

THE LATEST BUZZ ON VERMONT'S BUMBLEBEES

The recent “buzz” on bee populations has been anything but positive. Most has involved the decline of European Honeybees that are important pollinators of North American crops. Scientists coined the term “colony collapse disorder” (CCD) for this phenomenon and have since identified a variety of potential culprits, including pathogens, toxins, and stressful apicultural practices.

While CCD focused scientists and the public on threats to European Honeybees, a non-native species imported in the 17th century, some native bees appear to be in equally serious trouble. These natives are often highly specialized and efficient foragers that are important pollinators for tomatoes, cucumber, squash, berries, and fruit orchards. Across the U.S., native bees annually contribute an estimated \$3 billion worth of crop pollination services.

In the late 1990s, bee biologists started to notice a decline in the abundance and distribution of several bumblebee species; in the Northeast, a sudden, range-wide drop in numbers became apparent. Leif Richardson, a biologist with the Vermont Fish and Wildlife Department, was concerned.

Because data on regional bumblebee populations were lacking, Richardson visited insect collections at the University of

Vermont and other institutions to examine past records of bumblebee abundance. He found that students had commonly collected one species, the Rusty-patched Bumblebee, during the 1960s and 1970s, but that no Vermont specimens had been found in recent years. Once among the state's most common bumblebee of fields, farms, and gardens, the Rusty-patched Bumblebee was all but gone.

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© Kent McFarland

THE TRICOLORED BUMBLEBEE IS A COMMON VISITOR TO THE BACKYARDS AND GARDENS OF VERMONT.

ALWAYS ELUSIVE, AND NOW VANISHING?

Even when they were more common, the Whip-poor-will and Common Nighthawk were enshrouded in mystery. Rarely seen, these cousin species foraged by night and held tight in camouflaged plumage by day. The Whip-poor-will's strident, unmistakable song could be heard at the lakeshore cabin or the nearby farm, and the nighthawk was a regular sight over the supermarket on a summer night. In many of these places today, however, both species are mere ghosts.

The nocturnal nature of Whip-poor-wills, Nighthawks, and

their allies has sparked human imagination for centuries.

Taxonomically classified in the Order Caprimulgiformes, or “goat-suckers” (think milk), this common misnomer was inspired by not-so-scientific observations of a European relative. Their family name, Caprimulgidae, or “nightjars”, is more apt and was coined for the species’ “churring or jarring” calls.

The ecology of Whip-poor-wills and Common Nighthawks is poorly understood, due largely to their reclusive nature. They feed exclusively



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THE COMMON NIGHTHAWK, WHILE HISTORICALLY COMMON IN THE NORTHEAST, HAS UNDERGONE A DRAMATIC DECLINE AND RANGE RETRACTION IN RECENT YEARS.

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Field Notes

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The Vermont Center for Ecostudies (VCE) is a nonprofit organization whose mission is to advance the conservation of wildlife through research, monitoring and citizen engagement. With a reach extending from northern New England through the Caribbean to South America, our work unites people and science for conservation.

Field Notes is VCE's biannual newsletter and is free to citizen scientists, donors, and partners.



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VCE VIEW

For nature enthusiasts in northern climes, there is no more exhilarating, hopeful time than spring. Here in the Northeast, it has been an especially long, at times grueling winter with deep cold and heavy snows. Hordes of visiting Bohemian Waxwings and Common Redpolls have held our birding interest, with the odd Northern Hawk Owl or Varied Thrush adding spice. Now, we welcome and celebrate each seasonal sign, from the first hardy Red-winged Blackbird, to the cackling wood frog choruses, to the earliest flutter-



CHRIS RIMMER COLLECTS FIELD DATA IN A REMNANT CLOUD FOREST IN HAITI. VCE'S ASSESSMENTS HAVE BEEN A CATALYST FOR RECENT CONSERVATION ACTION IN THE COUNTRY.

ing Mourning Cloak. For VCE staff, spring heralds our own emergence, as field projects unfold and we again mobilize our legion of citizen scientists, including many of you. Needless to say, we're eager for it.

Recent months have found us immersed in crafting a 5-year strategic plan, one that will shepherd VCE from our exhilarating, formative stage to a more mature, stable platform. The plan, still in draft form, squarely retains our core focus on "Uniting people and science for conservation". Through expanded programs and deliberate internal growth, it charts a course that will enable VCE to deliver more effective, science-based conservation. We'll still be scaling mountains, paddling loon lakes, combing vernal pools, counting grassland birds, and engaging you, our partners, to help. We look forward to sharing this plan and our overall vision with you in the months ahead. Most importantly, we'll rely on you for its implementation. Thanks for all you continue to do, think spring, and bring on those blackflies!

—Chris Rimmer

WELCOME AND A FAREWELL

VCE is very pleased to welcome new Board member **Jared Keyes**. Currently a Partner at Brown Brothers Harriman & Company in New York City, Jared's roots extend deeply into New England. A childhood spent outdoors in Concord, MA and on Lake Champlain's North Hero, where he maintains an extended family home, helped nurture his abiding passion for birds and conservation. Jared graduated from Harvard University in 1984 with a degree in East Asian Languages and Civilizations. He has long been active in community affairs, currently serving on the Board of New York City Audubon and the advisory board of the Massachusetts Audubon Society. With his wife Song-mei and their two children, Simon and Alicia, Jared lives in New York City, where he frequents Central Park during spring and fall migration.



It is with a mixture of regret and profound appreciation that VCE bids farewell to founding Board member **John Peiffer**. John has been a mainstay of VCE's first 3-plus years, having helped us get launched in 2007, serving simultaneously as Chair and Treasurer, keeping watch over our fiscal health, asking probing questions, offering perceptive strategic advice, and always encouraging us to stretch ourselves. His humor, candor, insightfulness, and no-nonsense approach to the business of running a non-profit will be missed. Thanks, John, for all you've done to promote VCE's success!

BUMBLEBEES - CONTINUED FROM PAGE 1

Following the Rusty-patched Bumblebee's disappearance, the Ashton Cuckoo Bumblebee also vanished. Cuckoo bumblebees are antisocial species that parasitize other bumblebee colonies. They infiltrate a rival queen's colony, enslave the workers, and use them to feed their own young. The Ashton Cuckoo specializes in parasitizing the nests of Rusty-patched Bumblebees. As its host disappeared, so went the parasite.

Bumblebees are excellent pollinators of greenhouse-grown tomatoes and other cultivated plants, and this may be where some of the trouble began. In order to increase crop production, farmers often release common eastern bumblebees into their greenhouses. As it happens, many of these native American bees are actually hatched and raised in Europe before being exported back home. While in Europe, some queens are known to have been infected by intestinal parasites common to native European bumblebees; those parasites came to North America on the homeward journey.

Some of the imported and infected bumblebees escaped from greenhouses and came into contact with wild bumblebee populations, transmitting the parasites. In 2006, Sheila Colla, a doctoral student at Toronto's York University, and her colleagues captured native bumblebees at varying distances from commercial greenhouses where bumblebees were being used. They found that native bees captured close to greenhouses were much more likely to be infected with

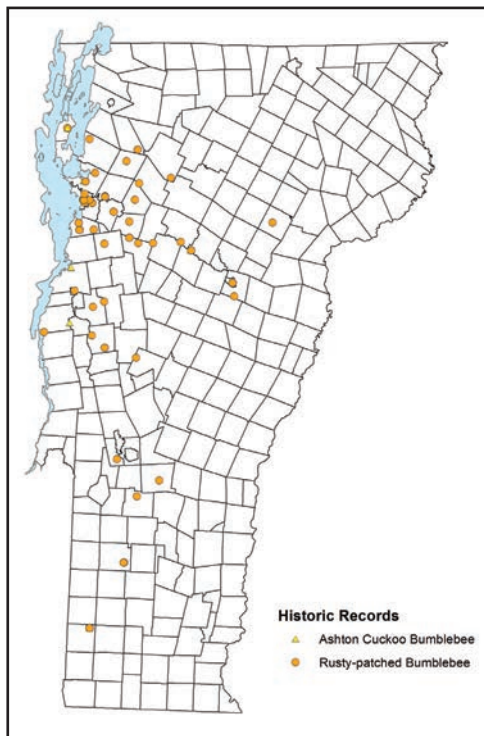
introduced parasites than those captured far away.

Introduced parasites are hardly the only problem facing our native bumblebees. Habitat loss and fragmentation, planting of monoculture crops, and urbanization are taking their toll on pollinator populations of all kinds. Some widely used pesticides, particularly the neonicotinoids, may pose as serious a threat to bumblebees as to honeybees.

The Xerces Society, one of North America's leading insect conservation groups, has placed the Rusty-patched Bumblebee, Yellow-banded Bumblebee, and two western species, the Western Bumblebee and Franklin's Bumblebee, on its red list of most-threatened insects. Franklin's, confined to southern Oregon and northern California, has not been found since 2004 and may be extinct. The Rusty-patched Bumblebee could be close behind.

Although about 275 bee species have been documented in Vermont, for most we have little or no information on their status. For many of our most important bee-pollinated foods, we do not even know which species pollinate them! VCE hopes to remedy that by launching the Vermont Bee Survey in 2012. We will catalogue bee diversity across Vermont over five years with help from an army of trained citizen scientists, as we seek to learn more about this vital wildlife group and their conservation needs. We look forward to involving many of you in this effort.

—Kent McFarland



HISTORICAL DISTRIBUTION OF THE RUSTY-PATCHED AND ASHTON CUCKOO BUMBLEBEES; TWO FORMERLY COMMON SPECIES THAT HAVE ALL BUT DISAPPEARED FROM THE FIELDS AND GARDENS OF VERMONT.

NIGHTJARS - CONTINUED FROM PAGE 1

on insects, from moths to mosquitoes, hunting on the wing with their wide, gaping bill. Both species are most active at dawn and dusk, but will forage throughout a moonlit night. They forego nest-building and instead lay their well-camouflaged eggs directly on the ground.

Whip-poor-wills nest in forests with little understory, adjacent to open areas for foraging. Habitats include power line rights-of-way, pine-oak forests along major rivers, and areas subject to frequent disturbance such as logging or gravel mining. A recent radio telemetry study by New Hampshire Audubon found that Whip-poor-wills prefer partial cuts and power line corridors over mature pine forest, and readily colonize recently logged areas.

Common Nighthawks prefer relatively open areas with bare ground, occupying pine barrens, logged sites, rock outcrops, gravel pits, recently burned areas, open forests, and farm fields. By the early 1900s they began nesting on gravel rooftops in urban areas, where city lights served to lure a smorgasbord of insects. Most likely, this artificial habitat became increasingly important as farming declined and agricultural fields were abandoned.

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Both nightjar species were historically common in the Northeast, but regional breeding bird atlases have reported widespread range retractions and dramatic declines. Whip-poor-will is a Species of Special Concern in four northeastern states. Common Nighthawk was listed as Threatened in Canada in 2008, is Endangered in Connecticut and New Hampshire, and is a priority species in most other northeastern states. Both species are currently under review in Vermont, where the recent Atlas produced no breeding records for nighthawk, and found a 77% decline in Whip-poor-will occurrence.

Development, succession of abandoned agricultural lands, a reduction in intensive forestry, forest maturation, and the spread of invasive plants have likely resulted in loss and degradation of nightjar habitat. In recent decades, rooftop gravel has been replaced with other materials, and nighthawks have disappeared from many cities and towns. Loss of breeding habitat is not the definitive cause of population declines, however. Other potential threats include declines in the prey base resulting from insect control programs, an increase in predators associated with human habitation, and exposure to pesticides on South American wintering grounds.

Declining trends and the lack of rigorous survey data

prompted New Hampshire Audubon to initiate the Northeast Nightjar Survey in 2005. Volunteers conduct roadside counts along designated routes on calm, clear, moonlit nights during the breeding season. By 2008, citizen scientists in nine states had surveyed 216 routes and detected 806 singing Whip-poor-wills, with New Jersey by far registering the highest count (188). Nighthawks will require different survey protocols, although migration counts along major waterways already suggest declining numbers.

In an attempt to attract nighthawks to their former urban dwellings, pea gravel rooftop nest sites have been established in a few New Hampshire and Vermont cities. These innovative efforts have yet to be rewarded, leaving question as to whether breeding habitat is in fact limiting populations. Meanwhile, ongoing Whip-poor-will surveys will reveal whether declines continue, and provide needed insight into the species' preferred habitat characteristics. Management and monitoring strategies that have a chance of positively impacting populations are worth pursuing now. Until we reveal more about the true nature of nightjars, however, any conservation action is merely a shot in the dark.

—Rosalind Renfrew

Hispaniola Bird Conservation Update

© Kent McFarland



BIRD CONSERVATIONISTS MEET IN SANTO DOMINGO TO ADVANCE CONSERVATION OF VULNERABLE MONTANE SPECIES.

Recent months have brought an active slate for VCE on Hispaniola. In November, we convened an historic meeting in Santo Domingo, with 60 bird conservationists from seven countries coalescing around Bicknell's Thrush and Black-capped Petrel. Our common goal was to advance conservation of these two vulnerable species, both of which spend critical portions of their annual cycle on Hispaniola. We identified a suite of needed actions and established connections that will define a new conservation era for the Greater Antillean montane forests used by these two species.

This meeting was followed by a weeklong field trip to Sierra de Bahoruco, where a multinational team of 13 biologists mist-netted and banded an array of resident and migrant species, mapped Bicknell's Thrush territories, resighted color banded endemics, and conducted point counts.

Of 22 Bicknell's Thrushes captured, two relinquished geolocators that we had attached last February. We mist-netted nearly 150 birds, including 2 Swainson's Warblers, and we documented the DR's first-ever Lincoln's Sparrow. Moreover, we formed a tight-knit, multinational unit that freely exchanged information, ideas, and camaraderie.

In February, I spent 10 days in the DR and Haiti, attending the Sociedad Ornitológica de la Hispaniola's annual meeting, and traveling to Port-au-Prince with colleagues Eduardo Iñigo-Elias and Jim Goetz for meetings with MacArthur Foundation grantees. In a city still battered from the January 2010 earthquake, remarkable and sincere optimism exists to turn things around. With our many local and international partners, VCE looks forward to playing a continued role in advancing Hispaniolan conservation.

—Chris Rimmer

THE VERMONT COUNTY QUEST SOARS INTO SPRING

The 2011 Vermont County Bird Quest is off and running. Nearly three months out of the gate at this writing, all 14 Vermont counties have enthusiastically joined the fray. Part fun, part discovery, part conservation, but mostly fun, this yearlong quest gives us all a welcome excuse to head outdoors and go birding. From the common to the rare, a diverse and fascinating array of birds resides in or passes through Vermont each year. Each county now seeks to document that diversity, with the added incentive of vying for top honors of the maximum species count, and the highly-coveted Vermont County Cup. Vermont eBird will provide the tool for that documentation.

Expanding from the Norwich 2010 Birding Quest, which tallied 168 species within town borders during the past year, the initiative has taken a quantum leap in 2011. What began innocently as an extension from Norwich to all of Windsor County, evolved next into a friendly challenge with our neighbors in Washington County, and has now grown to a statewide “competition”.

Naturally, we expect a great deal of cross-county collaboration, some good-natured taunting, and plenty of avian surprises. Front runners in the latter category so far have been Northern Hawk Owl, Slaty-backed Gull (not yet officially accepted), and Varied Thrush. All counties have enjoyed this winter’s influx of Northern Shrikes, Bohemian Waxwings, and Common Redpolls.



NORTHERN SHRIKE

© Pat Gaines



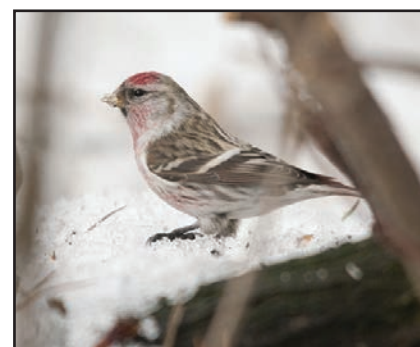
BOHEMIAN WAXWING

© Eric Begin

The main idea behind the Quest is to get people out birding, promote camaraderie, and better document Vermont’s bird life. VCE is hosting monthly outings for the birding-interested public in Windsor County, and these have so far drawn good crowds, even during January’s frigid weather. We encourage each Vermont county to follow suit.

As birders continue to search for lingering winter visitors and tick off the expected early spring migrants, we all await the waves of songbirds that will quickly boost tallies. Not surprisingly, the Champlain Valley county of Addison currently leads the statewide pack and was first to hit the century mark of 100 species. Neighboring Chittenden and Vermont’s southernmost two counties of Bennington and Windham are in hot pursuit. We’re working out a “par system” to level the playing field, so that relatively bird-depauperate counties in the north and east have a fighting chance against the heavyweights.

At year’s end, we’ll account for handicap scoring and award the (still-to-be-designed) Vermont County Cup to the winning county. Each county has a designated sponsoring organization, which will physically house the Cup, and one or more assigned captains serve as point persons. The Quest’s two main corporate sponsors at present —Birds & Beans and the Cornell Lab of Ornithology —are offering generous prizes to individual leaders in each county. Again, this is all in fun, pure friendly rivalry among us birders, but VCE’s overall coordination of the County Quest does have a serious goal to engage people and generate invaluable data for science and conservation through eBird.



COMMON REDPOLL

© Sergey Yeliseev

© Jim Block



BIRD QUEST ENTHUSIASTS BRAVE THE COLD FOR SOME FRIENDLY COMPETITION AND THE OPPORTUNITY TO SPOT SOME OF VERMONT’S MOST ELUSIVE WINTER BIRDS.

So, whether it’s a Mallard or Tufted Duck, a Red-winged or Yellow-headed Blackbird, a Spotted Sandpiper or Hudsonian Godwit, get out there, find some birds, and enter them all on Vermont eBird!

—Chris Rimmer

A DECADE OF MOUNTAIN BIRDWATCH

High-Elevation Avian Trends in the Northeast, 2001-2010

The dense, tangled spruce-fir forests of our northeastern mountains may seem impenetrable to all but the most daring humans, but for a unique community of songbirds, these woods offer a breeding haven. Squeezed between low-elevation hardwood forests and the higher alpine zones, these fir-dominated habitats are limited in geographic extent, often occurring in isolated patches, or “sky islands”. Montane forests are vulnerable to a variety of human-influenced stressors such as ski trail development, cell tower and wind farm construction, acid rain, and climate change. Still, these habitats are home to some of the Northeast’s rarest breeding birds, including the elusive yet sought-after Bicknell’s Thrush.

In 2010, VCE celebrated ten years of successful surveys through Mountain Birdwatch (MBW), a citizen-science monitoring project designed to assess abundance and distribution of high-elevation birds across the northeastern U.S. Since 2001, volunteers have climbed high peaks, slept in frigid forests, and risen before first light to conduct standardized counts of montane breeding birds. With between 92 and 140 surveys completed annually across the mountains of New York, Vermont,

New Hampshire, and Maine, MBW has amassed a decade of invaluable data on five key montane breeders: Bicknell’s Thrush, Swainson’s Thrush, Blackpoll Warbler, White-throated Sparrow, and Winter Wren.

To assess the first ten years of MBW counts, we examined our data in two ways; initially, we investigated general patterns across all data collected from 2001-2010. Long-time colleague Randy Dettmers at the U.S. Fish and Wildlife Service then conducted trend analyses of MBW data collected from 2001-2009, exploring patterns in each discrete mountainous region of the Northeast. While a decade is very short time

in ecological terms, these analyses provide a first glimpse of high-elevation avian trends across the Northeast.

Bicknell’s Thrush is among the landbird species of highest conservation concern in North America, and thus holds a spot of honor among MBW focal species. Our data indicate that the number of Bicknell’s Thrush detected per point increased slightly over the past decade, as did the species’ frequency of occurrence across all routes. The most striking regional pattern occurred in New York’s Adirondack Mountains, where detections of Bicknell’s Thrush significantly increased; however, the species exhibited stable populations elsewhere. These indications of Bicknell’s Thrush overall

population stability in the U.S. sharply contrast with results from surveys by VCE partners in Québec and Atlantic Canada, which reveal steep and worrisome declines for this species.

The second MBW target *Catharus* thrush, Swainson’s Thrush, occurs at higher overall population density than Bicknell’s, but the two species show similar increases in their frequency of occurrence over the last decade. Unlike Bicknell’s Thrush, however, Swainson’s

shows significant population increases in all survey areas from 2001-2009, including the Adirondacks and Catskills of New York, Vermont’s Green and New Hampshire’s White Mountains, and the high-elevation regions of Maine.

In contrast to these two thrushes, Blackpoll Warbler populations experienced declines in the Adirondacks of New York and Green Mountains of Vermont, while remaining stable overall across the Northeast. Although the Blackpoll is currently considered a species of Least Concern by the International Union for Conservation of Nature, which evaluates the global conservation status of plants and animals, this species



THE STARS OF MOUNTAIN BIRDWATCH! A DECADE’S WORTH OF DATA COLLECTED ON THESE FIVE SPECIES PROVIDES INVALUABLE INFORMATION REGARDING THE STATUS OF MONTANE BREEDING BIRDS OF THE NORTHEAST.

is recognized by the Green Mountain and White Mountain National Forests as a management indicator for montane spruce-fir forest. Thus, MBW's consistent monitoring of Blackpoll Warblers will allow us to detect trends that may signal early warnings of potential stressors for this and other montane species.

White-throated Sparrows maintained fairly constant populations throughout the first decade of MBW, while Winter Wren populations increased region-wide from 2001-2009. Despite an overall increase, however, Winter Wren detections throughout the region fluctuated dramatically (Figure 3), with highs in 2005-2006 and 2009-2010 and lows from 2001-2003 and in 2007. Data from VCE's Forest Bird Monitoring Program indicate that Winter Wren populations exhibit a 3-year cycle, and MBW results for the species reveal a similar pattern. This may indicate that Winter Wren populations are strongly influenced by large-scale events such as severe weather on their southeastern U.S. wintering grounds.

While these analyses explore uncorrected data and are thus preliminary, our results provide the first landscape-level findings for montane bird trends in the Northeast over an entire decade. These data can be used to highlight signs of trouble for certain populations, or they may allow us to link

population fluctuations with environmental events, as for Winter Wren. MBW data reflecting the relative abundance of species within a region can also indicate which areas are most important for which species, information that can be used to appropriately site new recreational, cell tower, or wind farm development. Further, these data provide us all some much-needed hope; despite threats from climate change, deforestation, and development, Mountain Birdwatch suggests that at least some montane species are holding on, perhaps even flourishing. These trends offer encouragement and incentive; our conservation efforts can and do make a difference.

—Judith Scarl

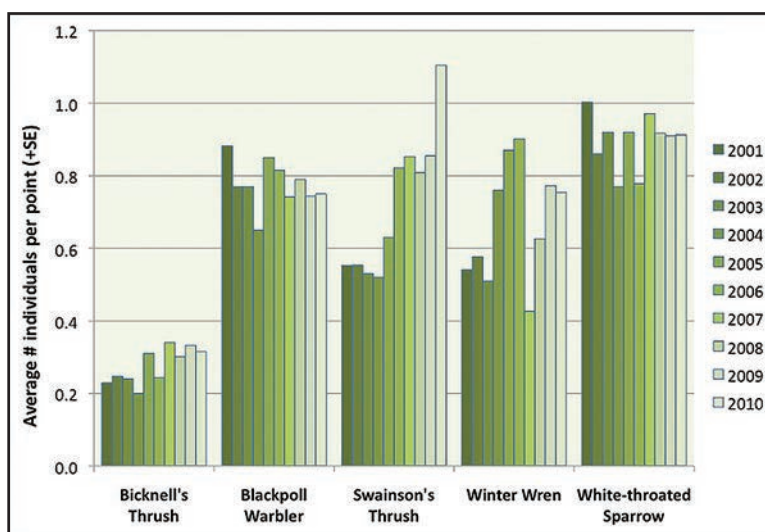


FIGURE 3: AVERAGE NUMBER OF INDIVIDUALS DETECTED PER POINT THROUGHOUT THE DECADE OF MOUNTAIN BIRDWATCH OBSERVATIONS.

CITIZEN SCIENCE OPPORTUNITIES

If you enjoy watching wildlife and wish to contribute to protecting our natural heritage, then it's time to join the VCE team! Consider becoming a citizen scientist. Visit www.vtecostudies.org/citsci.html to find the citizen science project that's right for you.

Project	Website/email	Leader	Season	Ability
Vermont eBird and eBird Caribbean Report and explore bird sightings with this online checklist.	ebird.org/content/vt/ ebird.org/content/hispaniola/kmcfarland@vtecostudies.org	Kent McFarland	Year-round	Beginner to expert
Mountain Birdwatch Adopt a mountain and survey Bicknell's Thrush and other mountain songbirds.	www.vtecostudies.org/MBW/jscarl@vtecostudies.org	Judith Scarl	June	Beginner to expert Hiking required
LoonWatch Participate in the annual one-day census of Vermont's breeding loons.	www.vtecostudies.org/loons/chanson@vtecostudies.org	Eric Hanson	mid-July	Beginner to expert
Vermont Loon Recovery Program Help monitor nests and lakes.	www.vtecostudies.org/loons/chanson@vtecostudies.org	Eric Hanson	Spring-Summer	Beginner to expert
Forest Bird Monitoring Program Help track long-term changes in populations of interior forest songbirds.	www.vtecostudies.org/FBMP/sfaccio@vtecostudies.org	Steve Faccio	June	Able to identify forest birds by sight and sound Hiking required
Vernal Pool Mapping Project Help map vernal pool locations statewide by conducting field visits to potential pools.	www.vtecostudies.org/VPMP/sfaccio@vtecostudies.org	Steve Faccio	Primarily Spring, also Summer and Fall	Beginner to expert

VCE NEWS AND EVENTS

© Kent McFarland



Enjoy a day outside.

VCE Birdathon 2011!

www.vtbirdathon.org

From the summit of Okemo Mountain to back roads through forest and farmland, our intrepid team of staff birders will again bike through the wilds of Vermont for VCE's annual Birdathon! We invite you to join us this spring to celebrate the return of Vermont's migratory birds. Form your own team and count any time in May, or vicariously experience team VCE's May 23rd exploits via our email alerts, Twitter, and Facebook. Either way, you will help VCE accomplish its mission of advancing the conservation of wildlife through research, monitoring, and citizen engagement.

© Steve Faccio



© Kent McFarland



Win a VCE T-shirt.

Spring Field Ornithology Course

Vermont Center for Ecostudies and the Montshire Museum of Science are once again partnering to offer our spring field ornithology course! Visit our February 22nd blog for more information on this course: www.vtecostudies.blogspot.com.

Lectures: Montshire Museum,
6:30-8:30 p.m.
 Thursday, May 5
 Thursday, May 12
 Thursday, May 19
 Thursday, May 26

© Melissa MacKenzie



Field trips:

Saturday, May 7, 6 a.m.-4 p.m.
 Saturday, May 14, 7-11 a.m.
 Saturday, May 21, 6 a.m.-2 p.m.
 Saturday, June 4, 6 a.m.-2 p.m.

Mountain Birdwatch Training Sessions

Four Mountain Birdwatch training sessions are scheduled for this coming May! All sessions will be classroom based, with program background information, a brief overview of the birds, a discussion of the new methods, and practice point counts (using speakers, not actual birds). All volunteers are encouraged to attend, even if you are not assigned a route this year.

© Steve Faccio



MOUNTAIN BIRDWATCH TECHNICIAN
 KELLY SURGALSKI TRAINS FOR A SUMMER
 OF FIELD WORK ON BATTALL MOUNTAIN.

Friday, May 6, from 3-5 p.m.
 Fields Pond Audubon Center
 Holden, ME.

Saturday, May 7, from 10 a.m. to 12 p.m.
 McLane Center, New Hampshire Audubon
 Concord, NH

Saturday, May 14, from 11 a.m. to 1 p.m.
 Wild Center, 45 Museum Drive
 Tupper Lake, NY 12986

Saturday, May 21, from 10 a.m. to 12 p.m.
 North Branch Nature Center, 713 Elm Street
 Montpelier, VT 05602-9400

© Steve Faccio



MOUNTAIN BIRDWATCH TECHNICIAN
 CHRIS MULVEY USES A CLINOMETER TO
 DETERMINE CANOPY HEIGHT.

VOLUNTEER HIGHLIGHT: HENRY DANDENEAU

Volunteers are integral to the success of many VCE projects. From the Vermont Breeding Bird Atlas and the Vermont Butterfly Survey, to long-term monitoring projects such as Mountain Birdwatch and Forest Bird Monitoring, the countless hours contributed by these dedicated individuals allow us to achieve conservation in a cost-effective manner. Moreover, these citizen scientists often share their enthusiasm and knowledge of the natural world with friends and neighbors, helping to nurture a community of informed ecological stewards. In an ongoing effort to thank and acknowledge their contributions, we regularly profile a volunteer in Field Notes.

For more than 30 years, the Vermont Loon Recovery Project (VLRP) has relied on volunteers to monitor when and where loon pairs nest, to set out nesting rafts and warning signs, and to keep a vigilant watch on loon welfare. Volunteers play an especially important role in southern Vermont, where the expanding loon population puts most pairs at a 4+-hour drive from my home base in Craftsbury. To check

2000-acre Somerset Reservoir's three nesting pairs requires a 3-to 6-hour paddle, then another 3-hour hike to check the nesting loons on Bourn Pond to its north. Thank goodness for Henry Dandeneau, who 16 years ago started learning about loons and today essentially takes care of all monitoring and management of Vermont's southernmost breeding pairs. I have dubbed him the Southern Vermont Loon Biologist.

Henry became involved with the VLRP through his work at New England Power Company as an operations coordinator of various hydroelectric projects. One of his primary responsibilities was license compliance. A historic settlement agreement in 1995 established a specific water level range for loon nesting at Somerset Reservoir, requiring that these levels be strictly maintained while loons were nesting. Henry needed and wanted to learn more. In April of 1995, he joined Sally Borden, then the VLRP biologist, on her check of the reservoir; his calling as a loon volunteer was launched.

Henry is an active outdoorsman, having hiked the entire Long Trail and now completed 1200 miles of the Appalachian Trail between Maine and Georgia. He also plays tennis, hunts, fishes, snowshoes, and skis both cross country and downhill. Henry saw a mountain lion back in 1960 but didn't dare report the sighting because no one believed catamounts still roamed the state back then. "Last fall I found a beaver pinned under the tree I had cut down. I knew it would die from a coyote or starvation so I walked back with my chainsaw and cut the tree off it. The beaver seemed to realize I was there to help and showed no fear of me, even when realizing I had set

it free. It sure was glad to get a drink of water upon reaching the pond!"

Observing loon behaviors, their interactions, and tracking them around the reservoir became a passion. "The first successful hatch that I saw, my heart skipped a beat, and it still does every time I see chicks after they're off the nest" says Henry. "I remember watching the big male on Somerset try to swallow a foot-long sucker. I was sure the loon would choke but after many, many tries he finally swallowed it."



VCE VOLUNTEER HENRY DANDENEAU ON AN ICY JANUARY HIKE UP MT. GREYLOCK IN MASSACHUSETTS.

As Henry's interest in loons increased, so did his involvement. He now hikes regularly into Stratton, Branch, Bourn, and Grout ponds, enabling him to combine two of his favorite outdoor activities. He has also participated in loon banding and rescue efforts, including an all-night outing on Somerset with Sally Borden and me, in which we eventually caught and released an adult tangled in fishing line. There happened to be a full moon, making the night that much more memorable. Henry has even traveled up to Lake Dunmore to help Sally and the loon volunteers there. And Henry adds, "Now that I'm retired I intend to become more involved in more areas." VCE couldn't be happier to hear that!

—Eric Hanson

VCE Monthly eNews

If you would like to receive our monthly eNews,
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DARKENING THE NIGHT SKIES FOR MIGRANT BIRDS

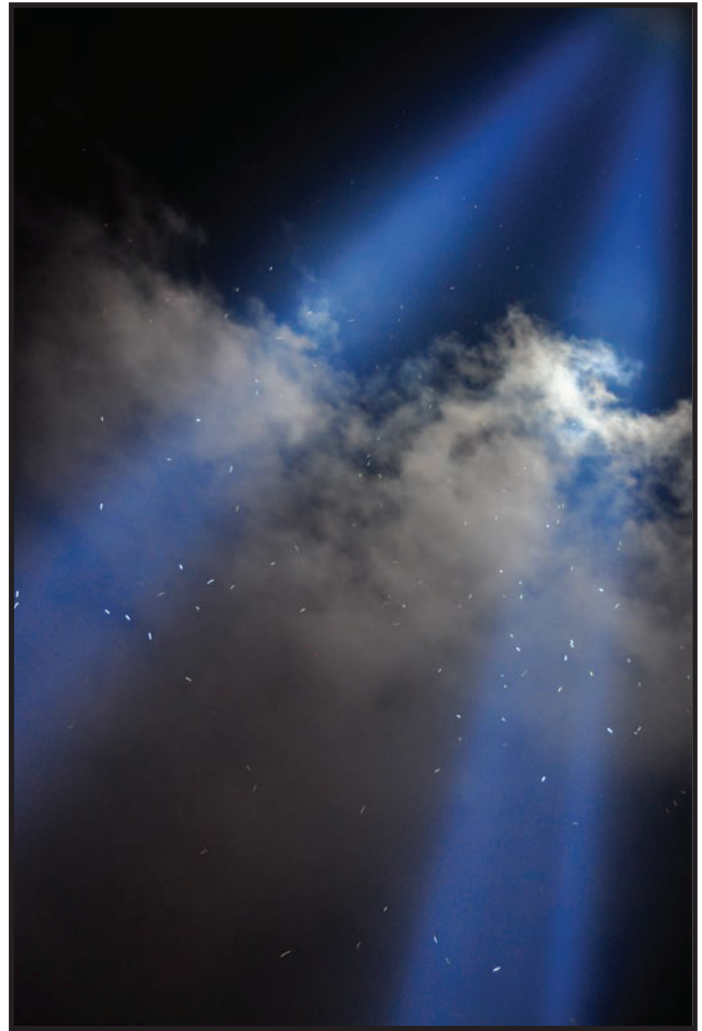
One of the most visible memorials to the lives lost in New York City (NYC) on September 11, 2001 is the annual Tribute in Light: twin beams of light that illuminate the night sky over lower Manhattan from dusk on September 11 until dawn on the 12th. While the beams give humans pause to contemplate and remember, they also pose a risk to migratory birds, which use light cues in the night sky to guide their journeys. Since 2005, NYC Audubon has partnered with the Municipal Art Society (MAS), which produces the Tribute in Light, to monitor the beams with the goal of preventing bird mortality. NYC Audubon and MAS have a protocol in place that calls for the beams to be extinguished for a period of 20 minutes if either large numbers of birds (greater than 1,000) become disoriented in the beams or if any birds are killed because of the beams. NYC Audubon volunteers take two-hour shifts through the night to monitor the beams and report whether either of those criteria is met.

Every year is different, but in September of 2010, several conditions came together to create a potentially perilous situation for migratory birds. The moon is an important visual cue for nocturnal migrants, and last September's new moon fell on the 8th. That meant that on September 11 the sky was moonless after 8:45 pm, and natural light cues for birds were non-existent. In addition, conditions had been poor for migration for a number of days prior to September 11, due to persistent southerly winds, causing a "back-up" of birds north of New York City.

Soon after the beams were turned on, it was apparent that a major migration event was underway; birds were already circling in the lights and appearing disoriented. NYC Audubon volunteers monitored the beams and, as migrant numbers built, conducted patrols on the streets around the tribute site looking for compromised birds. At approximately 11:00 pm a dead Pine Warbler was found on the street below the beams, and well over 1,000 birds were visible circling within the beams. The lights were extinguished for 20 minutes to allow birds to clear out. After consultation between the MAS producers and NYC Audubon staff on site, the lights were extinguished an additional four times. No other dead birds were discovered by patrols for the rest of the night, a hopeful sign that the birds had successfully negotiated their way over and through the city.

The loss of life that occurred on September 11, 2001 brings painful memories. The dedication and efforts of volunteers and the supportive partnership that NYC Audubon enjoys with the Municipal Art Society ensure that more lives—avian lives—are not lost each year.

VCE thanks Board member Jared Keyes and John Rowden of NYC Audubon for contributing this article.



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COLUMNS OF LIGHT FROM THE 9/11 TRIBUTE MEMORIAL IN NEW YORK CITY TRAP THOUSANDS OF MIGRATING BIRDS. LIGHTS WERE TURNED OFF, THEN ON AGAIN IN AN EFFORT TO ALLOW THE BIRDS A CHANCE TO ESCAPE THE POWERFUL BEAMS.



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Knob-Lipped Fairy Shrimp (*Eubbranchipus bundyi*)

Discovering fairy shrimp is one of the great treasures of visiting a woodland vernal pool. These tiny crustaceans can be as ephemeral as some orchids, appearing in abundance one year, and not at all the next. Because of their limited dispersal ability, fairy shrimp are permanent residents in any given pool, with adaptations that allow them to withstand the range of conditions that exist in these small, ephemeral wetlands.

Among the many species of vernal pool invertebrates, fairy shrimp are easily recognized by their combination of stalked eyes, upside-down swimming behavior, and orange, reddish, or bronze coloration. While several hundred species are known world-wide, at least two species inhabit vernal pools in New England—the Vernal Fairy Shrimp (*Eubbranchipus vernalis*) is fairly widespread in southern New England, while further north it is replaced by the Knob-lipped Fairy Shrimp (*E. bundyi*). This 1/2- to 3/4-inch long, reddish-orange fairy shrimp is most often seen in early spring, shortly after ice-out. Although little is known about the distribution and abundance of the Knob-lipped Fairy Shrimp in Vermont, in my experience it is most commonly found in larger woodland pools, and rarely, if ever, in silty, roadside pools impacted from run-off, or those located in fields or other open habitats.

Life History

After fertilization, fairy shrimp eggs settle to the bottom of the pool where they enter a state of diapause. Resistant to desiccation, the eggs remain in the sediment throughout the summer when most vernal pools dry up. Although it is unclear what specific conditions are required for eggs to hatch, *Eubbranchipus* eggs apparently require drying, and in some species exposure to freezing temperatures, before they will



AN EPHEMERAL RESIDENT OF VERMONT'S VERNAL POOLS, THE KNOB-LIPPED FAIRY SHRIMP CAN WITHSTAND A RANGE OF CONDITIONS IN THEIR WETLAND HABITATS.

hatch. This may explain why, after being present in a given pool for several years, fairy shrimp may disappear for a year or two, only to suddenly reappear. Following this “resting” period, *Eubbranchipus* eggs hatch in late winter or early spring as well-developed larvae called “metanauplii,” with up to 10 pairs of swimming legs. After several molts (instars), they add appendages and gradually mature into adults with the full complement of 11 pairs of feathery legs. Adult male *bundyi* appear to patrol territories, waiting for receptive females to approach them. Mature females, which tend to remain hidden in the leaf litter, can be recognized by paired egg sacs located just behind their feathery legs, while mature males

appear to have enlarged heads due to the presence of claspers—modified antennae used to grasp females during mating.

Vernal pools are critical components of healthy forest ecosystems in the Northeast, and fairy shrimp, which spend their entire lives in these tiny wetlands, are indicators of vibrant, unpolluted systems. Do yourself a favor and visit a vernal pool in your neighborhood this spring—if you're lucky, perhaps you'll become acquainted with these intriguing crustaceans.

—Steve Faccio

How You Can Help

Do you have an interest in conservation, getting out, and hiking off the beaten path? Become a Vernal Pool Mapping Project volunteer and help VCE field-verify potential pools that have been mapped remotely.

Visit the Vernal Pool Mapping Project webpage to find out more: www.vtecostudies.org/VPMP/