







The Vermont Center for Ecostudies (VCE) advances wildlife conservation across the Americas through research, monitoring, and citizen engagement.

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DEAR VCE FRIENDS AND SUPPORTERS,

For many summers I have been fortunate to spend two weeks birding, hiking, and kayaking on and around the Leelanau Peninsula in Northern Lower Michigan. I wake early each day, grab my field guides and snacks, and paddle a variety of inland lakes, rivers, and marshes that dot a coastline famous for its extensive dune habitats. The solitude I find there is miraculous and life-affirming. Watching the dew dry on the wings of an immature Meadowhawk Dragonfly at sunrise while Sandhill Cranes rattle and Green Herons scold me for disturbing their roost, I am mesmerized morning after morning as I drift through the myriad of complex life forms and unfathomable relationships on each undisturbed patch of water.

I like to think that the joy and wonder I derive from these daily paddles reflects the heart of the work that drives VCE. The breadth and accessibility of VCE's work affords citizens like you and me a unique opportunity. We are privileged to engage with scientists who share their experience and knowledge in the pursuit of learning and the goal of wildlife conservation. Thanks to VCE, I have become an enthusiastic iNaturalist contributor, and am thrilled to see my observations integrated into the Vermont Atlas of Life. Increasingly, crowd-sourced citizen science data create a powerful and exciting dimension in the environmental science field, and provide a vital tool for VCE. Looking forward, VCE will continue to engage with the public in a thoughtful and productive fashion, offering progressive programs and ample citizen science opportunities for anyone committed to the health and welfare of our natural world.

Simply stated, it is inspiring to be a part of what drives this organization. As you look through this report, note the headings that highlight each section: *Discovery, Citizen Engagement, Outreach, Leadership, Collaboration, and Conservation.* VCE does all these, and does them exceedingly well. We are a small organization with an impressive scope. At a time when life on this planet is in such flux, VCE has solid footing and deep roots. Uniting people and science for conservation has never been more essential. VCE will continue to do so with energy, pragmatic planning, and clarity, never losing sight of the joy and wonder that form the heart of our work.

We thank you for your support along the way, and throughout what lies ahead.

Pet w Brooke

PETER BROOKE

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AT A TIME WHEN

PLANET IS IN SUCH

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OUR ELEVENTH
YEAR FEATURED
A STRING OF
SCIENTIFIC
DISCOVERIES.

UNITING FORCES FOR CONSERVATION

From dazzling dragonfly migration to rediscovery of a long-lost cuckoo bumble bee in Vermont to the startling documentation of a hybrid *Catharus* thrush, 2018 featured a string of scientific discoveries for VCE. These contributions to science highlighted another outstanding year, our eleventh.

While wildlife science stokes our passion and drives our conservation agenda, VCE's 2018 accomplishments inevitably boil down to our engagement of people. Let's face it—public involvement in conservation has never been more essential. Our 2018 citizen science stats alone (see p. 11) attest that VCE is staying true to its tagline of "uniting people and science for conservation." From windswept montane forests to the tiniest vernal pools, VCE volunteers tracked vulnerable wildlife that would otherwise slip under the conservation radar. Our crowd-sourced citizen science contributions expanded at a mind-boggling pace in 2018—Vermont's per capita iNaturalist and eBird observations far exceed any other state's!

VCE's cutting-edge science and deepening volunteer engagement in 2018 were complemented by our outreach. We mentored dozens of young professionals, ranging from college interns to Cuban and Dominican partners. We communicated the passion and substance of natural history on multiple fronts, from *Outdoor Radio* to Suds & Science, eBird workshops to *eNews*, peer-reviewed publications to informal blog posts. Collectively, this small and relatively young organization reached an extraordinary number of people in profound ways!

With another year of robust health in our rearview mirror, VCE looks ahead to a future that promises, and demands, much more. As Earth's astonishing biodiversity dwindles before our eyes, often before we even recognize what we've lost, VCE is thinking big. Our new five-year strategic plan will soon be in your hands. This aspirational document lays out our ambitions and challenges all of us to meet them together. The plan's overarching goal—perhaps an intuitively obvious one—stretches VCE to emerge as a more impactful leader in conservation science. Three primary tenets underlie our approach:

- 1. We will invest more deeply in pioneering science by strategically building our
- **2.** We will "close the loop" for conservation, seeking to maximize tangible outcomes of our work via stronger collaborations and partnerships across the hemisphere.
- **3.** We will broaden our vision for citizen science, enhancing opportunities for participation as we seek to ensure that this vital community of constituents—including so many of you—is sustainable and increasingly diverse.

There is no radical restructuring at play here, no 90-degree turns in the VCE path. We're passionate about what we do, and we'll never abandon our roots of scientific integrity, collegiality, and accessibility. While 2018 cemented VCE's vitality on all levels, we can not and will not decelerate. The stakes are far too high, the needs far too great and complex with each passing day. We embrace the multitude of challenges—and opportunities—that face us all, and we relish uniting forces with you for conservation.

CHRIS RIMMER





The Veery x Bicknell's Thrush hybrid fondly known as "Vick" right before he was released after banding.

A RARE THRUSH PHENOMENON

While carrying out his Mountain Birdwatch route on Stratton Mountain many years ago, VCE biologist Kent McFarland heard the distinct song of a Veery, followed immediately by a nearby Bicknell's Thrush—which he found quite strange, because Veeries aren't usually found in high-elevation forests. But then something even stranger happened: Kent heard a long flute-like song with the first half pure Veery and the second half pure Bicknell's Thrush, rising upward at the end rather than spiraling downward. That's when he realized that one bird was producing a hybrid of the two songs.

Bicknell's Thrushes nest in the high-elevation Balsam Fir forests of the Northeast and winter in the Caribbean, while Veeries usually nest below 2,300 feet elevation in wet hardwood forests and winter in South America. The two species' partitioning of breeding habitat by elevation and forest type limits the degree of ecological overlap and opportunities for contact during the breeding season. How could this hybrid possibly exist?

Determined to know whether this truly was a hybrid thrush, Kent gathered a team to record, capture, and take a blood sample from the mysterious bird they fondly named "Vick" to reflect its apparent mixed heritage. A colleague from the Center for Conservation Genomics at the Smithsonian used DNA from the sample to determine that Vick's mother was a Veery and his father was a Bicknell's Thrush!

Their findings were published in the December 2018 edition of the *Wilson Journal of Ornithology*, and you can read Kent's riveting first-hand account, complete with recordings and photos from the field, on our website at wtecostudies.org/blog/forest-thrush-mix-up.

Discovery

AVIAN NESTING ECOLOGY ON HISPANIOLA

Despite Hispaniola's importance to global biodiversity, surprisingly little is known about the basic biology and ecology of its resident birds—particularly the 31 endemic species that are found nowhere else on Earth. Birds on Hispaniola face chronic threats from deforestation. habitat degradation, and climate change. To effectively inform conservation of the island's vulnerable avifauna, it is crucial to document life histories of resident birds, including their breeding biology. Recognizing this urgent need, VCE and colleagues carried out the island's firstever assessment of nesting ecology and reproductive success of 14 species in the southwestern Dominican Republic's biodiverse-rich Sierra de Bahoruco. Hard work and dogged persistence paid off with the discovery of 643 nests of 19 species, including nests of two endemics (Western Chat-Tanager and Hispaniolan Highland-Tanager, formerly known as the White-winged Warbler) that had never before been described to science! VCE's study established an invaluable baseline of data on nesting birds, demonstrating an additional and serious threat to the region's breeding bird communities from introduced mammalian predators. Their results were published in The Wilson Journal of Ornithology.



▲ Western Chat-Tanager, one of two Hispaniolan endemic species whose nests had never been described to science prior to VCE's Sierra de Bahoruco study.



SURPRISING GRASSHOPPER SPARROW MIGRATION

Fundamental questions regarding the timing and choice of migration routes, and what that means for conservation of Grasshopper Sparrows (Ammodramus savannarum), have been surprisingly difficult to answer—until now. VCE's Grasshopper Sparrow migration research, published in the journal *Ecology and Evolution*, provides the most extensive examination of the migration ecology for the species to date.

To investigate the migratory patterns of Grasshopper Sparrows, VCE biologists deployed geolocators on 180 birds at Konza Prairie in Kansas and at six U.S. Department of Defense installations across the species' breeding range. They were able to retrieve location data on 34 individuals, which yielded surprising results. Among the most astonishing findings was that Grasshopper Sparrows do not begin fall migration in August as biologists had previously assumed; they actually stay put on their breeding grounds until October! The data also revealed that Grasshopper Sparrows make short, nearly daily migration flights. This new information may help transform the way these bird populations are managed, both across international borders and throughout their annual cycle. Learn more at: vtecostudies.org/ projects/grasslands/grassland-bird-migrationproject/#storymap.



An adult male Grasshopper Sparrow at Camp Grafton, ND, wears a light-level geolocator that helped reveal his annual migration route and overwintering area.



A BOREAL BIRD ON THE MOVE

Late each fall, and then again in early spring, the eastern subspecies of Fox Sparrow—the Red Fox Sparrow (Passerella iliaca iliaca)—travels through New England on its journey to and from its breeding grounds in eastern Canada. Large and brightly colored, at least by sparrow standards, this species is a harbinger of the changing seasons and a delight to watch during its brief and transient appearance.

However, several summers ago VCE biologist John Lloyd encountered several singing males, apparently defending territories, in western Maine in mid-June. By mid-June, migratory songbirds have typically reached their breeding grounds and nesting is underway. Why were Fox Sparrows present so far south during the breeding season? This question led to a two-year effort to piece together its current breeding range and a publication in the online scientific journal *PeerJ*.

VCE's research revealed an unusual development in Red Fox Sparrow ecology. Beginning in the early 1980s in southern Quebec-well south of the documented breeding range of the species—birders began noticing Fox Sparrows during the summer. Fast-forward to today, and Fox Sparrows are being reported nearly every summer in increasingly far-flung locales, from the mountains of western Maine and northern New Hampshire, in Vermont's Green Mountains, and at least one on Whiteface Mountain, New York.

A species never known to nest in New England prior to the 1980s, Fox Sparrows have expanded their breeding range south by about 400 km in a span of less than 30 years, and seem to be on track to continue this remarkable journey. We can think of few other bird species that have shifted their range so dramatically in such a short period of time, and none that have done so by moving north to south! Join in this research by adding your Fox Sparrow sightings to eBird! Read the whole story: vtecostudies.org/blog/foxsparrows-a-boreal-bird-on-the-move.



ASTONISHING DRAGONFLY MIGRATION

It's hard to find someone who isn't familiar with the aerial spectacle of migrating Monarchs fluttering southward across North America each fall. But ask about the migration patterns of other insects, and you'll likely be met with, "Other insects migrate?" Yes, indeed they do!

VCE biologists Kent McFarland and Sara Zahendra, in collaboration with researchers from the University of Maryland and Smithsonian Conservation Biology Institute, published a paper in Biology Letters describing how the Common Green Darner takes three generations to complete its annual cycle, including an astonishing multi-generational migration of over 600 km (373 miles) on average, with some individuals covering more than 2,500 km (1.553 miles)!

The research team used a combination of data sets, including 21 years of citizen science data, more than 800 dragonfly wing specimens going back 140 years, and specimens caught in the wild. Kent and Sara spent nearly two years collecting dragonflies from Florida to Ontario, Canada, and working with museums to analyze their specimens.

The team analyzed stable hydrogen isotopes in dragonfly wings to infer natal origins. This is possible because the ratio of three forms of hydrogen in the atmosphere shifts with latitude; dragonfly wings record an imprint of the hydrogen ratio at their birthplace, so a scientist can determine where a dragonfly came from by looking at how much of each hydrogen type is present in a tiny piece of the dragonfly's wing. That information revealed the three-generation migration system.

Why is this discovery important? Insects are critical players in food webs, so understanding how their populations are changing is important for conserving a wide range of species, from fish to Phoebes. Learn more at: vtecostudies.org/press-release-green-darner-migration.



9.29.2018 The 250,000th servation was submitted to VAL

2018

VERMONT ATLAS OF LIFE ON INATURALIST

BY THE NUMBERS

72,000

OBSERVATIONS

2,400

NATURALISTS

3,100

SPECIES VERIFIED

VERMONT ATLAS OF LIFE ON **iNATURALIST**

In 2018, the combination of our leadership and your participation shined a spotlight on the Vermont Atlas of Life on iNaturalist (VAL): Vermont led the nation in per capita iNaturalist engagement. Congratulations, Vermont citizen scientists!

"I was so taken by the concept of iNaturalist, that I acquired my first ever 'device,' an iPad, so that I could participate. Participating through iNaturalist has enriched my life immeasurably." -PAMELA DARROW

OF INATURALIST OBSERVERS AND # OF SPECIES OBSERVED PER STATE 2018 # SPECIES OBSERVED PER 1000 PEOPLE **VERMONT IS THE PER** # iNATURALISTS CAPITA LEADER FOR # O PER 1000 PEOPLE NATURALISTS AND # OF # OF INATURALIST OBSERVATIONS PER STATE 2018 VERMONT LEADS THE

GREEN MOUNTAIN eBIRDERS RULE!

Spearheaded by Kent McFarland in 2003, Vermont eBird was the first state portal established for Cornell Lab of Ornithology's global eBird project. With 46,396 complete checklists submitted to Vermont eBird, comprising 591,638 bird records, representing 278 bird species, and tallied by over 2,125 Vermont eBirders in 2018, there is no doubt it was another banner year for birders and Vermont eBird.

CITIZEN SCIENCE OPPORTUNITIES

LoonWatch

Each June, volunteers hit the trails to complete bird survey routes on 123 mountain ridgelines across the Northeast.

Mountain Birdwatch

On the third Saturday in July, volunteers conduct a one-day census of Vermont's breeding loons. Loon monitoring throughout the summer is optional.



Forest Bird Monitoring

Each June, volunteers monitor breeding birds on 31 sites across Vermont in one of the continent's longest-running studies of forest bird population trends.



Vernal Pool Monitoring

In April, May, and September each year, volunteers visit and collect data to monitor "adopted" vernal pools following protocols and using using VCE-provided equipment.



Whip-poor-will Project

On clear, moonlit nights in early summer, volunteers travel between roadside survey points to listen for Whip-poor-wills and record surrounding conditions.



eBird

Volunteers submit bird sightings and checklists that are vetted by experts and added to a worldwide avian database.



e-Butterfly

CROWD-SOURCED CITIZEN SCIENCE TOOLS

Volunteers report sightings and submit photos of butterflies across North America.



iNaturalist Vermont

Volunteers share observations of all Vermont biodiversity in this digital project of the Vermont Atlas of Life.

10



2018

OUT & ABOUT

14 workshops

16
FIELD WALKS

22
PRESENTATIONS

Citizen Science
Outreach
Naturalist
Nathaniel Sharp
demonstrates to a
group of budding
herpetologists
how to hold
a Common
Gartersnake
without getting
bitten or
"musked."



VCE'S FIRST CITIZEN SCIENCE OUTREACH NATURALIST

In 2018, VCE amplified our citizen science outreach through the creation of a new position, Citizen Science Outreach Naturalist. We welcomed ECO Americorps member Nathaniel Sharp to serve as your go-to guy for questions about eBird, iNaturalist, e-Butterfly, and other citizen science tools, as well as any questions about Vermont's natural world. He traveled throughout the state, presenting talks and leading workshops about birds, butterflies, and citizen science, and led a few bird walks as well. While birds are his specialty, Nathaniel is a great naturalist, with special interest in butterflies, dragonflies and damselflies, reptiles and amphibians, and trees.

COMMUNICATING SCIENCE

Outdoor Radio

VCE's Kent McFarland and Sara Zahendra team up with Vermont Public Radio's Chief Production Engineer, Chris Albertine, to educate (and entertain) listeners of our popular monthly show, Outdoor Radio. You never know where they'll show up... In 2018, the crew joined forces with experts from around the state to delve into natural history topics from moose to mussels, and Bald Eagles to Bobolinks. They even did a show about road kill! Tune



in to your VPR station the third Wednesday of every month at 6:20 PM, and again on Thursday at 7:50 AM, or listen online anytime at vtecostudies.org/ outdoor-radio.

Suds & Science

If you were one of the hundreds of folks who attended VCE's 2018 lineup of thought- and discussion-provoking evenings at the Norwich Inn, then you learned (and heard some great stories) about fascinating topics like the evolutionary origins of stress, how warming soils in Arctic mountains interact with global climate change, and the social history of invasive beavers

in the Fuegian Archipelago. Hosted by VCE biologist Jason Hill, Suds & Science isn't a lecture—it's a community gathering where fans of science can enjoy local craft beer and engage with experts from a wide variety of fields. You won't find yourself in a dark room watching boring PowerPoint slides; you'll be part of a lively crowd taking part in stimulating conversations with scientists who are passionate about their work.

Field Notes

Field Notes, our twiceyearly printed science news magazine, provides in-depth articles about our latest research, findings, and conservation efforts. You won't find tedious text and jargon-rich sciencespeak here; expect the captivating writing and spectacular photography that is the hallmark of VCE's outreach from cover to cover. Find past issues online at vtecostudies.org/ field-notes.

eNews

Each month, nearly 4,000 subscribers receive eNews. VCE's electronic newsletter. Catch up on VCE conservation biology news, be inspired to explore the natural world with guidance from our "Field Guide to the Month." check out the winning iNaturalist Photo-observation of the Month, be informed of upcoming events, and so much more! Subscribe at vtecostudies.org/subscribe or find past issues online at vtecostudies.org/enews.



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KEEPING THE NIGHT WATCH FOR **VERMONT'S WHIP-POOR-WILLS**

For more than a decade, VCE has led a field project that takes place while most folks are fast asleep. Each summer, over two dozen adventurous Whip-poorwill Project volunteers venture out between sunset and sunrise to listen intently for the unmistakable call of the Eastern Whip-poor-will on moonlit nights. Their efforts helped reveal the precipitous decline in Vermont's Whippoor-will population, which led to the species being listed as state Threatened in 2011. Prior to these nocturnal survey

efforts, information on Whip-poorwill declines was primarily based on or anecdotal accounts. In addition to supporting volunteer-based surveys, Vermont Fish & Wildlife Department more intensive Whip-poor-will surveys in different regions of the state, providing more refined population estimates. Learn more about project results at vtecostudies.org/projects/ forests/whip-poor-will-project.







MENTORING THE CONSERVATIONISTS **OF TOMORROW**

In 2018, VCE further expanded its team of young conservation scientists, adding two ECO AmeriCorps members through the Vermont Department of Environmental Conservation to our two ongoing summer internships. VCE's engagement of these young biologists not only offers them invaluable experience, advances our program goals, and forges a positive collaboration among non-profit, higher education, and public agency partners, but it brings youthful energy to the VCE lunch table!

Nathaniel Sharp joined the team as VCE's ECO AmeriCorps Citizen

Science Outreach Naturalist. An accomplished and passionate birder, Nathaniel set to work immediately, offering birding workshops and eBird tutorials, and teaching members of the public how to contribute observations to the Vermont Atlas of Life using iNaturalist.

Alex Wells followed in the footsteps of outgoing ECO AmeriCorps member Liza Morse as VCE's Vernal Pool Monitoring Project Coordinator. Liza oversaw the 2018 pilot season of this sophisticated, new citizen science project under the leadership of Conservation

Biologist Steve Faccio. Alex joined VCE in September to gear up for an expanded second season. Alex's energy and effective trainings led to a burst of publicity, and and Tara Rodkey he found himself on television news and radio programs!

> Alex Kulungian was our UVM Rubenstein Perennial Intern in 2018. He spent the summer steeped in loon surveys at lakes and ponds across Vermont, and scaling mountains for pre-dawn Mountain Birdwatch surveys. Alex recalls, "Working with the staff of VCE was a huge privilege. Learning of the directions that led them to where they are now was highly valuable to me, as it has helped guide me as I consider my plans following college graduation."

Tara Rodkey was selected from a national pool as our third annual Alexander Dickey Conservation Intern. Tara ventured from San Diego, CA to the East Coast for the first time through this internship, which she described as, "an immersion into conservation biology and a community of peers and advisors steeped in all aspects of VCE's diverse work." Tara reflected, "The Alexander Dickey Conservation Internship gave me a chance to build the skills I need to do the work I love." For VCE, that's mission accomplished!

Nathaniel Sharp and Alex Wells enjoyed helping the Orianne Society with their Wood Turtle surveys.



nvited to speak at the Service First Day of Issue Dedication Ceremony for the "Birds in Winter" forever stamps at the Vermont Institute of Natural Science. Jason's presentation aimed to raise awareness about the importance of bird conservation, even for our most common birds and he pointed out five simple ways everyone can help.

day time Breeding Bird Atlas surveys has partnered with VCE to conduct

14

Alex Kulungian

working in the

field.







FROM NEW ENGLAND TO CUBA, BICKNELL'S THRUSH BONDS BIOLOGISTS

Building on our newly-forged partnership with Cuba's Centro Oriental de Ecosistemas y Biodiversidad (BIOECO) in 2017, VCE returned to eastern Cuba in 2018 for our second field season in search of wintering Bicknell's Thrush. Despite abnormally rainy weather and numerous bureaucratic hurdles, our bi-national team persevered in Cuba's highest-elevation cloud forests and ultimately counted seven thrushes, successfully mist-netted two, and celebrated as our BIOECO colleagues placed the first-ever Cuban band on a Bicknell's Thrush! A strong bond with our Cuban sister organization only deepened as we hatched collaborative plans for VCE's return visit in 2019, and beyond.

Participants in a community planning workshop in the



Crossing Boundaries for Conservation

More than 20 years ago, VCE biologists discovered that the Dominican Republic's Sierra de Bahoruco National Park provides critical wintering habitat for Bicknell's Thrush. More recent investigations by long-time Dominican conservation partner Grupo Jaragua revealed extensive deforestation inside the park from unsanctioned agricultural operations and other illegal

activities. Left unchecked, these threats would seriously degrade Bicknell's Thrush habitat and could lead to the extinction of many rare, endemic species. Recognizing that any effort to reform management of the park needs support of the government and local communities, VCE and Grupo Jaragua pursued a collaborative planning approach, which culminated in the 2018 Strategic Conservation Plan for Sierra de Bahoruco National Park. This plan aims to halt illegal deforestation and implement collaborative management of the park's unique forests for the mutual benefit of plants, wildlife, and humans.





18

✓ Upland Sandpiper sporting her solar-powered satellite geolocator.

GO KONZA, GO!

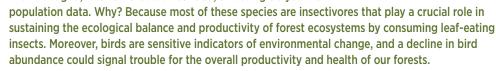
In 2018, VCE's Rosalind Renfrew and Jason Hill invited the public to join them, via blogs and social media, as they live-tracked a free-living Upland Sandpiper over a full year. Affectionately known as "Konza" in honor of the Konza Prairie in Kansas, where she was fitted for her solar-powered geolocator, this sandpiper gained a devout social media following as hundreds of readers eagerly awaited VCE's updates on her whereabouts.

The Upland Sandpiper is a long-distance migratory shorebird that breeds in northern North American grasslands

and travels 6,000 miles to southern South America each winter. Logging this particular bird's movements not only refined our understanding and appreciation of the species' extraordinary migration, but shed crucial light on habitat conservation considerations along its entire migration route. Watching Konza's progress unfold in real time underscored that management of migratory birds must be coordinated at continental, and even hemispheric, scales. Learn more at vtecostudies.org/blog/ live-updates-tracking-uplandsandpiper-trans-hemispheric-

Vermont Forest Bird Monitoring— Three Decades of Data

VCE's Vermont Forest Bird Monitoring Program (FBMP) is one of the continent's longest-running studies of forest bird population trends. With the help of citizen science volunteers skilled in bird identification, the FBMP has systematically monitored songbirds in unmanaged, interior forests since 1989, amassing 30 years of



So, what have we found in 30 years? Although by most accounts Vermont forests are healthy and robust, overall bird abundance on our study sites has declined slightly. And, while some species have responded favorably to our maturing forests, others have not. The most troubling sign is a significant decline in aerial insectivores—birds such as flycatchers that specialize in feeding on flying insects captured on the wing. This finding corroborates a widespread trend that ornithologists have documented within this group of birds, suggesting that broad-scale changes in insect populations may be the driving force, rather than effects of habitat loss or disease. Only by continued monitoring will we know if this trend persists or levels off as VCE and other researchers investigate the causal factors. vtecostudies.org/projects/forests/vermont-forest-bird-monitoring-program



VERMONT LOON CONSERVATION PROJECT

YEAR IN REVIEW

With a legion of volunteers and partners, the Vermont Loon Conservation Project has monitored and managed the state's Common Loon population for over four decades. Our work brought loons from the brink of extirpation in 1983 (only seven nesting pairs statewide) to the thriving, secure population documented in 2018. While 2017 racked up record numbers of nests and chicks, 2018 saw a record number of adult loons counted on our annual LoonWatch day—356 (up from 308 in 2017)!

91

OUT OF 123 TERRITORIAL PAIRS NESTED*

*25 NESTED ON RAFTS, 30 ON ISLANDS 27 IN MARSHES & 9 ON SHORELINES

66
PAIRS HATCHED

97 EGGS CHICKS SURVIVED THROUGH AUGUST

4

NEW NESTING PAIRS WERE IDENTIFIED*

LAKE LAKOTA, MITCHELL LAKE, OLD MARSH
POND & LAKE PARKER

200

VOLUNTEERS TOOK PART IN LOONWATCH DAY

THE ANNUAL STATEWIDE LOON COUNT

13

LOON CONSERVATION PRESENTATIONS WERE DELIVERED TO OVER 350 PEOPLE STATEWIDE

19

satellite shorted that breeds in northern satellite geolocator. North American grasslands migration.

350 PEOPLE STATEWIDE the causal factors, vtecostudies.org/projects/forests/vermont-forest-bird-monitoring-program

FINANCIALS

STATEMENT OF FINANCIAL POSITION **ASSETS** AS OF 12/31/18 AS OF 12/31/17 **CURRENT ASSETS** CASH \$800.590 \$678,360 CONTRIBUTION RECEIVABLES 23,888 105,476 **GRANT RECEIVABLES** 91,138 65,432 PREPAID EXPENSES 29,740 19,393 **TOTAL CURRENT ASSETS** 919,650 894,367 EQUIPMENT, VEHICLE, WEB, NET 48.859 17,600 **TOTAL ASSETS** 968,509 911,967 **LIABILITIES AND NET ASSETS** LIABILITIES **CURRENT LIABILITIES ACCOUNTS PAYABLE** 41.677 7.738 ACCRUED PAYROLL & RELATED TAXES 91.863 73,497 4,076 679 **DEFERRED REVENUE** CURRENT PORTION OF CAPITAL LEASE OBLIGATION 1.207 TOTAL CURRENT LIABILITIES 138,823 81,914 CAPITAL LEASE OBLIGATION, LESS CURRENT PORTION 3.804 81.914 **TOTAL LIABILITIES** 142,627 **EQUITY** UNRESTRICTED 532.019 507.740 TEMPORARILY RESTRICTED 293,863 322,313 825,882 830,053 **TOTAL NET ASSETS TOTAL LIABILITIES & NET ASSETS** \$968,509 \$911,967

STATEMENT OF ACTIVITIES

2018 REVENUE 2018 EXPENSES PUBLIC AGENCIES \$158.648 SCIENCE AND CONSERVATION \$789.246 ORGANIZATIONS, FOUNDATIONS 370,825 MANAGEMENT 208,229 101,744 **FUNDRAISING INDIVIDUALS** 508,698 **PROGRAM FEES** 49.349 OTHER 7.529 **TOTAL EXPENSES** \$1,099,219 \$1,095,048 **TOTAL REVENUE** OTHER 1% PROGRAM FEES 5% **FUNDRAISING PUBLIC** 9% **AGENCIES** 14% MANAGEMENT 19% **INDIVIDUALS SCIENCE AND** 46% CONSERVATION ORGANIZATIONS, 72% **FOUNDATIONS** 34% The figures that appear in the financial summary shown above have been audited and received an unqualified opinion.

Donors

VISIONARIES

\$25,000+

Anonymous (2) Binnacle Family Foundation Bobolink Foundation The Canaday Family Charitable Trust Annette Gosnell* Jared and Songmei Keyes*

\$10,000 to \$24,999 Anonymous (3) The Bailey Charitable Foundation Richard Bowe and Karen Nemeth Fund at Fidelity Charitable Peter A. Brooke Fund at the Boston Foundation Peter W. and Ruth H. Brooke Fund at the Boston Foundation Erika and Brian Dade The Eugene B. & Ning L. Doggett Charitable Fund at The Boston Foundation Emily Landecker Foundation, Inc. Galé Hurd Warren and Barry King Clare C. Rimmer* David Roby Ruml Leithner Family Fund at Vanguard Charitable Ruth Stewart*

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\$5,000 to \$9,999

TechFoundation, Inc.

August 23 Fund of the Vermont Community Foundation Georae Clark* Will and Laurie Danforth Fund at Fidelity Charitable Stephen Whitney Dickey, Jr. The Robert K. and A. Joyce Jones Foundation, Inc. Charlotte S. Metcalf* Judy Peterson The Tow Foundation Wendling Fund of Berkshire Taconic Community Foundation The Wildwood Foundation Carter and Lissa Winstanley

PROTECTORS

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ELINOR OSBORN

The Julie Nicholson Citizen Science 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 and VCE volunteer. It is presented annually to an individual who exemplifies Julie's dedication to the cause of citizen science and conservation. We presented the 2018 award to Elinor Osborn.

Elinor Osborn somehow manages a commanding presence with nary a word. She might be the most capable birder in a group, but you won't know it unless vou're listening. Hers is a knowledge borne of experience, a quiet confidence without an ounce of hubris. One gets the impression that she has nothing to prove, but so very much to offer.

Elinor's dedication to the natural word began more than 50 years ago. In the mid-1960s in upstate New York, while working as a music teacher (and her husband George as a trombonist in the Rochester

Philharmonic Orchestra), Elinor served as a volunteer wetland site monitor for the Genesee Land Trust, and participated in Project Tanager and Birds in Forested Landscapes projects for the Cornell Lab of Ornithology. Also an accomplished professional photographer, she donated her photography to the Genesee Land Trust and the local chapter of The Nature Conservancy.

After retiring, she had the good fortune to follow the Trumpeter Swan Migration Project, photographing and writing a children's book about it. Elinor and George started coming to Vermont to ski at the Craftsbury Outdoor Center in the early 80s, and moved to the area soon after. That's when Elinor began photographing loons and participating in VCE projects.

"Elinor has covered Great Hosmer Pond as an adopt-a-lake volunteer since the 1990s," says Eric Hanson, VCE's loon biologist and leader of VCE's Vermont Loon Conservation Project. "She and George spent many nights helping me with loon banding efforts and nighttime rescues. They kayaked lakes all over the Northeast Kingdom to monitor loons for VCE."

Before George passed away, he joined Elinor on some of her adventures. She recalls one night vividly—canoeing in the dark amid lurking stumps, watching Eric spotlight and eventually capture a loon. Back on shore, she watched as Eric banded the loon and collected blood and feather samples. "On the same night on another lake, before another capture, we saw clouds of bats darting and shining silver in the spotlight, just above the water. That loon was entangled in fishing line. While I held the loon's beak just enough to keep it from opening, Eric surgically removed the line, then returned the loon to the water. Then we tumbled into our motel beds at 4am after a wonderful night with loons." These adventures and others led Elinor to write and photograph an article on loon conservation in Vermont for Vermont Life Magazine in 2003.

In addition to Elinor's meaningful work with Vermont's loons (you will frequently see her loon photos in VCE materials), she has contributed significantly to other VCE citizen science projects, including The Second Atlas of Breeding Birds of Vermont, the Vermont Butterfly Survey, and the Vermont Bumble Bee Atlas.

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Merck Forest & Farmland Center National Aviary NatureServe New Hampshire Audubon North Branch Nature Center Northeast Kingdom Audubon Society Northern Woodlands One World Conservation Center Otter Creek Audubon Society Rutland County Audubon Society Sociedad Ornitólogica Puertorriqueña Inc. Southeastern Vermont Audubon Society Southern Vermont Natural History Museum Taconic Tri-State Audubon Society The Nature Conservancy Vermont Community Foundation Vermont Entomological Society Vermont Public Radio Vermont Reptile and Amphibian Atlas Vital Communities

Manomet, Inc.

STATE - MAINE

Maine Department of Inland Fisheries and Wildlife

STATE - NEW HAMPSHIRE

New Hampshire Fish and Game University of New Hampshire Cooperative Extension

STATE - NEW YORK

NYS Department of Environmental Conservation

STATE - VERMONT University of Vermont Cooperative Vermont Agency of Transportation Vermont Department of Environmental Conservation Vermont Fish & Wildlife Department Vermont Forests, Parks & Recreation

Department UNIVERSITIES

Dartmouth College Kansas State University Paul Smiths College Plymouth State University State University of New York, ESF Tufts University Wildlife Veterinary Clinic University of Arizona University of Delaware University of Maine - Orono

University of Minnesota University of Missouri - St. Louis University of New Brunswick

University of New England University of New Hampshire

University of Massachusetts

University of Ottawa University of Vermont

University of Vermont Spatial Analysis Lab

University of Wisconsin Madison

"It's hard to believe the long list of accomplishments VCE has achieved in just 10 years. The focus and breadth of VCE's work is

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-NANCY MITIGUY

* Bicknell's Legacy Society

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