

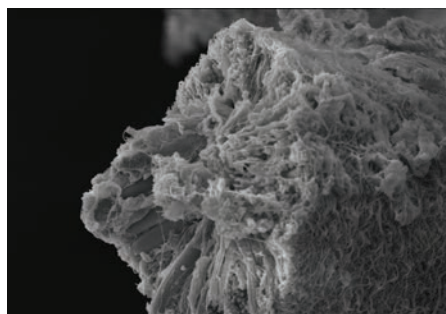
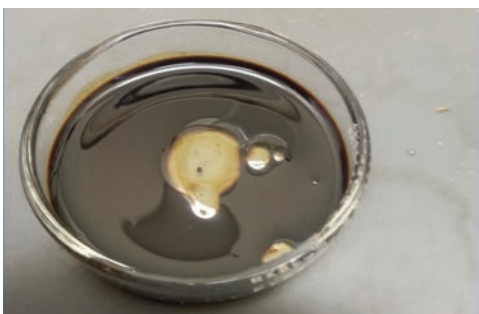


THE
NORTHEAST

NATURAL HISTORY
 CONFERENCE



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NENHC 2018

Promoting the study and stewardship of the natural environment in the northeastern US and eastern Canada

Program and Participants List

April 13–15, 2018

Burlington, VT



Eagle Hill Institute
www.eaglehill.us

Welcome to the 2018 Northeast Natural History Conference!

NENHC 2018 Steering Committee

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For their efforts in helping out with local logistics and organization, we extend special thanks to members of the UVM Field Naturalist Program: Chelsea Clarke, Maria Dunlavey, Jeffrey Hughes, Carolyn Loeb, Jason Mazurowski, Christian Schorn, Lauren Sopher, Lynn Wolfe, and Andrew Wood.

NENHC 2018 Session and Event Organizers, Leaders, and Moderators

Jim Andrew	Jacob Holzberg-Pill	Richard Prum
Lauren Ash	Peter Hope	Nishanta Rajakaruna
Mike Bald	Jeffrey Hughes	Rosalind Renfrew
David Barrington	Jerry Jenkins	Michael Rubbo
Sean Beckett	Jim Kellogg	Michael Sabourin
Jesse Bellemare	Catherine Koning	Christian Schorn
Larry Clarfeld	Gaytha Langlois	Steve Smith
Jay Cordeiro	Christian Liriano	Eric Sorenson
Pierre-Luc Chagnon	Megan Lout	Larry Spencer
Alicia Daniel	Jeremy Lundholm	Erin Talmadge
Jennifer Dean	Elizabeth Morse	Jack Tessier
Charley Eiseman	Peter Palmiotto	Liz Thompson
Steve Faccio	Cathy Paris	Emily Walker
Carla Fenner	Matt Peters	Robert Wernerehl
Samantha Ford	Bryan Pfeiffer	Stephen Wright
Craig Frank	Hannah Phillips	Suann Yang
Barry Genzlinger	Robert Popp	Kerry Yurewicz
Richard Gramly	Caitlin Porter	

NENHC 2018 has been made possible in part by the generous support from the following

Conference Sponsors

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Association

New England Botanical Club

NY Natural History Heritage Program (iMapInvasives)

Northeast Natural History & Supply

Northern Forest Atlas Project

Progressive Asset Management

Rhode Island Natural History Survey

University of Vermont

Vermont Center for Ecostudies

Yale University Press

Note: The conference venue is a smoke-free facility and so smoking is prohibited anywhere on the premises.

Friday	NENHC 2018 Friday Field Trips
7:00 AM–1:00 PM	<p>Lake Champlain Waterfowl Watch, led by Sean Beckett, North Branch Nature Center</p> <p>The Champlain Valley is one of New England’s premier inland destinations for April birdwatching. We’ll scout the shores of Lake Champlain for migratory waterfowl, early spring songbirds, and recent rare species sightings. A morning exploration of local migratory ecology and avian phenology.</p> <p>Meet at Conference registration area at 7:00 AM and carpool to the site.</p>
8:45 AM–Noon	<p>From Xeric to Flooded: Two of Burlington’s Unique Natural Communities, led by Liz Thompson, the Vermont Land Trust, and Eric Sorenson and Bob Zaino, the Vermont Fish and Wildlife Department</p> <p>With the authors of <i>Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont</i>, explore Limestone Bluff Cedar–Pine Forest, a rare natural community in Vermont in a region that is perched over Lake Champlain with spectacular views. Then visit a floodplain forest and other wetlands in the Intervale, or broad valley, of the Winooski River, one of Vermont’s larger rivers. The ecologists will weave together geology, soil science, and human history.</p> <p>Meet at Conference registration area at 8:45 AM and carpool to the site.</p>
9:00 AM–Noon	<p>Vernal Pool and Stream Amphibians and Invertebrates, led by Jim Andrews, coordinator of the Vermont Reptile and Amphibian Atlas, and Jim Kellogg, the Vermont Department of Environmental Conservation</p> <p>Proctor Maple Research Center is located on west slope of Mount Mansfield in Underhill, VT and is largely mixed deciduous woodlands that contain a man-made vernal pool, a natural vernal pool, and a rocky stream. Explore the amphibians and invertebrates of the property and discuss the natural history and conservation of the species located. Locate egg-masses of Spotted Salamanders and Wood Frogs as well as adult Eastern Red-backed Salamanders, Northern Two-lined Salamanders. For invertebrates, we may find Fairy Shrimp, Phantom Midges, Fingernail Clams and Snails.</p> <p>Meet at Conference registration area at 8:15 AM and carpool to the site or at the Proctor Maple Research Lab in Jericho at 9 am.</p>
9:00 AM–Noon	<p>Architecture of the Landscape at Shelburne Farms, led by Samantha Ford, Historic Preservationist</p> <p>Cultural and natural history converge on the dramatic landscape at Shelburne Farms, a late 19th-century ornamental farming estate that borders and offers sweeping views of Lake Champlain. Architectural history and landscape design offer clues for uncovering the unique geology and ecology of the area. We’ll trace the last 300 years of land-use history to find out what cemeteries and outdoor recreation have in common.</p> <p>Meet at the Shelburne Farms at 9 am.</p>
10:00 AM and 1:00 PM	<p>Birds of Vermont Museum: Where Natural History Meets Art, led by Erin Talmadge (Executive Director) and Shirley Johnson (Board of Trustees), Birds of Vermont Museum</p> <p>The Birds of Vermont Museum is a one of a kind place that bridges the disciplines of science and traditional woodcarving arts to communicate the beauty of biodiversity. It is place where you can see every species of bird found in Vermont in one place and at one time. More than 500 wood carvings depict more than 250 species. All carvings are life-size and biologically accurate. This field trip encourages you to look closely at birds that won’t fly away and to learn about the habitats they need to survive and reproduce. Shirley will give a brief tour of the Museum; then participants can explore the Museum and the grounds at their own pace.</p> <p>Meet at hotel lobby to carpool at 10 AM or 1PM or meet at the museum (900 Sherman Hollow Road, Huntington, VT)</p>

Friday	NENHC 2018 Friday Field Trips
10 AM, 11 AM, Noon, and 1 PM	<p>ECHO, Leahy Center for Lake Champlain; Animal Husbandry Department Back-of-House Tour, led by Steve Smith, Director of Animal Care and Facilities</p> <p>ECHO, Leahy Center for Lake Champlain, is Vermont's premier lake aquarium and science center. ECHO is home to 70+ species of animals from Lake Champlain and the surrounding basin, and offers numerous hands-on activities and exhibits that educate visitors about the Lake Champlain Basin's geology, climate, natural history, and indigenous cultures. Visit ECHO's Resource Room, run by the Lake Champlain Basin Program, for in-depth information about the area. Enjoy a visit to ECHO on your own (between 10AM and 5PM) or come along on an Animal Husbandry Department back-of-house tour (between 10AM and 1PM) and learn about exhibit design, habitat maintenance, and the husbandry implemented to maintain the health of over 70 species of fish, reptiles, and amphibians, some exotic and some native to Vermont. ECHO admission fee of \$8.50 will be collected on site.</p> <p>Meet at ECHO, Leahy Center for Lake Champlain, One College Street, Burlington, VT. ECHO open 10-5 PM. Tours: four 45-minute tours start on the hour— first tour 10AM and last tour 1PM.</p>
Noon–4:00 PM	<p>Vascular Plant/Bryophytes Communities and their Arthropod Associations within Colchester Bog, led by Christian Liriano, practicing field biologist</p> <p>Come explore the bog and surrounding uplands. We will discuss the vascular plant/bryophyte communities and their arthropod associations that we observe.</p> <p>Meet at 12 pm at the Conference registration area to carpool.</p>
12:45–3:30 PM	<p>Camp Johnson Pine-Oak-Heath Sandplain Forest, led by Peter Hope, St. Michael's College Professor, and Bob Popp, Vermont Natural Heritage Inventory Botanist</p> <p>Learn about Vermont's largest remaining example of Pine-Oak-Heath Sandplain Forest and efforts to restore it with controlled burns and plantings from one of the outstanding field botany and ecology educators. Camp Johnson is owned by the Department of Army and managed by Vermont National Guard. They have been working on restoration of the forest with the Vermont Agency of Natural Resources and St. Michael's College for two decades. The forest is open, and the hike will be easy.</p> <p>Meet at 12:30 pm at the Conference registration area to carpool.</p>
1:00–4:00 PM	<p>Mount Philo Botany, Ecology, and Insect Signs, led by Charley Eiseman, author of <i>Tracks and Sign of Insects and Other Invertebrates</i>, and Matt Peters, Consulting Botanist and Ecologist.</p> <p>Explore the early spring flora and the ever-present insect sign on Mount Philo's cliff, forest, and outcrop habitats. A short distance south of Burlington, Mount Philo provides the 968-ft centerpiece of Vermont's first state park. The Monkton Quartzite bedrock is interbedded with limestone and supports a rich flora characteristic of the Champlain Hills. Mount Philo stands by itself in the Champlain Valley, providing panoramic views of Lake Champlain and the Adirondacks as well as offering glimpses of many spring migrant birds.</p> <p>Meet at the conference hotel to carpool at 12:30 pm or meet at the site: Mount Philo Parking Lot.</p>
1:00–4:00 PM	<p>Geological Underpinnings of Burlington Revealed at the Salmon Hole, led by Stephen Wright, geology professor at the University of Vermont.</p> <p>This field trip occurs along the Winooski River where rocks are exposed at and below a waterfall that historically was utilized to power the area's first mills. Approximately 10,000 years of river erosion have removed the overlying glacial sediments, providing excellent exposures that we'll use to interpret the environments that existed here over 500 million years ago when this area was an ancient oceanic shoreline. We will take short walks to rock outcrops on both sides of the river. Participants are encouraged to bring A 7x to 10x hand lens/loupe to see more details in these rocks.</p> <p>Meet at the conference hotel front lobby at 1 pm. Van transportation provided.</p>

Friday	<p>NENHC 2018 Friday Field Trips</p>
1:00–4:00 PM	<p>500 Million Years on a Beautiful Beach: A Walk Through the Natural History of Burlington, led by Alicia Daniel, Burlington City Naturalist, and Jacob Holzberg-Pill, Master Naturalist.</p> <p>Take a walk on the wilder side of Burlington on a beach that features a view of the Adirondacks, a slice of the Champlain Valley Thrust Fault, and a window into an Ice Age delta. Explore the geologic events that set the stage for natural communities that we see in Burlington today, such the Limestone Bluff Cedar Pine Forest and the Pine Oak Heath Sandplain Forests. We will visit an example of one of these rare natural communities by taking a short drive to an adjacent site.</p> <p>Meet onsite at 211 Killarney Drive off of North Avenue in Burlington.</p>
1:00–5:00 PM	<p>Ferns and Spring Botany at Niquette Bay State Park, led by Cathy Paris and David Barrington, UVM Plant Biology Professors.</p> <p>Learn about fern natural history and explore the early spring plants with longtime botany/fern experts of the University of Vermont. The park has a rich flora due to the dolostone and limy quartzite bedrocks. The hike will be easy to moderate with some exploration off the trail. The trip includes a commanding view of Mallets Bay from a northern white cedar bluff.</p> <p>Meet at the conference hotel to carpool at 1 PM.</p>
1:00–4:00 PM	<p>Mosses by Lake Champlain, led by Jerry Jenkins, Northern Forest Atlas Project.</p> <p>This trip will explore the mosses growing on a fertile rocky hill along the shore of Lake Champlain within 2–3 miles of Burlington. We will also take note of the sedges and grasses growing on the limy ledges. Participants will have the opportunity to field test, for the first time, the draft version of Mosses of the Northern Forest, Volume 3 in the series of photographic guides from the Northern Forest Atlas and Cornell University Press. Please bring a hand lens.</p> <p>Meet at the site (attendees will be given directions) at 1 PM.</p>
1:00–5:00 PM	<p>Invasive Plant Species in a Popular Natural Area: Transition, Balance, Presence, led by Mike Bald, Got Weeds?</p> <p>Join Mike Bald of Got Weeds? for a walkabout tour and management discussion of the Wheeler Nature Park. See a public space begging for balance between: (1) good stewardship that preserves desired ecological areas, and (2) reasonable access for recreational activities. With 20 years of decreased human engagement, this 100-acre park experiences considerable pressures on its 5 unique ecological systems. The park is a living example of early transition and ecological succession; it is also a site at “Square One”, the startpoint, if invasive species are to be addressed. Which site data truly matters, and how do we gather it? How do we measure or quantify progress in a dynamic setting? Discussion will focus on setting priorities, where to pinpoint the work effort, timelines, and use of benchmarks.</p> <p>Meet at the conference registration area at 1 PM to carpool to the site.</p>
3:30–9:30 PM	<p>Geprags Park, led by Michael Sabourin, VT Entomological Society President and co-author of <i>Moths and Butterflies of Vermont</i></p> <p>Explore early spring insect fauna with a late afternoon walk, evening black light and bait trail. A short distance south of Burlington, Geprags Park contains two miles of foot trails on conserved public land, encompassing a small knoll with second-growth forest including hickory and juniper and stands of raspberry and Cornus sitting above a floodplain. The place is well known for the Golden-winged Warbler group as well as a citizen protest against a gas pipeline. Hiking will be moderate, but one should dress for protection against ticks.</p> <p>Meet at the conference hotel to carpool at 2:45 pm or meet at the site parking lot at 3:30 PM.</p>

Friday	<h2 style="text-align: center;">NENHC 2018 Friday Workshops</h2>
8:30–Noon Meet at Conference Registration Area	<p>The Field Naturalist Approach to Reading Landscapes, led by Jeffrey Hughes, Director, Field Naturalist Graduate Program, UVM</p> <p>“Why is this place the way it is? What makes it tick? How did it come to be? What does its future hold? How “special” or “important” is it?” Landscape-level questions such as these necessitate a new approach to natural history study. At a nearby site, we’ll introduce three of the sleuthing frameworks we use in the University of Vermont’s Field Naturalist Program to answer landscape-level questions such as those above. To get an expansive, inclusive view of what makes up the site – its geology, soils, vegetation, wildlife, hydrology, nutrients, carbon, disturbances and stresses -- we’ll employ the “layer cake approach” developed by Tom Siccama 35+ years ago. We’ll then use our “pieces, patterns, processes” framework to pull together the various landscape layers into a coherent, integrated whole. Next, we’ll step back and take a broader view: how does our site-specific “story” fit into the greater landscape? Last, we’ll subject our story and assessment to the ever critical “So what? Who cares?” filter.</p>
9:00 AM –2:00 PM Room F	<p>Field Photography for Biologists, led by Bryan Pfeiffer, Field Naturalist Program, University of Vermont</p> <p>In this intensive session designed for biologists and naturalists, you’ll learn to master the buttons, dials and menus on your point-and-shoot or SLR camera. We’ll get you out of AUTO mode so that you can capture better images of everything from ferns to fritillaries, from Peromyscus to perigynia. You’ll discover metering, ISO, color balance and the strategies to unleash powers in most any camera — and in you. Limited to eight people, this workshop will feature universal concepts in photography, with ample time to cover your own photographic challenges or aspirations. Before we convene, you’ll have about two hours of required reading and camera work. During the seminar, we’ll work with our cameras indoors and in short field excursions on the conference grounds. The instructor, Bryan Pfeiffer, is a writer and field biologist whose photography has appeared in calendars, in books, on websites and even around the world on CNN. Bryan’s workshops blend imagery, information, exuberance and humor for effective learning.</p>
1:00–5:00 PM Room G	<p>Introduction to Vernal Pool Monitoring Project, led by Elizabeth (Liza) Morse, ECO AmeriCorps Vernal Pool Monitoring Program Coordinator, and Steve Faccio, Conservation Biologist, both with the Vermont Center for Ecostudies</p> <p>Vernal pools provide critical habitat for a diverse assemblage of wildlife, from breeding wood frogs and spotted salamanders, to fingernail clams and fairy shrimp. Despite their important role, vernal pools remain poorly understood and face an uncertain future due to effects of climate change, airborne pollutants, and threats from development. Having mapped the location of nearly 5000 potential and known vernal pools across Vermont with the help of Arrowwood Environmental and many enthusiastic volunteers, Vermont Center for Ecostudies has initiated the next step: a citizen-science project that will help track the health of these critical ecosystems through annual monitoring. This workshop will introduce the new Vermont Vernal Pool Monitoring Project and provide in-the-field training on project protocols. Conference participants looking for opportunities to get involved with citizen science and vernal pool conservation are particularly encouraged to attend.</p>
2:00–5:00 PM Room H	<p>Introduction to Remote Sensing Using MultiSpec, led by Larry Spencer, Professor Emeritus of Biology, Department of Biology, Plymouth State University</p> <p>Most natural history studies involve understanding the natural environment that the organism of interest inhabits. Such studies usually involved detailed analysis of the environment using tried and true on the ground methodologies, all of which involve time and energy. Remote sensing allows the researcher to examine larger environments first on his/her laptop/desktop computer. This workshop will describe the basics underpinnings of remote sensing using a readily available “freeware” program called MultiSpec which has been and is still being developed at Purdue University, West Lafayette, IN, by David Landgrebe and Larry Biehl from the School of Electrical and Computer Engineering. This program allows a user to analyze remotely sensed images without the investment of large sums of money for the software or the images to be analyzed.</p>
5:00–7:00 PM Room F	<p>Botanical Conservation and Management: Open Discussion of Rare Plant Issues in the Northeast, facilitated by Robert Popp, VT Department of Fish and Wildlife</p> <p>Join in and share your thoughts and concerns about protecting rare plants in the Northeast. Open to all: pre-registration not needed.</p>

SATURDAY	SATURDAY APRIL 14, 2018
7:00 AM	Conference Registration Open
7:00–8:00	Set up for exhibitors
8:00	Exhibitions Open
7:00–8:10	Set up for Day 1 scientific posters
7:00–7:30	PowerPoint upload, preview/technology check for Day 1 Morning oral presentations - in the room your talk will be given
7:30–8:00	PowerPoint upload, preview/technology check for Day 1 Afternoon oral presentations - in the room your talk will be given
8:10–9:20	CONCURRENT SESSIONS: Morning I - schedule on page 11
9:20–10:10	MORNING POSTER SESSION w/ light snacks and beverages - list of Saturday posters on pages 20–21
10:10–12:00	CONCURRENT SESSIONS: Morning II - schedule on page 12
12:00–1:30	LUNCH (included for those who pre-registered for the conference)
1:30–3:20	CONCURRENT SESSIONS: Afternoon I - schedule on page 13
3:20–4:00	AFTERNOON POSTER SESSION w/ light snacks and beverages - list of Saturday posters on pages 20–21
4:00–5:30	CONCURRENT SESSIONS: Afternoon II - schedule on page 14
5:30–6:00	OPEN NETWORKING SESSION w/ cash bar and finger foods
5:30–6:00	Take down for Day 1 scientific posters
6:00–7:30	PLATED DINNER - ticketed event
7:30–10:00	SATURDAY EVENING WORKSHOPS - schedule on page 15

SUNDAY	SUNDAY APRIL 15, 2018
7:00 AM	Conference Registration Open
7:00-8:00	Set up for exhibitors
8:00	Exhibitions Open
7:00-8:10	Set up for Day 2 scientific posters
7:00-7:40	PowerPoint upload, preview/technology check for Day 2 Morning oral presentations - in the room your talk will be given
7:40-8:00	PowerPoint upload, preview/technology check for Day 2 Afternoon oral presentations - in the room your talk will be given
8:10-9:40	CONCURRENT SESSIONS: Morning I - schedule on page 16
9:40-10:30	MORNING POSTER SESSION w/ light snacks and beverages - list of Sunday posters on pages 22-23
10:30-12:00	CONCURRENT SESSIONS: Morning II - schedule on page 17
12:00-1:30	LUNCH (included for those who pre-registered for the conference)
1:30-1:45	Laughlin Award Presentation - to Vermonter who has shown extraordinary leadership in protecting the state's most vulnerable species
1:45-3:10	PLENARY SESSION - description on page 18
3:10-3:50	AFTERNOON POSTER SESSION w/ light snacks and beverages - list of Sunday posters on pages 22-23
3:50-6:00	CONCURRENT SESSIONS - Afternoon II - schedule on pages 18-19
5:30-6:15	Take down for Day 2 scientific posters
	Thank you for participating in NENHC 2018. We hope you enjoyed the conference and wish you a safe journey home.

8:10-9:20 Saturday Concurrent Sessions - Morning I					
	Room A	Room B	Room C	Room D	Room E
	Geocology: Serpentine Ferns	Wildlife Ecology	Urban Ecology and Conservation	Freshwater Communities I	Fungal Ecology
Moderator	Nishanta Rajakaruna & Eric Bishop von Wettberg	Jack Tessier	Jeremy Lundholm	Kerry Yurewicz	Pierre-Luc Chagnon
8:10-8:15	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
8:15-8:35	Christopher Hoess Maidenhair Ferns: Unexpected Complexity on a Serpentine Substrate	Ryan Stephens Rodent-Mycorrhizal Dispersal Networks and the Underappreciated Role of Generalists	Karina Dailey & Andrea Dotolo Conservation Ecology in a Developing Landscape: A Case Study of 3 VT Projects and Navigating the State and Local Regulations Designed to Conserve Natural Resources	David Parisi & Calvin Middleton Distribution and Abundance Patterns of Common Garter Snakes and Northern Water Snakes in Urban and Rural Landscape Settings in Southeastern MA	Hugo Germain A Mathematical Model of Probability for the Potential Presence of Mushroom Fruiting Bodies
8:35-8:55	Morgan Southgate Influence of Edaphic Factors on the Distribution and Interaction of Maidenhair Ferns in the Green Mountains of VT	Matthew Schlesinger Landscapes Used by New England Cottontails (<i>Sylvilagus transitionalis</i>) at the Edge of their Range	Aaron Grade Non-lethal Effects of Predation: An Experimental Test of Backyard-nesting House Wrens Across an Urban-to-Rural Gradient	Daniel Welsh Life in Murky Water: Patterns of Fish Eye Size from Habitats of Different Turbidity Levels	Alexis Carteron Major Changes in Soil Fungal Communities Across Soil Horizons and Between Adjacent Forests
8:55-9:15	Christopher Krieg The Role of Serpentine Soils in the Evolution of Novel Traits in a Polyploid Fern Complex	Bill Kilpatrick Genetic Legacies of Translocations and Isolated Relic Populations of American Marten in the Northeastern United States	Brian Boom The New York City EcoFlora Project: Connecting Urban People and Nature	Noah Charney Mortality and Morphology in Egg Masses of Unisexual and Jefferson Salamanders	Veronique Cloutier Micromammal Mycophagy and Diversity of Hypogeous Sequestrate Fungi in the Eastern Canadian Boreal Forest
9:15-9:20	Q & A	Q & A	Q & A	Q & A	Q & A

Interested in looking at the abstracts for some of the presentations?

A printed reference copy of all the oral and poster presentation abstracts are available for participant perusal at the registration table during the conference. They are also available on the conference website: you can access them from the left-hand menu of the home page under "Program".

10:10–12:00 Saturday Concurrent Sessions - Morning II					
	Room A	Room B	Room C	Room D	Room E
	Wetland Ecology and Restoration I	Lepidopteran and other Insect Diversity and Conservation	Ecosystem Effects of Invasive Species	Montane Ecology	Lost and Found: Recent Botanical Discoveries and Puzzles in the Northeast
Moderator	Catherine Koning	Michael Sabourin	Jennifer Dean & Suann Yang	Peter Palmiotto	Robert Popp
10:10–10:15	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
10:15–10:35	Erik Kiviat <i>Phragmites australis</i> Habitat Functions for Other Biota are Diverse and Similar on Three Continents	Neil Gifford Recovery of an Endangered Butterfly in a Fire-managed Urban Pitch Pine–Scrub Oak Barrens	John Davis Wildlife Impacts of Free-Roaming Domestic Cats and Management Responses in New York State	Chris Rimmer Mercury in the Mountains: Bioaccumulation and Temporal Trends in Songbirds	Robert Wernerehl Rare Vascular Plants in Massachusetts: Natural Heritage Maps the Mystery
10:35–10:55	Jay Cordeiro Translocation Success of Captive Bred Spadefoot Toad, <i>Scaphiopus holbrookii</i> , Populations in Restored Wetlands on Cape Cod, MA	Emily Mikucki Can Butterflies Stand the Heat? The Consequences of Winter Warming on <i>Pieris rapae</i> Butterflies	Susan Smith Pagano Can Invasive Fruits be Nutritional Traps?	Jeremy Kirchman Phylogeography of Songbirds Breeding in the Boreal Forest Archipelagoes of Eastern North America	Everett Marshall Plants Discovered along Lake Champlain's Sand Beaches during the Extraordinarily Low Water Year of 2016
10:55–11:15	Patricia Greene-Swift Stormwater Ponds and Wetland Functions: 5 yrs Monitoring Results and the Need for Wildlife-Sensitive Maintenance	Janet Mihuc Surveying Moth Diversity in the Northern Adirondack Mountains of New York: Preliminary Findings	Danielle Ignace Decline of a Foundation Tree Species due to Invasive Insects will Trigger Net Release of Soil Organic Carbon	Richard Ring Rocky Summit Grassland Natural Communities in New York State Parks	Robert Popp Recent Discoveries in the Vermont Alpine: Natural or Introduced?
11:15–11:35	John Davis Short-eared Owl (<i>Asio flammeus</i>) Habitat Preferences on the Montezuma Wetlands Complex	Peter Burn The Decline of Operophtera (Lepidoptera: Geometridae) in Carlisle, MA, in 2017	Anthony Cullen Analyzing Patterns of Spread for Two Invasive Viburnums on a Local and Statewide Scale	Kevin Berend Plant Traits and Community Metrics Along a Snowmelt Gradient at Alpine Snowbank Sites on Mt. Washington, NH	Matt Peters Uapishka – Les Monts Groulx, Quebec: A Botanist's Travelogue with Notes on Plant Discoveries in the Northeastern Alpine
11:35–11:55	Q & A	Charles Eiseman Uncovering Hidden Biodiversity through Insect Tracks and Sign	Chelsea Cannon Downgrading an Invasive Species: A Case Study with <i>Lythrum salicaria</i> (Purple Loosestrife)	Charles Cogbill Forty-two Years of Change on Franconia Ridge	Steve Young Discovering Rare Plants Indoors and Out
11:55–12:00		Q & A	Q & A	Q & A	Q & A

1:30–3:20 Saturday Concurrent Sessions - Afternoon I					
	Room A	Room B	Room C	Room D	Room E
	Wetland Ecology and Restoration II	Natural History of Trees	Impacts of Invasive Species on Native Biodiversity	Marine and Freshwater Invertebrate Ecology	What to Do With Natural History Knowledge: Communicating for Change
Moderator	Catherine Koning	Jerry Jenkins	Jennifer Dean & Suann Yang	Jay Cordeiro	Sean Beckett
1:30–1:35	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
1:35–1:55	Julie Follensbee Using Vermont Wetland Bioassessment Methods to Track Restoration Success	Charles Osgood The Natural History of Red Spruce	Elizabeth Spinney "Call me Another Thrower": Protecting Native Biodiversity and the Reality of Managing for Non-native Invasive Plants	Nicholas Hathaway Fear and Loathing in <i>Carcinus maenas</i> : Biogeography of Behaviors Associated with Invasion Success	Alicia Daniel Wild Heart of Place: Empowering Local Conservation with the Vermont Master Naturalist Program
1:55–2:15	Isabela Yepes Assessment of Current Health and Functional Conditions for Several Freshwater Wetlands in the Mianus River Watershed	Brett Engstrom <i>Pinus resinosa</i> (Red Pine) in the Northern New England Landscape	Steve Young Protecting Rare Plants from Invasive Species. A Growing Challenge	Christopher Bloch Trophic Position of the Invasive Asian Shore Crab (<i>Hemigrapsus sanguineus</i>) in Southern New England	Noah Charney The Field Naturalist Approach as a Book
2:15–2:35	Carla Fenner Wetland and Ecological Restoration in Action: Vermont Case Studies	Celia Evans Exploring and Celebrating <i>Larix laricina</i>	Nancy Olmstead Invasive Plants and Biodiversity in the Anthropocene: Complex Management Challenges from Maine	Renee Halloran Induced Defenses in Snail Congeners in Response to an Invasive Crab Predator	Kelly Finan Interpretation Strategies for the 21st Century
2:35–2:55	Rose Paul The Case for Including Disease-Tolerant American Elms in Floodplain Forest Restoration Throughout the Northeast	Charles Canham The Comparative Autecologies of Sugar Maple and Beech	Jeffery Wagner Impacts of Invasive Plants on Rare Species and Natural Communities in Pennsylvania	Jessica Rice Histological Comparison of Parasite Infections among <i>Elliptio complanata</i> (Unionidae) Possessing Normal and Deformed Shells from the Nashua River, MA	Eve Frankel The Role of Storytelling in Science Communication
2:55–3:15	Laura Green Vascular Plant Diversity in Southern New England Forested Wetlands	Jerry Jenkins A Pattern Language For Tree Branching Patterns	Panel Discussion: impacts of invasives on native biodiversity	Zen Faulkes Laws Don't Stop Claws: Regulations to Limit the Trade of Pet Crayfish are Ineffective	Rosemary Mosco Comics and Conservation
3:15–3:20	Q & A	Q & A		Q & A	Q & A

4:00–5:30 Saturday Concurrent Sessions - Afternoon II					
	Room A	Room B	Room C	Room D	Room E
	Forest Ecology	Vernal Pool Ecology and Conservation	The Bowser Road Mastodon (NY): Implications about the Demise of a Species	Marine Ecology	Conserving an Ecologically Functional Landscape
Moderator	Peter Palmiotto	Elizabeth Morse & Steve Faccio	Richard Gramly	Gaytha Langlois	Hannah Phillips
4:00–4:05	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
4:05–4:25	George Robinson Allocation of Nonstructural Carbon in Spruce (<i>Picea</i>) in Response to Lengthening Growing Seasons	Steve Faccio Bioaccumulation of Methylmercury in Wood Frog and Spotted Salamanders in Vermont Vernal Pools	Malcolm Lecompte Younger Dryas Impact Evidence Associated with the Bowser Road Mastodon	Owen Nichols Seasonal Distribution and Abundance of Fishes and Macroinvertebrates in Pleasant Bay, MA	Eric Sorenson Vermont Conservation Design: A Vision and Plan for an Ecologically Functional Landscape
4:25–4:45	Obadiah Mulder Impacts of Environmental Factors on the Presence and Severity of Beech Bark Disease in <i>Fagus grandifolia</i>	Kristine Hoffman Wood Frog Movement and Habitat Selection in Urban Settings	Guy Robinson Bowser Road: New Signs of Early Human Arrival in Southern New York	Kelly Flanders Species-specific Detection of Prey DNA in Analyses of Western North Atlantic <i>Halichoerus grypus</i> (Gray Seal) Diet	Robert Zaino & Elizabeth Thompson Ridges, Valleys, Bedrock, and Soil: Using the Physical Landscape to Conserve Species in a Changing Climate
4:45–5:05	Peter Palmiotto Impact and Recovery of the 2008 Ice Storm on Mount Monadnock Forests, Jaffrey, NH	Mary Beth Kolozsvary Created Vernal Pools Lack Ecological Functions of Natural Pools	Lerick Allen The Bowser Road Mastodon: The Case for the Clovis Hamstringing of "John Charles" by Large Stone Biface	Mathew Staffier & Mari Butler Monitoring Cadmium and Copper in <i>Mytilus edulis</i> During Dredging Operations in Gloucester Harbor	Rose Paul Water Quality Blueprint for Floodplains and Wetlands in the Lake Champlain Basin of Vermont
5:05–5:25	William Keeton Forest Stream Interactions in Old-growth Northeastern Forests: Recovery of Stream Habitats and Implications for Flood Resilience	Aram Calhoun The Maine Vernal Pool Special Area Management Plan	Richard Gramly Rate of Predation vs. Natural Increase of Mastodons during the 13th Millennium BP in Northeastern North America	Gaytha Langlois Ecological Dynamics in an Oiled Intertidal Microbial Community, Prudence Island, Narragansett Bay	Caitlin McDonough Conservation Paleobiology above Treeline in the Northeastern United States: Opportunities to Inform Management with Ancient Pollen
5:25–5:30	Q & A	Q & A	Q & A	Q & A	Q & A

Saturday	NENHC 2018 Saturday Evening Workshops
7:30–8:30 PM Room D	<p>Building Bat Houses, led by Barry Genzlinger, Vermont Bat Center</p> <p>This workshop will introduce wildlife biologists, state agencies, conservation officers, and others interested in wildlife forensics to the services offered by the Northeast Wildlife DNA Laboratory. It will address the knowledge, skills, and abilities needed for the proper processing of animal remains associated with a legal investigation. Topics will include sample collection, case submission, type of testing, database management and case studies. Also included in this workshop is a presentation on human–wildlife encounter protocols which focus on sample collection from the scene of a wildlife-human attack. Space limited. Pre-registration required.</p>
7:30–9:00 PM Room C	<p>Northern Forest Atlas Open House: Testing the New Photo-guides and Charts, led by Jerry Jenkins, Northern Forest Atlas Project</p> <p>This presentation will explore the role White Oaks play in the distribution and abundance of mosses and liverworts in sandy soils of central Connecticut. Based on observations from a 2-year study in the Winding Trails forests in Farmington, questions arise as to why some bryophytes normally described as preferring moist and calcareous habitats should be found in acidic droughty soils. To address these questions, a few common forest trees will be compared in light of their stem flow and cation exchange properties. A brief discussion of White Oaks and "the fertile island effect" on other plant groups concludes the talk. Open to all. Pre-registration not required.</p>
7:30–9:00 PM Room A	<p>Machine Learning in Conservation, led by Larry Clarfled, Naturalist and PhD candidate in Computer Science, University of Vermont</p> <p>In this workshop, we'll explore how the same technology that powers self-driving cars can be used to classify bird songs, detect animals from trail cams, and determine the species of irises. Geared towards beginners, we will discuss the very basics of supervised and unsupervised learning through examples. Participants will learn what types of problems can be solved by machine learning, some of the limitations of these methods, and get demonstrations of state-of-the-art techniques such as k-means clustering, random forest classifiers, and convolutional neural networks. For intrepid participants who wish to dabble in the code, contact Larry for software requirements, however no coding experience is necessary to attend the talk. Larry is willing to answer questions and facilitate further discussion of the topic among participants after the talk if there is interest. Open to all. Pre-registration not required.</p>

8:10–9:40	Sunday Concurrent Sessions - Morning I				
	Room A	Room B	Room C	Room D	Room E
	Fern Systematics and Biogeography	Natural History and Ecology of Green Infrastructure	Habitats, Ecology, and Conservation of Non-migratory Bat Populations in Northern New England	Geocology: Life on Harsh Substrates II	Plants of the Northeast: The Rare, the Edible, and Changing Biodiversity
Moderator	Cathy Paris & David Barrington	Jeremy Lundholm	Megan Lout	Nishanta Rajakaruna & Eric Bishop von Wettberg	Robert Wernerehl
8:10–8:15	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
8:15–8:35	David Barrington The Enigmatic History of Braun's Holly Fern	Jeremy Lundholm Constructed Ecosystems as Components of Urban Environments	Alyssa Bennett Conservation and Recovery of White-nose Syndrome-Affected Bats in Vermont	Nishanta Rajakaruna Serpentine Geocology of Eastern North America: Current Knowledge and Information Gaps	Robert Wernerehl Rare Vascular Plants in Massachusetts: Recent Spatial and Temporal Trends and Threats
8:35–8:55	Nikisha Patel Biogeography and Apomictic Evolution in <i>Phegopteris</i> (Thelypteridaceae)	Amy Heim Plant Species Co-Occurrence in Heathland: Plant Traits and Applications for Green Roof Design	Jesse Mohr Northern Long-eared Bat in Working Forest Habitats and Implications for Voluntary Conservation	Jerry Burgess Serpentine Vegetation Dynamics and Mesophication in the Mid-Atlantic Area	Jan Salick Phenological Changes after 150 years around Buzzards Bay, MA
8:55–9:15	Michael Sundue Evolution and Natural History of Green Spores in Ferns	Pierre-Luc Chagnon Mycorrhizal Symbioses in Phytotechnologies: Promises and Knowledge Gaps	Megan Lout Bat Conservation Through Collaboration	Eric Bishop von Wettberg Plant Life on Harsh Soils: Contrasts in Edaphic Endemism and Adaptation to Serpentine, Karst, Gypsum, Dolomite, and Other High-pH Soils	Christine Wilson Ecology and Botany of Star Island in the Isle of Shoals
9:15–9:35	Q & A	Mary Alldred Nitrogen-Removal Services of Restored Salt Marshes in Jamaica Bay (New York, NY)	Barry Genzlinger Rescue and Rehabilitation of Vermont's Bats	George Meindl Reproductive Ecology of Nickel Hyperaccumulation in Serpentine <i>Streptanthus</i> spp. (Brassicaceae)	Russell Cohen Enhancing the Edibility of New England's Landscapes with Native Species
9:35–9:40		Q & A	Q & A	Q & A	Q & A

10:30-12:00	Sunday Concurrent Sessions - Morning II				
	Room A	Room B	Room C	Room D	Room E
	Forest Understory	Climate Change and Assisted Migration of Plants: Risks and Opportunities	White-nose Syndrome in Bats of the Northeast	Ecology of Northeastern Ferns and Lycophytes	Student-led Community Conservation
Moderator	Jack Tessier	Jesse Bellemare	Craig Frank	David Barrington & Cathy Paris	Michael Rubbo
10:30-10:35	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
10:35-10:55	Jack Tessier Potential Causes of Summer and Winter Mortality in <i>Erythronium americanum</i>	Jesse Bellemare Climate Change, Plant Migration, and Assisted Colonization: The View from New England	Carl Herzog Ten Years of White-nose Syndrome: Significant Questions Remain	Susan Fawcett The Impact of White-tailed Deer Herbivory on Two Rare <i>Asplenium</i> Species from the Great Lakes to the Northeast	Michael Rubbo Advancing Conservation at the Local-level: Engaging Higher Education
10:55-11:15	Geoffrey Griffiths Evaluating Forest Understory Plant Dispersal and Establishment Limitations through Transplant Trials	Gretel Clarke Invasiveness of Intra- Versus Inter-continental Exotic Plants in New England: Implications for Assisted Migration	Jesse Mohr Post White-Nose Syndrome Bat Activity During Fall Swarm Around Three New Hampshire Mine Hibernacula	Arthur Gilman Diversity and Ecology of Lycophytes on Utility Corridors in Northern New England	Jennifer Rubbo Mapping an Invasion: Student Engagement in an Urban Natural Resources Inventory
11:15-11:35	Nathan Kiel Can Disruption of an Ant-Plant Mutualism Explain Lack of Recovery of Forest Herbs in Post-agricultural Forests of New York?	Bryan Connolly Hybridization Threat Assessment of Assisted Migration for Vascular Plant Species	Craig Frank The Recovery of a Bat Population During Nine Years of Exposure to <i>Pseudogymnoascus destructans</i> : The Etiological Agent of WNS	James Watkins Jr. The Ecophysiology of Fertile-Sterile Dimorphism in Ferns	George Frantz Student-Led Scenic Viewshed Protection in the Hudson Valley
11:35-11:55	Timothy McCay Earthworm Assemblages in Northeastern Uplands and Consequences for Leaf-litter Fauna	Robert Popp Assisted Migration as a Response to Climate Change: Should We be Doing this with Plants and if so How and Under What Constraints?	Melissa Ingala The Role of Epidermal Lipids in the Resistance of Bats to Cutaneous Infection with <i>Pseudogymnoascus destructans</i>	Morgan Southgate Ecological Intermediacy of the Allotetraploid Hybrid <i>Adiantum viridimontanum</i> Relative to its Progenitors in the Green Mountains of Vermont	Matthew Aiello Engaging Students in Genuine Research and Conservation at Local and Regional Scales
11:55-12:00	Q & A	Q & A	Q & A	Q & A	Q & A

Sunday Afternoon I					
1:45–3:10	Plenary Session - Rooms A/B The Evolution of Beauty: How Darwin's Forgotten Theory of Mate Choice Shapes the Animal World with Richard Prum, William Roberston Coe Professor of Ornithology, and Head Curator of Vertebrate Zoology at the Peabody Museum of Natural History, Yale University				
	Richard will discuss the research and insights that shaped his brand new, highly acclaimed book <i>The Evolution of Beauty</i> , in which he dusts off Darwin's long-neglected theory of sexual selection in which the act of choosing a mate for purely aesthetic reasons—for the mere pleasure of it—is an independent engine of evolutionary change. Using examples from species around the world, he examines how mate choice can drive ornamental traits from the constraints of adaptive evolution, allowing them to grow ever more elaborate, and also sets the stakes for sexual conflict, in which the sexual autonomy of the female evolves in response to male sexual control.				
3:50–6:00	Sunday Concurrent Sessions - Afternoon II				
	Room A	Room B	Room C	Room D	Room E
	Harnessing Biodiversity Data: Collections, Assessments, and Blitzes	Freshwater Communities & Odonate Natural History	Heathland and Pollinator Ecology	Disease and Parasite Ecology	Birds of Early Successional Habitats: Ecology and Management
Moderator	Christian Schorn	Kerry Yurewicz & Bryan Pfeiffer	Caitlin Porter & Emily Walker	Lauren Ash	Rosalind Renfrew
3:50–3:55	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview	Introduction & Overview
3:55–4:15	David Barrington The Fire at the Pringle Herbarium: A Disaster Averted	Craig Milewski A Case Study of the Relationship of Fish and Invertebrate Communities to Organic Matter along Shorelines	Caitlin Porter Classification and Environmental Drivers of Barrens (Heathland) Plant Communities in Nova Scotia, Canada	Lauren Ash Detecting the Emerging Infectious Disease Ranavirus in Amphibian Communities of Vermont	Steve Campbell Tracking Prairie Warblers during the Non-breeding Season using Light-level Geolocators
4:15–4:35	Cailin McDonough Floristic Change on Mount Desert Island, Maine and Regional Patterns of Plant Species Loss and Decline	Danielle Garneau Microplastic Pollution and Trophic Transfer in Organisms within the Lake Champlain Basin	Jeremy Lundholm Spatial Heterogeneity Predicts Site-level Native and Rare Plant Species Diversity on Coastal Barrens: Implications for Reserve Selection	Seth Cunningham Transatlantic Hitchhiking: A Possible Case of Acanthocephalan Parasites Transported to New York by a Rare Vagrant, the Corncrake (<i>Crex crex</i>)	Matthew Tarr Movements and Relatedness of Shrubland-Dependent Songbirds Using Anthropogenic Shrublands in Southern ME and NH

4:35–4:55	William O'Connell Determination of Age and Growth Patterns in Wood turtles (<i>Glyptemys insculpta</i>): A Collection-based Study	Mariah Witas The Effects of Acid-mine Drainage on the Diversity of Sensitive Species of Macroinvertebrates in Two Branches of a Vermont Stream	Emily Walker Wild Bee Communities of Nova Scotia Heathland Habitat	Laura Bashor Effect of Elevation on Proportion and Infection Rate of Two Common Lyme Disease Hosts in Vermont	Allan Strong Natal Dispersal: A Tool for Grassland Bird Conservation
4:55–5:15	Carolyn Gorss Performance of Floristic Quality Assessments in Massachusetts Forested Wetlands	Declan McCabe Stream Macroinvertebrate Responses to Landscape Variables: An Evaluation of Rapid Bioassessment Techniques Using a Statistical Modeling Approach	Charles Nicholson Native Pollinators in Vermont's Working Landscape, Including Highlights from Recent Research	Megan McCauley Gammaherpesvirus (GHV) Strain Identification, Prevalence, and Tissue Presence in Vermont Bobcats	Michael Akresh Shrubland Bird Conservation and an Early-successional Shrubland Habitat Decision Support Tool
5:15–5:35	David Gregg Rhode Island BioBlitz: Exploring 18 Years of Citizen Science Data	Kent McFarland Intrinsic Markers Reveal the Annual Cycle of a Migratory Insect, <i>Anax junius</i> (Common Green Darner)	Leif Richardson Decline and Conservation of the Rusty-Patched Bumble Bee (<i>Bombus affinis</i>)	Q & A	Michael Allen Understanding Agricultural and Climatic Correlates of Grassland Bird Population Fluctuations
5:35–5:55	Q & A	Bryan Pfeiffer Dragonflies and Damselflies: An Introduction and Field Survey Priorities for the Northeast	Samantha Alger Evidence of RNA Virus Spillover from Managed Honeybees to Wild Bumblebees		Q & A
5:55–6:00		Q & A	Q & A		

Mark Your Calendars and Plan Ahead!

The 2019 Northeast Natural History Conference will be in Springfield, MA, Friday April 12–Sunday April 14.

Let us know if you are interested in joining our Program Committee to help plan next year's event.

We also welcome proposals for field trips, workshops, and oral presentation sessions—contact us with your ideas!

SATURDAY POSTER PRESENTATIONS DIRECTORY

No.	Presenter	Title
1	Jase Briggs	Where and When do Turtles Cross the Road: The Case of the New York State Threatened Blanding's Turtle
2	Alexandra Vlk	Habitat Use of the Wood Turtle (<i>Glyptemy insculpta</i>) in a Disturbed Field Site
3	Josh West	Importance of Amphibians: A Synthesis of Their Environmental Functions, Benefits to Humans, and Need for Conservation
4	Sarah Couto Elena Babicz	SPARCnet Year 1: Preliminary Results of a Long-term Mark-Recapture Study on <i>Plethodon cinereus</i> (Eastern Red-Backed Salamander) in Bridgewater, MA
5	Emma Perry	Fall vs. Spring Predation on Eastern Red-Backed Salamander
6	Courtney King	Is Something Shady Going On? Animal Vocalization During the Great American Eclipse
7	Chris Nagy	An Index of Time of Day that Accounts for Shifts in Sunrise & Sunset for Use in Wildlife Studies
8	Lauren Jaeger	Heterogeneity Within and Among Streams in Leaf-Decomposition Rates: Is Japanese Knotweed the New American Chestnut?
9	Rachel Penders	Influence of Surface Agricultural Runoff on Nutrient Concentrations in the Little Chazy River
10	Mark Kuhlmann	Patterns of Predation on Crayfish in the Upper Susquehanna River Catchment: Does Stream Size Matter?
11	Kevin Curry Christine AuCoin Samantha King	Assessing Impact of Dam Removal on <i>Anguilla rostrata</i> (American Eel) in the Mill River, Taunton, MA
12	Susan Cushman	Impacts of the Invasive Round Goby on Benthic and Pelagic Prey in Lakes
13	Donald Padgett	Densities of Invasive and Native Bivalves in a Massachusetts Stream
14	Weston Strubert	Effects of Riparian Plant Invasions on Stream Macroinvertebrate Communities
15	Jacqueline Sharry	Can an Invasive Species Burn Soil Carbon? Black Locust Invasion and Soil Carbon in the Albany Pine Bush
16	Claire Hartl	Invasive Swallowwort (<i>Cynanchum</i> spp.) and Small-Mammal Interactions Determining Tick Abundance
17	Simran Singh	The Effect of Pollination Treatment on Thistle Dispersal
18	Wyatt Jackson	Effects of Pale Swallowwort (<i>Cynanchum rossicum</i>) on Native Forest Moth Communities
19	Eric Metzler	Collecting Moths Leads to New Discoveries, Conservation, and Preservation of Moths
20	Charles Eiseman	Leafminers of North America
21	Allison Jones	Interactions between Beech Blight Aphids, Sooty Mold Fungus, & Forest Invertebrates
22	Kevin Zablonksi	Genetic Comparison of Slavemaking Ant Colonies to Complement Assays of Aggression Between Nests
23	Jason Lang	Effect of Habitat Type on Wasp Abundance & Diversity on the SUNY Geneseo Campus
24	Kushi Singh	Substituting the Natural Honey for the Artificial High-fructose Corn Syrup will Alter Sugar Metabolism in Honeybees
25	Sam Heraghty	Patterns in Native Bee Diversity: Effects of Floral Resources and Habitat
26	Erin White	Assessing the Conservation Status of New York's Native Pollinators, 2018-2021
27	Matea Mezc	Calendarizing the Fluctuation of Nectar Resources for Pollinators
28	Jonathan Roling	The Environmental Pesticide Imidacloprid Decreases Neurotransmission Associated Enzymes in the Honeybee (<i>Apis mellifera</i>)
29	Noelle Connors	Pastures and Hayfields: An Assessment of Soil and Plant Health at Essex Farm
30	Jeffrey Corbin	Biological Soil Crusts in the Northeast: They're not just for Deserts Any More
31	Jessica Gilbert	Biological Soil Crusts Inhibit Seedling Germination in an Inland Sand Plain
32	Amanda Lodge	Spatial Patterns Associated with Soil Chemistry in the High Peaks Region of the Adirondack Mountains, NY
33	Roxanne Giguère-Tremblay	Environmental Effect on Enzymatic Activities of Boreal and Temperate Forest Soils
34	Isabel Schmitt	Restoring Northeast Understory Species: A Case Study of the Primary Literature
35	Chris Hart	Spatial Patterns of Lichen & Moss Abundance in Dynamic Fir-Wave Forest on Whiteface Mt
36	Hilary Dawson	Correlations in Autumn Leaf Color Change and Cardinal Direction

37	Addison	Tate	American Chestnut Repopulation as a Management Strategy for Vine-Dominated Forest Gaps
38	Judy	Stone	Single Planting Creates Expanding Naturalized Population of <i>Quercus palustris</i> Far From its Native Range Limit
39	Aaron	Kluball	Impact of Vegetation History on Forest Development in a Heterogeneous Secondary Successional Forest
40	Júlia	Martino	Discovery of Species Boundaries to Aid Conifer Conservation.
41	Jennifer	Rowan	Associations between Forest Type, Diversity, & Soundscape Parameters in Letchworth State Park
42	Samantha	Williams	Evaluating Nitrogen Heterogeneity in the Albany Pine Bush
43	Abigail	Lehner	Bee Communities in Native & Restored Pine Barrens Habitats in Albany Pine Bush Preserve
44	Anna	Browne	Studying Mercury Bioaccumulation in Avian Species at the Albany Pine Bush Preserve
45	Leeann	Bruetsch	Can You Hear Me Now? Changes to Winter Bird Vocalizations in Response to Anthropogenic Noise
46	Luke	Gagnon	Ecological Restoration of an Urban Riparian Migratory Bird Stopover Site
47	Makayla	Cormier	Nonbreeding Habitat Use of the Common Loon (<i>Gavia immer</i>) in Newport, RI
48	Justin	Clarke	The Northern Waterthrush: Analyzing the Distribution and Abundance of a Secretive Songbird in Pennsylvania
49	Kylie	Denny	Reproductive Benefits of Natal Philopatry in <i>Dolichonyx oryzivorus</i> (Bobolink) and <i>Passerculus sandwichensis</i> (Savannah Sparrow)
50	Kylee	DiMaggio	Consequences of Divorce on Reproductive Success of Grassland Songbirds Breeding in Vermont Hayfields and Pastures
51	Ryan	Senecal	Wintering Bufflehead (<i>Bucephala albeola</i>) Habitat Use Along Newport Neck, RI
52	Mathew	Driscoll	Geographic Variation in the Fecundity of the Invasive Asian Shore Crab in Southern NE
53	Lindsey	Meola	Effects of Asian Shore Crab Abundance on Biodiversity of Intertidal Zones in Southern New England
54	Sarah Alexis	Kuyateh Correira	Relationship Between Female Body Size, Egg Size, and Stage of Development in the Asian Shore Crab
55	Conner	Hayes	<i>Enterococci</i> Contamination of Marine Tidal Water Surrounding Aquidneck Island, RI
56	Gemma	Venuti	The Paleocology of Great Duck Island
57	Hubert	Szczygiel	Holocene Ecology and Climate in the Northern Adirondack Mountains
58	Christina	Dykas	Water-Holding Capacity in Sphagnum: Micro CT Scanning Reveals Differences in Pore Structure
59	Jackie	Schnurr	Remote Sensing of Cliff-side Vegetation Using GigaPan Technology
60	Mary	Lundin	A Comparison of Alpine Plant Frequency & Abundance on Mount Marcy over a Century
61	Constance	Rinaldo	Exposing Biodiversity Data in Library and Archive Collections
62	Tulpen Racheal	Hansen-Schwoebel Devine	Pre-Dispersal Seed Predation in the Roemer Arboretum
63	Mia Sabrina	Estralla Salas	DNA Barcodes of Roots Collected from an Urban Forest to Determine Biodiversity
64	Emelyn Lauren	Bell Ellis	Post-Dispersal Seed Predation in the Roemer Arboretum
65	Kira	Broz	White-tailed Deer Endozoochory: A Year of Pellet Germination and Analysis
66	Nicole	Huff	The Movement of Male White-tailed Deer within a Metapopulation in Response to the Behavioral Habits of Other Organisms in Cohasset, MA
67	Stephen	Kovari	The Dynamics of Cohabitation: Using Camera Traps to Estimate Important Wildlife Occupancy Covariates in an Urban Matrix
68	Adam	Enos	Bat Occupancy in Two Habitat Types in Private Conservation Lands of SE MA
69	Joshua	Kelleher	Differences in Seasonal Occurrence and Activity of Bat Species within Private Conservation Land in Massachusetts
70	Joseph	Schell	Documenting the Presence of Eastern Small-footed Bats in the Delaware Water Gap National Recreation Area
71	Jessica	Burns	Habitat Preferences and Species Distribution Models for Bats in the Delaware Water Gap National Recreation Area
72	Maria	Armour	Variation in Bat Wing Morphology Correlates to Folding Patterns and Degree of Flexion

SUNDAY POSTER PRESENTATIONS DIRECTORY

No.	Presenter	Title
1	Mercedes Harris	Impact of Intraspecific Density on <i>Alliaria petiolata</i> Sinigrin Concentration
2	Erin Coates-Connor	Assessing Effectiveness and Community Response to Different <i>Alliaria petiolata</i> Eradication Methods
3	Michelle Jackson	Effect of Garlic Mustard Management on Exotic Earthworms and Native Plant Diversity
4	Emily Martin	Extended Leaf Phenology of the Invasive Amur Honeysuckle
5	Jennifer Dean	Spatial Prioritization of Invasive Species Management and Survey Efforts
6	Katharine DeBell-Donnelly Paulina Murray	Assessing the Validity of an Invasive Species Prioritization Model
7	Aswini Pai	Ornamental Gardens as Sites for Conserving Plant Species: Insights from Bloodroot (<i>Sanguinaria canadensis</i>)
8	Jessica Duserick	Urban Woodland Gardening as a Mechanism for Sustainable Landscaping and Recommendations for the Bates College Campus
9	Emily Fairbairn	Baseline Data for Study of Powerline Rights of Way Management in Delaware County, NY
10	Brian Dagley	Pollinator Abundance and Distributions in Marginal Urban Habitats Including Green Roofs
11	Chad Halson	Micro-morphology of the Stylar Umbrella of <i>Sarracenia purpurea</i> (Northern Pitcher Plant)
12	Lindsey Pett	Methods in Simulating Nutrient Stoichiometry, Structure, and Function within <i>Sarracenia purpurea</i>
13	Taryn Mueller	Investigating Novel Mycorrhizal Mutualisms of Endemic <i>Rhododendron catawbiense</i> with Soil Fungi North of its Range
14	Miriam Quintana Vargas	The Effects of Clorox Green Works® on <i>Brassica rapa</i> Plant Growth and Health
15	Amanda Northrop	Driver-dependent Hysteresis in an Enriched Aquatic Ecosystem
16	Gabriel Benson	Flower Size Provides Information about Nectar Production in <i>Lyonia ligustrina</i> (Maleberry)
17	Emily Proutey	Quantifying the Value and Quality of Created Wetlands in Otsego County, New York
18	Leah Nagel	Finding the Sharpest Needles in the Haystack: Predicting Vernal Pool Hotspots in High-quality
19	Matthew Schlesinger	Determining the Importance of Vernal Pools Across Geophysical and Urbanization Gradients to Inform Regulation, Conservation, and Management
20	Mary Beth Kolozsvary	Vernal Pool Policies and Protections in the Northeast: Gaps and Opportunities
21	Stacy McNulty Mary Beth Kolozsvary	NEPARC Vernal Pool Working Group: Small, Wet, and Vital
22	Riley Masterson	A Survey of Microplastics in Invertebrates in the Lake Champlain Basin
23	Melissa Moriarty	A Survey of Microplastics in Wastewater Treatment Plant Effluent in the Lake Champlain Basin
24	Erin Ashline	Characterization of Microplastics using Fourier Transform Infrared Spectroscopy (FT-IR)
25	Alexandra Elliot	Evaluating Bioremediation Potential for Plastic Pollution with Wax Worms, <i>Galleria mellonella</i>
26	Anthony Young	Bioremediation of Crude Oil Using the Fungus <i>Pleurotus ostreatus</i>
27	Rose Paul	Water Quality Blueprint for Floodplains and Wetlands in the Lake Champlain Basin of VT
28	Noah Henkenius	Sediment Transport and Salinity of the Hoosic River
29	Kyle Welsh Jessica Kane	The History of Northeastern Land Conservation Through the Wildlife and Sport Fish Restoration Programs of the US Fish and Wildlife Service
30	Simon Pearish	Student-Driven Research Links Sensory, Physiology, and Behavior in Brook Stickleback
31	Owen Nichols	Seasonal Presence and Habitat Association of a Cryptobenthic Fish, the Seaboard Goby, at its Northern Range Limit
32	Olivia Gresham	Phylogenetic Relationships of Leeches and their Relatives
33	Marisa Zable	Comparative Odonate Biodiversity in Two Northern Berkshire Ponds
34	Sylvana Finn Bruce Martin	Enhancing Polistes Social Wasp Populations in Farm Fields for Caterpillar Biocontrol

35	Erin	Stanley	The Effect of Group Size and Assessment Behavior on Pathogen Transmission in <i>Tetramorium caespitum</i> (Pavement Ant)
36	Mark	Mello	MassMoths: An Ongoing Compilation of Past, Present, and Future Records of the Moths of Massachusetts
37	Kelsey	McLaughlin	A Comparison of Insect Assemblages at the Ground and Canopy of <i>Acer saccharum</i> and <i>Prunus serotina</i> in New York
38	Ravyn	Neville	The Sky is Falling: Beech Bark Disease, Changes in Forest Structure, and Impacts on Biodiversity
39	Patrick	Bly	Decline in Growth and Productivity of Sugar Maples in the Northeastern Adirondacks
40	Rachel	Penders	Are Trees Migrating? Elevational Shifts of <i>Betula papyrifera</i> and <i>Acer saccharum</i> in the Adirondack Mountains
41	Michael	Hurban	How is Climate Change Affecting Species Range Limits? A Tale of Two Trees: <i>Pinus banksiana</i> and <i>Pinus rigida</i>
42	Samantha	Reiss	Phenotypic Plasticity of Pitch Pine (<i>Pinus rigida</i>) Across Environmental Gradients
43	Isobel	Curtis	The Regeneration of a Rare Forest Type, Pitch Pine Duneland, in Coastal Maine
44	Elana	Feldman	Parameterization of a Spatially Explicit Forest Model SORTIE for Addison County, VT
	Matthew	Reala	
45	Erin	Gaare	Modeling Growth Rates and Competitive Effects in Northern Hardwood Permanent Forest Plots
46	Elizabeth	Spencer	Developing a Vegetation-based Deer-browse Index for the Northeastern United States
47	Maeve	Sherry	Using Dendrogeomorphology to Reconstruct Flooding History in the Champlain Valley
48	Alyssa	Valentyn	Effects of Woody Shrub and Tree Density on Species Richness and Habitat Preference
49	Mikey	Baum	Assessing Biodiversity with Trail Cameras in the Hampshire Woods
	Anwyn	Gatesy-Davis	
	Tieran	Rosefield	
50	Osrica	McLean	Use of Point-and-Shoot Photography to Compare Regional Differences in Coyote (<i>Canis latrans</i>) Skull Size
51	Olivia	Richards	The Effects of an Open Compost Site on Mammal and Bird Species Compared to a Field Location in Colchester, VT
	Shyler	Schewe	
52	Linh	Le	The Effect of Deer Browsing on Native and Non-native Vegetation in Northeastern Forests
53	Matt	Nasner	Estimating Deer Populations in Champlain Valley Forests
	Tatiana	Campos	
54	Joanne	Sharpe	Long-term Studies of Ferns at the Holt Research Forest, Arrowsic, ME
55	Amanda	Hill	Genetic Variation of the Gene Cytosolic Phosphoglucose Isomerase (pgiC) within the <i>Matteucia struthiopteris</i> Populations Dispersed over the Northern Hemisphere
56	Douglas	Robinson Jr	Bird and Tree Censuses of the Clare J. Hoyt Foundation Property in Walden, NY
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