



Linking Attitudes, Policy, and Forest Cover Change

By Jared R. Stapp, Ecology/Environmental Science-M.S.

Deforestation in Nepal threatens the functioning of complex social-ecological systems, including rural populations that depend on forests for subsistence, as well as Nepal's biodiversity and other ecosystem services. Nepal's forests are particularly important to the nation's poorest inhabitants, as many depend upon them for daily survival. Indeed, two-thirds of Nepal's population relies on forests for sustenance, and these pressures are likely to increase in the future. This, coupled with high population densities and rates of growth, highlights

the importance of studying the relationship between human communities, forest cover and trends through time, and forest management institutions.

Under Dr. Robert Lillieholm, E.L. Giddings Professor of Forest Policy, my thesis goal has been to better understand what effect policies, governance, decentralized management institutions, and individual attitudes have on the forested landscape in rural Nepal. We used a mixed-methods approach to link attitudes, forest-related legislation, and empirical forest cover trends to better understand this complex coupled human and natural system from a broad, system-level viewpoint. A Master Plan for Nepal's Forestry Sector (MPFS), enacted in 1989, and subsequent legislation laid the foundation for modern community-based forest management in Nepal. In 2014, the MPFS reached the end of its 25-year span, and since 1989, significant institutional changes have fundamentally transformed the management of Nepal's forests, mostly through devolving management and benefits from the national level to local communities. Before going to Nepal, I analyzed how forest cover around Chitwan National Park has changed in the 25 years that modern community forestry has been in place by exploring forest cover trends in the buffer zone surrounding Chitwan National Park. The analysis, covering approximately 1267 km², found that since the MPFS was enacted, there was first a continued decrease in forest cover, followed by a significant increase overall. These data offer insight into the success of modern community-based forest management policies and supporting institutions, and provide a model for other efforts to conserve forest resources in Nepal and elsewhere.

Using the results of the remote sensing analysis, I spent last summer in Nepal conducting a household survey to explore how attitudes associated with conservation-related behaviors in two rural communities in southern Nepal compare with empirical forest cover trends. A crucial element of the survey was to discover what demographic and economic variables influence individual attitudes. Results suggest that there is a significant difference in attitudes in the two areas studied, perhaps contributing to and reacting from current forest conditions and trends. In both study sites: participation in community forestry strengthened support for conservation; positive/negative attitudes aligned with forest cover gain/loss rates in recent years; and a negative correlation was found between economic status and having supportive forest conservation-related attitudes. Additionally, on average, respondents were not satisfied with their District Forest Officers and did not feel that the current national political climate in Nepal supported sustainable forestry. These findings are especially important as Nepal's MPFS has expired and the country is in the process of structuring a new Forestry Sector Strategy.

Director's Welcome



We're trying something new. Many of the articles in this issue of "Branching Out" are written by our students. The topics are reflective of the increasingly diverse experiences that they are able to participate in. We hope you'll find their stories interesting. I certainly don't remember traveling (literally) half-way around the world or being able to partner with people and organizations outside the campus boundary during my time as a student. Many of these student experiences are supported at least in part from generous donations of our alumni and friends. Thank you for your continued support.

The School of Forest Resources is continuing to see exciting changes. Our newest faculty member, Dr. Mindy Crandall, joined us in late August 2014. She has received a warm welcome from the faculty and staff, and recently – a cold welcome from mother nature. As this is being written we're in the middle of the third snow storm in 8 days – with almost four feet of snow from the events.

I suspect that most of you remember either speaking or sitting in seminars in room 204. It is in the process of getting a major facelift which should be completed by April. More on this when it's done.

The optimists say spring is just around the corner and before we all know it – graduation and summer camp will be happening. A steady stream of news events, pictures, workshop announcements, and guest speaker listings can be found on either our website or Facebook page. Please stop by in person or online and let us know your thoughts and suggestions.

Dr. Stephen Shaler
 Director & Professor
 School of Forest Resources



Black Ash Symposium

By Kara Costanza, Forest Resources-Ph.D.

In November the School of Forest Resources, in collaboration with the Senator George J. Mitchell Sustainability Solutions Center, hosted a Black Ash Symposium at the University of Maine. The symposium attracted over 45 attendees from diverse backgrounds, including participants from state and federal agencies, research institutions, tribal departments, the forest industry sector, and universities. The conference reached a broad regional audience, bringing attendees from Maine, Michigan, Minnesota, New Hampshire, New York, and Vermont, as well as Winnipeg, Manitoba and North Bay, Ontario in Canada.

The goal of the workshop was to improve current understanding of the ecology and biology of black ash across North America. Black ash is a relatively rare species, and until recently was rarely studied. Black ash populations (and all North American ash species) are currently being threatened by the emerald ash borer (EAB), an invasive non-native insect from Asia.

Attendees spent the first day listening to presentations focused on the biology and ecology of black ash, and the species' importance for Native peoples.

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Black Ash Symposium



The presenters served as authorities on black ash; they're individuals who have spent significant time studying the species. Members of the Maine Indian Basketmakers Alliance (MIBA) and the Saint Regis Mohawk Tribe in New York spoke about the history and use of black ash

for cultural, medicinal, economic, social, and other purposes. Researchers from across North America presented their work on hydrologic fluctuations, species composition, old growth stand qualities, and differences in site and tree quality in black ash stands, along with a comparison of green, white, and black ash characteristics.

The following day the group traveled to local black ash stands to continue the black ash biology discussion. Landowners joined us at each site to provide a detailed land-use history for their properties. Native basket-makers and basket-tree harvesters from Maine and northern New York then led discussions on what makes a good basket-quality tree, what stand conditions are associated with good trees, and showed examples at each of our sites.

The final day of the symposium ended with a panel discussion on current and future black ash research needs, and what is currently misunderstood about the species. The *Silvics of North America* was used as a starting guide for what knowledge is currently available. The group developed a working document that describes the following: characteristics of basket-quality ash, Maine black ash stand characteristics, comparisons between black ash habitats in several regions, typical stand age, regeneration and establishment, shade tolerance, EAB disturbance impacts, and recommendations for future work. Suggestions were also made on how to improve access to black ash for basketmakers.

Looking ahead, we intend to publish findings from the Symposium. The publication will add to the literature available on black ash biology, and hopefully correct any current misconceptions. The preliminary document has been circulated to attendees, and we hope to have comments back to begin work on the manuscript.

American Chestnut



Dalton Herrick-Wagman, an undergraduate student in the School of Forest Resources double majoring in Forestry and Parks, Recreation, and Tourism, was featured in the Fall 2014 edition of *UMaine Today* magazine.

The article details Dalton's efforts with the Maine Chapter of the American Chestnut Foundation.

Read more here: <http://umainetoday.umaine.edu/archives/fall-2014/the-comeback/>

Faculty Spotlight



Dr. Mindy Crandall joined the SFR this August as an Assistant Professor of Forest Landscape Management. A native of Oregon, she received her Ph.D. in Applied Economics from Oregon State

University's College of Forestry in 2014 as well as a B.S. degree in Forest Management. No stranger to Maine winters, she lived in Dover-Foxcroft many years ago as a VISTA Volunteer, developing natural resource programs with the Natural Resource Education Center (NREC) in Greenville and Audubon Society at Borestone Mountain, along with working as a Dexter outreach advocate for Womancare. She has also developed community-guided indicators of rural vitality for Cooperative Extension.

Her research focus now is on the interaction between the forest products industry and rural community persistence and vitality, optimal forest management, and the economic, community, and industry impacts of changes in forest and policy environments. She is particularly interested in economies in transition from traditional to amenity-based forestry, and ways to maintain both working forest landscapes and a healthy forest products industry. In her spare time she enjoys running, mountain biking, and ice skating, especially on the SFR's DeMerritt Forest.

IUCN World Conference

By Jessica Fefer, Forest Resources - M.S.

In November of 2014, conservation professionals from around the world convened in Sydney, Australia to discuss inspiring solutions to global environmental challenges. Hosted by the International Union of the Conservation of Nature (IUCN), this is a key event in the field of protected area management that occurs only once every ten years, setting the global agenda for the following decade. The goal of the 6th World Parks Congress was to position parks and protected areas firmly within the broader agenda of economic and community well-being. The theme of the 2014 Congress was Parks, People, Planet: Inspiring Solutions.

As a Master of Science student in the School of Forest Resources at the University of Maine, I was determined to attend due to the relevance of my research to this global forum. My thesis involves studying the elements that make visitor management frameworks successful and sustainable in protected areas, based on the perspectives of domestic and international stakeholders. Despite my sincere desire to attend and contribute, it seemed like a very far reach; however, with the support of key mentors, the School of Forest Resources, and the University of Maine Graduate School, I was fortunate enough to find myself flying across the Pacific.

The global forum provided a platform for a diverse gathering of key individuals; 5,000 students and professionals ranging from First Nations peoples of Australia, to park rangers in Africa, to conservation leaders from around the globe. Then there was me: a second year master's student from the great state of Maine. I was determined to represent my university, my state, and my country; proving the dedication, determination, and potential of my generation. I attended panel discussions, presentations, book launches, open forums, demonstrations, workshops, field trips, dances and parties. I volunteered my time by assisting delegates; striking conversations about species extinction, marine ecosystems, rare birds, forest degradation, and hope. I met individuals who informed my thesis research that I never thought I would be able to meet face-to-face. I shared my research with others who were so eager to hear my results that they eagerly requested a copy of the final reports. I handed out each and every business card that I brought with me. I felt like I was part of something so much bigger and inspired to finish my degree and my research with a new perspective and appreciation for the people and places in this world.

Mapping Club



By Danae Shurn, Forestry - B.S.

This is my first official year as a Forestry major, and I can happily say my enthusiasm has not waned over the past few months. It has been both a challenging and inspiring semester!

My involvement within the department began when a few of my peers mentioned an idea for a club focusing on honing skills creating maps with GPS and GIS software. I thought it was an intriguing idea, and got involved to help make the club a reality. When officers were elected, I volunteered to act as the Public Relations Officer, to help organize events and to keep up communication between all of our members. My involvement within Mapping Club has served as a stepping stone for connections to many other projects that have expanded my skills and knowledge within the field of forestry.

Before our club began to organize any projects of our own, we volunteered time within the department as a group. Our first collaboration was with the American Chestnut Foundation, through Dr. Brian Roth. I remember working for the first time with ACF at an orchard in Etna Maine. It was a very cold day in late March and it rained seven out of the eight hours that we dug holes and planted chestnuts. We planted over a thousand seeds that day, if I remember correctly.

Meeting Dr. Brian Roth and Glen Rhea, the former president of the Maine chapter, and all of the other volunteers made all the hard work well worth it. Since then I've worked numerous times with ACF, both as a member of mapping club and as a personal volunteer, inoculating chestnuts with the blight to study their resistance, searching for fruiting trees across Maine and collecting seeds to grow in the Roger Clapp greenhouses this January.