Field Notes

VERMONT CENTER FOR ECOSTUDIES
UNITING PEOPLE & SCIENCE FOR CONSERVATION

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Uniting People and Science for Conservation

Miracles on Wings

© Kent McFarland

A Bicknell's Thrush nestling banded on Stratton Mountain was netted 17 months and 2,000 miles later in the Dominican Republic.

They say that miracles only happen once, but for VCE biologists a miracle with wings has hit their nets three times.

Nearly 20 years ago, under the cloud forest canopy on a remote Dominican Republic mountain, the first miracle appeared just before dawn. With a net as fine as forest mist strung between two poles, Kent McFarland crouched in nearby undergrowth and pushed "play" on his cassette player.

The plaintive calls of a Bicknell's Thrush whistled from the speaker. "*Peeer....peeer....peeer.*" A reply came from within the dark forest, followed by a bird darting from the understory and landing headfirst in the black net.

In the pre-dawn twilight, McFarland and fellow biologist Jim Chace hurried to the net. A thrush hung safely in the mesh. But this wasn't just any Bicknell's Thrush. It was a Vermonter. Its tiny aluminum leg band with a unique set of nine digits, like an avian social security number, told the story.

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Common Loons: The Limits of Success?

One of Vermont's greatest wildlife conservation triumphs is the return of the Common Loon. From a mere seven pairs three decades ago, Vermont's loon population has steadily climbed to 84 pairs in 2014. But in recent years, something unusual has been happening among Vermont loons.

As adult loon numbers continue to rise, the number of surviving chicks appears to have leveled off to an average of 67 per year over the past six years. Although it's too early to conclude that the loon population has reached some sort of demographic plateau, here at VCE we're watching these chick numbers and working to enhance the conservation of Common Loons in Vermont.

In 1978, with the statewide nesting loon population at alarmingly low levels, the Vermont Fish and Wildlife Department (VFWD) and the Vermont Institute of Natural Science (VINS) implemented a recovery plan for this species. For the past seven years, VCE has run the program which features:

- **Monitoring** - We can't protect loons unless we know where they are and how well they're doing. Our committed corps of volunteer loon watchers has been indispensable to biologists working on loon protection and recovery.

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© Susan Hindinger

Loon biologist Eric Hanson assembles an anchored sign warning boaters to stay clear of loon nests.

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The Vermont Center for Ecostudies (VCE) is a nonprofit organization whose mission is to advance the conservation of wildlife across the Americas 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.

VERMONT CENTER FOR ECOSTUDIES
UNITING PEOPLE & SCIENCE FOR CONSERVATION

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VCE View

I had the recent good fortune to enjoy a two-month sabbatical, defined by Webster's as "a recurring period of rest or renewal." Mine was every bit a rejuvenating break, an opportunity to recreate and reflect. It was punctuated at both ends by my first-ever trip to the Grand Canyon in early September and a canoe-camping trip to the Adirondacks in late October. The two experiences were vastly and wonderfully different, but each connected me to the work we do at VCE and to the grander stage of wildlife conservation.

If you've never seen a California Condor, go to the Grand Canyon's South Rim. You'll never forget the sight. I was lucky to see four in one day, all living emblems of this species' dramatic recovery from a low of only 22 individuals in 1987. Innovative captive breeding and strong protection under the Endangered Species Act (ESA) brought condors back from the brink, and there are now >225 free-flying birds. There is no question that the species was headed for extinction and that the ESA made possible its rebound.

Closer to home, my three days paddling in the Adirondacks brought the near-constant company of Common Loons, some likely residents, others coast-bound migrants. I couldn't help marveling that the recovery of loons in NY, VT, and elsewhere is another tangible outcome of science-based conservation on the part of so many, including VCE.

As I settle back in at VCE, rested and energized, I'm more aware than ever of the challenges before us. Our climate is changing, natural systems face unrelenting pressures, even the ESA itself is under assault. We know what needs to be done, and we know how to do it. Condors, loons, and Tri-colored Bumblebees need us—let's get to work!

—Chris Rimmer

John Lloyd Joins VCE Staff

We're delighted to announce that VCE's scientific program has taken a key step forward with the addition of John Lloyd as Director of Science. John's expertise in sophisticated analytical methods, combined with strategic thinking and a solid grasp of study design, are assets that promise to elevate our scientific rigor and boost our productivity.

© John Lloyd

John and son Jack, enjoying a winter day in Vermont.

John's Vermont roots trace back to UVM, where he earned a BSc in Wildlife Biology. He then moved westward, earning a MSc at U. Arizona and a doctorate at U. Montana. John's 2006 return to Vermont, where he lives in nearby Strafford with his wife and two children, has since found him immersed in investigating birds of south Florida and the Caribbean.

As Director of Science, John will draw on his technical expertise and program management skills to advance VCE's science programs and to facilitate the cutting-edge work we already do. He provides an excellent fit with both our research priorities and our close-knit staff. We enthusiastically welcome him.

—Chris Rimmer

Marv and Sue Elliot, 2014's Outstanding Citizen Scientists

The Julie Nicholson Citizen Scientist Award honors Julie Nicholson's extraordinary passion and commitment to birds and wildlife conservation through her many years of tireless work as a citizen scientist. It is given annually to an individual who exemplifies Julie's dedication to the cause of citizen science and conservation.

This year VCE honors Marv and Sue Elliot with the Julie Nicholson Citizen Science Award. This brings the award full circle, as Marv and Sue credit its namesake for their introduction to citizen science and its first recipient, Roy Pilcher, for inspiring their interest in birding.

© Marv Elliot

The 2014 recepients of our Julie Nicholson Citizen Science Award, Marv and Sue Elliot, enjoying a day in Newfoundland.

Marv and Sue grew up in New York, Marv on a Hudson Valley dairy farm where he enjoyed hunting and fishing. Sue's suburban childhood was spent playing outside with the neighborhood kids, chasing the ice cream truck, and generally staying out of her mother's hair until dinnertime.

Marv studied Agricultural Economics at Cornell, which led to a job as a bank's farm representative and a career in commercial lending and branch banking. Sue studied English Literature at Susquehanna College and made her career in banking as well. Banking brought them to Vermont in the 1990s when Marv came to work for Marble Bank in Rutland. Not long after arriving, they attended a Rutland County Audubon bird walk led by Roy Pilcher and were instantly hooked. After skipping a second walk due to bad weather, they found out the group went anyway and saw great things (lesson learned)!

Friendships developed as they shared observations and joined outings with others in the birding community. "We always joke that the only people we know in Vermont are birders," Sue remarked, "but the people we've met here, the variety of things we've seen, and the laughs and knowledge we've shared with others are a huge part of our lives."

Marv and Sue name Roy as their "greatest birding and citizen science inspiration." Sue recalled a windy, cold, and rainy May day at Kent Pond in Killington when she and Marv spotted a Pacific Loon. "I called Roy to tell him but was so excited I had to put Marv on the phone to describe the bird. Twenty minutes later, Roy came racing up in a cloud of dust, followed immediately by Sue Wetmore whom we had also called."

As they became more involved in the birding community, Sue's postings on the VTBIRD listserv caught Julie Nicholson's eye. Julie invited Sue to submit her sightings quarterly to the Record of Vermont Birds, and this became a springboard for Sue's participation in Vermont eBird, iNaturalist, eButterfly, the Breeding Bird Survey, and a host of other citizen science projects. "Vermont is the perfect place for citizen science projects, with its small size and environmental ethic," said Sue, "and with so many birders and naturalists all over the state, there are endless opportunities for learning new things."

As Marv's passion for birds developed, so did his commitment to preserving their habitat. His efforts with Rutland County Audubon have included working to preserve 55 acres at West Rutland Marsh. "The [citizen science] projects undertaken by VCE are important because the more information we acquire, the better we can be at conservation," he observed.

Whether participating in the Christmas Bird Count, Project FeederWatch, the Breeding Bird Atlas, eBird, LoonWatch, or even as Plant Conservation Volunteers for the New England Wildflower Society, Marv and Sue enrich and enliven the citizen science community in Vermont with their tireless efforts on behalf of wildlife conservation. All of us at VCE thank them for everything they do!

—Susan Hindinger

Landowners Help Grassland Birds in the Upper Valley

Wally Bragg grows hay for horses in Ryegate, Vermont. He cuts it late in the season, later than most other farmers. Behind his house he hosts a thriving population of Bobolinks because he leaves his fields unmowed for much of the summer, allowing plenty of time for these birds to fledge their young. But before Wally met Plymouth State graduate student Jamie Sydoriak, he had never even noticed the Bobolinks.

Sydoriak's mission was to identify grassland bird hotspots in the Upper Valley, then find the landowners in those areas who might be able to help them. A collaborative initiative between VCE, NH Audubon, and Plymouth State University, the Upper Valley Grassland Initiative was created to enlist landowners to enhance habitat for Bobolinks, Eastern Meadowlarks, and other grassland birds. Sydoriak spread the grassland bird word, providing advice and connections to resources.

Now he boasts of them, and vows to continue to cut his hay late "for the birds."

In the last several decades, the lands of Vermont and New Hampshire have traded in fields for forests, reverting to their predominantly forested state. Since the 1950s, the acreage of hayed land has declined by 75%, although residents and tourists alike tout the aesthetic, cultural, and agricultural values of remaining farmlands.

© Jamie Sydoriak

Landowner Wally Bragg with biologist Jamie Sydoriak. Bragg is eager help other landowners find ways to keep grassland birds on the landscape in Vermont.

Grassland birds need nesting habitat wherever they can get it. Populations of most species have been in steep decline for decades across the continent, including in the heart of their range in the Midwest and the Great Plains. In the Upper Valley, Grasshopper Sparrows and Vesper Sparrows have been lost, Eastern Meadowlarks have almost disappeared, and Bobolinks and American Kestrels have declined substantially.

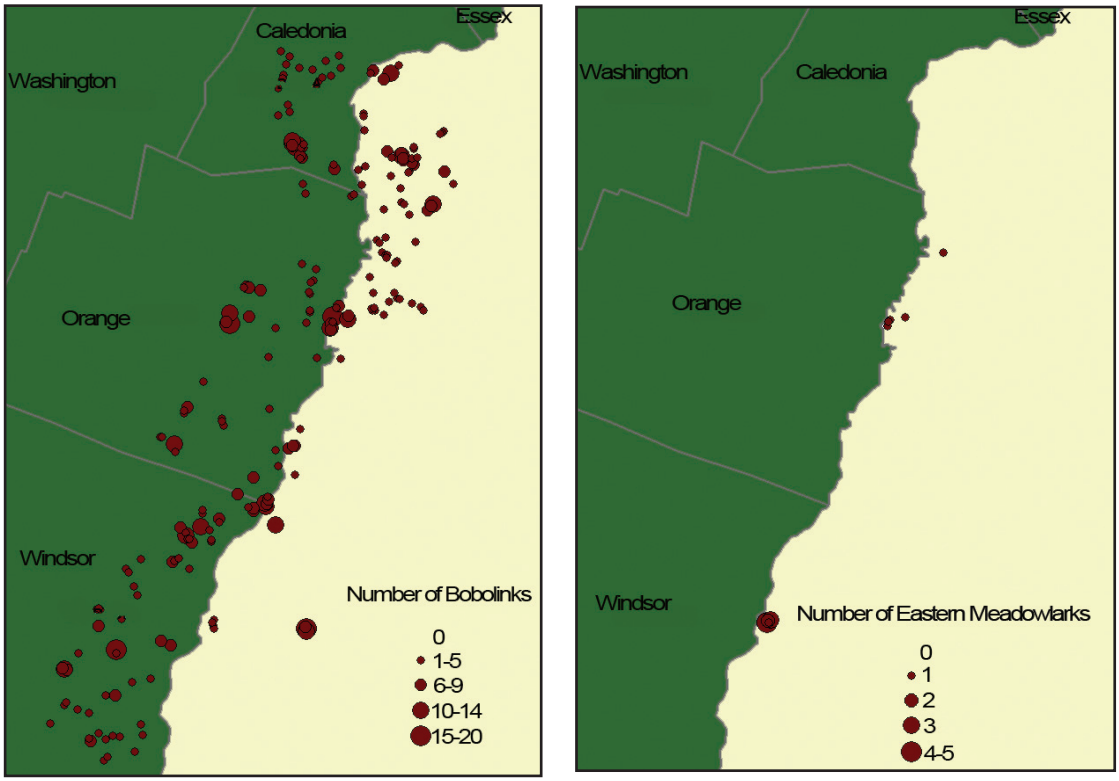
The Upper Valley along the Connecticut River still hosts an impressive patchwork of open lands, including hayfields. Nowadays, hayfields used for feedstock tend to be cut earlier in the spring with two additional cuts occurring later in the season, leaving no time for grassland birds to complete their nesting cycle. Less intensively managed fields, however, provide opportunities for grassland birds to nest successfully.

In 2013, with the help of 27 citizen scientists, Jamie surveyed 230 fields in a 1,170 square mile area of the Upper Valley. From these surveys, she created maps showing where grassland birds were concentrated. It was in these "hotspots" that she concentrated her door-to-door outreach.

The work in the field was supplemented by a survey mailed to 310 landowners and farmers to inquire about their practices and their interest in programs that benefit grassland birds.

Drink Coffee for the Birds!

Support sustainability and help VCE at the same time. VCE is partnering with Birds and Beans® to promote consumption of triple-certified, organic, shade grown, Fair Trade coffee. You can find this tasty brew in several Upper Valley and other regional food co-ops. Help us maintain bird-friendly environments while supporting farm families who grow their coffee sustainably. Make sure your java is Bird Friendly®.



Total number of detections of Bobolinks and Eastern Meadowlarks at study sites in New Hampshire (yellow) and Vermont (green).

About one-third of these landowners responded. The survey confirmed that 40-50% of landowners and farmers are cutting hay earlier and more frequently than 10-30 years ago. Not surprisingly, respondents' willingness to adopt bird-friendly practices on at least some fields depended on the objectives of their land management. About one-third of farmers reported that they were likely or somewhat likely to adopt bird-friendly management practices, while landowners leasing their fields showed more flexibility, with 60% indicating a willingness to manage differently. There were only 11 non-farmer respondents, but all of them expressed an interest in benefitting grassland birds. Despite familiarity with grassland birds reported by over half of the respondents, most were unaware of programs that provide financial incentives to delay haying. But it wasn't due to lack of interest—70% asked for more information about how to manage their land to benefit grassland birds.

The next step was to deliver information to the people who wanted it. Sydoriak and partners produced and distributed grassland bird nesting calendars, a brochure to guide landowners, and a summary of incentive programs. Presentations at grazing conferences and workshops, follow-up mailings to interested landowners, and direct one-on-one communication got the materials into the right hands.

But nothing can replace the value of word of mouth and the encouragement of a neighbor. The Initiative plans to spread the work even further by forging a landowner support system we call "Grassland Ambassadors." This network of neighbors will serve as a resource to other landowners looking for tips and options to help grassland birds.

Wally Bragg is eager to serve as a Grassland Ambassador and help other landowners find a way to contribute towards keeping grassland birds on the landscape. VCE aims to facilitate the network's beginnings, but the idea is to encourage a home-grown resource, ultimately fueled by landowners themselves. Wally will be at the front of the flock, looking to leave a legacy of sound stewardship for grassland birds.

—Rosalind Renfrew

Upper Valley and Beyond

Beyond the Upper Valley, VCE is learning about how grassland birds and their habitat have fared throughout New England over the last 15 years. In collaboration with Mass Audubon, VCE is resurveying sites that were surveyed in the late 1990s to document changes in both the numbers of grassland birds and in the grasslands on which they rely. Beyond the population declines that we expect to find, we will also be able to see where declines have been steepest.


© Chuck Gangas

Chris Rimmer holds one of the three Bicknell's Thrushes netted in both Vermont and the Dominican Republic.

The thrush they netted on December 2nd turned out to be the very same individual they had caught and banded six months earlier on the slopes of Mt. Mansfield. This songbird, weighing a mere ounce, migrated down the Atlantic coast, across ocean waters to a country the size of Vermont and New Hampshire combined, only to be recaptured by the same team.

"Looking back on it, I think the odds are a bit like being hit by lightning while winning the lottery," said McFarland, "and what is even more remarkable is that it was the first bird I ever captured in the Dominican Republic."

But if that lone thrush represented a miracle, the next feat was even more implausible. Eight years later in the central Dominican Republic's remote Sierra de Neiba mountain range, Jason Townsend, a VCE research associate, held a thrush in his hands with a silver band already around its leg.

"That night by headlamps we pored over the list of band numbers to search out who this bird might be, but were disappointed to find no such band number recorded," recalls Townsend. "But then the thought hit us that perhaps this was a bird banded elsewhere."

Several weeks passed before Townsend made his way out of the mountains and was able to contact Chris Rimmer back in Vermont. "Hold on to your hats," Rimmer emailed back. The bird was yet` another Vermonter.

On a hot day in early July 2002, McFarland and biologist Ben Flemer quietly visited a thrush nest that they had been monitoring on Stratton Mountain. The chicks were now old enough to band. Each of the four nestlings sported sparse downy feathers and newly opened eyes. Together, they barely covered McFarland's palm as he handed them to Flemer to band. With a new silver band on each bird, McFarland placed them gently back in the nest. A week later, they fledged. Most young birds never make it to their first birthday, but a year and five months later, at least one of these chicks was alive and well in the Sierra de Neiba.

Although Sierra de Neiba was designated as a national park in 1995, rapid assessments by VCE uncovered ongoing illegal logging and slash-and-burn agriculture throughout the unpatrolled park. Thrushes were found in the remaining fragments of forest, where VCE biologists captured, banded, and released 20 individuals, including the one that hailed from Stratton Mountain.

The Hat Trick

With the help of flocks of students and biologists, VCE just completed our 23rd summer of banding Bicknell's Thrushes. From peaks across the breeding range in the Northeast to remote ridges in the Dominican Republic and Haiti, VCE biologists have captured and banded over 2,000 thrushes. But even after all these years, a miracle on wings never ceases to amaze.

While banding birds on Mount Mansfield last June, Rimmer noticed a mist-netted thrush with a tattered and dull band that it had clearly worn for many years. "I figured we had another returning old-timer," said Rimmer.

This was nothing unusual. VCE scientists learned long ago that these small songbirds, which come back to the same mountain to breed year after year, may live for up to a decade. Just the week before, Rimmer had recaptured a male thrush that was first banded nine years ago.

Later that morning Rimmer opened his laptop to check the database. "I was surprised to see an original banding date of February 13, 2010. Looking more closely, I was astonished to note that the banding site was a scientific reserve in the Dominican Republic's Cordillera Septentrional!" exclaimed Rimmer.

These small songbirds may live for up to a decade.

VCE biologists Pat Johnson and Juan Klavins had banded the bird and fitted it with a miniature geolocator backpack in hopes of recapturing it the following winter and finding out where it had traveled to breed. Although they were unable to recapture it and retrieve the data, Rimmer now knows exactly where it spent its summer that year.

"These remarkable encounters underscore the tight migratory connectivity between Vermont and the Dominican Republic," says Rimmer. "We're still shaking our heads in amazement over this latest unlikely twist."

—VCE Staff

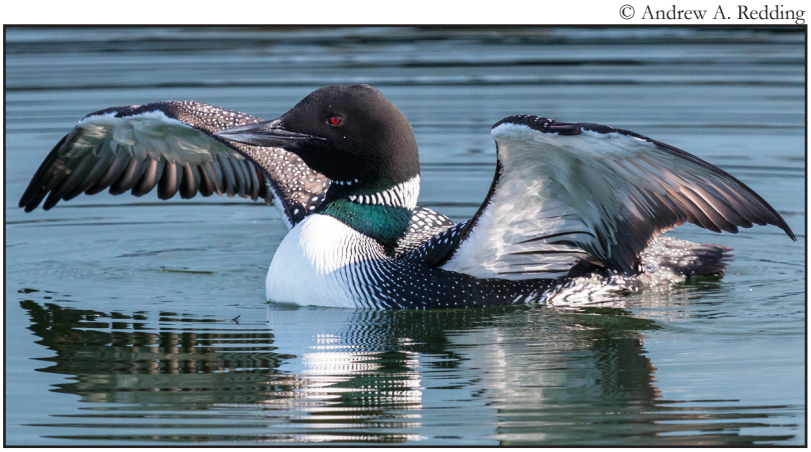
Common Loons - continued from page 1

• **Management** - We've advised lakeside landowners and lake visitors on practical protection measures. Floating signs warn boaters to stay clear of loon nests. We've worked with hydroelectric dam operators to stabilize reservoir levels during loon nesting season. And where we can't stabilize lake levels, our "nesting rafts" mimic islands and help loons succeed when waters rise or fall.

• **Outreach** - VCE's outreach strategy, featuring educated volunteers, public presentations, media interviews, fact sheets, and other publications, helps people enjoy loons from a proper distance while fishing, boating, and swimming.

The plan has worked. So successful was the recovery that the Common Loon was removed from the Vermont Endangered Species List in 2005.

Although loons are back, VCE's loon biologist Eric Hanson points out that our legacy of success depends on continued monitoring, management, and outreach. "We can't rest on our laurels," says Hanson. "Roughly half the loon nesting sites in Vermont are at high risk of human disturbance."



Adult loon numbers continue to rise, but the number of surviving chicks seems to have leveled off. Has Vermont's loon population reached carrying capacity?

The Plateau of Chicks

A casual look at the numbers reveals that during the last six years, additional loon nests haven't always led to more surviving chicks overall. Any number of factors can be behind these results. Weather, for example, can play a huge role in loon nesting success and chick survival from year to year.

"For nearly two decades, Vermont's chick productivity has been off the charts with each pair averaging more than seven chicks in a 10-year period, compared to the national average of five chicks over 10 years," said Hanson. "Any leveling off in chick production could be the result of normal competition and availability of resources and may indicate that Vermont's population is reaching carrying capacity."

Nevertheless, we're investigating factors that may be limiting nesting success and chick survival. Here are a few hypotheses:

• With increasing numbers of adults joining the statewide population, new loon pairs may now be forced to choose ponds that provide marginal habitat and water quality.

• Bald Eagles, whose numbers are also rising, may be preying upon more Common Loon chicks here in Vermont.

• Competition among adults for territories and nest sites may result in disruption of breeding behavior.

One other possibility is people. Successful management of the Common Loon breeding population is very labor-intensive. With higher numbers of nesting loons, perhaps we ourselves have reached some sort of capacity to monitor and effectively protect loon nest sites.

Winter Concerns

No view of loon success is complete without consideration of wintering habitat. Vermont loons winter off the New England coast, where oil spills from ships are a genuine concern. Although two such spills in the past 18 years killed more than 1,000 loons, fortunately they did not have a discernable effect on Vermont loons.

"Nearly every breeding loon in Vermont winters along the southern New England coast," says Hanson. "One disaster – and all our recovery work here in Vermont could be set back by decades."

Yet overall, the Common Loon story in Vermont has been overwhelmingly positive, thanks in large part to VCE's and VFWD's conservation efforts and a high level of loon awareness by Vermont boaters and lakeshore owners.

"By having the Common Loon as a bellweather, we're also helping to maintain, if not improve, the ecological health of our lakeshores and waters," said Hanson. "It's good for loons and good for other wildlife as well."

—Bryan Pfeiffer

Help Us Reduce Our Footprint!

If you are interested in receiving Field Notes but would like to do so electronically, please contact Melissa at: mmackenzie@vtecostudies.org

VCE Project Updates

Marsh-Billings-Rockefeller National Historic Park BioBlitz

Over 50 volunteers joined VCE's Vermont Atlas of Life staff for a BioBlitz at the Marsh-Billings-Rockefeller National Historic Park in Woodstock, Vermont on July 19th. Part scientific endeavor, part festival, and part education, this BioBlitz was a 24-hour effort to find, identify, and report as many living things as possible within the park—everything from Dog Vomit Slime Mold to the Tri-colored Bumblebee.

© Kent McFarland

Biologist Sara Zahendra explains the identification of a male (non-stinging) bumblebee to citizen scientists at the Vermont Atlas of Life BioBlitz.

These events have their origins in the National Park Service. The term "BioBlitz" was first coined by National Park naturalist Susan Rudy while assisting with the first event in 1996 in Washington, D.C. Nearly two decades later, hundreds of BioBlitz events are held annually around the world.

While the idea has retained its identity, the technology has evolved rapidly. BioBlitzes are now powered not only by dedicated volunteers and scientists, but by smartphones and the internet. These new technologies include the public more directly in the discovery of species by helping to capture hundreds of photographs of organisms along with their exact location, then uploading and automatically tallying the results using an iNaturalist BioBlitz project page on the internet.

INaturalist was developed by Ken-ichi Ueda and other students at UC Berkeley in 2008 and has since improved and grown dramatically. We recently partnered with iNaturalist, launching the Vermont Atlas of Life in January 2013, which enables us to collect observations of all life forms year-round throughout Vermont. Using special 24-hour iNaturalist BioBlitz webpages for events like this makes the data accessible to everyone.

Our July BioBlitz turned up an impressive 338 species (see **www.inaturalist.org/projects/mbrnhp-bioblitz-2014**). Incredibly, this included 96 species that had not been previously documented in the park. Many of these were moths, but there are literally hundreds of species out there with few people looking at them. A BioBlitz can help change that.

—Kent McFarland

Bird Surveys in the Dominican Republic

One of the many challenges we face in achieving tangible conservation in the Dominican Republic (DR) is a lack of skilled birders to conduct reliable avian surveys, which provide data necessary to assess the status of both migrant and resident bird populations.

The DR's small cadre of professional ornithologists is concentrated in the capital of Santo Domingo and often busy with multiple jobs, affording very little time to take on additional fieldwork. Three years ago, VCE began to explore the possibility of training park rangers to conduct bird surveys. However, the idea found a skeptical reception among Dominican professionals for a number of reasons, ranging from rangers' lack of formal education, to their low pay, and the fact that they usually spend the day in a fixed location, limiting their ability to conduct surveys over a broad area. Nevertheless, we persevered and a year ago VCE coordinated the Cordillera Septentrional's first bird survey training workshop, which included two park rangers, a local farm worker, and a community member. In February 2014, three of these train-

© Chris Rimmer

Juan Carlos Martínez-Sánchez conducts a bird survey training workshop for park rangers in the Dominican Republic.

ees were hired to conduct surveys for Bicknell's Thrush and other species in the newly-created Reserva Zorzal. Of 107 point counts surveyed by this team, Bicknell's Thrush were detected on 19. Interestingly, data recording proved more challenging than bird identification for all the participants, underscoring the need to develop simplified survey forms for observers with limited writing ability. It was also clear that park rangers need to receive regular feedback from supervisors in order to support these efforts, and that incorporating bird surveys among their job duties will improve their skills.

As a follow-up, this fall we will conduct the first-ever bird surveys in another protected area, La Salcedoa Scientific Reserve. We are hopeful, as we believe that actively involving our local counterparts in field activities is the only way to achieve lasting, on-the-ground conservation.

—Juan Carlos Martínez-Sánchez

Rusty Blackbird Blitz

The inaugural season of the Rusty Blackbird Spring Migration Blitz finished strong on 15 June 2014. This 38 state, 9 province, and 3 territory initiative launched in March to search for Rusties as they migrate to their breeding grounds in the boreal forests of Canada, the northeastern U.S., and Alaska. During this year's Blitz, 4,570 birders submitted a whopping 13,398 eBird checklists reporting Rusty Blackbird observations. That's 61% more checklists with Rusty Blackbird observations than eBird collected during the same period in 2013, prior to the Blitz; this impressive increase in submissions highlights the success of our outreach efforts.

© Matt Stratmoen

Have you seen this bird? Join next year's Rusty Blackbird Spring Migration Blitz!

© Seabrooke Leckie

In early 2015, we'll release a list of hotspots for next spring's Blitz. Check with your local coordinator to locate a hotspot near you!

The Blitz's overarching objectives are to identify Rusty Blackbird migratory hotspots and to assess the consistency of timing and habitat use during spring migration. This fall, we're working with a team of statisticians and Rusty Blackbird experts to develop a set of criteria to designate potential hotspots; next spring, state and provincial coordinators will direct local birders to revisit those hotspots. In order to officially designate an Important Bird Area for Rusty Blackbird migration, at least 90 birds must be observed at that location. Since our ultimate goal is to conserve hotspots that are critical to Rusty Blackbirds during migration, we will consider any area at which flocks of 90+ birds were observed during 2014's migration a potential hotspot. Our 2014 reports contained 265 observations of flocks that meet this criterion, and these areas will be a priority to revisit in 2015.

Fun Blitz Facts:

- Birders spent 25,426 hours birding on trips during which Rusty Blackbirds were found.
- The number of checklists with Rusty observations in Québec jumped from 150 reports in 2013 to 832 in 2014.
- The largest flocks of Rusties were observed primarily in the Midwest, with birders in Ohio and Indiana reporting flocks of more than 1,500 individuals in April!

—Judith Scarl

Whip-poor-ville

The distinctive chant of the Eastern Whip-poor-will was once a familiar sound throughout Vermont. But in 2012, following years of population decline, the species was listed as Threatened in the state.

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© Sarah Carline

As the sun sets, field biologist Sara Zahendra prepares for a Whip-poor-will survey in West Haven, VT.

For the past nine years, VCE volunteers have conducted annual Whip-poor-will surveys on road-based routes throughout Vermont. These surveys have been useful for detecting the dramatic changes in the state's Whip-poor-will population but have proved insufficient to provide a statewide population estimate. Thanks to funding from The Vermont Fish and Wildlife Department, this spring, as a first step towards obtaining more precise counts and a better understanding of habitat selection, we conducted a rigorous survey in a region of the state known to be a "hotspot" for Whip-poor-wills—specifically West Haven, Fair Haven, and surrounding areas in Rutland County.

Because Whip-poor-wills call only at night or in the early morning, and only reliably on clear nights during the full moon or waxing and waning gibbous moon in May and June, our time frame for conducting these surveys was narrow. But with the help of Pam Hunt from NH Audubon and two valiant volunteers, Sarah Carline and Kyle Jones, we completed 24 separate surveys on 16 days between 11 May and 18 June 2014. We detected 73 different Whip-poor-wills during this period—an impressive number considering recent region-wide declines.

As expected, we detected the majority of Whip-poor-wills in uninhabited areas near Bald Mountain, with one notable exception: our most successful survey took place in a rural, heavily farmed community north of Bald Mountain. On the morning of May 19, as the temperature hovered around freezing, we counted 14 different Whip-poor-wills singing loud and clear! We dubbed the neighborhood "Whip-poor-ville" in honor of these 14 spirited songsters.

—Sara Zahendra

Migration patterns of Canada's Bobolinks

Ever since listing the Bobolink as a threatened species in 2010, Ontario has been keen to halt the severe population declines this species has experienced. After losing 88% of the Bobolinks it once supported in the early 1970s, the province is grappling with the complexities of conserving a bird that depends on agricultural habitats.

Canada is considering listing the species federally as well. Effectively conserving a species requires understanding its year-round ecology, and the Canadian Wildlife Service (CWS) is examining the whole picture for Bobolinks.

VCE identified movement patterns and important migration and wintering areas for Bobolinks from across the U.S. using geolocators (see Field Notes, fall 2010). Following this lead, CWS employed our help to do the same for Canadian populations. In 2014, we deployed geolocators on Bobolinks in British Columbia, Ontario, and New Brunswick.

The recovery of three geolocators from our 2013 pilot effort in Ontario provides the first full year of data from a female Bobolink, plus the pathways for two males. With newer, lighter, and improved geolocators, this study will provide more details of spring migration patterns, add to the scant information on female migration, and show whether regional Bobolink populations across Canada have the same general patterns as those found in U.S. populations. One study site is located at the far western edge of the breeding range and may hold the few birds that migrate along the west coast and south, through the Galapagos. Data from this site will reveal the route these relatively newly established, western populations take to South America and whether they are isolated from the rest of the Bobolink population.

—Rosalind Renfrew


© NH Public TV

Conservation biologist Rosalind Renfrew holds a newly tagged male Bobolink.

New Initiatives for Vernal Pools

During 2014, our work with vernal pools expanded both geographically and scientifically, thanks to grants from the North Atlantic Landscape Conservation Cooperative and the Northeastern States Research Cooperative. Along with VCE's ongoing Vermont Vernal Pool Mapping Project, our two new collaborative initiatives will help advance the conservation of these small but critical ecosystems.

As part of a study to investigate mercury levels in vernal pools, Vivien Taylor (left) and Kate Buckman of Dartmouth College collect water chemistry data at a vernal pool in Sharon, VT.

North Atlantic Vernal Pool Data Cooperative

In order to develop effective region-wide conservation strategies for vernal pools and associated wildlife, it's essential to know where on the landscape these small wetlands exist. Although several states and organizations in the Northeast have initiated vernal pool mapping projects, the information from each has never been assembled in one place. The Vernal Pool Data Cooperative will change that by compiling a comprehensive database of known and potential vernal pool locations across the North Atlantic region (Virginia to Nova Scotia) and building a framework to integrate, standardize, and exchange vernal pool data. This will allow ecological modelers, conservation biologists, and other scientists to develop a variety of landscape-scale conservation applications for vernal pools and the wildlife species that depend on them.

In addition, we are partnering with the University of Vermont's Spatial Analysis Lab to develop a state-of-the art method to identify vernal pools using LiDAR, a remote-sensing technology that uses light in the form of pulsed lasers to measure variable distances to the Earth. These light pulses—combined with other data recorded by the airborne system—generate precise, three-dimensional information about the Earth's surface characteristics.

Mercury Levels in Vernal Pool Food Webs

Like other wetlands in the Northeast, vernal pools are subject to mercury contamination (primarily from Midwestern coal-fired power plants and incinerators) via rainfall and snowmelt. Moreover, many vernal pools support the conditions necessary to facilitate transformation of inorganic mercury to its toxic form, methylmercury, which accumulates in organisms and biomagnifies as it moves up the food chain. Along with Dartmouth College Research Associates Dr. Vivien Taylor and Dr. Kate Buckman, we began investigating mercury levels in Vermont vernal pools this year, sampling water from 12 pools in the Upper Valley. Preliminary results from these samples confirmed our suspicions—methylmercury is quite high, averaging 28% of total mercury (range = 10-45%), especially compared to Upper Valley lakes and rivers in which methylmercury ratios are typically well below 10%.

Next year we will investigate whether mercury biomagnifies as it is transferred up the food web by sampling a suite of vernal pool invertebrates, from filter feeders to herbivores to predators. We will also measure mercury levels in wood frogs and spotted salamanders in all life stages (eggs, larvae, and adults), in order to determine if mercury bioaccumulates over time and is potentially exported into the terrestrial food web as well.

—Steve Faccio

Field Notes
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White-winged Crossbill (Loxia leucoptera)

Male (left) and female (right) White-winged Crossbills. Males and females of this irruptive finch have two very different looks.

Finches of the boreal forest, White-winged Crossbills are specially adapted for extracting seeds from the cones of evergreen trees. These songbirds wander widely and irregularly in search of seeds. In years when cones are plentiful in the northern forests, they tend to remain there. But when seed supplies are low, crossbills irrupt southward, sometimes in spectacular numbers, searching far and wide for cones.

Cool Facts

- White-winged Crossbills can eat up to 3,000 seeds a day.
- Right-billed crossbills, those with lower mandibles crossing to the right, are three times more common than lefties.
- To feed, crossbills hold a cone with one foot, almost always the one opposite the direction its lower mandible crosses; this allows them to part the cone scales with their crossed bill and pry seeds out with their tongue.
- With their smaller bills, White-winged Crossbills feed on spruce, fir, hemlock, and other small cones, while larger-beaked Red Crossbills specialize on pine cones.
- Crossbills will breed whenever cones are plentiful, regardless of the season. They have been found nesting in all months of the year.

Identification

- Bill with crossed tips
- White wing bars and a short, forked tail
- Male: Red head and body, blackish wings and tail
- Female: Dull gray plumage, dull yellow crown, breast and rump, dark streaks on breast

Conservation and Your Contribution

White-winged Crossbill populations are ultimately tied to the northern boreal forest, an area that has increasingly undergone large-scale timber harvesting and fossil fuel extraction. After harvesting, it may take seedling conifers 30 years before they can produce cones and several more decades before they produce the large amounts that crossbills need for nesting.

Report your sightings to eBird, a crowd-sourced, online bird checklist program. EBird's goal is to maximize the utility and accessibility of the vast numbers of bird observations made each year by bird watchers and ornithologists. Together, our observations can make a difference for science and conservation.

—Kent McFarland