARGIS is designed to serve data that is authoritative, visualized, interactive and dynamic. The website is argis.org/argis.

ARGIS enables users to access spatial information from multiple agencies and organizations, explore data and create maps and tables without having to search the web for data or need special GIS software. We developed a Trail Registry Database and accompanying web interface that allows DEC personnel to log in and enter trail registry data online.

A next step is to update recreational facilities including lean-tos, campsites, boat launches, etc. This will facilitate more efficient allocation of resources to enable protection and enjoyment of public lands.

For information about ARGIS, please contact Steve Signell at ssignell@esf.edu.

Steve Signell is a research support specialist at the AEC.





White-breasted nuthatch

Links in the Chain: Calcium and Songbirds

By Jennifer Yantachka

Acid rain that fell on the Adirondack Mountains over the last half-century leached calcium from vulnerable forest soils. Calcium is needed for biological processes and may be limiting in some forest ecosystems. The effects of too little calcium may be seen all along the links in the food chain.

In a previous study, AEC ecologist Colin Beier found that snail communities are strongly shaped by the amount of available soil calcium. Snails use soil calcium for shell development and for general physiological maintenance such as growth and reproduction. Snails, in turn, are an important dietary component for breeding songbirds, which rely on local, calcium-rich prey to produce eggshells and healthy bone development in nestlings. I am working with Beier to investigate how calcium availability is affecting bird communities at the same 12 study sites at which he assessed snail communities. We hypothesized that there would be lower songbird abundance and diversity at sites with low calcium availability and low snail abundance.

I spent this past spring traveling around the Adirondack Park, conducting repeated, timed point counts of bird species seen and heard at the former snail study sites. I was assisted by Colin Swider, an undergraduate ESF student. We also deployed specialized bioacoustic recorders at each site for a full morning of recording twice throughout the summer.

Preliminary results suggest that some species, such as the eastern wood-pewee, red-breasted nuthatch, and blue jay, are sensitive to calcium. We will continue to analyze the data for relationships among underlying geology, soil calcium, acid rain, and bird diversity. If locations with high soil calcium levels support higher biodiversity, conservation and restoration efforts can prioritize calcium-rich areas with superior potential for resistance to and recovery from long-term acidification.

Jennifer Yantachka is a master's degree candidate in the EFB department of SUNY-ESF.

Gone Batty

Larisa Bishop-Boros (ESF '10), conducted an independent research project on bat acoustics at HWF through the Undergraduate Mentoring in Environmental Biology program (see the Winter 2010 issue of Inside ESF). Building upon that experience, she is now a master's student studying bats at Missouri State University.

Bishop-Boros studies the seasonal distribution of bats, including species whose populations have been decimated by wind turbines. The research team uses thermal infrared cameras to record bats exiting roosts. "It's magic to watch a tree with several hundred Indiana bats; they swoop out, circle back and tap the tree, looping and soaring in an intricate dance," Bishop-Boros said. This behavior is unique; the bats may be orienting or checking on offspring. The team also employs mist nets in Ozark caves and radio telemetry to capture and monitor bats. She tracked two telemetered little brown bats to a house with 2,000 bats.

With one field season over, Bishop-Boros said, "I'm confined to our batcave (a windowless lab) to run data analysis. I'll continue checking statewide detectors every two weeks for the next year." Her research will contribute to bat conservation at a critical time for populations impacted by white-nose syndrome, wind turbines and other causes.



Bat Health Crisis

Bats play a crucial role in the ecosystem by consuming insects, including hordes of mosquitoes and black flies that arise each spring. Recently, a wildlife health crisis in bats has caused their numbers to plummet, potentially affecting insect numbers and other ecological linkages. In winter 2006, hibernating bats with white muzzles, dead bats and bats that were behaving oddly were discovered in a cave near Albany, N.Y. Biologists later confirmed the problem was white-nose syndrome (WNS), caused by a fungus. WNS has killed more than five million hibernating bats since its discovery.

Students at AEC help quantify the effect of WNS on little brown bats by monitoring four locations that historically housed up to hundreds of bats each summer. For example, the woodshed at the faculty residence near Rich Lake was a large maternity roost with more than 200 bats; only 20 bats were counted during the 2010 emergence count. Hopefully these records will add to our understanding of the health of the bat population and local impact of WNS. For more information please see www.fws.gov/whitenosesyndrome/.

An American Dream, but Whose? Inquiry into the Adirondack Identity



By Marianne Patinelli-Dubay

The wilderness ideal handed down by 19th century philosophers and explorers like Bob Marshall and Ralph Waldo Emerson shows how the motivation to conserve and protect Adirondack open space is activated through meaningful experiences on the landscape. Action on behalf of the environment can be stimulated more broadly if we open up the discourse of our conservation initiatives and reintegrate other cultural experiences and narratives into the Adirondack identity.

ESF's Northern Forest Institute at the Newcomb Campus is committed to research, teaching and public outreach addressing a variety of regional social, cultural and philosophical conditions. My work includes gaining greater understanding of the interwoven historical, narrative and philosophical elements contributing to the demographic reality that the Adirondack Park population is 96 percent white, 3 percent African American, and 1.6 percent other¹. Some of the questions driving this work, and projects undertaken to gain greater insight into these questions, include the following:

How does adherence to one style of wilderness story silence or push into the background another more complicated story of African American communities in the North Country? This fall students visited Huntington Wildlife Forest with ESF's Office of Multicultural Affairs. We asked what "nature writing" might sound like for those who experienced the natural world with a history of violence inscribed onto their self-identities. This summer during the Northern Forest Film Forum, ESF students chose a film each week for its treatment of social and environmental justice issues. We spent the evening discussing these questions on national and global scales. I've also begun writing and speaking on these top-

ics in partnership with the John Brown Lives! Society and the North Country Underground Railroad Historical Association.

How does the kind of backgrounding that African American communities have experienced in the Adirondacks influence our modern Adirondack demographic? Much contemporary scholarship has been devoted to drawing connections between a history of violence against African American communities and present-day violence committed by and against members of these communities. This view plays out locally as a startling reality emerges from the 2000 census: the park's "nonwhite population of about 7,000 is mostly in the prison towns and made up largely of prisoners."² To begin to understand these connections, I participate in Reading and Discussion Series sponsored by the New York State Council for the Humanities. We'll look at "The American Dream" through readings on wilderness as a landscape of cultural privilege.

How does the absence of cultural diversity in the park impact regional conservation initiatives? ESF Professor Emeritus Chad Dawson conducted a survey of visitors to public land in the southeastern section of the Adirondack Park. Statistics show 90 percent of forest preserve visitors were white and less than 1 percent identified as African American.³ Who is advocating for wild landscapes and who will do so in the future? I am presenting on this topic via the Adirondack Research Consortium, the American Philosophical Practitioners Association and with ESF students and partner organizations at symposia throughout New York.

¹Jenkins, Jerry and Keal, The Adirondack Atlas: A Geographic Portrait of the Adirondack Park. (Bronx: Wildlife Conservaton Society, 2004) 113.

²Ibid.

³Brown, Phil. Adirondack Explorer (February 2011) 4.

Future plans include:

- Northern Forest Institute's Symposium on Land Use and Ethics (see the announcement on the back page)
- A symposium co-produced with the New York State Archives Partnership Trust and the Lake Placid Institute for the Humanities focused on how our wild Adirondack landscape has influenced regional art, philosophy, literature, music and spirituality
- Northern Lights: Luminaries in the Adirondacks, a lecture and discussion series focused on the Glenmore School of Cultural Science established in the Adirondacks in 1899 where visiting scholars discussed politics, philosophy and issues of social justice
- The Philosophy for Children curriculum in which students at Newcomb Central School will participate in a range of discussions including basic rules of discourse and argumentation and an introduction to environmental ethics
- A three-credit humanities course in support of advancement in regional education as part of the North Country Community College and the Newcomb Central School Bridge Program

Marianne Patinelli-Dubay is a philosopher at SUNY-ESF's Northern Forest Institute and can be reached at mpatinelli@esf.edu. Join the conversation at <http://www.facebook.com/ADKASAP> and follow us at <http://twitter.com/ADKphilosopher>

STORMY WEATHER

By Bruce Breitmeyer and Stacy McNulty

Across the country, 2011 was a rough year weatherwise. Here in the central Adirondacks, we started out with a snowy winter that quickly turned into a spring snowmelt not seen in some years. Streams and lakes along the Upper Hudson River swelled, causing major flooding, road closures and road damage. Some roads on HWF were not open until mid-July.

With spring floods still retreating, we entered a volatile period of repeated thunderstorms and heavy rain events. A storm on Friday, May 27, 2011, (Memorial Day weekend) lasting only 30 minutes was particularly damaging to Huntington Wildlife Forest. In addition to numerous trees being blown down across roads, 35 acres of northern hardwood forest were flattened between the northern flank of Goodnow Mountain and Route 28N. Because the blowdown was out of sight of both the Goodnow Mountain fire tower and the highway, the damage was not found until August. An HWF field crew had the task this summer of remeasuring 288 continuous forest inventory plots, one of which was in the

center of the blowdown. The stalwart crew completely remeasured the plot by crawling through the tangle of trees. ESF Forest Properties management staff have since mapped the blowdown area and have prepared for salvage of the timber by a contractor.

More events were yet to come. The 5.8 magnitude earthquake on Aug. 23 centered in Virginia was felt and recorded 450 miles away at HWF. Lamont-Doherty Earth Observatory at Columbia University installed a permanent seismic station at the AEC in 1987. Real-time data for station NCB are viewable at <http://alturl.com/u74xu>.

Sunday, Aug. 28, 2011, will long be remembered through much of the Northeast due to the devastation wrought by Hurricane/Tropical Storm Irene. Unlike many of the surrounding Adirondack communities, Newcomb did not see the worst of Irene, with just less than 3 inches of rain falling that day at the AEC's Atmospheric Monitoring Station. However, damaging winds downed many trees on HWF roads.

The past growing season was by far the wettest in the 70-year history of meteorological data-keeping. During the spring and summer of 2011, the HWF weather station received more than 8 inches of snow and rain during both April and May, setting new records. From March through Aug., precipitation totaled 40 inches - nearly double the 70-year average.

While extreme weather phenomena can be cyclical, last year's frequent and severe storms in the central Adirondacks definitely are not within the normal range of variability. It remains to be seen what Mother Nature has in store, but we will continue to monitor, record and interpret weather patterns and events at HWF.

Bruce Breitmeyer is the Adirondack forest property manager; Stacy McNulty is the AEC associate director.



Use your smartphone to view real-time seismic data

Look Familiar?

You might recognize a certain birch and rock on ESF's Goodnow Mountain trail in the September 2011 issue of National Geographic. In an article on the Adirondack Forest Preserve by Verlyn Klinkenborg, photographs by Michael Melford bring the splendor of the region to some 50 million readers worldwide. Go to: www.esf.edu/aec/tree



NATIONAL
GEOGRAPHIC



AmeriCorps lends a helping hand

By Nicole Wojcik

Last summer visitors to Newcomb might have spotted a crew of nine people dressed in gray and khaki working on trails or helping out at the town beach. I was part of that team of AmeriCorps National Civilian Community Corps (NCCC). We called ourselves NCCC or by our team name “Moose7.”

NCCC is a full-time, team-based residential program for men and women ages 18–24. The mission of NCCC is to strengthen communities and develop leaders through direct, team-based national and community service.

In Newcomb, we worked with SUNY-ESF, the town of Newcomb, the Department of Environmental Conservation and Open Space Institute. During six weeks in residence, Moose7 completed more than 2,100 hours of service. We built a fire ring, cleared brush and made public areas more useable.

One assignment was to build bridges on the Santanoni Preserve east of Huntington Wildlife Forest. One of the crew tried to avoid a frog and accidentally sat down in a puddle. Then, I slipped and fell into a



three-foot deep hole of my own. As I stood there dripping marsh water, I felt like a moose wading in for a watery lunch.

Our team worked in one of the most beautiful places on earth. The absence of modern society allowed the sounds of nature to be heard: the murmur of the brook, the rustling of the trees and the occasional yip of the coyote at night. We made our own fun: swimming, kayaking, bonfires on the beach, board games, and stories. Moose7 left our mark in the Adirondacks and the Adirondacks certainly left a mark on this moose!

Moose7 assisted communities in New York, Vermont, Delaware and Massachusetts during their service in 2011.

Editor’s note: The AEC gratefully acknowledges the significant work by two AmeriCorps crews stationed in Newcomb in 2011. For more information or to apply to AmeriCorps, visit www.americorps.gov.



The Adirondack Interpretive Center initiated a junior naturalists program this past summer. Three local high school students, Rebecca Marra, Erin Mackey and Erika Mackey, were the first to participate. With guidance from ESF intern Kristin Pasquino and AIC staff, the junior naturalists (JNs) spent their summer increasing their knowledge of natural history and honing field science and public speaking skills.

The JN schedule included time for research, flora/fauna identification, greeting guests and a shadowing program. For an hour a day, each JN pursued her own interests. Rebecca found joy in nature journaling and nature photography. Erin thrived with guest services and Erica also enjoyed greeting guests and nature journaling. Rebecca and Erica spent their last few weeks working with ESF students conducting undergraduate research in the field. Both students

expressed gratitude for the hands-on experience and want to pursue similar opportunities in the future.

The JNs’ summer efforts culminated with a public guided nature walk. After the walk, one participant had these kind words to say: “I had the great pleasure of learning from my three guides on a nature walk. They were open to questions, knowledgeable, well organized, and charming. I learned a lot, and corrected some mistaken ideas of my own.” Although the JNs aren’t sure what their future holds, they agree that they learned a lot and want to come back again next year!

Support for the junior naturalist program was provided by the Adirondack Park Institute and the National Science Foundation UMEB/URM program.

Junior Naturalists: Learning on the Trail

In Passing

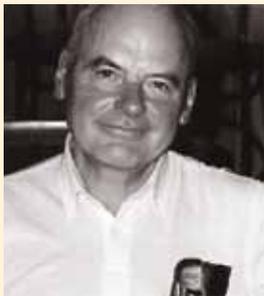
It is with a heavy heart we relay the loss of two eminent scientists who were instrumental to field research at Huntington Wildlife Forest. They are Dr. Donald Behrend and Dr. Earl Patric.

Dr. Donald Fraser Behrend

Dr. Donald Fraser Behrend passed away July 25, 2010. He began his service to SUNY-ESF in the early 1960s as a wildlife biologist at Huntington Wildlife Forest. In 1968, after spending a year as a wildlife biologist for the state of Maine, he became a senior research associate and director of the Adirondack Ecological Center, serving until 1973.

Dr. Behrend went on to serve on ESF's main campus as acting dean of graduate studies, assistant vice president for research programs and executive director of the Institute of Environmental Program Affairs before becoming vice president for academic affairs and professor for the environmental and forest biology program and graduate program in environmental science in 1979. In 1985, he relocated to Fairbanks, Alaska, to work for the University of Alaska statewide system. His wife of 52 years, Joan, passed away September 26, 2011. Their three sons spent their boyhoods at HWF.

Dr. Earl Patric



Dr. Earl "Pat" Patric passed away Sept. 10, 2011. Dr. Patric was the director of the Huntington Wildlife Forest from 1958 to 1967. Prior to that, he completed his master's degree on the subject of beavers on 1952 and was appointed assistant forest biologist at the station. After earning his doctorate at SUNY-ESF researching small mammals, Pat became assistant professor in charge of HWF in 1958. In this capacity he oversaw growth of the staff and facilities at HWF. He promoted forest management and wildlife studies, including one of the first radio telemetry projects on white-tailed deer, and coauthored important scientific publications on mammals and herbivory in eastern forests. He served as University of Rhode Island's associate dean of the College of Resource Development and a professor of natural resources science.

Dr. Patric and his wife, Jeanne, raised their family while living in Huntington Lodge and on HWF. They spent time in the Florida Keys and Elgin, Ontario, where Dr. Patric devoted time to monitoring Lower Beverley Lake. He was instrumental in establishing the Webb Apprenticeship.

Remembering Don Behrend: Black Flies Are Just a State of Mind

By William Porter



Don Behrend

One June early in my tenure as director, Don Behrend and I spent a couple of days at Huntington together. The stated objective was to review the program and, of course, there was a little fishing time on the lake. The evening was warm and calm and the sun was high when we left the dock.

Among the most important lessons of academia is that the most important lessons are learned outside of the classroom.

Don rowed out across the lake while I cast a spinner with a worm. We tried many of his choice locations without even a strike. We'd been at it a couple of hours and I was ready to head back in. It was clear that Don wanted to stay and I was not about to disagree. About 9 p.m., the sun set and an insect hatch began to dimple the surface of the water. Don said, "You row!"

I don't know what the hatch of insects emerging from the water was but along with it came the black flies. Don seemed to know exactly what was emerging and after changing lures, he was getting strikes. We are also getting struck by the black flies. We had no head nets and the bug repellent was useless. I reached up to kill a fly gnawing on my ear and noticed blood running down the side of my neck. Don seemed oblivious.

I commented that the black flies were getting a little pesky and Don's response was, "Bill, black flies are just a state of mind." I looked at the blood on my fingers and said to myself, "I don't think so."

Don accomplished much in the Adirondacks. His dissertation work on white-tailed deer began what became a 40-year continuous study, perhaps the longest on record, and one that produced several breakthroughs and many leaders in wildlife today. Don was a bold thinker and the Adirondack Ecological Center, with its mission to serve as the touchstone for research and outreach in the Adirondack Park, was born of his administrative skill.

We all need mentors in life who impart wisdom. Achieving important goals often comes with a lot of pesky problems that can drive one off target. That June fishing trip was long, long ago now and the lesson has matured with age. Success, and the joy in life that comes with it, occur when we can keep the pesky problems in perspective. After all, "Black flies are just a state of mind."

Dr. William F. Porter was the AEC director until retiring from ESF and is currently the Boone and Crockett Chair of Wildlife Conservation at Michigan State University.



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Inaugural Symposium on Land Use and Ethics SUNY-ESF's Northern Forest Institute at Huntington Wildlife Forest June 1-3, 2012

SUNY College of Environmental Science and Forestry's Northern Forest Institute in Newcomb, N.Y., announces the first symposium on interdisciplinary scholarship in land use and ethics.

This event will highlight research from across professions and disciplines on topics related to balancing individual and community priorities with respect to land use, the associated expectations for human and ecosystem stewardship and social and environmental ethics. The symposium will generate conversation around a variety of approaches to land use, the moral implications of these approaches, and the ways different approaches influence the ongoing debate over how to achieve social and environmental justice. New and in-process work from a range of disciplines will be represented and integrated into the symposium discourse.

For all correspondence regarding program content, contact Symposium Chair Marianne Patinelli-Dubay at mpatinelli@esf.edu. For details including presenter bios, abstracts and registration please visit the symposium website at www.esf.edu/nfi/symposium.



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