



Otter Tracks

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Publication Review

The Status of Vermont Forest Birds: A Quarter Century of Monitoring

by S.D. Faccio, J.D. Lambert, and J.D. Lloyd

Vermont Center for Ecostudies, Norwich VT 2017. 32 pgs

Review by Warren King



The Vermont Center for Ecostudies has released the results of 25 years of research on changes in status of interior forest birds in Vermont. The longest running bird monitoring program in the New World is the Audubon Christmas Bird Count, now in its 117th year. Next in seniority is the Breeding Bird Survey (BBS), a road-based count initiated by Chandler Robbins in 1965 (see his obituary in this issue) and organized by the U.S. and Canadian governments. The BBS covers 4100 routes, each 24.5 miles along roads with point counts every half-mile. By comparison, the Vermont Forest Bird Monitoring Program (FBMP), organized in 1989 by the Vermont Center for Ecostudies, with 31 transects and five point counts spaced every quarter-kilometer for 1.5 kilometers, is a tiny newcomer. But after 25 years this program has generated enough data to gain statistical significance and therefore confidence in its analysis.

FBMP fills in the blanks, at least in Vermont, of status and population trend data on interior forest breeding birds, which the BBS does not cover. It covers interior northern hardwood forest (65 percent), transitional forest (19 percent) and forested wetlands (16 percent), about the same extent of these forest types across Vermont. All transects are on “protected, undisturbed forests free from the confounding influence of active forest management and edge

effects brought about by roads, houses and other development.” The 59 birders who have monitored these transects must be fully capable of identifying all of the forest bird species by sound alone. Most of the 62,000 observations of 125 species in the database were identified by ear.

Between 1989 and 2012 the number of birds detected at each point has declined 14.2 percent from nearly 17 to about 12. The decrease occurred more precipitously during the first half of the study than the latter half. Among projected causes of decline are forest fragmentation and parcelization, non-native invasive species, climate change and acid deposition. Some of the strongest declines between 1999 and 2002 coincided with the presence in Vermont of West Nile Virus, which affects some bird species far more than others.

The two most frequently reported species, Ovenbird and Red-eyed Vireo, remained the most widespread and abundant throughout the study’s 25 years. Blue Jay, Scarlet Tanager and Black-capped Chickadee were within the ten most abundant species until 2009, when they dropped below the top ten, and Black-throated Green Warbler, American Robin and Yellow-bellied Sapsucker took their places. In coniferous and deciduous wetlands there was no overlap between the top ten species. White-throated



OCAS Mission:

To protect birds, other wildlife and their habitats by encouraging a culture of conservation within Addison County.

OTTER CREEK AUDUBON SOCIETY

PO Box 938
Middlebury, VT 05753

Ron Payne, President
Warren King, Editor
388-4082

Winslow Colwell, Design and Layout
www.wcolwell.com

Vol 43, No. 2

Otter Creek Audubon Society

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Getting the Lead Out? Progress Reversed!

Editorial by
Warren King

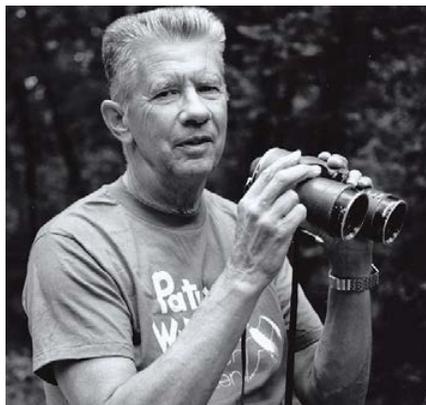


VIEWPOINT

In January 2017, the last days of the Obama administration, the Fish and Wildlife Service Director proposed the phase-in of replacement for lead shot, bullets and fishing tackle on national wildlife refuges. Collaboration with the states was projected to complete the phase-out by early 2022. Additionally, the Fish and Wildlife Service Assistant Director for Migratory Birds announced a program to phase out lead ammunition for Mourning Doves and other upland game birds. These were lead reduction programs long in coming, but Trump's new Secretary of the Interior Ryan Zinke made quick work of them by repealing the initiative.

In California lead ammunition has been banned within the range of the California Condor since July 2008. In October 2013 a California law phasing out all lead ammunition was in place and will be fully implemented by July 2019. But California Condors now occur in Arizona and Utah, both of which have voluntary, but ineffective, non-lead programs in place. The need for chelation to remove lead from California Condor blood has dropped from 60 percent of tested condors to 30 percent of condors. It remains at 60 percent in Arizona and Utah. Chelation is a major expense for condor programs, but even 30 percent is inadequate for recovery, since some condors in remote areas do not get monitored. Condors die from collisions, electrocution and predation, all of which are more likely to affect condors with high lead concentration.

Lead affects human health, too. A recent study by the Peregrine Foundation found bullet fragments in up to 60 percent of commercially produced ground venison. Steel shot makes good sense from every perspective. 🐾



Chandler Robbins
photo by Barbara Dowell

In Memoriam: Chandler S. Robbins

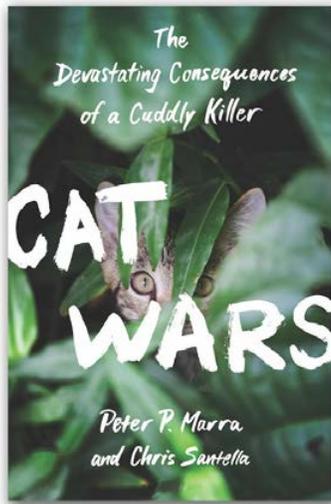
By Susan Roney Drennan

On March 20, 2017, an inspiring force of nature and pillar of the international conservation movement died. This giant in ornithology and conservation was Chandler S. Robbins, whose unbounded energy and impressive vitality resulted in achievements that are far from ordinary.

In 1945 he began work with the U.S Fish and Wildlife Service, his employer for more than six decades. Always hungry for great ideas, Chan took the initiative over 50 years ago, and, with his colleagues at Patuxent Wildlife Research Center, developed the methodology for the Breeding Bird Survey whose aim was to monitor bird populations over large geographical areas. This long-term, large-scale, international avian monitoring survey today has routes in every state, in Canada and Mexico. It is a huge cooperative effort. With its army of volunteer surveyors it is the premier citizen science project in

the country. In the 1950s Robbins participated in early studies assessing the effects of DDT and habitat fragmentation and coauthored papers on their effects on breeding bird populations. In 1966 he coauthored a field guide entitled *A Guide to Field Identification: Birds of North America*, whose visionary format is still used by many field guides today, and which many birders still call their favorite guide. His passion was contagious. He did his first Christmas Bird Count (CBC) in 1934, and by the time he died at age 98 he had participated in upwards of 415 CBCs, a great many of which he originated and compiled. Chan had a distinguished, prodigious, and inspiring career and received laurels for his profound influence on conservation. He was a modest man, genuine, natural, authentic, and highly respected. He wore his legendary magnetism and endless curiosity well. Farewell Chan, you will be missed. 🐾





Book Review

Cat Wars: The Devastating Consequences of a Cuddly Killer

by Peter P. Marra
and Chris Santella

Princeton University
Press, 2016. 216 pgs

Review by
Gary Starr

This book presents a scientific approach to the effects of outdoor/free-range cats on their environment with an analysis of a large number of controlled studies. The authors are indoor cat lovers appreciating the benefits of pet ownership. The senior author is director of the Smithsonian Institution Migratory Bird Center.

An estimated 60 to 100 million “unowned/free-ranging cats” endure a bleak existence that puts them on a collision course with fatal results for birds, mammals, and amphibians. Many articles have been written, including in Otter Tracks, about the devastating consequences of free-range cats on our bird population.

Studies have shown Catch-Neuter-Return programs endorsed by humanitarian organizations and some municipalities to be well-meaning but ineffective at reducing the free-ranging cat population. In 2013 in New Zealand, where the government is leading a national commitment to control feral introduced wildlife, a philanthropist/social activist names Gareth Morgan funded a program named “Cats to Go” with the following statements on his website: “That little ball of fluff you own is a natural born killer. Every year cats in New Zealand destroy our native wildlife. The fact is that cats have to go if we really care about our environment.”

Humans can be at risk from diseases passed through indoor or outdoor cats. Most interesting is *Toxoplasma gondii*, a single-celled protozoan parasite. *Toxoplasma* reproduces sexually only in the intestines of cats and other felines and is transferred to hosts, including people, through feline feces. Oocysts can form in the parasitized host’s bodies and alter their behavior. At least one researcher believes that *Toxoplasma* can contribute to schizophrenia later in life.

Cat Wars is filled from cover to cover with researched facts and information about free-ranging domestic cats changing our biodiversity and environment. Cats are not the most important problem we face when talking about the future of our environment, but they have and will continue to have a major impact.

I recommend this book as must reading for people wanting to educate themselves on the interaction between the growing problem of free-ranging domestic cats and biodiversity. It is comprehensive and informative on all facets of the domestic cat question. 🐾

Wright Park Birding!

By Carol Ramsayer

Let’s start the summer vacation off right with our annual beginner’s bird walk at Middlebury’s Wright Park. It’s the perfect chance to spend the morning with folks who can help you identify that warbler that’s singing from the treetops! Held this year on Saturday, June 17th, the outing will be co-hosted by Otter Creek Audubon and Middlebury Area Land Trust. Our experienced naturalists will guide small groups along a loop off the Trail Around Middlebury. The trail leads through a managed shrubland, a variety of forest types, wetlands, beaver habitats and the banks of Otter Creek. We will listen for birdsong, watch for nesting behaviors, and enjoy whatever natural wonders come our way. There will be a surprise discovery station, as well as the traditional snack stop for any hungry hikers.

Please join us for this yearly adventure! Bring your binoculars, or borrow a pair from OCAS. The walk is family-friendly and suitable for all ages, but not appropriate for strollers or wheelchairs. We will meet at 9:00 am at the Wright Park parking lot north of Pulp Mill Covered Bridge on Seymour St. Extension. (Go northwest from the Middlebury Green on Seymour St, then just before Pulp Mill Covered Bridge turn right on Seymour St. Extension to the



Surprise Discovery Station at Wright Park Photo by Gary Starr

parking area at the end.) The walk ends by about 11:00 am. We will go rain or shine, but if you have questions call 989-7115. 🐾

The Great Amphibian Migration

By Tyler Pockette

Each spring, warming temperatures rouse hibernating amphibians from their winter slumbers as their instincts kick in and lead them to seek mates to continue their genetic lineage. For most amphibians, that means trekking several hundred feet across the forest floor from their upland hibernacula to the lowland vernal pools where they gather by the hundreds to compete for mates, breed, and lay their eggs before returning to their forest homes.

On the first warm, rainy nights of spring, a mass exodus occurs as frogs and salamanders race toward seasonal spring pools to fulfill the most important stage in their life cycle: reproducing. But timing is everything: arrive too early and they risk freezing to death from a late season cold snap. Arrive too late and they risk drying of the vernal pools, which are filled by snowmelt and spring showers. It's a narrow time window, and under the right circumstances, one can observe a truly magnificent spectacle of nature: the great amphibian migration.

This was the case on the evening of April 11th, when a late rain shower occurred on one of the warmer nights of the spring. While some amphibians had already made

the journey, many found this particular night to be the first good opportunity to move. The movement was noticeable as soon as I parked my car. The ground appeared to be moving: thousands of salamanders squirmed their way across the road. I made my best attempt to count them as I walked along, taking extra caution with each step not to squish any, but there were too many. I had to count 10 at a time. With so many amphibians, it took an hour and a half to walk down and back along the 200-yard stretch of road two times. In that time, I counted over 2,000 amphibians of 8 different species, though there were certainly many more that escaped my flashlight. And just like that, in one night much of the amphibian population made its move. The forest won't see another movement like that for another year. Until next year when the conditions are just right, thousands of salamanders will remain hidden in the leaf litter, doing their best to survive, to get another chance to enter the mad dash downhill from hibernation to their breeding pools. Next spring, keep an eye on the weather in early April. They will move again on the first warm, wet night of spring. It's a sight for the bucket list. 🐾

VT Forest Bird Status

continued from page 1

Sparrow and Winter Wren were most plentiful in the former; Veery and Common Yellowthroat were most plentiful in the latter. Comparing northern and transitional hardwood species, Ovenbird, Red-eyed Vireo, Hermit Thrush, Wood Thrush and Rose-breasted Grosbeak occurred in both.

The biggest gainers over 25 years were Yellow-bellied Sapsucker, Mourning Dove, Hairy Woodpecker, Pileated Woodpecker, and Black-throated Green Warbler. The biggest losers were Common Yellowthroat, Canada Warbler, Great Crested Flycatcher, Yellow-rumped Warbler and White-throated Sparrow. Canada Warbler and Wood Thrush showed the largest annual change downward.

The 11 aerial insectivores recorded in the FBMP showed a significant annual decline of 2.5 percent, a 45 percent drop in abundance over the span of the study. This alarming trend is being replicated throughout the Northeast and suggests a serious decline in insect populations. The decline is believed due to changes in agricultural practices, pesticide use, acid precipitation, climate change and polarized light pollution. Hundreds of insect species are attracted to surfaces like water that emit polarized light. That's where they deposit their eggs. Many surfaces now emit polarized light: dark, smooth, flat artificial surfaces like roads, parking lots, black plastic agricultural sheeting, or painted building surfaces. An insect adapted to laying its eggs in a pond or stream will not be successful if it chooses a parking lot instead. Thus, polarized light pollution is another factor in insect decline and the decline of species that depend on them for food.

The study will continue into its second quarter century. 🐾



"When I grow up, I want to be just like Dad."
Photo by Ron Payne

Picking a Winner: Risks of Scheduling an Amphibian Alert

For a dozen years OCAS has run a program that gets people together with amphibians on the move across roads to their breeding pools. The idea is to get amphibians across safely and at the same time to provide interested people with a relatively safe opportunity to see and learn about amphibians up close. Some species, like spotted and blue-spotted salamanders are otherwise inaccessible, spending the rest of the year underground.

We depend on advice and instruction from Jim Andrews, a local herpetologist, in exchange for which we provide him with data on movement, including the numbers of each species. We provide the public with two opportunities each year to experience this movement, which only takes place on warm wet nights in late March and early April. We announce an email alert on the morning of a night when it looks warm enough and wet enough to ensure movement, and an email confirmation if it still looks promising at 6 pm. This year on our two public alerts we had 44 and 17 participants on 6 and 15 April respectively. We passed over 11 April, the subject of the previous article by Tyler Pockette, because the forecast showed that the likelihood of rain at 8:30, when the amphibians begin movement and we start counting, was low. While we didn't get numbers as large as Tyler's 2022 salamanders and frogs, we had 145 on 6 April and 1203 on 15 April. It's often just a question of when the rain decides to begin. 🐾

May – July 2017 OCAS Calendar of Events

**MONDAY, MAY 1
THRU MONDAY, MAY 15** **OCAS BIRDATHON.** Our main fundraiser of the year. OCAS teams identify as many species as they can under self-imposed rules in a 24-hour period. Supporters provide contributions per species or a lump-sum amount. See insert, this issue.

**SUNDAY, MAY 7
7:30-10:30 AM** **WARBLER WARM-UP.** Ron Payne, Warren King, and Chris Runcie will lead a search for newly arrived spring migrants. Hone your birding identification skills before leaf-out. Co-sponsored with The Watershed Center. Meet at the Bristol Waterworks, Plank Road, east of North Street, Bristol. Call Warren at 388-4082 if in doubt about the weather.

**SATURDAY, JUNE 17
9-11 AM** **BEGINNERS BIRD WALK.** Jointly sponsored with MALT at Wright Park. Led by experienced naturalists. Meet at Wright Park (northwest from the Middlebury Green on Seymour Street, then just before Pulp Mill covered bridge turn right on Seymour Street Extension to parking area at end). Call Carol Ramsayer at 989-7115 for further information. See article, this issue.

**SATURDAY, JULY 29
9 PM** **NATIONAL MOTH WEEK
CELEBRATION** at Middlebury Parent Child Center, 126 Monroe Street, Middlebury. Enjoy the huge diversity and abundance of moths in Vermont with an outdoor black light session at 9 PM to see what moths are active in mid-summer. Local moth experts will be on hand to help us with moth identification and biology. Call Ron Payne at 388-6019 for further information.

MARSH, MEADOW AND GRASSLAND WILDLIFE WALKS

A monthly joint OCAS-MALT event. We invite community members to help survey birds and other wildlife at Otter View Park and Hurd Grassland. Meet at Otter View Park parking area, Weybridge Street and Pulp Mill Bridge Road, Middlebury. Shorter and longer routes possible. Beginning birders are welcome. Come for all or part of the walk. For information call 388-1007 or 388-6019.

SATURDAY, MAY 13, 7-9 AM
SATURDAY, JUNE 10, 7-9 AM
SATURDAY, JULY 8, 7-9 AM
SATURDAY, AUGUST 12, 7-9 AM
SATURDAY, SEPTEMBER 9, 7-9 AM

Happy Campers!!

Look who's going to Hog Island Audubon Camp this summer! Celeste Berenbaum and Lucy Ursitti will be attending the Marine Natural History for Teens session, thanks to the hugely successful fund-raising efforts of Tyler Pockette and his Photo Big Year. And Nancy Wollum of Shoreham Elementary and Megan Sutton of Weybridge Elementary won full OCAS scholarships to the session entitled "Sharing Nature: An Educator's Week." Have a blast, and soak up all the magic of Hog Island! 🐸



Emma Ober was the 2014 OCAS Hog Island Audubon Camp scholarship recipient.

Taking Camouflage to a New Level

The Maldive Archipelago in the Indian Ocean experienced significant coral bleaching in 2016 due to sea temperatures above 88 degrees F. Much of the formerly orange and pink coral is dead due to the heat, and it has bleached white. Warty frogfish *Antennarius maculatus* colorfully camouflage themselves in oranges and pinks to blend in with the reef. One warty frogfish was discovered in 2016 that had taken full advantage of its new white coral setting. It was white and it had developed flaps and appendages to blend in with the turf algae that colonize coral skeletons, evidence of evolution at a gallop. 🐸

2017 Grant Recipients

continued from page 6

the different age groups involved, allowing for student-led learning. Another school with outdoor trails is Robinson Elementary School in Starksboro. Money granted to this school will go toward a permanent learning kiosk - a place to share information, hold puppet shows, and serve as a communication hub between the school and the community.

OCAS is also pleased to support an ongoing project created by Amy Clapp, Salisbury Community School's science teacher. Named "Naturally Literate," this booklet is a checklist for beginning naturalists. There are pages for birds, herps, trees, insects, flowers, mammals and fish - all plants and animals that Addison County experts have deemed important for students to be able to identify by the time they graduate from sixth grade. Grant funds will support printing additional copies to be shared with other Addison County schools. Also at Salisbury Community School is a second grade teacher who uses a Cornell Lab of Ornithology program to teach monthly bird related topics. Her grant will purchase a children's book to accompany each lesson. It is a valuable addition for a classroom that already keeps current by watching bird cams and a bird feeding station outside the window.

OCAS enthusiastically applauds the excellent work of these Addison County teachers as they strive to provide their students with exceptional outdoor learning experiences. If you would like to contribute to OCAS' Environmental Education Grants, a good opportunity is the OCAS Bird-a-thon, described in a special insert in this issue. 🐸

Congratulations to the 2017 Environmental Education Grant Recipients

By Carol Ramsayer



Each year OCAS offers Addison County teachers the opportunity to apply for its Environmental Education Grants. Although the \$5,681 total requested exceeded our budget, we are happy to announce that \$5220 was granted to nine excellent projects. Funding will support teachers' programs in seven Addison County public schools, as well as one Rutland County school. About 750 children will potentially benefit from the outdoor enrichment activities designed by their teachers.

This year, OCAS is pleased to support two Addison County schools that have not previously participated in the Environmental Education Grant program. The first is Ferrisburgh Central, which received funds to foster an increased awareness of Lake Champlain area birds. A school-wide kick-off event with 3 speakers, including one from OCAS, will spotlight these local birds. Follow-up activities will include building birdhouses and a bird feeding station and learning more about the habitats that adjoin the school. Another school new to our program is Bristol Elementary. After a series of OCAS led hands-on birding activities, the two first grade classes will travel to Huntington to participate in outdoor programs at the Birds of Vermont Museum and the Green Mountain Audubon Center. In addition, a June trip to the Watershed Property is planned.

Other schools are also planning field trips. This year the seventh graders at Mt. Abraham Union Middle School designed a learning unit on oceans. One class will follow up with an overnight field trip to Maine's Ferry Beach Ecology School. They will be learning marine ecology through first-hand experiences. The other class will travel to the New England Aquarium in Boston, benefitting from the extensive collections as well as behind the scenes tours. Also, OCAS funds will make it possible for Bridport Central's summer campers from Camp Ubuntu to travel to the Lake Champlain Maritime Museum. They will experience lake ecology through the on-water paddling ecology program.

By reading the grant proposals, OCAS was excited to learn that several schools support outdoor learning through either an outdoor classroom, or a network of adjacent trails. For example, the Bristol Elementary first graders and kindergarteners participate in Forest Fridays, hiking to a central gathering space before breaking into learning stations. OCAS volunteers will lead some of the stations this spring. Older students from Salisbury Community School and the Moosalamoo Program from Otter Valley Union High School both maintain outdoor classrooms and trails. Students from both schools will have a joint biome exploration; grant funds will cover transportation costs to facilitate this exchange. An added benefit is the collaboration between

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