Beyond Communication: Advocating for Science and our Forests

9:00 to 5:30, December 15, 2017
Davis Center -- University of Vermont -- Burlington, VT

Agenda

8:15 – 9:00 Registration and Coffee
9:00 – 9:20 Introduction and Welcome
9:20 – 10:05 Communicating for Impact – Keynote Presentation

Tad Segal, President and Founder of Outreach Strategies
Tad Segal is a senior communications and advocacy strategist specializing in complex campaigns impacting public policy on sustainability issues at the domestic and international levels. As a mission-driven organization, Outreach Strategies is engaged in some of the most exciting and innovative integrated media, stakeholder engagement and international education campaigns to protect our air, land and water both in the U.S. and around the world. With deep experience in a variety of environments, including large coalitions, agency, corporate and government settings, he specializes in complex communications campaigns that impact public policy on sustainability issues. His keynote will address the key frameworks and approaches used in advocating for science-based decision making.

10:05 – 10:25 Successful Science Communication

5-minute flash talks demonstrating effective communication strategies and campaigns

The Short, Sweet and Engaging Story of Freshwater Mussels
Mark Ferguson, Zoologist, Vermont Department of Fish and Wildlife

So What? How to Grab & Hold People's Attention About Science
Bridget Butler, Principal, Bird Diva Consulting

Reaching Decision Makers: Using Science to Inform Policy
Jamey Fidel, General Counsel and Forest and Wildlife Program Director, Vermont Natural Resources Council

Science for impact? Know your audience
Lini Wollenberg, Gund Fellow, Research Professor, Gund Institute for Environment

The Making of Outdoor Radio
Kent McFarland, Sara Zahendra (VCE) and Chris Albertine (VPR)

10:25 – 10:30 Plenary Wrap Up and Coffee Break
### Contributed Talks 1

<table>
<thead>
<tr>
<th>Engaging Stakeholders and Influencing Forest Policy</th>
<th>Water Quality Assessments Across Scales</th>
<th>Trends and Patterns in Wildlife and Fisheries</th>
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<tbody>
<tr>
<td>Imported Forest Pests: Science Applied to Policy</td>
<td>Using LiDAR to Map Eroded Forest Roads in the Lake Champlain Basin, Vermont</td>
<td>Eastern Ribbonsnakes and Common Gartersnakes in Vermont: One Rare and One Abundant</td>
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<td>Gary M. Lovett</td>
<td>Sean MacFaden</td>
<td>Jim Andrews</td>
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<td>Bridging the Gap between Invasive Species Research and Management: Challenges and solutions in New York State</td>
<td>Dealing with Non-Detects: Using Censored Environmental Data Wisely</td>
<td>An Overview of Ongoing Moose Mortality and Productivity Research in Northern Vermont.</td>
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<td>Carrie Brown-Lima</td>
<td>Rebecca M. Harvey</td>
<td>Jacob R. DeBow</td>
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<td>The NSRC and FEMC as partners for a better future in the Northern Forest Lands</td>
<td>High-frequency water quality measurements reveal differences in storm hysteresis and loading in relation to land cover and seasonality</td>
<td>A Regional Investigation of Mercury in Small Mid-trophic Fishes and Predatory Game Fishes of Streams in the Northeastern United States</td>
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<td>William B. Bowden</td>
<td>Matthew C.H. Vaughan</td>
<td>Karen Riva Murray</td>
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<td>Effective Communication with a Municipal Audience</td>
<td>Water Quality Blueprint - Nature-Based Solutions for Clean Water in Lake Champlain</td>
<td>From Vermont to the Dominican Republic: factors driving variation in apparent survival of Bicknell's Thrush on the breeding and wintering grounds.</td>
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<tr>
<td>Jens Hilke</td>
<td>Dan Farrell</td>
<td>Jason M. Hill</td>
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### Lunch

12:10 – 1:20

### Contributed Talks 2

**SPECIAL TRACK** This track of talks connects to a working session and special collection of posters throughout the afternoon.

<table>
<thead>
<tr>
<th>Forest Ecology and Silviculture</th>
<th>Environmental Change and Long-Term Monitoring</th>
<th>Can We Manage the Impacts of Climate Change on Sugar Maple and Maple Sugaring?</th>
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<tbody>
<tr>
<td>How weather and other factors influence fall leaf color displays</td>
<td>Update on Vermont Long-term Soil Monitoring Project</td>
<td>Finding the sweet spot: Climate optimum for maple syrup production</td>
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<td>Paul G. Schaberg</td>
<td>Thomas Villars, Don Ross</td>
<td>Joshua Rapp</td>
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<td>Regional spatiotemporal patterns of forest disturbance using aerial detection surveys</td>
<td>Evaluating trends and environmental drivers of sugar maple and red oak growth in the state of Vermont</td>
<td>Climate Effects on Maple Phytochemistry and Producer Perceptions and Responses</td>
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<td>Alexandra M. Kosiba</td>
<td>Rebecca L. Stern</td>
<td>Selena Ahmed</td>
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<td>Windstorm and salvage harvest in northern mixed deciduous forests change forest structure, but not plant community diversity or richness.</td>
<td>Ridges, Valleys, Bedrock &amp; Soil: Using the Physical Landscape to Conserve Species in a Changing Climate</td>
<td>What Sap with That?: A look at how Native Americans are Adapting to Climate Change and Maple Sap Production.</td>
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<td>Sarah Pears</td>
<td>Bob Zaino and Liz Thompson</td>
<td>Autumn Brunelle</td>
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<td>Seventy years of northern hardwood silviculture: long-term compositional and structural evolution after repeated group selection</td>
<td>Factors Affecting Use of Climate Change Science and Decision Support Tools for Forest Management in Vermont</td>
<td>Ziizabokdoke: A cultural tradition of sugar making for one Midwestern tribe and seven generations of change</td>
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<tr>
<td>Nicole S. Rogers</td>
<td>Clare Ginger</td>
<td>Bonnie Ekdahl and Alex Bryan</td>
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2:40 – 3:00  Coffee Break

3:00 – 4:30  Workshops

Revisit the science communication and advocacy topics from the morning plenary to learn more techniques, hone skills or learn from experts in the field. Descriptions of sessions can be found below.

**SPECIAL TRACK** Can We Manage the Impacts of Climate Change on Sugar Maple and Maple Sugaring?
*Organizer:* Toni Lyn Morelli, DOI Northeast Climate Science Center and University of Massachusetts

Climate Change and an Ecologically Functional Landscape: How Can We Plan for and Achieve Conservation Success?
*Organizers:* Bob Zaino (Vermont Fish and Wildlife), Eric Sorenson (Vermont Fish and Wildlife), and Liz Thompson (Vermont Land Trust)

Informing policy: How scientists can engage with lawmakers
*Roundtable Participants:* Rebecca Ellis, Jamey Fidel, Neil Kamman, David Mears

Media Training for Scholars: Getting News Coverage for Science
*Organizer:* Basil Waugh, Gund Institute for the Environment, University of Vermont

Stakeholder Engagement in Research and Results
*Organizers:* Lini Wollenburg, Julianna White and Bridget Butler

4:30 – 5:30  Poster Session and Social

Enjoy conversation and over 28 posters and demonstrations at the end of the day. Poster titles are listed at the end of the agenda.

**SPECIAL TRACK** Includes posters in the special track “Can We Manage the Impacts of Climate Change on Sugar Maple and Maple Sugaring?”
Working Group Descriptions

**SPECIAL TRACK** Can We Manage the Impacts of Climate Change on Sugar Maple and Maple Sugaring?

**Organizer:** Toni Lyn Morelli, DOI Northeast Climate Science Center and University of Massachusetts

This special track of talks, posters, discussion, and scenario planning throughout the afternoon will bring together researchers and collaborators from state and federal agencies, tribal partners, and private industry (including you!) from around the region to learn and discuss "Can We Manage the Impacts of Climate Change on Sugar Maple and Maple Sugaring?". The tapping of maple trees is a cultural touchstone for many people in the northeast and Midwest and Native American tribes have collected and boiled down sap for centuries. Because the tapping season is dependent on weather conditions, there is concern about the sustainability of maple sugaring as climate changes throughout the region. In addition, Northern Hardwood species like sugar maple are expected to contract their range northward eventually. In spite of this, maple syrup production is increasing rapidly, with demand rising as more people appreciate this natural sweetener. The ACERnet team of researchers from across the US and Canada will present on research earlier in the afternoon that has been funded through the Department of Interior Northeast Climate Science Center to address the impact of climate change on syrup quality, tapping timing, and maple distribution. Informed by the needs of state and federal resource managers, tribal groups, and other maple syrup producers, the research team has analyzed how climate variation and climate change is impacting the chemical composition of sap throughout the northeast region. They will also present on climate change adaptation options, including the potential use of less climate-sensitive red maples as alternatives to sugar maple.

This Working Group session will discuss climate adaptation options, for managers and producers to share insights and strategies, and to use scenario planning to brainstorm on what maple sugaring will look like in the future.

Following the working session, we will have a Poster session focused on the impacts of climate change on the culture and ecology of sugar maple - relevant contributions welcome.

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**Climate Change and an Ecologically Functional Landscape: How Can We Plan For and Achieve Conservation Success?**

**Organizer:** Bob Zaino (VT Fish and Wildlife), Eric Sorenson (VT Fish and Wildlife), and Liz Thompson (Vermont Land Trust), Vermont Fish and Wildlife Department

In 2015, the Vermont Fish and Wildlife Department and Vermont Land Trust produced “Vermont Conservation Design: Maintaining and Enhancing an Ecologically Functional Landscape.” This effort identified the highest priority forest blocks, and surface waters and riparian areas needed to sustain the state’s biological diversity into the future. We’d like to use this work, and other recent regional conservation planning efforts as a jumping off point for a wide-ranging discussion about the science and implementation of conservation planning. Questions include: Is the concept of an ecologically functional landscape the right one for dealing with climate change adaptation and evolution? How do we know if a landscape is self-adapting to climate change, and when do we intervene in species migration and natural community dynamics? What types of monitoring and assessment are needed to recognize success? How do we take dispersed conservation ideas, plans, and organizations and build towards a coherent whole? And, even if the science is right, how do we get large-scale conservation done? How do we overcome societal constraints? How can we use scientific conservation planning efforts to create a positive vision of people living within an ecologically functional landscape?
Informing Policy – expert testimony and other ways to engage with lawmakers
Organizer: Rebecca Ellis, Jamey Fidel, Joanne Garton, Neil Kamman, David Mears
Join a diverse group of environmental leaders and decision makers to explore how and why science informs policy in today’s information-rich government. This discussion will mine the experiences of our roundtable participants as public officials, environmental advocates, legislators, and educators, touching upon the varied techniques and strategies that successfully communicate important research findings to broad audiences.
Panelists:
Rebecca Ellis, Deputy Commissioner, Vermont Department of Environmental Conservation
Jamey Fidel, General Counsel & Forest and Wildlife Program Director, Vermont Natural Resources Council
Neil Kamman, Senior Policy Advisor, Vermont Department of Environmental Conservation
David Mears, Director, Environmental Law Center, Vermont Law School

Media Training for Scholars: Getting News Coverage for Science
Organizer: Basil Waugh, Gund Institute for the Environment, University of Vermont
Garnering news coverage for your scientific efforts can amplify the impact and recognition of your work. Tailored for researchers, this media training presentation will help scholars and scientists to understand 1) what makes news, 2) key elements of successful media outreach, 3) and how to stay in control of interactions with journalists.

Stakeholder Engagement in Research and Results
Organizer: Lini Wollenburg, Julianna White and Bridget Butler
Description coming soon
Poster Titles and Presenters

Abstracts available online - https://www.uvm.edu/femc/cooperative/conference/2017/agenda

**SPECIAL TRACK**  (Re)expansion of the maple syrup industry in New England: projecting where the taps will be in a changing environment
Presenter: Joshua Rapp, Harvard Forest

An Investigation of Nutritional Effects On Beech Bark Disease Causal Organisms
Presenter: Gretchen Lasser, Department of Forest and Natural Resources Management, SUNY-ESF

**SPECIAL TRACK**  Assessing a strategy of climate change adaptation for maple syrup producers in the Southern Appalachians: Diversification of maple species as sap sources.
Presenter: Ryan Huish, The University of Virginia's College at Wise

**SPECIAL TRACK**  Battle of the Babies: Beech Interference with Maple Regeneration
Presenter: Daniel S. Hong, SUNY-ESF

Citizen Science in Action: 15 Years of the LaRosa Partnership Program
Presenter: Elijah Schumacher/ Jim Kellogg, DEC WSMD

Earthworm Cocoons: The Cryptic Side of Invasive Earthworm Populations
Presenter: Maryam Nouri-Aiin, Department of Plant and Soil Science, University of Vermont

Effects of Human Visitation on Mammals as Detected by Trail Cameras in Colchester, Vermont
Presenter: Jade Jarvis, Biology Student Saint Michael's College

**SPECIAL TRACK**  Effects of Long-Term Nutrient Addition on Acer saccharum Sap Flow
Presenter: Alexandria Rice, SUNY ESF, 1 Forestry Drive, Syracuse, NY 13210

Effects of woody shrub and tree density on species richness and habitat preference
Presenter: Alyssa Valentyn, Saint Michael's College

Forest Health Indicators Dashboard: Assessing the condition of forested ecosystems
Presenter: Jennifer Pontius, RSENR University of Vermont and USFS Northern Research Station

**SPECIAL TRACK**  Future distribution of sugar-maple dominated forests on the Green Mountain National Forest under climate change
Presenter: Anthony W. D'Amato, University of Vermont, Rubenstein School of Environment and Natural Resources; Department of Interior Northeast Climate Science Center

Hydraulic safety margins and air-seeding thresholds in roots, trunks, branches, and petioles of four northern hardwood trees
Presenter: Brett A. Huggett, Bates College

Is gene flow extensive and inhibiting adaptation of red spruce (Picea rubens) along an elevational gradient?
Presenter: Brittany M. Verrico, Dept. of Plant Biology, University of Vermont, Burlington, Vermont, USA

**SPECIAL TRACK**  Maple syrup in a changing climate
Presenter: Joshua Rapp, Harvard Forest

Monitoring the Health of Vermont's Forests: Long-Term Trends and Natural Communities
Presenter: Caroline Drayton, Forest Ecosystem Monitoring Cooperative, RSENR
Northeast Forest Information Source (NEFIS): A New, Open-Access, Online Portal for Research Related to the Northern Forest
Presenter: Meg Fergusson, Center for Research on Sustainable Forests (CRSF) at the University of Maine

ourVTwoods.org Outreach Display
Presenter: Kate Forrer, UVM Extension

Putting an Ear to the Ground: Monitoring the Impacts of Climate Change on Working Forests
Presenter: Jennifer Hushaw, Applied Forest Scientist, Climate Services Program, Manomet, Inc.

SPECIAL TRACK Qualitative Contributions to Climate Adaptation: Living History and Knowledge of the Sugar Maple
Presenter: Lena Wilson, Allissa Stutte, Devon Brock-Montgomery, Red Cliff and Bad River Bands of Lake Superior Chippewa

Soil Nutrients Effect on Fall Leaf Retention in Northern Hardwood Forests.
Presenter: Madison Morley, State University of New York College of Environmental Science and Forestry

SPECIAL TRACK Specific leaf area and amino acids vary within sugar maple canopies and across fertilization treatments
Presenter: Alexander, SUNY-ESF

The "Future Forests Geo-visualization and Decision Support Tool": Linking science and management in a geospatial, mutli-criteria structured decision support framework
Presenter: Jennifer Pontius, UVM and USFS NRS

The effect of acid-mine drainage on the diversity of sensitive species of macroinvertebrates in two branches of a Vermont stream
Presenter: Mariah J. Witas, Saint Michael's College

The Nature Conservancy Dam Screening Tool
Presenter: Shayne Jaquith, The Nature Conservancy

SPECIAL TRACK The Northeast Climate Science Center: Improving the way climate science informs resource management
Presenter: Toni Lyn Morelli, U.S. Geological Survey, Department of Interior Northeast Climate Science Center

The Power of Collaboration: Building Relationships and Fostering Public Support
Presenter: Elizabeth Spinney, Vermont Department of Forests, Parks & Recreation

Water Quality Blueprint - Nature-Based Solutions for Clean Water in Lake Champlain
Presenter: Dan Farrell, The Nature Conservancy of Vermont

Xylem-vessel networks and drought resistance in northern hardwood trees
Presenter: Jay Wason, Yale School of Forestry & Environmental Studies